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One little word

Those of us who work with words are seldom surprised by instances where one little word makes a lot of difference. That's the way it is with words, we say knowingly. But we got a letter the other day that *was* surprising.

It came from Eric Dott, president of Monarch Avalon Industries, Inc., and the body of the letter goes like this: "Please be advised that from this date forward, every reference to The Avalon Hill Game Company in your publication MUST be stated as 'The Avalon Hill Game Company' and nothing else. It is important that the definite article 'The' precede the words 'Avalon Hill Game Company'. Any deviation from the full phrase 'The Avalon Hill Game Company' or any use of the word 'Avalon' other than as part of the full phrase 'The Avalon Hill Game Company' is improper and may result in further litigation."

All of the hubbub over the word "The" and the word "Avalon" came about when a company named Avalon Industries, Inc., filed suit against The Avalon Hill Game Company, apparently contending that the game company was infringing on the other company's possession of the trade name "Avalon." The agreement reached between the two parties is summed up in the requirements spelled out in Mr. Dott's letter.

The whole thing would be none of our business, except for the fact that this magazine (or any other publication) could be liable for a lawsuit if we don't help uphold the agreement. And the issue may not mean anything to you as a reader of this magazine, except that it points out the importance and the sanctity of names that identify companies or the products they market. For the same general reasons, this is why we at TSR, Inc., have to be eternally watchful over the trademarks and other properties that this company owns. It may seem harmless, for instance, if another game company puts out a product identified as "for use with AD&D," or words to that effect. But if the company that owns the AD&D® trademark allows this to happen, unintentionally or otherwise, then we're running the risk of having the ownership of that trade name taken away from us.

It's going to be awkward if we ever have to refer to a product as "a The Avalon Hill Game Company game," but we'll find a way to deal with that, because it would be a lot more awkward to get up in front of a judge somewhere and explain why we didn't do it. After all, we shouldn't need a court of law to tell us that one little word **does** make a big difference.



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ave you ever wanted to be a big game hunter? If so, you'll have to keep on hunting, because we don't have enough space to give you a

big game. But in the meantime, you'll like the little game inside this issue. *Elefant Hunt* is Tom Wham's latest exercise in purposeful silliness, which is a big-word way of saying that he makes good game designs that are also fun to play.

Although he didn't know it was going to work out this way when he painted it, Jim Holloway's cover art ties in pretty well with an article that's also purposeful but definitely not silly. If the damsel with the dagger falls from the safety of her perch, she's going to get hurt by the fall. And that's where "Physics and falling damage" comes in. Arn Ashleigh Parker, who has a degree in physics as well as a lot of gaming experience, applied her knowledge in both areas to come up with yet another system for calculating falling damage. Is it the ultimate system? Well, as with so many other things, that probably depends on your point of view. Steve Winter, who delved into physics before becoming a game editor for TSR, Inc., offers a rebuttal to Ms. Parker's proposal in "Kinetic energy is the key."

In part 2 of "Beyond the dungeon," contributing editor Katharine Kerr concludes her advice on how to leave underground rooms and corridors and make an AD&D® game campaign mesh with the world in which it takes place. Although it's directed primarily at players and DMs who haven't tried aboveground adventuring before, this article and its predecessor have some thoughts and tips that even experienced campaigners can use.

If the AD&D game universe contains a more unusual critter than the rust monster, I don't know what it could be. In this issue's ecology article, Ed Greenwood fills in some details about "rusty" that should help play go more smoothly the next time your character's sword becomes a snack.

This issue's installment of the deities of the Suel pantheon from Len Lakofka includes the first two females we've published, surly Syrul and wicked Wee Jas, flanking good old Fortubo, who's a good example of the strong, silent type.

One of the treats inside the ARES[™] Science Fiction Section is the first article we've ever printed on the new MARVEL SUPERHEROES[™] game, written by one who ought to know – Jeff Grubb, who designed the game system.

Noted SF/fantasy author Ardath Mayhar makes her first appearance in these pages with "Key to Ramali," an intriguing story that makes some interesting points about values and viewpoints and just happens to be built around the concept of . . . a mechanical camel?! Yeah, that's what I thought I said. – KM



Who wrote it?

Dear Editor:

I have a problem that I think other DMs might also experience at one time or another. One of the players in a dungeon had an argument with another player. I don't remember the exact situation, but one of them said, "Let's send it to Dragon for the answer." I truly don't believe that a letter was ever sent to your offices. However, after about two months he showed us a letter that was supposedly written by Gary Gygax stating that he was in the right. The letter was not signed and it was typed on normal typing paper.

My question is this: If a letter is not printed in your magazine, will it still be answered, and if so will it be typed on Dragon letterhead? I would greatly appreciate any information you could give me about this.

Andy Bowles Litchfield, Ill.

If anyone representing DRAGON® Magazine answers a letter from a reader, you can bet that response will be signed, even if it's only a "KM" or "RM" at the end of one of the passages in this column. I can't speak for Mr. Gygax, but I really can't imagine him sending an unsigned letter to anyone, either.

I also can't imagine him or anyone else who represents this company writing a letter on ordinary paper. The letters we send out are either typed on actual letterhead or they're computer printouts that are still unmistakeably identifiable as coming from (in this case) someone on the magazine staff.

No, we don't answer every letter that we don't publish, but if we do send a response, we sure aren't going to conceal who wrote it or where it came from. It sounds to me like someone tried to pull a fast one on you, Andy — and I do mean "tried." — KM

A show of strength

Dear Editor:

I noticed what appears to be a typographical error in "How to finish fights faster" (#83), in the list that gave the average racial strengths. Halfelves were placed under the strength of 11 and 12. I assume the former is correct, because it's midway between elf and human. Also, I would like to know why strengths for other humanoidtype creatures weren't added. Is it just that characters don't very often "duke it out" with things like vegepygnies?

Jon Kohl Foxboro, Mass.

Half-elves should have been listed under the 11 strength category only; that was a correct assumption, Jon. And your suspicion about why other creatures weren't included is also correct; some limits had to be set on what creatures could be included, based on who was or wasn't likely to "duke it out" with player characters. Of course, DMs can come up with their own statistics for creature types not on the list. — RM

Why no numbers?

Dear Dragon:

In issue #87, you showed us the plant/animals of Hortus, but you didn't tell us their attacks, hit dice, armor class, etc. Will you please either send me these facts, or put them in the next issue of the magazine.

> Eric Stauffer Chadds Ford, Pa.

"The legacy of Hortus" was not presented as a cavalcade of new monster types for the AD&D® game, but rather as a bit of entertainment that we hoped would spark the imagination of anyone who wanted to install these "beasts" into a gaming envronment. In fact, we aren't even sure that we could come up with statistics that everyone would find acceptable. (For instance, can you say for sure how many hit points of damage it would take to cut through the stalk of a cowslip?) Sorry, but we can't and won't try to turn Hortus's creations into actual AD&D game monsters — which gives you a golden opportunity to give them the numbers that you think they should have. — KM

Magic mysteries

Dear Editor:

Though "Five new enchanted objects" in #86 was very good, I still have a few questions.

The scepter of defense, as the article says, can be used by all fighter classes, clerics, druids, thieves, assassins, and monks. I would like to know if this also applies to anti-paladins, samurai, ninjas, or any other NPCs that have appeared in DRAGON.

Also, can someone who uses the necklace of alteration be affected by rust dust if they have been bestowed a metallic composition? And if so, what would their saving throw be? What do metallic magical items get for a saving throw against rust dust if their properties aren't measured by a +1, +2, etc.?

Charles Kluz Schofield, Wis.

The scepter of defense can be used by NPC classes which are similar to those listed in the article; thus, anti-paladins, samurai, ninjas, duelists, and so forth could use it. However, magic-user subclasses (like the alchemist) could not.

Someone wearing a necklace of alteration cannot be affected by rust dust; the wearer's body merely takes on the appearance of another substance, not the its actual properties. And, if a magic item doesn't have a "plus," then it only has a 10% chance of saving against destruction by rust dust, as noted in the article. — RM

Not enough deities

Dear Editor:

One of my favorite articles in #86 was "Dragons and their deities," which presents many exciting possibilities for my campaign. My only dilemma is this: If good dragons worship Bahamut and bad ones Tiamat, then what of neutral ones (pan lung, mist dragon, etc.)? Do they worship at all, is it DM's discretion, or is it assumed that chaotic ones worship Tiamat and lawful ones Bahamut (which still leaves the question about neutrals). Please clarify this, so that DMs with more than just the Monster Manual can run their campaigns smoothly.

> Damien Hennessy Williamstown, Mass.

It's easy to answer this question directly by simply using the "DM's discretion" escape hatch, which Damien has conveniently provided for us. Since the whole idea of dragon worship is an invention anyway (that is, it's not in the rules), there's nothing wrong with making the invention more sophisticated by drawing up your personalized version of a neutral dragon deity. Or, if you want to use someone else's idea, check out Arthur Collins' article on neutral dragons, originally published in issue #37 and reprinted in our Best of DRAGON Vol. II anthology One of the jeweled wonders in that article is Sardior, the ruby dragon, who could give either one of the other dragon deities a run for its money

This seems like a good place to make a general point: As much as we'd like to be a neverending fountain of innovation and information, we don't have all the answers and never will. If we publish an article that seems to leave a few stones unturned (such as something that refers only to creatures in the first Monster Manual), then you can take matters into your own brain and supplement what another author has already done with some creative work of your own. Fill it out, fix it up to fit into your way of playing, and you'll have a system for (in this case) dragon deities that meshes with your campaign much more smoothly than any article you'll ever find on these pages. We do like to get questions (that proves you're reading and examining what we're printing), and we do like to answer many of them (because it makes us feel good to be "right"). But please don't expect us to do all the work. - KM

What's official?

Dear Editor:

I have read in "Out on a Limb" in issue #80 that ". . . anything you use from an article or feature is not a rule change that would be recognized in any official tournament or competition . . ." But I also read (in a place which I cannot recall) that submissions by Gary Gygax *are* to be considered official changes. Which is correct? Christopher Gray

Naperville, Ill.

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I can't blame you, Chris, for being confused by the use of the word "official." The difference, as it applies in these two cases, is this:

We call Mr. Gygax's articles official because (by their very nature) they have been sanctioned by him. In other words, the creator of the AD&D® game has contributed additional material which, although it's not part of the actual rules, is compatible with what has already been nublished in the hardbound rule books or certain AD&D game supplements, such as the WORLD OF GREYHAWKTM Fantasy Setting. On rare occasions, material written by other people has been given this official status after its original "unofficial" publication. Two examples that come to mind are the faerie dragon in Monster Manual II and the weather system in the new WORLD OF GREYHAWK package, both of which first appeared in the magazine.

However, when Mr. Gygax writes an official article, that still doesn't mean that the information is to be considered part of the actual rules. And, as such, these articles cannot fairly be used in official (there's that word again) AD&D game tournaments. In a large, structured competition such as the AD&D Open Tournament that's conducted at the GEN CON® Convention, it would be inappropriate — and, indeed, illegal to use (for instance) information about the cavalier character class that Mr. Gygax has created, because not everyone can be expected or required to possess the issue of the magazine in which the cavalier was introduced. An official tournament relies only on what's in the actual rule books, and does not penalize participants for a lack of knowledge they may not be able to do anything about. An official article may someday become part of the rules, but unless and until it does, it's not fair game for tournament play I sure hope that explains the difference, because I just ran out of space. — K M

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The forum Opinions and observations

In response to Mr. Godwin's letter in issue #87 about "Monty Haul campaigns . . . being built into the game," I wish to simply point out that there is a paragraph in virtually every module that TSR, Inc., puts on the market (usually under the heading of Dungeon Master's Notes) that explains to the DM something to the effect of "If this dungeon doesn't suit your present campaign, feel free to alter it in any way for your players." Mr. Godwin's disappointment at Gauntlets of Ogre Power being in the G series dungeons (something I'm sure any fighter who read that issue and who had not been in any G series module would have *loved* to hear about. and if he didn't catch it there he'll get it here) could have greatly been avoided by simple removal, reduction in force, or replacement of that magic item.

"Monty Haul" characters aren't as nasty as so many Dungeon Masters point out in their various letters to The Forum. It just requires special skills, both tactical and imaginative, to DM such super-powered beings.

Articles like the current series by Katharine Kerr as well as just plain common sense about campaign building and planning will, I think, greatly aid any DM who takes on the responsibility of playing with higher level characters.

I wish, however, to offer up my own advice. First of all, when you play with super-high level characters, such things as charts and tables, dice rolling, and other picky little numerals must be de-emphasized, and the character (what he/she likes, loves, hates, wants, is repulsed by, is inspired by) must be emphasized with much greater detail.

When characters of 10th-25th level open up themselves and look back on what they have done throughout their past careers as dungeoneers, I find that most players are distraught at what they find – there is no human being in the humans, no heart in any of them, and they have advanced this far and this well and they have yet to have any personality beyond simple character quirks and oversimplified, unoriginal stereotypes.

With the advent of the character as a *character*, with a real personality and set goals (other than killing everything in sight, hoarding magic and treasure, and surviving, of course), the DM has his or her work cut out. After setting down pre-liminarily what their world will be like (hmmm, let's see, sea port here, major fortress there, these people live off of trade coming down the river . .) and after determining some of the major NPCs to be found there, then it is the time and the place for the World to blossom, change, mature, and to become infinitely better than the outlines originally set down for it.

The characters, being realistically "human" and having personalities, will, with their travels, do more for creating your campaign world than any DM could ever hope to do – and oh, will it be worth it!

Sam Chupp Conyers, Ga.

* * * *

Regarding Mr. Sisk's letter in issue #87, it has been my experience that a PC, once he or she has taken damage from the *phantasmal force* spell, is "stuck with it" and it cannot be reversed (though a properly phrased *wish* spell, of course, would be an exception). One of the phrases is "The illusion lasts until struck by an opponent . . ." which means that the illusion will not cause damage over and over again because once the character hits the "pit," the illusion lasts long enough for causing damage *once*, then it is immediately dispelled. This also means the character cannot state disbelief at that time because the spell would no longer exist at this point.

Most saving throws are versus spells, unless otherwise stated. If it is not stated in the text of the spell, then I would rule that the character must state he or she is disbelieving and roll a d20, otherwise characters with 18 intelligence would never have to roll, and that would take the challenge and danger out of the spell.

Disbelief is *not* automatic, otherwise what would be the use of casting the spell in the first place? Mr. Sisk is right in stating that the character in question must state disbelief, but if the *phantasmal force* is dispelled, never seeing the true nature of the *phantasmal force* becomes a moot point.

Kevin Deevey Bloomfeld Hills, Mich.

* * *

The comments by David Sisk in issue #87 are ones that I have had a difficult time dealing with also. I am even now putting together an adventure in which many illusions are included. As a result, I have done a lot of thinking and come up with a few guidelines for the handling of illusions.

In my opinion, it is ludicrous for player characters to always declare "I disbelieve" every time they encounter a monster, magic, or the unknown. Not only does this tend to upset the DM, who has taken much time to prepare a coherent adventure, but it wastes quite a bit of game time. Besides, when you see a spell caster among the evil creatures you are combating, how do you know if he is a cleric, druid, magic-user, or illusionist? The former two are usually dressed in identifiable clothing, but there is seldom any distinguishing attributes for the latter two. After all, if I was an illusionist, I certainly would not go about my way carrying a sign "Illusionist here attempt to disbelieve"!

So now the question at hand: How does one deal with the illusions encountered in an adventure?

First, as stated before, the DM should not allow players to have their characters constantly disbelieve everything. If this occurs, the DM can simply say to the player, "This is ridiculous. How are you going to tell reality from illusion when you actually encounter it?"

Second, the DM should require characters to state what it is about the supposed illusion that they will use as a basis for their disbelief. Indeed, if one encounters an illusion, and knows it for such, on what comparison does he make this judgment? The obvious difference between reality and illusion, of course.

This, then, means that most illusions have some sort of recognizable discrepancy. The best example of this is when an illusionary monster attacks someone. If the person has fought such creatures before, it is likely that he will be able to recognize the correct behavior of the creature in combat. Thus, an illusionist, who is not a fighter class, would have a difficult time re-creating the exact combat behavior of the creature. If the character notices this fact, then he has a basis for disbelief, and is entitled to a saving throw.

This of course means that the DM must be careful and be consistent with his descriptions of all monsters and magic used in the game. This is obviously no easy task, but if it is undertaken, it allows good handling of illusions.

The same sort of thing could be used when dealing with illusions of magic spells. Any magicusing character should have a chance of recognizing an improperly cast spell, or one whose effects are abnormal. After all, illusionists are not capable of casting an actual fireball or lightning bolt as a magic-user would, although they can interpret and copy its effects. Thus, a spell caster who saw some sort of discrepancy in the spell cast at him would have a chance at disbelieving and be entitled to a saving throw.

For high level illusionists, perhaps 11th level and above, there will be little chance for inconsistencies in their illusions, due to the vast experience of the spell caster. Thus, illusions with visual, audible, olfactory, and thermal components would be as good as if they were real. Therefore, I suggest that characters who attempt to disbelieve have at least some general reason for the attempt, and under these circumstances should be required to roll 4d6 or even 5d6. A score equal to or less than their intelligence attribute is necessary to disbelieve. A general reason could be something like, "I disbelieve because I'm in an illusionist's work room," or "This can't be real because there was nothing down that passage before, and the evil illusionist just escaped that way."

Now, let me attempt to address some of Mr. Sisk's questions. First, when a character believes that he has fallen into an illusionary pit (and thus failed his saving throw), who is to say that the illusion of the pit disappears from his mind? Certainly, if he believed that he fell into the pit, he believed the illusion, and he is not all of a sudden going to stop believing! This is because the character gets *one* saving throw versus the illusion, not many. Thus, the illusionary pit will always be there for him, even if the others in his group tell him it isn't. And of course, since it still affects his mind, he still believes himself wounded.

As to the phantasmal killer versus shadow monster spells, I would again use the 4d6 (or 5d6) with bonuses/subtractions in place of a saving throw. Since the work of the illusionist is more oriented toward attacking the victim's mind and challenging his intelligence, this type of save is more logical.

Last, in reference to disbelief and whether or not it is "automatic," I believe that my initial statements decide this issue.

In conclusion, this system of handling illusions is not only more game-realistic, but it will also require the DM to add precise descriptions to the game, thereby making the players and their characters more involved. For, if they are to have an attempt at disbelieving, they must have a catalog of knowledge on the creatures they have fought.

> Richard Emerich New Canaan, Conn.

* * * *

I have been greatly disturbed with the overabundance of letters describing high level campaigns as being Monty Haul campaigns. I myself (*Turn to page 54*)



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A terribly diverse trio: Syrul, Fortubo, and Wee Jas

by Lenard Lakofka

SYRUL

Goddess of False Promises and Deceit

Lesser goddess

ARMOR CLASS: -3 MOVE: 14" HIT POINTS: 145 NO. OF ATTACKS: 2 DAMAGE/ATTACK: 3-6 and 3-10 (see below) SPECIAL ATTACKS: See below SPECIAL DEFENSES: Can see through any illusion or lie MAGIC RESISTANCE: 60% SIZE: M (5' 6" tall) ALIGNMENT: Neutral evil (lawful) WORSHIPERS' ALIGNMENT: Evil figures, including many humanoids SYMBOL: A forked tongue PLANE: Gehenna or Hades CLERIC/DRUID: 3rd level cleric FIGHTER: Nil M-U/ILLUSIONIST: 15th level illusionist THIEF/ASSASSIN: 11th level assassin MONK/BARD: 11th level monk PSIONIC ABILITY: VI W: 20 S: 18 (+1, +2) I: 19 D: 20 C: 18 Ch: 13

Syrul appears as a dirty, smelly old hag in tattered clothing. This is a *permanent illusion* which can be seen through, but at -5 on a normal saving throw. She wears a cloak that has the properties of a *displacer cloak* and a *robe of scintillating colors*. Either function is usable (but not both at once) immediately when she wills the cloak to operate, and she can change between the two functions in as little as one segment.

Her special *dagger of venom* is strongly aligned to neutral evil. It will poison, through the hilt, anyone of a different alignment who picks it up. It is otherwise like a standard *dagger of venom* except that it is +2 on damage (no plus to hit), and saving throws against its poison are made at a -3 penalty; this applies whether the dagger is picked up or it injects its poison on a "to hit" score of 20.

The other weapon she carries is a rod that can *wither* or *beguile* an opponent in addition to doing hit point damage. When Syrul uses it as a *rod of withering*, the attack affords no saving throw. The victim is aged 10 years, must make a system shock roll to survive, and suffers 3-10 (d8 +2) points of incidental damage. (See *staff of withering* for details of its effects.) The rod serves as a +3 weapon "to hit" for purposes of deter©1984 E. Gary Gygax. All Rights Reserved.

mining what creatures can be struck by it, but it has no actual bonus to hit or damage. Syrul can attack once with each of her weapons (dagger and rod) per round.

No one can lie to Syrul or place an illusion before her, because she has natural "eyes of true seeing" and "ears of true listening." She can instantly perceive a deception or illusion for what it is.

She can *polymorph self* at will into a creature as small as a fly or as large as a lion. She can *polymorph* into an object as

personally attend the level-advancement ceremony to wish the character "evil luck." Such a character is granted a *vision* spell with no strings attached — that is, the *vision* will be automatically granted, and only a token material component (not necessarily a sacrifice of something valuable) is required to bring the spell into effect. Syrul also bestows upon the "graduating" character a permanent +1 "to hit" on any weapon attack or open-hand attack (as applicable). Syrul rides to the Prime Material plane



well, but it must be a basically undecorated object like a clay pot, a simple weapon, or a plain shield. A painted or engraved vase, a bejeweled dagger, or an embroidered gown would all be too complex for her to duplicate. She can assume the form of an annis, a greenhag, or a night hag, with all appropriate powers, whenever she desires.

Syrul can use an *alter reality* spell once per day, in the same manner that a devil or demon prince can fulfill another's *wish* or *limited wish*. She can also grant a deserving worshiper the use of a *vision* spell, at the normal chance for successful casting. When a member of the Scarlet Brotherhood who is an assassin, illusionist, thief, or monk attains the 9th level of experience, Syrul will

on her personal nightmare, Flamedevil. If Flamedevil is killed, he returns to Hades to be revivified and can be called forth again 13 days later. Syrul will not come to the Prime Material plane without Flamedevil or some other ally; if Flamedevil is not available, she will seek 2-5 other neutral evil monsters to accompany her, such as night hags, other nightmares, wyverns, or black dragons (young or young adult) of neutral evil alignment. The following types of monsters will never attack her, and she can always command them to service if they are present (each is represented in the portion of Hades that is her home): black dragons, evil cloud giants, larvae, evil liches, night hags, nightmares, giant octopi, greenhags,

annis, giant rats, winter wolves, worgs, giant wolverines, and wyverns. Note that she can summon these creatures in Hades, but not on the Prime Material plane.

Flamedevil: HD 10; MV 18"/42"; 3 attacks for 3-12/4-16/4-16 damage; SA flame breath, covers 90-degree arc in front of Flamedevil out to a distance of 20 feet, causing 4-16 damage (2-8 if a saving throw is made) and making victims -3 to hit because of obscured vision (those who make the saving throw are only -1 to hit); SD blink (as a blink dog) three times per day; MR 35%; HP 88. Flamedevil is telepathic

out to a range of 1200 feet and can communicate with any intelligent creature (its own intelligence is 19). When it is in combat in the air versus other winged horses (pegasi, griffons, hippogriffs, etc.), its breath does double damage. Any such steed that gets within 60 feet of Flamedevil must make a saving throw vs. spells or be affected by fear. The affected creature will flee and will try to buck off any rider the steed might be carrying. (Ki-rin and other creatures from the outer planes are immune to this fear effect.)

Members of Syrul's clergy wear golden-

yellow robes adorned with a red forked tongue. Beginning at third level, her clerics receive the power to obscure alignment once per day, at will, in addition to the other spells they are permitted. Beginning at seventh level, they also receive the extra ability to use undetectable lie once per day. The only other bonus that Syrul bestows is the "evil luck" benefits mentioned above.

Syrul is worshiped in the Barbarian States, on Lendore Isle, and by the Scarlet Brotherhood; also, in several large cities around the continent, worshipers of her may be found in the city's thieves' quarter.

I: 19 W: 20 Ch: 13

10' radius, detect magic, and continual light, which can be made to emanate from the hammer itself or from another object chosen by Fortubo. These powers are usable one at a time, at will, and each is evoked by the use of a different command word. The protections the hammer offers will stay in effect around Fortubo even if the hammer is thrown.

Fortubo is resistant or immune to many spells that involve rock or earth. He cannot be affected by stone to flesh or statue, and is immune to petrification from any source. He cannot be harmed by any weapon of metal or stone, including rocks thrown by giants or a boulder "thrown" by an animate rock spell. Move earth, dig, and transmute rock to mud will fail if cast on ground within 2" of Fortubo.

BUTTER

He has 98% accuracy in the underground skills: detect grade or slope, detect new construction, detect sliding or shifting walls, detect traps involving falling blocks, and determine depth underground. Fortubo

FORTUBO

God of Stone, Metals, and Mountains

Lesser god

ARMOR CLASS: -6 MOVE: 14"(16") HIT POINTS: 205 NO. OF ATTACKS: 2 DAMAGE/ATTACK: 7-16 +9 SPECIAL ATTACKS: Spells SPECIAL DEFENSES: Immune to metal or stone weapons; immune to petrification MAGIC RESISTANCE: 65% SIZE: M (5 'tall) ALIGNMENT: Lawful good (neutral tendencies) WORSHIPERS' ALIGNMENT: Lawful and neutral miners, including dwarves and gnomes SYMBOL: Hammer with a glowing head PLANE: Twin Paradises CLERIC/DRUID: 16th level cleric FIGHTER: 11th level fighter M-U/ILLUSIONIST: Nil, but see below THIEF/ASSASSIN: 7th level thief MONK/BARD: Nil PSIONIC ABILITY: VI S: 21 (+4, +9) D: 19 C: 22 Fortubo appears as a small, almost

dwarvish-looking man. He wears leather armor and bracers of defense (AC 2). His hammer, Golbi, is +4 to hit and to damage, and automatically returns to his hand after being thrown. He can hit a target with it from as far away as 200 yards. The hammer will return to him even if he teleports to another plane after throwing it, and in order to return it will burst itself from the grasp of any other creature with a strength of less than 23.

The weapon has an ego of 18 and an intelligence of 18 and is aligned lawful good. In addition to its properties as a hammer, Golbi serves as a storehouse for certain types of magic that Fortubo can bring forth from it: faerie fire, protection from normal missiles, protection from evil



can impart this level of skill to a dwarf or gnome worshiper, if he desires, for a duration of up to 36 hours, but seldom will give the power twice to the same individual. He can identify any metal, alloy, stone, or gem and assess its value down to the exact copper piece.

Fortubo is said to have found little pleasure in men. He has allied himself with the dwarven gods Moradin (see DEITIES & DEMIGODS[™] Cyclopedia) and Berronar (see DRAGON® Magazine #58 or Best of DRAGON Magazine, Vol. III) in their struggle against humanoids who harm the earth with mindless tunneling. Golbi is said to be a personal gift to Fortubo from Moradin himself.

While Fortubo has human clerics (20% of his clergy), the majority are dwarves (75%) with very few (5%) being lawful good gnomes. Males and females are welcome in his clergy; in fact, married couples are encouraged to enter the priesthood together. Fortubo demands absolute devotion from his priests; they cannot be multi-classed characters or characters with two classes. Clerics of Fortubo gain +1 to hit and damage with any stone or metal weapon, and upon attaining 5th level they receive a +1 bonus to their saving throw vs. petrification for each level of experience attained beyond the 4th. Fortubo's clergy are required to wear or carry no special gear. Any hammer will serve as a holy symbol. If a husband and wife are both members of Fortubo's

clergy, their offspring will all have wisdom of at least 13, constitution of at least 12, and a score of at least 11 in all other abilities.

Fortubo chooses one dwarven cleric to be his high priest; this will always be a character who has advanced through the 8th level of experience (the highest level that a dwarven NPC cleric can attain). The high priest has the ability to cast the *raise dead* spell, but can only perform the magic on dwarves and gnomes. Only one such high priest will exist at one time in the world; the current high priest is Dobfur, of the town of Dwarfhaven on Lendore Isle.

Fortubo is never kind to those who have fallen from good, though he tolerates those of the various neutral alignments. He is totally opposed to theft or murder, and thus no dwarven, gnome, or human thief or assassin would worship him. He is opposed to evil and to the subjugation of his followers. To this end, Fortubo offers indirect aid to those who would free his people or who would reestablish a temple to himself, Moradin, or Berronar. Fortubo can raise the constitution of one of his chosen "children" to as high as 19. Such a great boon is given only for deeds done in his name. He can also lower the constitution of any humanoid to as low as 3, but only does this to the worst of his enemies or desecrators of his name.

Temples to Fortubo are often (75%) set up in natural underground cave complexes or caverns, sometimes associated with a



nearby mining operation. A temple dedicated to him is sometimes (25%) built above ground in an area heavily populated by dwarves and/or gnomes. Fortubo is known to have temples in various places in the Flanaess, especially in the Flinty Hills, around Irongate, and on Lendore Isle.

WEE JAS

Goddess of Magic and Death

Greater goddess

ARMOR CLASS: -5 MOVE: 13" HIT POINTS: 205 NO. OF ATTACKS: 1 DAMAGE/ATTACK: 5-8 +3 SPECIAL ATTACKS: See below SPECIAL DEFENSES: See below MAGIC RESISTANCE: 90% plus globe of invulnerability SIZE: M (5' 9" tall) ALIGNMENT: Lawful neutral (evil) WORSHIPERS' ALIGNMENT: Highly intelligent lawful figures SYMBOL: A skull lit from behind by a fireball PLANE: Acheron CLERIC/DRUID: See below FIGHTER: Nil M-U/ILLUSIONIST: See below THIEF/ASSASSIN: Nil MONK/BARD: Nil PSIONIC ABILITY: VI S: 18 (+1, +3) I: 24 W: 17 D: 17 C:8 Ch: 20

Wee Jas is an attractive woman who never diminishes her awe ability when appearing to mortals. She wears beautiful and expensive gowns and delights in changing them often (instantly, by magic). If she gives a gown to a woman, it will act as a *cloak of protection* +3 for the next 72 hours. Wee Jas wears no armor; her excellent armor class comes from the powerful magic that surrounds her. She cannot be harmed by non-magical weapons or missiles.

In addition to her high magic resistance, she has a permanent *globe of invulnerability* around her which cannot be brought down, making her immune to magics of the 1st through 4th levels, even from devices. She can, at will, make the globe radiate as much light as she desires, up to the brightness of a *sunburst* from a *wand of illumination*.

Wee Jas is a master of magic. She knows every magic-user spell of any level, plus every cleric, druid, or illusionist spell of 5th level or lower. She can cast up to 9 spell levels worth of magic in a single round (maximum of three separate castings per round), mixing them as to type and level as she sees fit, and casting each at the 25th level of ability. She can use up to five magic-user spells per day of each spell level from 6th through 9th, and can use an unlimited number of 1st-5th level spells per day, taking them as desired from the spell lists of all the spell-casting classes. As the goddess of death, Wee Jas can turn or command undead as a 25th level cleric. Intelligent undead creatures often try to flee from her to avoid the *sunburst* effect of her *globe of invulnerability* which she can maintain indefinitely. She is the guardian of the dead as well; her clergy are forbidden to use *raise dead* or *resurrection* magic on any character or creature before *communing* with her directly and gaining permission.



Wee Jas is loath to allow anyone to be *raised* or *resurrected* who is lower than 9th level or not lawful. It is 50% likely that she will not allow her clergy to raise a being who is neutral with respect to law and chaos, and there is only a 15% chance that she will allow the raising of a chaotic creature or character. A priest of Wee Jas who goes against her wishes or does not consult her in the matter of *raising dead* will be demoted

one experience level and forfeit three levels' worth of spell casting ability until he or she performs an *atonement*.

She can summon groups of lawful undead or lawful dragons (but not Tiamat or Bahamut or their attendants) to do her bidding, but the task she sets for them must not be in violation of their alignment. Summonable undead are wights, wraiths, spectres, mummies, or ghosts, as she chooses. Any dragons she summons will be of adult age or older and capable of speech and magic use; she can call blue, green, bronze, silver, or gold dragons, as she chooses. Summoned creatures will come to her in Acheron or on the Prime Material plane within 1-4 rounds, and from 2-5 of any creature will appear to answer a single call.

Wee Jas has the power of *ability alteration*. She can raise or lower the intelligence, wisdom, and/or charisma of any character, to a maximum of 4 points' worth of alteration on any single figure (one ability 4 points; two abilities 2 points each; one ability 2 points and the two others 1 point each, and so forth). Her *alteration* cannot raise a score above 18 or lower it below 3, and she cannot affect the same character more than once, even to reverse the effects of her own tampering. Since she is highly lawful, she will only perform this *alteration* on someone who has done her an extreme service or disservice.

She is not on good terms with any chaotic deity. She is favored by Phaulkon among the Suloise deities of good alignment and by Bralm among the evil Suel deities. She is on favorable terms with all lawful deities because she is known to uphold law above all else. Demons and all other chaotic figures loathe and despise her. Chaotic undead avoid her, but must obey her if she commands them into service.

Her clergy are always lawful, and within any particular church they will all be of the same alignment (50% lawful neutral, 30% lawful evil, and 20% lawful good). Members of her clergy wear black vestments if good, gray if neutral, and white if evil. All of her churches are huge, elaborate structures, and services to her are long and complex affairs lasting for hours.

Clerics of Wee Jas receive a special bonus reduced casting time for their spells. Clerics of levels 1-5 can cast 1st and 2nd level spells in one less segment than normal; at levels 6-10, her clerics can cast their 1st and 2nd level spells in two less segments; at levels 11-15, they can also cast 3rd and 4th level spells one segment faster than normal. At level 16 and above, clerics of Wee Jas can cast 3rd and 4th level spells in two segments less time, and 5th level spells in one segment less. Any spell reduced to a casting time of zero or less by these bonuses is considered to have a casting time of 1/2 segment. In any case, the cleric can only cast one spell per round.

Wee Jas is worshiped in highly lawful and civilized communities including Lo Reltarma, the Scarlet Brotherhood, and the Theocracy of the Pale.

Physics and falling damage

Velocity's the key to understanding crash landings by Arn Ashleigh Parker

Holger thrust his sword into the giant's thigh. The giant grunted; then he looked down at Holger and drooled. Holger tried to move away, but he was already dangerously close to the edge of the cliff. He turned back again in time to see the shadow of the giant's body envelop his form. Then he looked up and saw the giant raise one enormous fist. If the blow didn't kill him outright, surely it would propel Holger over the edge of the cliff. In what would perhaps be his last conscious decision, Holger decided to take his chances with the cliff. He spun around and muttered a silent prayer as he stepped outward — and down....

What happens to Holger now? Can he survive the fall, or would he have been better off letting the giant put him out of his misery? The answer to that question depends on a couple of important factors first, the height of the cliff, and second, the system for computing falling damage that is used in Holger's world.

The standard methods for determining falling damage in the AD&D® game can be, extremely confusing. The system from the Players Handbook calls for 1d6 of damage per 10 feet fallen, to a maximum of 20d6 for a 200-foot fall. A revised system, described in issue #70 of DRAGON® Magazine by Frank Mentzer, requires a cumulative 1d6

of damage per 10 feet fallen, to a maximum of 20d6 at just under 60 feet - therefore, the character takes 1d6 damage for 10', 1d6 + 2d6 (= 3d6) for 20', 1d6 + 2d6 + 3d6 (= 6d6)for 30' – and the damage adds up in a hurry. (Editor's note: According to Frank's article, this was the system that AD&D game designer E. Gary Gygax intended to be part of the rules, but the pertinent passage in the Players Handbook was edited so that the meaning of Gary's original rule was altered.) Unfortunately, neither of these systems agrees with the laws of physics governing falling bodies.

The purpose of this article is to offer an alternative system for falling damage that pays special attention to the physical laws of the real world. This proposed system is based on the laws of velocity. Before launching into an explanation of the system, however, we'd best get our vocabulary straight, and define some of the terms we need to use.

The first equation given in the short article on the facing page defines velocity as follows:

The average velocity in one dimension $(\overline{\mathbf{V}}_{\mathbf{x}})$ equals the distance moved (∆x)*di*vided by the time elapsed (Δt) .

For example, if you run 100 yards in 10 seconds, then you have run at an average speed of 10 yards per second. If you run at

Defining the terms

The following terms are used in the physics falling damage article and the accompanying equations article. You don't have to study these definitions at length; just refer to them if you need assistance in deciphering an equation.

- The speed of a body in the z, or "down," direction. V_z
- The velocity in one dimension. V_x
- The initial velocity of a body. \mathbf{V}_0
- Acceleration due to gravity. ag
- Acceleration in one dimension. a_x
- Distance fallen. Ζ
- Х Distance moved in one dimension.
- d The number of six-sided dice of damage caused by the fall.
- t The time elapsed at a given instant.
- The time when movement began.
- t₀ P The potential energy of a system.
- Κ The kinetic energy of a body.
- m The mass of a body.
- k A constant.
- Indicates a change in the quantity that follows it (pronounced "delta"). Δ
- v A line over a letter or value indicates the average of the value in question (in this case, average velocity).

that speed in a specified direction - say, down a football field - then you have run at an average velocity of 10 yards per second in the direction of the football field's end zone. In short, velocity is speed with a direction attached.

The example above illustrates average velocity. In physics, however, instantaneous velocity is far more useful. If your velocity changes while you run down the field you jog for 5 seconds and sprint the rest of the way - then your average velocity tells us nothing about your speed at any given moment. Instantaneous velocity describes this. If you'd like to see the scientific definition of instantaneous velocity, refer to the equations article.

Because average and instantaneous velocities can differ, we know that acceleration can be a factor: if you start slow and end fast, you've accelerated. Like velocity, acceleration can be measured as an average quantity or an instantaneous one. Equations for acceleration are also included in the accompanying article. We'll draw from these equations later, but you don't need to study them now.

The physics of falling damage

Using physics to describe falling damage is not an open-and-shut proposition, because no definitive method exists. Hit points reflect a fantasy situation where injury is quantified. But in the real world, we cannot quantify injury; we can only measure it in qualitative terms. For example, let's say two cars collide head-on. Driver A ends up with a fractured wrist. Driver B receives a concussion, a broken arm, and a back injury. How much worse off is Driver B than Driver A? Three times? Ten times? A hundred times? The point is this: We cannot describe real injury in quantitative terms - a broken arm does not mean one-eighth dead, for example. We can only describe real injury in qualitative terms; the back injury was severe, the fractured wrist comparatively minor.

But hit points are a quantitative measurement. Therefore, we must make an assumption as to what quantitative property in physics can best relate to the calculation of falling damage. I believe that the property in question is velocity, and I believe that the relationship between velocity and falling damage is linear. If a character hits the ground at speed x, then he should take x points of damage. If he hits the ground at speed 2x, then he should take 2x points of damage, and so on.

If we accept this assumption, all we have to do is determine the velocity at which a character hits the ground if he falls from a given height. Equations 1 and 5 from the equations article can get us started. Together, they allow us to derive the following table, which provides the instantaneous velocity at the time of impact for specific distances fallen.

Table I

Time (sec.)	Instantaneous velocity (ft./sec.)	Distance (ft.)
1	32	16
2	64	64
3	96	144
4	128	256
5	160	400
6	192	576

Unfortunately, Table I does not include the effects of air resistance. As a person falls, the air retards his acceleration. As time increases, the person's velocity approaches a constant value, eventually reaching a point at which he keeps falling at the same speed. This value is called *terminal velocity* — the maximum velocity of a falling body. Air friction acts as a balancing force, eventually stopping the acceleration caused by gravity. Terminal velocity is important to understand, because that should be the velocity at which maximum damage occurs. A person may keep falling, but if his velocity no longer increases, the damage he incurs shouldn't increase either.

The following table is extracted from the book *Skydiving* by Bud Sellick. The table gives the actual distance that a 200-pound person falls during a free fall of a certain duration, if the person falls from an initial height of 2,200 feet.

Table II Time (sec.)	Avg. velocity for each sec. (ft./sec.)	Distance (ft.)	
1	16	16	
2	46	62	
3	76	138	
4	104	242	
5	124	366	
6	138	504	
12	174*	1500	
*- terminal velocity			

If we compare Tables I and II, we see that air resistance does have some effect on velocity, which is reflected by the distance fallen. According to Sellick, terminal velocity varies depending on the height from which a person falls, and it takes anywhere from 12 to 14 seconds to reach terminal velocity in a skydiving free fall. If the person falls from 30,000 feet, his terminal velocity is 235 ft./sec. If he falls from 1,000 feet, his terminal velocity is 160 ft./sec. If we compare these figures to the terminal velocity in Table II (for a fall of 2,200 feet), we see that the terminal velocity is indeed lower when the person falls from a lower elevation.

But few characters in the AD&D game fall from 30,000 feet, or even 1,000 feet. In order to make the physics falling damage system work, we have to determine a terminal velocity that is appropriate to the common heights in game play.

Let's look at Table II. After 5 seconds of falling, the increase in average velocity (from the 5th to the 6th second, and presumably from second to second thereafter) seems insignificant. How do we decide what is insignificant? I propose that any increase in the average velocity that is less than the average velocity during the first second of the fall is insignificant for our purposes. In Table II, the average velocity for the first second of the fall is 16 ft./sec. The increase from the 5th to the 6th second is only 14 ft./ sec. (138 minus 124). Therefore, I believe the increase in velocity after the 5th second is insignificant.

Scientific facts behind the system

The equations in this article give structure to the physics falling damage system. Some are merely intermediate steps, which allow us to reach another equation we need. At times, the main article refers to an equation in this article, and you may want to look at the specific equation at that time. You don't have to study these equations to understand the falling damage system set forth in the main article; they are presented here in full for those who are interested in following the reasoning of the system.

The following equation relates the average velocity in one dimension to the distance moved and to the time elapsed:

$$\overline{V_x}$$
 = $\triangle x / \triangle t$

The equation for instantaneous velocity allows us to determine the velocity of a person at any given time (where d / dt is an operation called the "derivative"):

$$V_x = (d/dt)x = dx/dt$$

Average acceleration is defined as:

$$\overline{\mathbf{a}_{\mathbf{x}}} = (\mathbf{V}_{\mathbf{x}_1} - \mathbf{V}_{\mathbf{x}_0}) / (\mathbf{t} - \mathbf{t}_0) = \Delta \mathbf{v} / \Delta \mathbf{t}$$

Instantaneous acceleration equals:

 $a_x = dx / dt$

With the equations above, we can proceed to equations of motion. For a constant acceleration in one dimension (such as the acceleration due to gravity, a_g), the average and instantaneous accelerations are identical in value. This value is expressed as follows:

$$a_g = (V_z - V_0) / (t - t_0) = \Delta V_z / \Delta t$$

We can rearrange the equation above if we take t_0 (the starting time) to be zero:

(1)
$$V_z = V_0 + a_g t$$

Now, for a constant acceleration only, the average velocity over an interval of time equals one-half the sum of the instantaneous velocities at the beginning and the end of the time interval:

```
(2) V_z = \frac{1}{2} (V_z + V_0)
```

The position of the falling person (if the beginning point of the fall is taken as the origin) is:

 $z = \overline{V_z}t$

By substituting the right side of equation 2 for $V_{z\nu}$ the result is:

(3)
$$Z = \frac{1}{2} t (V_z + V_0)$$

If we solve equation 3 for V_z and plug the result into equation 1, we can derive this equation:

(4)
$$(2z / t) - V_0 = V_0 + a_g t$$

By solving equation 4 for *z*, we can find the distance that a person has fallen if his initial velocity and elapsed falling time are known:

(5)
$$z = V_0 t + \frac{1}{2} a_g t^2$$

The value of equation 5 is this: we can find the position of a falling person without knowing his or her instantaneous velocity. Solving equation 1 for t yields:

$$t = (V_z - V_0) / a_g$$

If this value for *t* is plugged into equation 5, the expression becomes:

(6)
$$z = \frac{V_0 (V_z - V_0)}{a_g} + \frac{1}{2a_g} \frac{(V_z - V_0)^2}{a_g^2}$$

If we multiply both sides of equation 6 by $2a_g$ and cancel where appropriate, we obtain the following:

(7)
$$2a_g z = -V_0^2 + V_z^2$$

Solving equation 7 for V_z gives us:

(8)
$$V_z = V_0 + \sqrt{2a_g z}$$

It is equation 8, referred to several times in the main article, that allows us to compute the velocity of a falling body at any given instant. It is the cornerstone of the physics falling damage system, which equates falling damage to the velocity of the falling body at the instant it hits the earth. This definition of significance is acceptable from both the standpoints of physics and gameplay. Physicists are very willing to approximate data when, as is the case here, the increase in the average velocity is negligible when compared to the average velocity. This is especially so considering that very few characters in an AD&D game ever fall from distances where the terminal velocity varies less than 1 ft./sec. (starting at about 1,500 feet).

Since the increase in average velocity from the 5th to the 6th second is insignificant, shall we say that the distance fallen after 5 seconds – 366 feet – is where terminal velocity occurs in the game? If most adventurers fell from an elevation of 2,200 feet like the skydivers from Table II, the answer would be yes. But most characters fall from a much lower elevation. And velocity increases more slowly at lower elevations, because the air is heavier. Therefore, the terminal velocity for our purposes will be reached after a significantly shorter distance has been fallen; 366 feet is still too high.

A glance at Table II reveals that the increase in average velocity from the end of the 4th to the end of the 5th second is only 20 ft./sec. (124 minus 104). We know the table is based on a fall from 2,200 feet - an elevation far higher than that most adventurers would encounter. Therefore, it is not unreasonable to assume that the velocity difference for the 4th and 5th seconds of an

adventurer's fall is less than 16 ft./sec., and thus is an insignificant amount. We can also assume that the terminal velocity of an adventurer's free fall, therefore, occurs at about the 4th second of the fall. Looking at Tables I and II, we can see that the character would have fallen about 250 feet at this point in time.

It's good that our approximation of where terminal velocity (and hence, maximum damage) occurs is so near 200 feet. Gamers who are used to having maximum damage occur at 200 feet (as per the Players Handbook) won't have to alter their conceptions much to accommodate the physics falling damage system.

I propose that we set 256 feet as the exact distance at which terminal velocity is reached. This distance is as accurate as any other near 250 feet, and the number 256 makes the resultant equation in the physics falling damage system easier to use and remember.

With all the above points in mind, a brief examination of the two current systems, plus another common proposal, should yield a good understanding of why those systems don't work — and why a system based on velocity will.

1d6 per 10 feet fallen

This system indicates that damage increases linearly with the distance fallen: 1d6 for 10', 2d6 for 20', 3d6 for 30', etc. Maximum damage (terminal velocity) is reached at 200', when the victim takes 20d6 points of damage. The maximum damage point is not too bad, but the damage taken before that should not increase linearly with the distance fallen. If we accept that velocity relates directly to damage, the damage should reflect the speed of the victim when he hits the ground. As we can see from Tables I and II, velocity does not increase the same way distance does: speed increases linearly, while distance increases geometrically. In other words, distance increases much faster than velocity. Therefore, if a character takes 2d6 of damage in a fall from 20 feet, he should not take 4d6 in a fall from 40 feet; he should take less than 4d6.

1d6 cumulative per 10 feet fallen

In every sense, this system is worse than the previous one. Instead of terminal velocity being reached at 250' or even 200', it is attained at approximately 60'! Furthermore, damage is 1d6 at 10', 3d6 at 20', 6d6 at 30' – a geometric progression. This directly opposes the real relationship between distance and velocity, which is a geometric retrogression.

Why kinetic energy isn't the answer

There are several principles on which falling damage can be based. As I have already stated, I believe the appropriate principle is velocity. However, the energy involved in a fall, particularly kinetic energy, may also seem appropriate – at first,



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anyway. Is there a direct relationship between kinetic energy and falling damage? I intend to show that there is not, but before that, we must clarify what the energy in a fall is all about.

We will discuss two kinds of energy: kinetic and potential. *Kinetic* energy is the energy of motion. When a person is falling, he has a certain amount of kinetic energy. *Potential* energy is energy that is stored in a system and cannot be attributed to any particular object.

A person does work when he walks up a hill – work in the sense of physically opposing a given force. The amount of work he does equals the potential energy (P), calculated by the equation $P = ma_{a}z$.

The equation is read as "Potential energy equals mass times acceleration due to gravity times the height above the earth." This assumes that at the surface of the earth potential energy is zero, which is okay for our discussion.

Figure 1 illustrates the physics of kinetic and potential energies in a fall. At point A, the person begins to climb the hill. Potential energy equals zero. At point B, the person uses "work" to walk up the hill. This "work" gives the system (which includes everything in the diagram) a potential energy of mag z when the person is at point C.

At point D, the total energy of the system involves both some potential energy and some kinetic energy; the former is present in the system, while the latter has been imparted to the falling person. Just before point E, when the person is about to smash into the earth, all of the energy in the system is kinetic energy, all of which is contained in the person's body. When the person hits the ground, he loses all of his kinetic energy to the earth — and the earth moves a minuscule amount in the direction indicated by the arrow.

Now that we understand the basics of kinetic and potential energy (right?), we can examine the relationship between kinetic energy and falling damage. If kinetic energy and falling damage were directly related, we should be able to illustrate how kinetic energy can be used to calculate the damage from a fall.

If we accept that the transfer of kinetic energy from the person to the earth is the direct cause of falling damage, then we need only use the implied linear relationship between the two to set up our equation:

 $\frac{1}{2}mV_{z}^{2} = ma_{g}z = kd$

Essentially, the equation reads "Kinetic energy equals potential energy, which is also equal to a constant (k) times the dice of damage sustained (d). This illustrates the linear relationship between the distance fallen (z) and the dice of damage sustained in the fall (d) — the original system in the Players Handbook!

But everything above is based on the assumption that a linear relationship exists between falling damage and kinetic energy. No physical law exists that says kinetic energy is the direct cause of physical injury. We know that there is some relationship between the two — because the more kinetic energy a person transfers to the earth, the greater his injuries are. But no law states that this relationship is *linear*, or that all the factors involved in kinetic energy relate to the injury. It may be, then, that some *part* of kinetic energy relates linearly to falling damage. Since no formula exists to tell us what part this might be, we have to use our intuition to determine the crucial property.

Once again, we must ask ourselves, What property could we reasonably assume to have a linear relationship to falling damage? A suitable answer, as I have said before, would be velocity. It just seems right that if a person takes *d* amount of damage after falling at speed *x*, then that person should take 2*d* of damage if he hits the ground falling at a speed that's twice as fast. Some variation would exist, of course, but that's why we use six-sided dice to determine falling damage, instead of just assigning a number of hit points lost.

The problem with using kinetic energy to determine damage is this: kinetic energy is a function of the *square* of velocity. Every-day physics (the classical mechanics) is very much intuitive. It does not make sense that the square of velocity linearly relates to falling damage; it does make sense that velocity itself directly relates to damage. When a person hits the ground at speed 2x, he should take 2d of damage — not 4d. Therefore, we should feel free to discard the concept that kinetic energy is linearly related to falling damage.

The physics falling damage system

All systems that purport to do something useful usually begin with at least one assumption. For the physics falling damage system, I have made two assumptions: First, I assume that velocity and damage are linearly related. This is a good assumption, because it is intuitively correct. Second, I assume that maximum damage occurs at terminal velocity. At best, this is not an assumption at all, but fact. Indeed, where else could maximum damage occur? Not when the speed of the object is still increasing at a significant rate — that is, before terminal velocity is reached. And certainly, any additional damage due to wind burn after terminal velocity is reached (for those falling extraordinary distances) does not come under the heading of falling damage.

In the AD&D game, maximum falling damage is 20d6. We do not intend to change this. Earlier, we established that the terminal velocity of an adventurer's fall was reached at a distance of 256 feet. Thus, we know that 20d6 of damage must be incurred after a fall of 256 feet. With this knowledge, and the physics equations from the accompanying article, we can devise a new system for falling damage.

Our starting point is equation 8, which relates velocity to acceleration and the





distance fallen. If we look at Table I, we see that the instantaneous velocity for the first second is 32 ft./sec. If we substitute this quantity for the acceleration due to gravity (a_g) in equation 8 from the other article, we can derive this equation:

$V_z = V_0 + 8\sqrt{z}$

Unfortunately, the equation above does not include the effect of air resistance on the velocity of a falling body, but the mathematics of determining air resistance are far too complicated to be treated here. Fortunately, however, air resistance only causes V_z (the velocity in the "down" direction) to be reduced by a few feet per second; therefore, we can consider it negligible in our calculations. Ironically, the very force that makes the physics falling damage system possible (by creating terminal velocity) contributes very little to the determination of velocity itself. And velocity is the factor we need to measure to determine falling damage.

From Table I, we know that at a distance fallen of 256 feet, the speed of the falling person is 128 ft./sec. We also know that the damage is 20d6, because the body reaches terminal velocity at 256 feet. We can plug this information into the preceding equation to determine the dice of damage per distance fallen:

128 ft./sec. = $V_0 + 8\sqrt{256} = k \times 20d6$

For an initial velocity (V_0) of zero, this equation reduces to:

128 ft./sec. = k x 20d6

Dividing 128 ft./sec. by 20d6 yields the value of the constant:

(128 ft./sec.) / 20d6 = 6.4 ft./(sec. x d6)

Using d as the symbol for dice of damage, we can rewrite the main equation as:

 $V_z = 6.4 \times d = V_0 + 8\sqrt{z}$

We can solve the equation for d by dividing the right side of the expression by 6.4:

 $d = (V_0 / 6.4) + ((5\sqrt{z}) / 4)$

Again, since the initial speed of the falling body is usually zero, we can simplify the equation further to:

 $d = (5\sqrt{z}) / 4$

Now we have a simple equation that determines falling damage:

Dice of damage (d) equals 5 times the square root of the distance fallen (z), divided by 4.

Rounding out the system: saving throws

Although the equation above has all the elements we need to determine damage, the physics system is not yet complete. Let's make a simple check on the new system as it stands, and see if the results are reasonable. If we use 10 feet for z (the distance fallen), the result is 3.95 dice of damage. Indeed, that seems to be quite a bit of damage for a mere 10-foot drop (unless the character lands on his head). Both of the old systems would inflict only 1d6 for a 10-foot fall significantly less than our new system. But as I said, the physics system is not yet complete, and to finish it, we must solve this problem.

The solution lies on page 81 of the Dungeon Masters Guide, where falling damage is described as an attack form that allows the victim a bonus on his saving throw if he's wearing magic armor. A saving throw for falling damage? Never has such a thing existed in the AD&D rules. Thus, we have the opportunity to fix two holes at once: one in the game itself, and one in our new damage system.

The saving throw for the physics system is based on dexterity. (Estimate the dexterity of monsters based on their physical characteristics and other attributes.) Only those who can maneuver in some way can obtain a saving throw. For instance, neither a bird bereft of its wings nor a man whose legs and arms are bound can save against falling damage. (However, if the man's legs are bound while his arms are free, he saves at -10. If his arms are bound while his legs are free, he saves at -5.)

If the distance fallen is more than 2 feet, you must make a subtraction from the character's dexterity to determine the saving throw. This subtraction equals the number of damage dice done to the creature, reduced to an integer (see the tables that follow). For instance, for a 10-foot fall, the character takes 3d6+ of damage, so the character must subtract 3 from his dexterity score and use that number as a basis for the saving throw.

In the physics system, three saving throws are possible. The first throw determines whether only half damage is incurred from the fall: roll the character's adjusted dexterity score or less on 1d20 for success. Also use the adjusted dexterity score to determine the other two saves. If the first roll is successful, a second save is possible: a roll of one-half of the first number (round down) or less on 1d20 means the victim takes one-fourth normal damage. Finally, if the first and second rolls are made, a third save is possible: if this roll equals one-fourth of the base number or less, the character receives one-eighth damage. The damage cannot be reduced further, and a minimum of one point of damage is mandatory.

Our first example of the system in action (3.94 damage dice for a 10-foot fall) shows that the new system's equation may yield a remainder; and in fact, this is usually the case. To translate this leftover fraction into an equivalent amount of damage, round off the remainder to the nearest hundredth and use these guidelines: a fraction of .16 or less equals 1 point of damage; .17 through .33 equals 1-2 points of damage; .34 through

.50 equals 1-3 points; a fraction of .51 through .75 equals 1-4 points; and .76 through .99 equals 1-5 points. For example, after a fall of 10 feet the victim takes 3d6 plus 1-5 points of damage (before considering saving throws), since the remainder of .94 calls for an extra 1-5 points to be added to the total.

As a final note, the reader should realize that this system tends to break down at distances very close to the ground. For falls of 2 feet or less, only 1 point of damage is incurred. Falls of between 2 feet and 5 feet, including falls from horseback, should cause 1d6 of damage.

The following examples illustrate how the physics falling damage system works as a whole. The second example includes calculations for falls in which the character starts with a velocity above zero - for instance, when the character is thrown by a giant.

Example one

A thief with 33 hit points and a dexterity score of 19 falls from a height of 170 feet. According to the formula, the fall does 16.29 dice of damage, which converts to 16d6 and 1-2 extra points. To compute the thief's saving throws, first subtract 16 from the character's dexterity score (corresponding to the 16d6), so a 3 or less must be rolled for the first saving throw. Miraculously, the roll is a 3, so the thief suffers "only" half damage. Since the first save was successful, the thief can try for the second saving throw. Because half of 3 is 1.5, the save to obtain one-quarter damage is a roll of 1 on 1d20 (all fractions are rounded down in saving-throw calculations). This time, the roll is a 2, so the thief barely misses the second save. No further saving throw is possible, so the thief takes half damage from the fall.

After the saving-throw procedure is completed, we determine the actual damage. A roll of 16d6 generates a result of 66, and a 1 is rolled for the additional 1-2 points possible, so the total full damage is 67 points. Since the character made his first save, he takes only half of that amount, or 34 hit points of damage. (When calculating damage, round fractions up.) The thief, who started with 33 hit points, now has -1 hit points and is quite possibly going to succumb to his injuries.

Armor modifications: Now, let's back up for a minute. What if the thief was wearing +1 leather armor? The bonus for his magic armor is added to his saving throw requirement, meaning that his first saving throw for half damage must be 4 or less (instead of 3). The requirements for his subsequent saving throws are based on the new amount; now, the character must roll 2 or less for one-quarter damage (instead of 1), and 1 or less for one-eighth damage. So if the second roll was a 2, as we proposed in first part of this example, the thief would take one-quarter damage and would still be relatively healthy. In addition, the thief now gets to try the third throw for one-eighth damage. Even if the result of this third roll

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Subscription Rate—\$12 for one year; \$18 for two-years Single Issues: \$3 (first issue Vol. 1, No. 1 still available in limited quantity) is not a 1, he now only takes one-quarter damage, which means 17 hit points. Because he was wearing the +1 leather armor, he still has 16 hit points left.

Example two

Now let's see what happens if a 12-foottall stone giant picks up the thief and hurls him off a 90-foot-high cliff. To determine the damage in this case, we cannot use the simple equation that we used for example one. We must consider the extra speed imparted to the thief when the giant hurls him downward. To do this, we have to back up one step to the equation containing the expression (V₀ / 6.4) and plug in a value for V₀ that is not zero:

 $d = (V_0 / 6.4) + ((5\sqrt{z}) / 4)$

Let's assume that the giant can impart a speed of 20 miles per hour to the thief's body. By multiplying the speed by 5280 (the number of feet in a mile) and dividing by 3600 (the number of seconds in an hour), we can convert this speed into the proper units for the equation, feet per second. The result is 29.3 ft./sec.

The thief falls 90 feet (the height of the cliff) plus 12 feet, assuming the giant throws the thief by lifting him over his head and then casting him downward. Therefore:

 $d = (29.3 / 6.4) + ((5\sqrt{102}) / 4) = 17.20$

This figure converts to 17d6 plus 1-2 points of damage.

The thief is worse off than he was in example one, even though he's falling a shorter distance. Velocity is the key to this system, and the giant has substantially increased the velocity of the thief's fall, so more damage dice are rolled. A modifier of -17 is added to the thief's dexterity to determine the first saving throw, compared to -16 from the previous example. The thief needs a roll of 2 or less to receive half damage, and (assuming that roll succeeds) a roll of 1 to take only one-quarter damage. He has no chance of decreasing his damage to one-eighth of the base amount, since half of 1 (rounded down) is zero, and a roll of zero is not possible.

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Armor modifications: Again, let's use the same modification from example one. The thief wears +1 leather armor. Therefore, his first saving throw is 3 instead of 2. Since a 3 was rolled, the thief receives only half damage. The next roll is a 2, but the thief needed a 1 to reduce the damage to onequarter. Thus, he only makes the first throw, and the thief takes half damage. Half of 69 points is 35 (remember - round up for damage, down for saving throws). After the fall, the thief has -2 hit points and is still in pretty bad shape, although he might survive under the right circumstances (for instance, if someone happened to be close to his point of impact and could administer immediate aid).

The following chart shows the damage caused by falls from distances of 10 feet through 260 feet, at 10' intervals, assuming an initial velocity of zero. To figure the damage for intermediate distances, plug the proper distance (z) into the equation.

The column marked "old systems" lists the Players Handbook version first, fol-

lowed by the cumulative system from DRAGON® issue #70.

Distance (ft.)	Damage, new system		iage, /stems
10	3d6 + 1-5	1d6	1d6
20	5d6 + 1-4	2d6	3d6
30	6d6 + 1-5	3d6	6 d 6
40	7d6 + 1-5	4d6	10d6
50	8d6 + 1-5	5d6	15d6
60	9d6 + 1-4	6d6	20d6
70	10d6 + 1-3	7d6	"
80	11d6 + 1	8d6	"
90	11d6 + 1-5	9d6	"
100	12d6 + 1-3	10d6	"
110	13d6 + 1	11d6	
120	13d6 + 1-4	12d6	"
130	14d6 + 1-2	13d6	"
140	14d6 + 1-5	14d6	"
150	15d6 + 1-2	15d6	"
160	15d6 + 1-5	16d6	"
170	16d6 + 1-2	17d6	
180	16d6 + 1-5	18d6	"
190	17d6 + 1-2	19d6	
200	17d6 + 1-4	20d6	
210	18d6 + 1		н
210	18d6 + 1-4		
220	18d6 + 1-4 18d6 + 1-5		"
230 240	13d6 + 1-3 19d6 + 1-3	"	"
240		"	"
250	19d6 + 1-5		"
260	20d6		ົລ



Kinetic energy is the key

A brief rebuttal to the physics falling damage system

by Steven Winter

While it seems intuitively correct that injuries suffered in a fall are linearly related to velocity, that notion is incorrect. The factor that Ms. Parker rejects – kinetic energy – is the real culprit.

The confusion arises from the fact that the collision between a falling body and the earth is essentially inelastic. In an elastic collision, two bodies smash together and then bounce apart; colliding billiard balls are a classic example. Kinetic energy is conserved in an elastic collision. In an inelastic collision, two bodies smash together and stick together, like coupling railroad cars. When a body falls to the earth, it doesn't bounce (at least not much); gravity pins it to the surface. Kinetic energy is not conserved in an inelastic collision, contrary to what Ms. Parker's example illustrates. Momentum is conserved, and total energy is conserved, but kinetic energy is not. In the case of a human body hitting the earth, the amount of kinetic energy conserved as actual kinetic energy is astoundingly small - much less than 0.00001 percent (if we ignore the earth's kinetic energy, assuming its velocity to be zero).

What happens to the kinetic energy? Some of it produces a loud "thud," some of it raises a cloud of dust, and some of it produces heat. But most of it becomes "internal energy" that dissipates by doing work: breaking bones, crushing organs, and setting up elastic waves in the body and in the earth. I couldn't state offhand how much energy is absorbed by the ground and how much by the person, but most of it probably goes into the person, since a human body is more elastic than packed earth.

The important point is that injuries are caused by this "missing" kinetic energy,

which is proportional to the square of the falling body's velocity, or to some constant fraction of the square of the velocity.

How this system plays

As might be expected, relating damage to kinetic energy has an interesting effect on the game.

The table below is an analysis of the energy states of a falling body. *D* is the distance that the object has fallen, measured in feet. *T* is the number of seconds that the object has been in free fall. *V* is the object's velocity at distance *D*, in feet per second. V^2 is the square of the velocity, and is directly proportional to the object's kinetic energy. ΔV^2 is the increase in V^2 from the previous entry for *D* and the current value of *D*, a number which is directly proportional to the object's kinetic energy.

What the table shows is that, when a falling object's kinetic energy is sampled at regular intervals of distance, the increase is

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linear. If this constant increase is arbitrarily assumed to equal 1d6 points of damage for every 10 feet fallen, we are right back at the game's original falling damage system, as expressed in the Players Handbook. Possibly a coincidence, but . . .

D	Т	V	V ²	$\triangle V^2$
10	0.79	25.29	640	640
20	1.11	35.77	1,280	640
30	1.36	43.81	1,920	640
40	1.58	50.59	2,560	640
50	1.76	56.56	3,200	640
60	1.93	61.96	3,840	640
70	2.09	66.93	4,480	640
80	2.23	71.55	5,120	640
90	2.37	75.89	5,760	640
100	2.50	80.00	6,400	640
150	3.06	97.97	9,600	3,200
200	3.53	113.13	12,800	3,200

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The ecology of the rust monster

by Ed Greenwood



From the *Physiologus Veritas* of the sage Baerdalumi, with notes appended by the author:

The rust monster is a creature of curious, even comical appearance. It waddles with great speed in an ungainly, rocking motion like a raccoon cub, dubbed "gallumphing" by some long-ago observer, and chitters in the fashion of field mice. It is much respected by artisans and fighting-men, however, for its power to cause metal to rust or corrode away by its touch, which corroded metal it then devours and lives on. An example of this respect is the great mercenary general Gulgathas, who has issued standing orders that all smithies in his army's encampments are to be encircled with a bristling row of sloped, fire-hardened stakes, or propped spears, to discourage the attacks of such creatures.

Rust monsters are non-aggressive, but are both curious and utterly fearless even, it is said, being immune to magical and psionic influence in their single-minded pursuit of metal.¹ They can smell metal from as far away as a man can make out the features of another man, and are known to prefer ferrous metals over non-ferrous sorts.² Metal clearly visible to the eyes but beyond smell range is apparently nonexistent to rust monsters, and they climb poorly, so the lofty upper reaches of any pole or tree that can withstand their gallumphing charges is a safe haven against the creatures. They have near-infinite patience and perseverance, however, and have been known to wait at the base of such a nearby trove for a month or more.³

Perhaps the best way of battling a rust monster is to crush it in a deadfall, with rolled boulders, or perhaps to trap it in a pit and strike it from above with rocks and clubs. If one must face it in open-field battle, it can often be successfully disabled by first striking at its antennae and then at its legs, possibly enabling one to escape with prized metal (magical weapon, coins, jewelry) intact. Beware its tail - an anklehigh, lashing sweep of this appendage has knocked many a warrior on his rump, and before he can rise the creature has spun about to beat upon his armor with its antennae, and greedily seek out buckles, weapons, flasks, coffers, and even mirrors buried deep in backpacks!⁴ It has a dexterous, sticky, six-inch-long tongue that it can extend from under its beak to catch up even the smallest flakes of metal or rust.

It is not known what rust monsters originally ate, or why they developed a bony "shell" of armor, an oddly shaped tail, or their strangely specialized antennae, but since recorded history began these curious beasts have lived in symbiosis with a particular type of bacteria that can apparently coexist with no other species of creature.

These bacteria are found in a rust monster's antennae, stomach, and bloodstream, and have a particular need for metallic ores. They gain energy from the sun (the monster absorbs heat through its body armor and tail), and with this and ingested metallic oxides (more commonly called "rust"), they produce chemical energy (sugar) to power, repair, and nourish for growth both themselves (the bacteria cells) and their host, the rust monster.

The bacteria - a type not yet identified or reproduced by any alchemist - can upon contact with any metal (there are no known exceptions) oxidize the metal,⁵ even if it is inside a rust monster. Thus, anything swallowed by a rust monster, touched by its antennae or tongue, or that draws blood from its innards will rust. A weapon that bounces harmlessly off a rust monster's tail, legs, or bony shell will be unaffected, but any metal weapon that pierces its bony shell and wounds the beast will immediately rust and become useless. Hand-held wooden piercing weapons do not have enough strength to penetrate the shell, and can only harm-its eyes and mouth. Wooden clubs are effective weapons against the beast, as are crossbow bolts and arrows.

Rust monsters cannot dig through rock, but can scratch away loose rubble and earth to uncover buried metal (in tombs or caches). They can glean sustenance from all ferrous metallic ores, and often follow the subterranean tunnels of umber hulks, purple worms, and the like, searching for exposed veins of ore in the tunnel walls, or metal treasure in the lairs of various underground creatures. Many an otyugh has dined on a rust monster that tried to root through it to get at treasure lying underneath.

The beasts will often be found exploring mines in search of tools and ironmongery. In one mine north of Mirabar, a standing guard of warriors with wooden weapons is employed to keep lurking rust monsters away from the exposed veins of ore, tools and hoists, and quarried ore. Magic-users are sometimes hired to rid a place of rust monsters by the use of "chain traps." Lengths of old, rusty chain are laid in a large circle in a strategically located cavern or other large area; at the center of the circle sits the magic-user and a few bodyguards with wooden staves. When a rust monster gallumphs up to feast, it ignores the men, the magic-user leisurely throws a fireball at the beast, and its body is rolled aside with the staves. If scavengers (such as hunting dogs or dungeon inhabitants) are not likely to dispose of the remains, the body is painted with a rune or message to warn away other adventurers. Rust monster antennae will continue to rust metal for some time after the creature's death.

Rust monsters wander endlessly in search of food, their bony exterior armor protect-

ing them from most predators. They do not pair for life or choose specific mates, but merely mate with another rust monster when circumstances allow. This prolificacy has kept the curiously unaggressive rust monster from dying out in the face of attacks from humans and natural predators.⁷

Notes

1. A rust monster has only animal intelligence, and although it will choose to avoid noise, light, and groups of other living creatures, these cautious habits are swept away when it smells a meal. It will pursue edible metal that it has detected regardless of attacks upon it, potential danger, or attempts to charm, dominate, or otherwise control its actions by magical or psionic means. (This includes a repulsion spell, but a *push* from a magic-user of sufficiently high level would work. A gust of wind, however, will not even slow a hungry, ground-hugging rust monster.) The beast's instinctive hunger for metal is too strong for the monster's dim intellect to even notice any other forces attempting to coerce it. In theory, charm monster could affect the beast - but only if it is not commanded to do anything that violates its basic nature. (In other words, any command it is given must directly involve getting something to eat, or

the *charm* is liable to be broken.) Psionic *domination* of a rust monster is also possible, but it can be troublesome and expensive to maintain control of the monster while forcing it to act against its nature.

2. The sense of smell of a rust monster is apparently linked to magnetism; it increases in effectiveness as the amount and purity of the metal increases. Thus, traces of metal immersed or suspended in liquid, sand, or some forms of clay would escape the rust monster's attention; but rusty nails or tiny shards of metal from a notched or scratched weapon would not. The beast's acute (effective up to 9" distant) sense of smell is believed to be a result of a strain of bacteria unique to rust monsters, which also lends them their rusting ability. Rust monsters can also smell non-ferrous (non-magnetic) metal, but only at a distance of 2".

3. A rust monster can go for as long as two months between one full meal (a suit of plate mail, or equivalent weight in metal) and the next, if it does not expend much energy in the meantime. The monster will unthinkingly try to wait out a target perched in a tree, but won't wait so long that it starves to death. (The unfortunate figure in the tree will probably fall unconscious and drop out of the tree long before this anyway.)

4. If the die roll for the rust monster's chance to hit is one or two digits lower than the number needed for a successful strike with its antennae, there is a chance that it has knocked over an adversary with its tail. Any humanoid standing to the rear of the monster or on either side of it within 5 feet of its body must roll his dexterity or lower on d20 to avoid being knocked down by a sweep of the tail. The rust monster is +4 to

Although [a rust monster] will choose to avoid noise, light, and groups of other living creatures, these cautious habits are swept away when it smells a meal.

hit in the following round against any single target that was knocked down; a miss indicates that the character managed to scramble to his feet and get out of reach of the antennae in time. No character who is knocked down can attack the rust monster in the following round.

5. The bacteria will spread rapidly across the entire surface of any metal object it comes into contact with. A dagger or sword blade or any other relatively small piece of metal will rust completely in 2 segments, and a full suit of plate mail will be corroded within 5 segments after contact. Metal weapons that pierce a rust monster's body will do normal damage on that strike, but will rust immediately afterward. If pulled back from the creature's body and wielded again, the weapon will crumble harmlessly into chunks of rusted metal. The rust monster takes significantly longer to consume the rust - typically 1 round for a buckle, handful of coins, or dagger blade; 2 rounds for a helm; 3 rounds for a shield; 5 rounds for a complete suit of mail; and 6 rounds or longer for horse barding or full coat-ofplate. A rust monster will not stop to eat when it is being attacked, but will begin gobbling its spoils as soon as it perceives that all attacks upon it have ceased.

The DM should judge the effects of a successful rust monster antenna-strike according to the circumstances. If only a certain part of a character's body or weapon is exposed through a doorway or hole, then only that part can be affected. However, the rust does spread across the extent of an entire area of metal; if a character clad in a ring mail jersey strikes at a rust monster through a small opening and his arm is hit by one of the antennae, the *rust* will travel along the jersey and the character will soon lose his shirt. The corrosive action does not "jump" across gaps between two objects or areas of metal. For instance, a character who wears metal leggings and a metal breastplate that aren't in contact with each other will not have all of his armor affected

When forced to fight on open ground, a rust monster will tend to strike at the nearest and largest concentration of ferrous metal.

by the same strike, in the same way that a suit of armor and a helm cannot be rusted at the same time — unless there is a metal-to-metal connection between the armor and the helm.

When forced to fight on open ground, a rust monster will tend to strike at the nearest and largest concentration of ferrous metal, but may not be right on target because of evasive action taken by the target. In such cases, the following table can be used to determine where a rust monster's antenna strike hits:

Dice roll	Item struck
01-36	Weapon
37-64	Shield
65-85	Armor
86-95	Helm
96-00	Minor but visible metal object
	(belt buckle, headband, gaunt-
	let, etc.)

Obviously, the item struck will only be affected if it is being held, carried, or worn by the target, and only if the item is metal. Re-roll if an effect on an absent or nonmetallic item is indicated, or simply assign a result if only one of the above items is applicable. The rust monster never fails to rust *something* on a successful hit, as long as the target is wearing or carrying anything



metallic in plain view. If the target character or creature has no metal to be rusted, there can't be a successful hit in the first place. Even so, the rust monster will smell metal items in a backpack or belt pouch, and will relentlessly try to get at the metal it cannot see unless and until a better prospect comes along.

Metal gates, statues (even animated, magical ones such as iron golems) and the like can be affected by rust monster antennae strikes. Very large objects may take 1 or 2 rounds before rusting entirely and then collapsing. Magical objects with a "plus" get a straight saving throw, at 10% per 'plus," to avoid being rusted, as per the Monster Manual. Large enchanted objects (such as an iron golem) get a saving throw vs. petrification at +1 to avoid the rusting effect. An iron golem striking a rust monster would do 4-40 points of damage, perhaps killing the creature - but if a golem carrying an edged weapon struck the antennae or the body of the rust monster with its blade and not with a crushing blow from its fist (the golem is unintelligent and does not choose its attack mode deliberately), the golem would begin to corrode immediately and would collapse into a mound of rust at the end of the following round. During this



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second round, it can move only 3" without toppling, and it will do only half damage on any attack.

A rust monster antenna will take at least 5 hit points of damage before being severed. Rust monsters are apparently immune to all forms of poison, including the breath weapons of iron golems and those of brass, bronze, silver, green, and gold dragons (who must often fight rust monsters to defend their hoards), and liquid poisons produced by various creatures and by men (and smeared on weapons). Fire does normal damage to a rust monster, but acid rarely seems to have an effect (+3 on saving throw, half damage if save fails, no damage if save succeeds).

6. The bacteria can survive, and continue to act through the antennae, for 6-105 days after the death of the host rust monster, depending on the availability of food. The bacteria can thrive on previously devoured metallic oxides in the stomach and bloodstream of the monster, any metallic weapons left lodged in the monster's body, or newly introduced metal - but the bacteria will die when such supplies are exhausted. A rust monster antenna that was placed in a bowl of water with rust and a lot of metal could continue to thrive indefinitely, and perhaps could even be carried as a weapon for occasions of 5 days or less before the bacteria would need to have their food supply replenished.

A scavenger that devours a rust monster would have any previously devoured metallic treasure still in its body rusted and eaten by the bacteria, but the bacteria could not take over the creature so that its attacks would have the ability to rust. Only the creature known as the rust monster (sages have argued over a "proper" name for this beast for decades, but none has gained common acceptance, or seems likely to) can support the mysterious bacteria, and rust monsters do not eat each other. In the example of the scavenger mentioned above, the bacteria would die when its metallic food in the scavenger's stomach was used up, without harming the host, and would be excreted.

7. Rust monsters mate often, following a ritual in which each one of the pair makes agitated chittering noises for several minutes. If one of the adults is fertilized, a young rust monster will begin to form in the body of the parent. It will be born 4-7 months later, live, whole, and active, and will usually accompany its parent until it is full grown.

Newly born rust monsters have all the powers of an adult (there is a transferal of some of the bacteria from parent to child), but have only 1+4 HD and are size S, with a 5-foot-long tail and 3-foot-long antennae. Such a "rusty" will grow rapidly to a young, 3 HD, M-size form, with full adult-size tail (10') and antennae (7'), usually within 8 months or so, but this growth is dependent on food supply. After a year of life a rust monster is a mature adult and can mate with others of its kind.

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Books reviewed by Chris Henderson

THE CHAOS WEAPON Colin Kapp

Del Rev \$2.50 345-31344-5 This novel starts in the middle of a galactic emergency: ChaosCenter has determined that someone, or something, has discovered a means by which to harness the natural forces of chaos in the universe, so as to use these forces as a weapon. One by one, the greatest thinkers and leaders die by natural causes, occurrences which leave telltale signs of having been carefully planned. Concerned that the future growth of humanity may be greatly endangered if its best diplomats, inventors, philosophers, generals, and others are all murdered, ChaosCenter sends Space Marshal Jym Wildheit to investigate and end these killings.

The space marshals as developed by Kapp are a unique creation — a character type that a *Traveller*® game player would love to role-play, if it were possible to roll up a character this good. Space marshals not only have the standard abilities as great fighters, fast thinkers, and skilled escape artists, but they also have an additional edge: they are in contact with the gods. Each space marshal is trained to believe in a godlike being from another dimension, to the extent that this faith results in contact with one of these gods. Perched on the



shoulder of the selected space marshal, the godlike being waits for opportunities to be of assistance to the marshal, feeding on his or her belief.

And so *The Chaos Weapon* progresses from one scene to another, with impossible characters lighting for survival, each character more powerful than the next. No sooner are the marshals introduced than men enter the act who are capable of flinging them about like ping-pong balls. Wildheit and his invisible godlike companion team up with a female sensitive, a woman who can read the patterns of the future. The three of them manage to find and join their superior attackers, only to realize that the actual enemy is a menace a thousand times more powerful and with seemingly limitless resources.

Despite some problems with characterization, *The Chaos Weapon* is a rousing tale, and it's well worth reading.

THE PARADOXICON Nicholas Falletta Doubleday \$14.95

Doubleday \$14.95 0-385-17932-4 The dictionary defines *paradox* as "an act, statement, or phenomenon which is or appears self-contradictory or which disagrees with common sense, or a valid argument which cannot be assigned a truth value." From Leonardo da Vinci to Bertrand Russell, people throughout history have been fascinated by these mind puzzles.

Instead of having simply amassed a bushel of brainteasers, Falletta has written a book for the general reader who is interested in paradoxes, but who may lack the technical background in mathematics, logic, science, or philosophy to dissect them adequately. In its twenty-five chapters, The Paradoxicon attempts to analyze and discuss the nature of each of the types of paradoxes displayed - word puzzles, reversible drawings, impossible rooms, and knotted strings of logic, for example. Such discussion gives the reader a feel for what is involved in trying to solve each type of paradox and why such paradoxes have concerned many of mankind's prominent thinkers. After reading this book, those who like including puzzles and riddles in their game campaigns will have many examples from which to choose.

THE SWORD AND THE CHAIN Joel Rosenberg

Signet\$2.950-451-12883-4With the novel The Sleeping Dragon,Joel Rosenberg introduced his series enti-

tled *Guardians of the Flame*. This series deals with a group of young adult fantasy gamers who are transported to the land created by their campaign referee. Their story continues in Rosenberg's second book, *The Sword and the Chain*.

In this second installment, the characters must pool their resources and decide what they are going to do with their lives now that they are stuck in this fantastic land. They know, for instance, that their leader Karl has pledged to free all of that world's slaves. With that goal in mind, the characters are pitted against some interesting antagonists.

Besides the well-developed plotline, what makes The Sword and the Chain so fascinating is Rosenberg's ability to combine game concepts with real people. The author uses modern students, with realistic strengths and weaknesses, as the central characters. Through their experiences, these people learn about their new environment, about their physical and magical abilities, and about themselves as human beings. For example, Karl had rolled up a fairly good swordsman character before the group was transported to the fantasy world. Once there, Karl is quite pleased by his physical attributes. But as the story progresses, he realizes that there are swordsmen much better than he is, and that he really doesn't know what makes him



good, or what makes the superior swordsmen better than he is. Being unaware of what his missing skills are is both an amusing and a sobering experience for Karl as he tries to discover new talents. This selfdiscovery is intriguing, and Rosenberg does well combining the fantasy game elements with characterization of believable people.

Rosenberg's approach to fantasy literature is refreshing, and *The Sword and the Chain* is a delightful continuation of his series. We can only hope for an equally enjoyable third novel.

ACROSS THE SEA OF SUNS Gregory Benford

Timescape\$15.950-671-44668-1In this novel, two important focal points
of action exist. The first one concerns the
building and launching of the world's first
interstellar ship, *Lancer*. Its mission is to
explore the galaxy and discover its secrets.
The second centers on an alien invasion of
Earth. The two plots are woven into one
tangled story wherein delayed news travels
back and forth between *Lancer and Earth*.

The problem with Benford's story, in this case, is that the two plots don't merge well. On the starship, the major characters play political games while the fate of mankind hangs in the balance. On Earth, chaos ensues while nations argue and the aliens invade. Whatever the message of the story may be, it's lost in the never-ending selfpity and hopelessness of the story's primary voices. By the end of the novel, the reader is so perplexed by the breakdown of the author's direction that the entertainment value of the book becomes nonexistent.

Across the Sea of Suns is a disappointing book. Benford's writing is generally more concise, clear, and insightful than what appears in this work. Though some of the scenes are among the author's best, the transitional elements wrapped around them are so few that the story becomes confusing. Had he not begun searching for lofty symbols midway through the story, Benford might have written a more enjoyable novel.

SALVAGE AND DESTROY Edward Llewellyn

DAW Books \$2.95 0-87997-898-8 In Llewellyn's latest novel, aliens who remain undetected by mankind have deemed the inhabitants of Earth too dangerous for contact. In addition, the aliens' computers have predicted the end of human civilization in the near future. With Earth's destruction so close at hand, an expedition is sent post haste to silence a satellite beacon which had been placed decades ago to monitor Earth's activities in the solar system. A ship, manned by human descendants from an earlier alien exploration of a younger Earth and by an Ultron (a member of the alien race), heads for Earth. Its mission is to salvage and destroy the beacon before human technology becomes capable of discovering its existence.



Edward Llewellyn has made *Salvage and Destroy* into a thought-provoking, amusing, gripping, and rousing tale. The story's appeal is found in the author's attitude toward humanity. Llewellyn is happy to illustrate that mankind has made plenty of mistakes, and probably prone to make many more. But still, in this story, he celebrates all things human: the wonder and sparkle of the imagination, the crest of never-ending human resourcefulness, human emotions and appetites, and mankind's need to invent and destroy. Though he does judge mankind, Llewellyn's judgment isn't harsh.

Llewellyn's aliens are also fascinating. Through Lucian the Ultron, the author portrays a race of humanoid aliens with such superior mental powers that these "Ults" can mold their shapes into that of any humanoid species. As long as they avoid reaching sexual maturity, the Ults can retard the aging process. Fierce, spoiled children who rule the universe, the Ults are a cross between the ancient Romans and the unemotional Vulcans: calmly rational, but decadent abusers of power.

Lucian, from whose viewpoint the tale is told, considers himself an average Ult. He has his own dreams of promotion, but becomes more than slightly perturbed when the beacon mission is made his responsibility. He becomes even more disturbed when he finds himself constantly in human company and his near-divine authority is continually questioned by his shipmates.

Salvage and Destroy is a refreshing novel, especially in the creation and description of the Ultrons. It is a highly recommended read for those who value a good science-fiction tale from a talented writer.

NEUROMANCER William Gibson

Ace Books \$2.95

0-441-56956-0

As a tale of the computer world in our possible future, *Neuromancer* reflects a time when computer crime is carried out by programmers and by on-line cowboys whose tricks smack of wizardry. In this era exist electro zombies – dead men who live on through computers – as well as monsters and magic, all made possible by taking today's computer software to its most twisted limits.

In the novel, Case, an interface rider, is recruited to pull an invasion job. But first, he must be put together again, since his brain had been scrambled by his previous employers. Once ready for the new job, Case tights his way through a nightmarish battle between his new employer (a man Case believes is not capable of controlling his own actions) and a mysterious figure who seems able to find Case wherever he may be, often calling him on pay phones as he walks down the street. What Case must steal and why are things he doesn't understand - but then, neither does anyone else. When he does find the answers to his questions, Case, as well as the reader, is in for many surprises.

Neuromancer is not a happy book; it does not have a happy ending. But it's a powerful statement about a world, and that makes the novel worth reading.



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Beyond the Dungeon

Moving a campaign into the great outdoors: Part 2 by Katharine Kerr

Now that we've discussed the general principles of playing beyond the dungeon *(Editor's note: see part 1 of this article in issue #87)*, we can get down to the techniques of running specific types of settings. Since covering the subject fully would take a small book, not merely a magazine article, what follows is only an overview. Each section offers some new ideas for DMs to adapt for their own games and tries to clarify more of that gray area in the rule books.

The greatest contrast of all to the dungeon is the outdoor setting, whether it's a wilderness or a stretch of open country within a settled area. This setting also tends to be curiously underused in AD&D® game playing. Many scenarios do indeed have an outdoor segment, usually as the party is traveling to a goal, but most of the real action takes place indoors, either in a dungeon or in a fort or other set of buildings. Usually, too, these outdoor settings are rushed over; the DM confines himself to checking to see if the party is lost and rolling for random encounters, and lets things go at that.

A real wilderness adventure offers a lot of excitement and new experiences to the players. Battling with a hostile environment is one of the main challenges in heroic adventures. One reason, of course, that many DMs gloss over this kind of challenge is that so few rules are given for dealing with them on a turn-by-turn basis. A little common sense, however, and a lot of extrapolation from what rules there are will go a long way toward filling these gaps.

First of all, though, let's consider how to set up a true wilderness adventure and see what it might have in store for the player characters. The main point of such a scenario is to pit the PCs against a hostile environment while they try to accomplish a simple goal. They may be trying to kill a dangerous monster in its wilderness lair, find a lost person, or reach the site of a treasure — anything to give them a reason for being in the wild — but reaching the goal is just the midpoint of the scenario.

The real problem is staying alive in the wilderness. The party's true enemy is the terrain itself, which has weapons in harsh conditions, natural obstacles, and the occasional nuisance combat with wild animals. What's more, the PCs will be in constant danger of running out of provisions and getting lost. If they have any henchmen along, they may also have to face morale problems.

For example, I once ran a scenario in which the party was hired to retrieve a magic item known to be buried in a vast swamp. Since this crystal was under a tall cairn, finding it presented little problem but reaching the cairn was another matter. The party had to wade through mucky water, so thick with algae that it was impossible to tell semi-solid ground from quicksand (of which there was plenty) or sudden dropoffs into fast-flowing streams. Their progress through the muck also stirred up poisonous gases and swarms of tiny insects that could get through chain mail to sting. In the water lived poisonous frogs, some crocodiles, and a new kind of monster for my campaign, the giant carnivorous slug.

By the time they reached the cairn, the party had lost a lot of hit points; on the way back, one member drowned. The players, however, had a good time as they learned to think their way around and through these obstacles. They considered this scenario one of the best they'd ever played and told me that it was a real test of their gaming skills.

Any kind of harsh terrain provides a good setting for these "trial-by-environment" scenarios. Mountains have cliffs, chasms, and rockslides to keep the party busy. Deserts are another good choice; not only the lack of water, but the blazing heat and the presence of mirages, test the PCs to their limits. Jungles are not only difficult terrain in themselves but also hide plenty of dangerous animals and poisonous plants. For all kinds of terrain, the DM should think of the worst things that can happen — and then make sure that they do.

Working out the mechanics for this kind of scenario puts the DM through a few trials of his own. Most of the rules for dungeon play have to be heavily modified to make this new kind of game action work. We've already discussed two of the basic rules, movement and visibility, in part 1. When it comes to the turn length, the DM has to be flexible. For long stretches of the adventure, a one-hour turn is usually best. When the going begins to get really heavy, the DM can switch to a five-minute turn, reserving the one-minute turn for crucial points of the adventure, when the PCs are attempting to overcome a specific obstacle, such as crossing a broken bridge or climbing a steep cliff.

Ability scores and skills

We now come to a central problem: just how do the PCs manage the various obstacles and natural traps in such an adventure? If, for instance, the party is trying to crawl over a slippery bridge across a chasm, how does the DM determine their success or failure? There's no specific "crawling across slippery object" skill spelled out in the rules. In fact, since the AD&D game's character classes were set up with dungeoneering in mind, the rules contain only a very specialized and limited set of skills.

Only thieves and assassins, for instance, have the skill of climbing walls, but this rule can't possibly mean that other character classes can't climb anything at all — provided that the thing in question is much easier going than a sheer wall. Likewise, druids and rangers have certain outdoor abilities in which only they may be proficient, but this shouldn't preclude other fighters and clerics from surviving in the wilderness with the right equipment and proper advice.

Many basic human activities simply aren't covered in the rules. Jumping, for instance, is a skill that might come in handy for a character faced with a deep cleft in the ground that blocks his way. The same goes for climbing up ropes, estimating distances, and simply hanging on to a rock, cliff face, or whatever the PC might be climbing.

The easiest way to fill these gaps is to fall back on the rolled ability scores of the PC and use them to determine the chance that PC has of successfully performing the action in question. The method is this: the DM first determines which basic ability is being used in a given situation. For instance, jumping over a cleft in the ground requires the use of dexterity; pulling oneself up a rope takes strength; estimating a distance correctly takes intelligence. Some actions require the use of two abilities; hauling oneself over the edge of a ledge takes both strength and dexterity, for example. In those cases, the DM takes the average of the two abilities used. Either the single score or the average of two or more scores is then turned into a percentage by multiplying it by five. This percentage is the base chance that the PC has of performing the given action successfully.

The base chance, however, has to be heavily modified before the character's player can roll to see if the PC succeeds or fails. Various factors will either raise or lower the chance. The DM needs to look at the conditions in which the action is being performed, as well as the current state of the character, and decide if these conditions directly affect the ability (and only that ability) in question.

For example, consider a character with a dexterity of 15 who wants to jump across a five-foot-wide cleft in the ground. Since most people can jump a distance equal to or less than their height provided they have a running start, and since this PC is six feet tall and has plenty of running room, the DM rules that he has his basic chance of 75% (5 times 15) of making the jump. Suppose, in contrast, that the PC is heavily encumbered and that the cleft is ten feet wide. The DM rules that he must subtract 10% for his encumbrance, and another 10% for each foot of distance greater than his height (4', or 40%), giving the character only a 25% chance of making it across.

To use this system efficiently during play, the DM has to plan ahead. As he sets up an obstacle in the scenario, the DM should note which abilities will be used in overcoming it. He should also figure out and note down the various percentage penalties that will influence the chance of success. Then, when the PCs reach the obstacle, the DM only has to figure in the personal bonuses or penalties for each specific PC. (It also saves playing time to prepare in advance a list of each PC's ability scores multiplied by five.) For instance, suppose that a party climbing a mountain at one point has to scramble onto a rocky ledge. The DM decides that the skills used are strength and dexterity, and that the ledge is icy for a 20% penalty and overhangs sharply enough to subtract 10% more.

When presenting these obstacles, the DM should always allow the PCs the opportunity to figure out ways of giving themselves a better chance of overcoming it. Thinking things through is what this kind of adventure is all about. In the case of our icy ledge, for instance, if a magic-user in the party wants to melt the ice with a fireball, the character should by all means be allowed to try. If the idea succeeds, the experience will teach the whole party that magic is good for more than blasting enemies.

What personal factors will affect a specific PC's chance of performing an action successfully? The most obvious one is encumbrance; any heavily encumbered character will have a smaller chance of successfully using strength and dexterity no matter what situation he faces. Weather also affects PCS in various ways. Extreme heat will lower the chance of using strength, extreme cold does the same for dexterity, and both conditions will adversely affect constitution. Over a period of several days, hunger will lower a PC's chance of using strength, but at the same time, it may add a bonus to dexterity and intelligence. (When people (or animals) are truly hungry buy not yet starving, they slip into a "hunter mentality" that temporarily sharpens their senses.)

The effects of exhaustion

The most important factor influencing a PC's successful use of skills, however, is exhaustion. Becoming exhausted is one of

the major dangers of fighting hostile terrain, and its influence is profound. In dungeons, although the party must rest at least one turn out of six, rest breaks are usually possible when required, and thus the question of exhaustion comes up only rarely. Outdoors, on the other hand, a rest break might mean danger, if indeed the party can even take one. For instance, a party can't stop in the middle of scaling a sheer cliff just because it's time for a break. Furthermore, bad weather and being hungry will exhaust a party even if the members are taking the proper time to rest.

On page 49, the DMG gives rules for exhaustion induced by making forced marches during long-distance travel, rules which we can modify for other wilderness conditions. Boiled down to basics, the rules state that a character who doesn't rest the proper amount of time after a forced march (defined as moving double the normal movement allowance for an eight-hour day) will run the risk of becoming exhausted if he moves any further. This risk is a 10% chance of temporarily losing one level of experience, a risk that's cumulative per increment of additional movement. Thus, the exhausted character who keeps moving can lose more than one level, until finally he reaches (in effect) level -1 and dies from the effects of exhaustion.

At root, then, walking twice as fast as normal for about eight hours, or walking for sixteen hours instead of eight, will make a

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P.O. Box 1646, Bloomington, Illinois 61702 Free Catalog on Request character run the risk of exhaustion. We can now use this standard "exhaustion point" to judge other types of activity and determine when they'll cause exhaustion, much as we used the standard "stroll rate" to determine other movement rates in part 1 of this article. Again, DMs will have to use their own judgment in most situations, but here are some general guidelines.

Climbing is twice as tiring as walking, as is wading through water, sand, or deep mud. Thus, characters who are climbing steep mountains or pushing their way through swamps will reach the exhaustion point after a single day of this activity.

Any character encumbered with very heavy gear – that is, to the point where a character with a move of 12" can only move $6^{"}$ – will become exhausted twice as fast as an unencumbered or lightly encumbered character. Totally encumbered (down to 3") characters will tire three times as fast.

Extremes of temperature and other physical discomforts will also make characters tire quickly. Broiling heat, high humidity, freezing cold, swarms of biting insects, being soaking wet – all such things take a toll on stamina that brings characters to the exhaustion point twice as fast as normal. For example, characters marching at their normal movement rate for a normal day will reach the exhaustion point by nightfall if they're marching in extremely hot or humid weather.

Engaging in strenuous activity without

consuming food and water will bring characters to the exhaustion point fast. Going without water for even a single day makes characters tire twice as fast as normal. A character can go without food for one full day before the lack doubles his chances of exhaustion.

Feeling terror and despair also saps energy. Any hirelings and henchmen who fail morale rolls will tire twice as fast as normal.

All of these factors are cumulative, of course. Characters who are climbing steep mountains when the weather is freezing cold will reach the exhaustion point after four hours, for example, as will a party struggling across the soft sand of a blazing hot desert. On the other hand, the DM should use a little discretion when piling up the penalties that lead to exhaustion, simply because PCs are assumed to be highly motivated, tough characters who have more will power than the average person ever dreamed of. Even the toughest adventurer will break sooner or later, though, especially when the strain continues past a single day.

The effects of exhaustion will be, in the main, the same as given in the DMG: any character who fails an exhaustion check will lose one experience level. If, however, the DM is also using the character's ability scores as percentage chances to perform actions, then the PC should also lose one point from each ability score for the purpose of these rolls only. Thus, if a 3rd-level fighter with a strength of 16 fails an exhaus-



tion check, then he will light as a 2nd-level lighter and use 75% (5 times 15) as his base chance of using strength successfully.

Since the official rule for exhaustion is based only on the one-day travel run, the question arises as to how often the DM should make exhaustion checks in other circumstances. My thought on the matter is that it depends on the severity of the strain upon the PCs. If the accumulated strain is no greater than that of a forced march, then the DM should check only once per day. If the strain is much greater, then the check should be made at least twice per day, and even every hour for extreme cases.

Let's consider a long example. A party sets off to climb a high mountain, which is so steep and rocky that they're forced to use grapples and pitons and proceed very slowly. For eight hours, resting as frequently as possible, they make their way up to a ledge that provides a safe camp, where they can rest until the next day. The DM rules that since they've taken the proper precautions, they run no risk of exhaustion.

The next morning, however, a freezing rain springs up. Since the party's equipment, is now wet and the PCs are chilled to the bone, stopping would be more dangerous than climbing steadily. All morning they struggle upward, trying to find another safe place to camp. Toward noon, a rockslide carries away one of their henchmen and the provisions he was carrying. The DM makes a morale check for the remaining henchman and finds him demoralized by the accident. The DM also decides that after hours of going through these kinds of tribulations, the PCs run the risk of becoming exhausted. He announces to the players that their PCs feel utterly drained and tired.

The characters, however, decide to continue their climb. The DM secretly notes and rolls for - the 10% chance that each PC has of becoming exhausted, but all characters make their exhaustion check. The problem then is to decide when to add another 10% increment to the chance and roll again. Since he's demoralized, the henchman will tire faster than the PCs. The DM also decides that it stands to reason that the tough fighters in the party will hold up better than the young 3rd-level magicuser who just joined the group. Therefore, the DM decides to roll for the henchman and the magic-user every hour, and the fighters every four hours.

As the climb progresses, the magic-user fails the next two exhaustion checks. Each time, the DM secretly notes that he has lost another experience level and another point off his ability scores. Finally, just before rolling a third time, the DM announces to the magic-user's player that his PC can barely stand up and feels like weeping from the strain. If the party and his player force the PC on, the DM rolls again, with the magic-user now at level 0 and with a 50% chance of losing yet another level. If he does fail this or a subsequent check and drop to level -1, then he dies of hypothermia and strain there on the slopes.

Avoid wasteful wandering

There's one final problem that often arises in the wilderness scenarios. If the movement is fairly channeled - if, for instance, the PCs are following a river or making for a known destination - then the DM can place encounters and obstacles on the map in full confidence that the party will eventually run across them. If, on the other hand, the PCs are randomly searching or exploring, not only can they move in any direction they choose, but they also run the risk of getting lost. It is thus possible for a party to stumble around in the wilderness for hours - hours of real time, that is, so that the PCs may not even reach the main point of the scenario before the playing session has to end. What's more, they miss all the clues or interesting side events that the DM had planned for them.

Letting the dice help make the map is a good way to avoid such wasted effort and boring gaming. Rather than making up a detailed master map, the DM draws out only its general parameters and main features, like the extent of a stretch of forest, the locations of major landmarks, and the position of the main goal of the scenario. All other terrain features, monster lairs, and obstacles go onto a list, the "Location Encounter Table."

The DM can number the table in one of two ways, depending on the complexity of the scenario: either to correspond with a random dice roll, or - for a scenario with a

plot — in their order of occurrence. Either way, the DM also assigns a probability that a feature or encounter will be found on any given turn, and of course rolls each turn to see if one is.

When the dice indicate that the PCs have come across a natural feature or obstacle, the players and the DM mark it on their respective maps. If the party is lost at the time, the PCs will mark it at what has now become the wrong location, of course, which makes for amusing play when they try to find their way home again or visit the area again in some later session.

Behind city walls

Every campaign of any scope needs cities and towns. Where else can the adventuring party find supplies and pick up rumors of treasure to be gained? Many DMs, however, run their cities only as bases of operations and shopping centers to fill these basic needs and little more. The more combatoriented players also show very little interest in exploring cities beyond finding the taverns, wenches, and weapons shops. This is a pity, because a well-run town offers many adventures in itself without the PCs ever having to leave its walls.

The key to adventure in a city is intrigue, not combat. This basic point is one that many DMs – and some authors of published scenarios – tend to overlook, thus failing at making believable city modules. In any given world or kingdom, there will only be one city — if any at all — that's as lawless or violent as, for example, Robert Asprin's *Sanctuary*. The vast majority of towns exist to fill the needs of either commerce or their overlord's government. In both cases, these towns will be tightly run. Killing someone on the street, no matter what the reason, will get a character arrested as fast as the legal system of the town can move.

Yet I've seen many cases where this obvious truth was ignored. For example, in one game I saw, the PC party slew a thief at night and dumped the body in an alley, and the DM never mentioned the incident again. Neither the thieves' guild nor the townsfolk seemed to care that a corpse had been found at dawn. Similarly, during a discussion group at a recent convention, one DM complained that his players had their nominally good-aligned characters kill and rob rich NPCs in their homes. He wanted to make it clear that he disapproved of this behavior without making a merely arbitrary ruling. When another DM suggested that he have the PCs arrested, worked over, and perhaps hanged by the local militia, his response was a blank "Oh, I never thought of that!"

His was an extreme case, perhaps, but it struck me as symptomatic of a widespread attitude among AD&D game players namely, that since combat is the really important part of the game, the DM should bend the rules of reality to allow as much



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violence as possible in the scenario. Very young DMs, in fact, seem to think that a game without mayhem is boring. This mistaken attitude about combat is quite possibly the reason that many DMs fail to exploit their cities properly. Once they realize that violence has to be kept to a minimum in cities, they see no reason to play in them.

Their mistake lies in forgetting that the real spice of game action is danger, not combat *per se.* If used properly, the town's legal system can provide that danger at the same time that it's squelching random violence. If the PCs run afoul of the law, they're in danger of being hanged, maimed (medieval-style justice isn't pretty, you know), sold into slavery, or simply imprisoned under horrifying conditions for a long, long time. Such dangers can easily be more frightening than a clean death in heroic combat.

Exposing the PCs to the aforementioned dangers is a fairly simple proposition. First, and most simply, the PC party is made up of strangers, armed and dangerous-looking strangers at that, who are coming into a closed and suspicious society. To be believable, the typical game-world city has to be small. A population of no more than ten thousand for the largest city in a kingdom, and two or three thousand for the average town, is the usual limit. In a place that size, everyone knows everyone else; strangers stick out like sore thumbs. What's more,



since most inhabitants will never have been more than ten miles from home in their lives, they will be extremely intolerant of strange accents, customs, and morals.

As soon as the player characters hit town, the townsfolk will be watching them, half in fear, half in irritation, waiting for them to make one wrong move. There will also be local bullies and tough guys to start trouble just for the fun of it. Even though the town militia or other legal officers may have hated these local roughnecks for years, when the chips are down they won't hesitate to side with their fellow citizens against a group of outsiders.

Furthermore, if anything goes wrong in town, such as a major crime or an outbreak of disease, the PCs will be the first ones blamed. Even if the PCs manage to convince the local officials that they're not responsible (or if they can bribe their way out of trouble), they'll be marked men in the eyes of the authorities, who may later drive them out of town on general principles. Besides, the townsfolk may choose to take matters into their own hands by harassing the PCs or even, in extreme cases, organizing a lynch mob.

Until the PC party is known and accepted in town, therefore, they'll have to watch their every move, doing their best to curry favor by being polite, acting innocently, and spreading their money around with a liberal hand. Once they're known and at least tolerated by the townsfolk, the DM can lead them down further dangerous paths by involving them in the intrigues of the town itself.

Every town, even one under the firm hand of an absolute ruler, has politics, even if these politics are only a long-standing rivalry between two different merchant guilds. Since the PCs are new in town and thus neutral to these intrigues, it's perfectly logical for one side or the other to hire them to carry out a dangerous task like spying on their rivals, stealing documents, or assassinating someone. Getting caught on such a mission means the PCs are on their own against the legal system, because their employer will deny that he ever had any part in such shameful doings, and he will probably be believed.

It's also possible for the PCs to be used as fall guys for some crime that one political faction has been wanting to commit for some time, but that they feared to do because of the law. A murder weapon could be planted in the PCs goods, for instance, or some of the papers stolen from enemies, and then the militia tipped off by a "helpful" citizen.

The clever DM can also further muddy such waters by introducing all kinds of minor complications. Quite inadvertently, a PC might make a powerful enemy in one faction, or befriend someone and thus get drawn into the infighting for his friend's sake. Perhaps the son or daughter of a powerful man might take a liking to a PC of the appropriate sex who also has high charisma — much to his or her father's annoyance. The PCs might overhear gossip or information that some powerful person wants kept secret and thus be run out of town by that person's machinations. By properly developing this kind of human factor, the DM can work out a series of events that keep play moving briskly for hours without a single sword being drawn.

There's no doubt, though, that preparing a city or town for this kind of gaming is a great deal of work. The DM has to set up the political tensions in the city, create the principal actors in this drama, and roll up a lot of minor NPCs to keep the action moving. Fortunately, there's much published material available to help the DM with the job, ranging from collections of generic NPCs to full towns complete with politics.

Although purchased complete towns are great time-savers for cities that the PCs will only visit briefly once or twice, it's much better for a DM to create the truly important towns in the campaign, even if he includes liberal helpings of ideas and stats from published sources. To be a really dramatic setting for adventures, the town has to be consistent with the individual gameworld, as well as tailored to fit its location in the world. What's more, once a DM has designed the city, he really knows it well which is a crucial factor in successfully running it. After all, if designing an entire city is difficult, running smooth play in it is equally so.

Playing cities demands that the DM have a large amount of information both available and well organized, or he will spend more time riffling through pages and rolling dice than interacting with the players. Besides any plots or intrigues going on in town, the DM needs a description of its buildings and notes on its most important inhabitants — those with whom the PCs are likely to interact.

In my experience, the best way to organize this kind of information is not flat on the pages of a notebook, but on 3-by-5 index cards. Each building in the city should be numbered, and a card made describing it. In most cases, the description will be very short, something along the lines of "a poor person's house, shabby; one story high." For others, like the house of a rich merchant who might hire the PCs, the description should contain enough details for the DM to describe it clearly if the PCs visit there.

Similarly, important NPCs should have a card of their own. Most, like shopkeepers and tavernmen, need only a few lines of description rather than full stats. The town militia or other lawmen, thieves, drunks and rowdies, or anyone else who might give the PCs trouble will need combat stats, of course. Each NPC card can be filed behind the card of the building in which he or she is most likely to be found, and numbered to correspond with that building for easy cross-reference in the DM's notes.

Once the cards are filled out, they can all be stood upright in a small box. The DM should add a tag on the top of every tenth card, showing its number, for easy reference. Then, as the PCs wander into a shop or tavern, the DM can simply flip to the correct card in a few seconds, rather than having to hunt through endless pages in a book. One of the unwritten laws of gaming seems to be that PCs never explore a town in anything remotely resembling the order in which the town is described in its key. Using file cards gives the harassed DM a chance to keep up with them.

Since this system of file cards takes a fair amount of time to set up, I recommend it only for a city where the PCs either live as a base of action, visit repeatedly, or become embroiled with intrigue and plot. Actually, if the PCs are going to enter a town only once to buy supplies, there's really no need to develop it much at all. A well-labeled master map and a few pages of notes should be all that the DM needs.

Besides encountering NPCs in their shops or residences, the PCs will of course have random encounters out on the streets. For the benefit of novice DMs, let me repeat what experienced DMs have all learned the hard way: *plan ahead* for these encounters, randomly rolled or not. If the encounter table has an entry for drunks who may be belligerent, the DM needs to have some NPCs rolled with stats in readiness, for example. Even if the random encounters won't lead to combat, it's a good idea to have some notes and descriptions at hand. These NPCs can all be put on file cards and stuck in the back of the city box in case they're needed. If their numbers never come up on the random roll, then the DM can always use them again in some other city or on a later visit to the same one.

Forts and strongholds

Many of the most powerful – and thus most interesting – NPCs in a campaign live beyond the reach of civilized justice in their own strongholds, which can provide fascinating settings for adventures. These can range from the simplicity of a freestanding tower for a single wizard to the complexity of an entire castle for a nobleman and his retainers. (The novice DM should leave the full castle for later in his career.)

If the NPCs occupying a large stronghold are ordinary and respected members of the populace, any adventuring done among them will be along the lines of city adventuring - personal interaction and intrigue are the order of the day, with the added danger that the lord can dispense immediate justice on any adventurer who displeases him. Any large stronghold will be swarming with intrigue. If the overlord is well liked, then his minions will be jockeying for his favor; if he's feared, then his minions will be trying to get what they want behind his back. Adventurers coming in cold to such a situation will have to watch every step they make.

If, on the other hand, the overlord of the

stronghold is either evil or merely a neutral who's put himself beyond the law, then exploring the stronghold is going to involve combat and the other trappings of a fullscale dungeon adventure. At first thought, in fact, buildings seem very similar to dungeons. They have rooms, corridors, and levels; they can be trapped with the usual devices; once inside, the PC party can map them onto graph paper. Thus, it's tempting to run strongholds much like dungeons but the crucial difference lies in those simple words, "once inside."

The usual conventions of dungeons are that the entrances are either unguarded or only lightly guarded, allowing the party to map and explore a considerable stretch before facing heavy opposition. What's more, in a dungeon, communication between monsters is difficult at best and impossible at worst, allowing the party to clean out one lot before the next is even aware of the party's existence. Up on the surface, this situation changes drastically or it should, in the hands of a thinking DM.

Any person or group that occupies or resides in a building is going to put sentries, alarms, and traps between themselves and possible enemies. Furthermore, the building will be placed on a defensible site – that is, in some difficult terrain that allows a good view of anyone approaching the building. A PC party, therefore, is not going to gain access simply by strolling in the front door. When and if fighting breaks out in the



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P.O. Box 1178, Manchester, Conn., 06040 building, the group defending it can muster their forces by the simple device of yelling their heads off. Even if combat breaks out in a distant corner of an enormous castle, the noise will spread quickly. The residents in one area will come running to join the battle, not just sit quietly and wait for the PCs to dispatch those in another.

Oddly enough, many DMs and scenario designers have yet to realize the implications of these basic truths. There's a good example of this in the Forest of Doom module published in issue #73 of DRAGON® Magazine, where a group of drow have made a fortress inside an enormous tree. Outside the door, sure enough, are some sentries, who will indeed fight any intruders failing to give the passwords. Once these sentries have been overcome, however, there's not a word about any organized resistance, even though such a battle would make a hell of a noise. If the sentries are defeated, the PC party can proceed to explore the fortress room by room, facing the remaining resistance in small contingents. Even the masterminds among the drow will be waiting for them in their room at the top of the tree. The only penalty the party pays for fighting a noisy battle is that these small pockets of resistance will be armed and ready for trouble instead of surprised.

In actuality, of course, given this situation, from the moment that a sentry gave the first alarm every able-bodied fighter and guard in the fortress would come rushing down to repel the invaders. The lords of the fort would be on the scene, participating in the fighting themselves as well as coordinating the defense. After all, why should the defenders allow an enemy party to work its way leisurely though their fortress, destroying all the clever traps they worked so hard to lay? The only reason is that the designer wanted them to do so in order to make the scenario play somewhat like a dungeon not quite reason enough, in my mind.

The DM who wants to run adventures in an occupied stronghold has to face the fact that they are different than dungeons and find other ways to make them playable. Here are two approaches that I've used with a great deal of success. Certainly, other DMs can think of even more.

In the first way of handling a stronghold, the scenario is simplified by having the NPCs who live in the building be mostly away from home when the PC party arrives. Perhaps the pack of bandits is off on a raid, leaving a few guards behind, or the evil wizard is gathering material components with his henchmen and only his servants are in the tower. Once the PCs have overcome this token opposition, they can begin mapping and exploring the stronghold as they would a dungeon — until the rest of the NPCs come home to find hostile intruders in their lair.

The DM should decide in advance on exactly which turn the NPCs will come back and work out a rough plan of battle for



them. Any group clever enough and strong enough to have gained a stronghold will have well-rehearsed plans for such a contingency. Likewise, the DM should give the NPC group plenty of chances to realize that something's amiss as they approach the buildings. One of the cardinal points of AD&D game philosophy, after all, is: "Always give the monsters an even break." No group of powerful NPCs is going to waltz right into a trap unless the PC party has worked very hard to lay one.

The other way of handling a hostile stronghold is to make taking it against opposition the main point of the scenario. Let me stress that an attack on a fortified building is bloody in the extreme if the defenders are anything more than incompetent nitwits. To avoid the notorious "killer dungeon" syndrome, the DM has to give the PCs a few breaks of their own this time around.

The DM should have local NPCs warn the party that the fight will be a hard one. There should be chances for the PC party to scout the territory, try a spying expedition, and use trickery and magic before the actual assault. If the building is particularly well defended, the PCs should have the opportunity to hire local henchmen for the battle. The DM need not worry that the PCs will end up having more henchmen than their levels allow; if he plays the defenders properly, the casualty rate will solve that problem automatically.

To run the attack, the DM will need a battleboard that presents the exterior in good detail. Ideally, the scale should be 1" = 10' to make judging the combat movement easy, but for a large castle or fort, a map in that scale will cover half the floor of an average room! At any rate, the DM also has to decide just what the PCs can see of the exterior at any given location, particularly if the defenders are making secret moves out of sight. I've found that trying to mask part of the battleboard with sheets of paper or whatnot is too awkward to be worth the trouble – the sheets always get knocked aside or misplaced. It seems better to display the whole map but record out-ofsight movement in the DM's notes. This plotted movement can always be shown to the players later if they cry foul.

Once the attackers break into the stronghold (or if they're caught there by returning NPCs), then combat will sweep through the building or buildings. In advance, the DM should prepare battleboards of each room or area (such as any courtyards or wards). When combat reaches a previously unmapped area, the DM can then lay the proper battleboard on the table. As combat moves on, the DM should pick up the lastused battleboard and lay it out of sight. It's up to the PCs to remember where they're going and to form a rough impression of the building's layout. During combat on unfamiliar ground, the attackers should be in constant danger of being cut off from their comrades or lost and trapped in dead-end corridors and rooms.
The romance of ruins

Although they're technically merely another type of building, ruins are worthy of some detailed discussion. For one thing, an abandoned castle or crumbling tower provides the feeling of mystery and magic so important in fantasy games. For another, such a location makes splendid lairs for exotic monsters. A griffon or a centaur is more likely to be found in an aboveground ruin than down in a dungeon. The undead, too, are natural inhabitants of ruins. Powerful undead, such as vampires, may even have turned a large ruin into a stronghold.

Ruins also offer good opportunities for "natural" traps that can keep the players guessing. As any fireman can tell you, climbing around in a ruined building is dangerous. Wooden floors will have rotted inside the timbers, thus possibly crumbling under the weight of any PC rash enough to step on them. Iron staircases will similarly have rusted partly through. Fancy stonework, such as statuary and the top courses of battlements, will be loose and ready to fall when the party causes vibrations under it. If the ruin was destroyed by fire, the very stones in the walls will be cracked and broken from the heat and might very well crumble away at heavy pressure - such that provided by a climbing thief.

There are also a couple of magical tricks that the DM can play with the ruins themselves. One is the cursed ruin. The assumption is that when the ruin was originally destroyed, its destroyers put a curse spell on one of the rooms. As soon as a PC enters that room, the curse is activated. Similarly, the ruin may have a geas laid upon it. (Abandoned temples are particularly good for this.) After the party has fought its way into a secret shrine, an apparition of a longdead priest appears and lays a geas on the party – possibly revenge upon those who destroyed the temple in the first place. Both the curse and the geas are good devices to integrate the separate adventure into the campaign as a whole - a goal that should always be in the DM's mind.

By the same token, ruins provide the DM with a chance to make the treasure gained in an adventure an integral part of the game rather than a mere reward for a hard fight. All too often, DMs fall into predictable habits when they roll up the loot – so many coins, jewels, and standard magic items, all of which can be spent or sold with little trouble. If, however, this loot is hundreds of years old, then the PCs can have an interesting time trying to dispose of it.

Any coins, for starters, are not going to be the current coin of the realm. If a modern person tried to buy groceries with a besant or a doubloon, the shopkeeper would call him crazy and kick him out of the store. Fantasy-world merchants should do the same to adventurers proferring antique coins. This means that the PCs will have to find a way of turning their loot into modern cash. They will have to search in cities for an antiquary or money-changer willing to exchange such coins. If they fail to find one, they may have to sell their stash to a jeweler for the metal - at a loss.

Antique magic items should cause the PCs even more trouble. Scrolls, inscriptions, and command words could well be written in a long-dead language, forcing the PCs to search for a sage who can translate them. Similarly, standard magic items might have been produced in different shapes "back then." A *cube of force*, for example, might be a multi-faceted jewel set into an armband. Such puzzles will stump the kind of player who memorizes the DMG, but even more to the point, they will confront the PCs with problems to solve that could lead to new adventures.

Not only will it be difficult to find a sage who is learned in antique lore, but such a sage will charge a good fee for appraising finds. There's also no reason why the first sage the PCs find has to know what the item or the language is. The PCs may have to carry the item with them for a long time before they learn its secrets. In the meantime, word will get around that a party of adventurers has something so rare that it's stumping the local loremasters. What highlevel thief could turn down a challenge like that? There may also be some unknown (to the party) NPC who has a good idea what the item may be and who will move heaven and earth to extract it from the unwilling party.

Another interesting idea is the magic scroll written in an archaic form of the world-be user's "modern" language. Such a scroll will look mostly comprehensible, thus tempting the unwary to read it right off. Unfortunately, as anyone who's ever read a little Shakespeare knows, languages change mightily over time. First of all, the old tongue will be pronounced quite differently; secondly, certain individual words will have changed their meaning. In the English of the early 1600's, for example, the verb "to let" meant "to prevent," and "to prevent" meant "to come before someone."

Thus, any archaic scroll will misfire if read in the modern way. First, the scroll might simply not work at all. Second, its effect might fall upon someone other than whom the caster intends. A *sleep* scroll, for instance, might make the reader himself fall asleep. Finally, the spell might have a slightly altered effect. A scroll of *monster summoning*, for example, could bring a horde of mice or squealing pigs at the magic-user's call.

The DM can also place in ruins things that seem perfectly ordinary but which have great value to collectors because they're antiques. Faced with this kind of treasure, the PCs will have to think rather than refer to standard tables. For example, I once ran a scenario in a ruin where, after much hard fighting, the party found only a scattering of copper coins, a magic dagger, and a box of porcelain figures, packed in straw. The grumbling was intense, but eventually the PCs took the figures along on the off chance that they were magical. A trip to an antiquary in a nearby city taught them that the



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 figures had no dweomer — they were merely incredibly valuable, a rare type of knick-knack imported from a now-dead city across the sea. A local lord paid thousands of gold pieces for the set.

If the PCs ignore this type of treasure, the DM can eventually tip them off by planting gossip in their way. An NPC can tell them that so-and-so made a small fortune from that old stuff after the party had so obligingly killed off all the monsters. Next time, the PCs will think harder.

The point, however, to using this kind of treasure is not merely to put frustrating difficulties in the characters' path, but to help expand the campaign world beyond isolated scenarios. In the example of the porcelain figures above, the players learned a lot about the city when they were searching for an antiquary. They made the friendly acquaintance of the city's overlord an acquaintance that stood them in good stead several game-weeks later when they were falsely accused of stealing in the city. They also learned an intriguing bit of history: once there had been a mighty citystate across the sea, but for some unknown reason, its ships no longer came to port. This last hint was later expanded into a whole new section of the campaign.

Scenarios for the beginner

By now, the novice DM (or even a fairly experienced one who has yet to try a nondungeon adventure) will realize that running a scenario aboveground can be much more complex than DMing a dungeon. In learning anything new, it's always best to start small. The beginner should run a scenario in a tower before tackling an entire castle, create a village before a city, a patch of woodland before a primeval forest, and so forth.

It's also better for the novice DM to start with scenarios that he has created rather than relying on published modules. The average module is too complex for a beginner, mostly because no one is going to pay good money for something so simple they could have designed it themselves. What's more, if the DM has drawn up the scenario, he knows it thoroughly.

Let's start on familiar ground by looking at some features of the dungeon set-up and seeing how these can be used to create other scenarios. At root, a dungeon is an elaborate lair, a place where a variety of monsters have settled in to live. The purpose of the PC party is to kill as many monsters as they can and to loot as much treasure as possible. This basic situation can be used aboveground simply by making the lair a piece of natural terrain or a building. There are, however, several differences between the dungeon and the non-dungeon lair. The most important is the ecology of the place.

Because a dungeon is divided up into secret areas by stone walls and solid rock, players can accept the polite fiction that monsters of widely differing types coexist within it. The dungeon setting seems to correspond to some basic and deep symbols of the human mind and has a dream logic all of its own, a logic that vanishes up in the open air and the light of day. I can testify from experience that in a dungeon, players will eagerly believe in the same event that they would scoff at if they encountered it in a natural setting.

Underground, for instance, it seems perfectly logical that a group of orcs would ignore rooms containing slime molds, giant spiders, evil wizards, and other such obstacles to a quiet life. If these same orcs have taken over a castle, however, where all the rooms are easily visible and accessible, it's no longer possible to believe that they would ignore potential dangers.

It's necessary, therefore, to invent a logical ecology for monsters in a non-dungeon setting. Any intelligent monsters will get rid of unintelligent monsters as much as possible, or else use them for some purpose. The orcs in the castle, for instance, might allow slime molds to go on growing in front of an entrance that they themselves never use. If there are different groups of intelligent beings in the same place, they have to be either cooperating with one another, following a policy of studied neutrality (which might be broken at any minute by some hostile act), or else engaged in combat over who gets the lair.

Even unintelligent monsters will prey on each other if they can see that possible prey



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GAMES WORKSHOP (U.S.) 9110 F Red Branch Rd. Columbia, MD 21045 (301) 964-0262 is close at hand. In any given area, there will only be one large carnivore (or a mated pair), because this kind of animal stakes out a territory, even in fantasy worlds. There simply isn't enough food around a single lair for more than one pair of large carnivores. Packs of smaller carnivores, like wolves and giant rats, will also try to keep their territory free of competition.

When it comes to choosing a setting for simple scenario based on the monster lair, caverns are a good first choice for a beginning DM, because they have so many features in common with dungeons, while having differences that give play a new feel. For starters, caverns cannot be mapped onto graph paper and thus give the players a good taste of non-dungeon mapping. Caverns can also be full of natural "traps" and obstacles to give the novice a chance to learn how to judge such things. There can be slimy floors, sudden dropoffs and holes, underground streams, and tunnels that dead-end or grow so narrow that the PCs have to crawl through them.

Wild forests are another good choice because they too limit visibility and thus make mapping easier. A forest also allows a pretty good variety of random encounters; deep inside it can be a variety of lairs – dens of wild animals, webs of giant spiders, the hut of a mad wizard or the camp of a group of bandits – all hidden from one another as well as from the PCs.

The specific territory in the DM's game-

world will suggest many other settings for a monster lair. A stretch of marsh or a deadend ravine so filled with brush that the PCs have to cut their way through it are both always fun. The DM needs to remember, however, that any lair has to contain a reasonable means of feeding and watering the creatures that live in it. Woods and marshes simply don't have that "dungeonish" mood of absolute magic that makes *anything* believable.

Similarly, the DM should provide some believable motivation for the PCs to get them to explore these dangerous lairs. In the case of wild animals and other unintelligent monsters, perhaps local farmers can beg or hire the PC party to remove this menace from their neighborhood. For intelligent monsters and evil NPCs, the DM can plant rumors of treasure to be gained and good deeds to be done. If the targeted NPC is merely neutral, the DM should make the players check with local authorities to see if their target is fair game. Up on the surface of the world, the party can no longer plunder and kill with impunity. As early as possible, the new DM should get into the habit of connecting the scenarios with the reality of the game-world.

From the scenario to the world

All non-dungeon adventures take place in a world which has both a past and an ongoing pattern of daily life. The people in this world have their own concerns, few of which have anything to do with heroism and adventuring; they will interact with the PCs on the basis of these concerns, not in accordance with what the PCs want out of them. A dungeon can be a self-contained and dreamlike place, but the campaign world has it own reality.

As the novice DM draws up and runs some non-dungeon adventures, he or she should be thinking about this new world that's coming into being. How do the PCs travel from one scenario to another? What do they see along the way? Whom do they meet? Who built all those ruins, anyway, and what destroyed them? By asking and answering such questions, the new DM is taking solid steps toward building a full campaign.

The experienced DM can use nondungeon scenarios to solidify and expand the game-world he or she has created. Places that were just names on maps become real when the PC party has run great risks to explore them in detail. As the PCs make friends - or enemies - in their adventuring, population figures and social classes take on meaning and depth. Eventually the aboveground campaign develops into a saga, an ongoing narrative of mighty deeds, amusing episodes, and fond memories of friends now gone. At that point, the increased pleasure that both the DM and the players get from their gaming will make the work involved in getting beyond the dungeon seem very worthwhile indeed. ົ





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San Diego's fifth annual game festival is to be held in the Old Town district, and will feature over 50 gaming events, tournaments, and demonstrations. \$1000 in prizes will also be awarded. Preregistration fees for all 10 days are \$17 until August 9, and \$20 at the door. For more details, contact: Game Fest V, c/o Game Towne, 3954 Harney St., San Diego CA 92110, or call (619)291-1666.

ARCANACON II, Aug. 23-26

To be staged at the University High School in Parkville, Melbourne, Australia, this convention will include board games and role-playing games and tournaments. For further information, contact: Arcanacon, C/- 105 Cardigan Street, Carlton 3053, Australia.

L.A. CON II, Aug. 30 - Sept. 3

This world science-fiction convention will be staged at the Anaheim Convention Center in Anaheim, Cal. In addition to panels, speakers, a sales room, and an exhibit area, activities will include a large art show, sale, and reception for the artists. For further information, contact: L.A. Con II, 42nd World Science-Fiction Convention, P.O. Box 8442, Van Nuys CA 91409.

CHAOS CON II, Sept. 1-2

Sponsored by the Courts of Chaos and the Games Galore Gaming Guild, this convention, will be held at the Copple Recreation Center in Ft. Knox, Ky. One of the main events will be an AD&D® tournament; a qualifying test will be administered to those interested in participating in the tournament. For further details about the AD&D tournament, or the convention in general, send a self-addressed, stamped envelope to: Connie Stephens, c/o Courts of Chaos, P.O. Box 299, Ft. Knox KY 40121, or Walt Hayes, c/o Games Galore Gaming Guild, 3736 Frankfort Ave., Louisville KY 40207.

EARTHCON IV, Sept. 7-9

This convention will be held at the Holiday Inn in Cleveland, Ohio. Events will include workshops, panels on game design and scenario writing, tournaments, board games, role-playing games, a masquerade, "filksinging," an art show, a Star Trek festival, and more. Poul Anderson, Steve Jackson, and Tom Moldvay will be among the guests of honor. For further information,

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To be staged at the DAV Hall in Newburyport, Mass., this convention will feature fantasy role-playing, war, and miniatures games. Advance registration fees are \$3 per day, and \$5 at the door; most games have a \$2 gamemaster fee. For more information, send a self-addressed, stamped envelope to: The Toy Soldier, 1 Hales Court, Newburyport MA 01950.

TENTH ANNUAL COUNCIL OF NATIONS, Oct. 5-8

This special anniversary convention will include open fantasy role-playing gaming, mini-battles, a mini-painting contest, game instruction, a costume contest, an auction, and numerous tournaments. For details, send a self-addressed, stamped envelope to I. M. Lord, SWA 10th Council, 1639 Eastern Parkway, Schenectady NY 12309.

WINGAMES V, Oct. 5-7

This convention centers around a large AD&D® tournament, with prizes and trophies for most events. Admission is free at the door, though a small charge (50¢ to \$3) exists per event entered. Contact: University of Manitoba Gaming Club, Box 80, University Center, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2.

LIN-CON VI, Oct. 12-14

To be held at the Gateway Auditorium at 66th and O Streets in Lincoln, Neb., this convention will feature board games, miniatures events, and role-playing tournaments. For additional details, contact: Merl Hayes, c/o Hobby Town, 134 North 13th St., Lincoln NE 68508, or call (402)476-3829.

UPCON II, Oct. 12-13

This convention will be held at North Texas State University in Denton, Texas. In addition to the usual tournaments, the movie Lord of the Rings will be shown in the NTSU Lyceum. Admission is \$1. For more information and a preregistration form, send a self-addressed, stamped envelope to: North Texas State University, University Program Council, UPCon II/Preregistration, NT Station P.O. Box 13705, Denton TX 76203.

CONSTELLATION III, Oct. 19-21

This convention will be staged at the Sheraton Inn located in Huntsville, Ala. Master of ceremonies will be Frank Kelly Freas, and guests of honor will include Gordon R. Dickson, Maurine Dorris, and Tim Bolger. Featured events are readings, panels, autograph sessions, a masquerade, hearts and gaming tournaments, an art show, and an auction. Registration fees for the convention are \$13 until September 15,

and \$16 at the door. For additional information about this event, send a self-addressed, stamped envelope to Con-Stellation III, P.O. Box 4857, Huntsville AL 35815.

CRUSADER CON IV, Oct. 19-21

This event will be held at the Metropolitan State College campus in Denver, Colo. Events will include Diplomacy®, Kingmaker[™], AD&D[®], Traveller[®], Squad LeaderTM, Car WarsTM, and Star Fleet Battles[™] tournaments. Registration is \$8 until October 1, and \$10 thereafter. For more details, contact: The Auraria Gamer's Club, P.O. Box 13395, Denver CO 80201-3395.

FANTASY FAIRE, Oct. 26-28

This annual convention will be held in Alhambra, Cal., and will feature numerous fantasy role-playing games, "filksinging," films, a cabaret, and a costume contest. For further details, contact: Fantasy Publishing Co., 1855 West Main St., Alhambra CA 91801, or call (818)337-7947.

ICON IX, Oct. 26-28

This annual science-fiction convention will be staged at the Abbey Inn in Iowa City, Iowa. Guests of Honor will be Dean Ing and Wilson Tucker. Registration fees are \$10 until October 1, and \$15 thereafter. Art show and huckster inquiries are welcome. For further information about the convention, contact: Icon IX, P.O. Box 525, Iowa City IA 52244-0525.

NECRONOMICON '84, Nov. 2-4

This convention will be held at the Holiday Inn in Tampa, Fla. Guests of honor will be Larry Niven and Andre Norton. Activities will include panels, autograph sessions, an art show, trivia contests, and a special tour to the Kennedy Space Center. Registration fees are \$10 until October 1, and \$15 thereafter. For further information, send a self-addressed, stamped envelope to: Necronomicon '84, P.O. Box 2076, Riverview FL 33569.

R-CON 1, Nov. 2-4

This gaming convention will be held at the Genesee Plaza Holiday Inn in Rochester, NY. Guests include David Gerrold and Forrest J. Ackerman. Featured will be roleplaying and board games, panels, films, an art show, and a masquerade. Registration fees are \$10 until September 1, and \$12 at the door. Contact: R-Con 1, P.O. Box 1701, Rochester NY 14603.

UTHERCON 4, Nov. 9-11

To be held at University of Texas in Austin, Texas, this convention will feature a wide range of role-playing games. Registration fees are \$3 until November 1, and \$5 thereafter. Contact: David F. Nalle, 3212 Red River #109, Austin TX 78705, or call (512)477-1704.



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ELEFANT HUNT

INVENTORY OF GAME PARTS

Your *Elefant Hunt* game should contain the following parts:

1 Rules booklet (what you're reading)

135 Small square cardboard pieces (you must glue these down and cut them out yourself), consisting of:

24 Hunters (12 white, 12 native)

- 48 Wild animals
- 20 Player markers

33 Supply markers (various denominations)

- 5 Relic markers
- 5 Ivory markers
- 1 Playing map

Lots of six-sided dice, and a paper and pencil to keep score (you must provide this stuff).

THE PLAYING PIECES

The playing pieces of *Elefant Hunt* are divided into five main types: player markers, hunters, wild animals, supply markers, and Relic and Ivory markers.

Player markers



Each player (any number from 2-5 can play) is given a set of four player markers. The colored marker is used to record the location of the player's hunting party on the playing map. The other markers are used, one at a time, to represent the player in his expedition. The number on each marker indicates the player's hunting ability. At the start, each player has a hunting ability of 1. As your expedition scores points, you may replace your marker with one of higher value.

Hunters



The number on each hunter marker indicates the hunter's value; the greater the number, the better the hunter. White hunters are printed in black ink, native hunters in red. It's nice to have native hunters in your expedition, because they consume less supplies than white hunters.

Wild animals



The number on each wild animal marker indicates the animal's value, and is also the number result you must get, when hunting, to capture the animal. Killer animals, identified by a red dot, will attack your expedition when they are discovered unless you capture them first.

Supplies



The numbered yellow counters represent supplies (food, clothing, ammunition, medical kits, etc.). Supply counters are kept in a "bank" beside the board. Players draw supply counters from the bank when they are eligible to do so, and return supplies to the bank as they are used up. If the bank runs out of supply counters, you can make more from bits of cardboard.

Relics and Ivory



When a player lands on the Elefant Graveyard, he takes an Ivory marker. When he lands in the Lost City, he takes a Relic marker. Ivory and Relics are worth a variable number of points upon their return to port, as determined by a roll of three dice.

OBJECT OF THE GAME

Each player is a big game hunter. Play starts in a port on the African coast, where each player must first hire other hunters and collect the supplies necessary for an expedition into the dangerous interior. When they feel that they are ready, the players set out with their men and equipment to hunt for wild game. A successful expedition will bring back lots of animals — alive. When a player's expedition returns to either port, he scores the point value of the captured animals. The first player to score 100 points is the winner.

PREPARING FOR PLAY

Carefully remove the board and counter sheet from the center of this copy of DRAGON® Magazine. Using a pair of scissors, cut the counter sheet away from the board, but do not cut out the pieces yet. Glue the counter sheet to a piece of card stock, or fasten it to the back of a piece of self-adhesive vinyl floor tile, and then cut out the pieces. If you don't glue the counters to something to make them thicker and heavier, you may find your game gone with the wind.

You will need a pencil and paper (for keeping score) and two clean, dry cups. The animals and hunters will be placed in the cups and drawn randomly during play. Finally, scrounge up some six-sided dice and you are ready to begin.

SETTING UP

Back-fold the board so it will lie flat on the table. Sort out the hunters and the wild animals and place them into the cups. The Ivory and Relic markers and the supply markers are placed near the board for use during the game. Each player takes a set of player markers and places the one with the value of 1 in either Port Stanley or Port Livingston. (Stanley is better.) Any leftover sets of player markers are set aside and not used.

The players should elect one person to be the scorekeeper. Then everyone rolls two dice, and the player who rolls the highest number goes first.

SEQUENCE OF PLAY

Elefant Hunt is played in turns, with each player taking the appropriate actions during his own turn. Play proceeds clockwise around the table, one player at a

time, until one player wins. On each turn a player is either "in port" or "on the trail."

When in port, a player may do one of three things: (1) collect supplies (the amount for each port is indicated on the board); (2) hire a new hunter (draw from the hunter cup); or (3) leave the port by rolling one die and moving that number of spaces out onto the trail.

When on the trail, a player rolls one die, moves the amount indicated (clockwise around the board), and follows the instructions (if any) on the space in which he lands.

PLAYER MARKERS

Each player has one board marker (colored) and three hunter markers. The board marker is used to mark your expedition's location on the board. One of your hunter markers is kept with your expedition. The others are kept in the bank with the Ivory, Relics, and supplies until they are needed.

You start the game as a hunter with a value of 1. As you capture animals and become an experienced hunter, your skill value will go up. At the start of the game, you use the piece with the 1 printed on it. Once you have captured and scored 33 points worth of animals, you may use your 3-point marker. When you have captured and scored 66 or more points worth of animals, you may use your 5-point marker.

THE EXPEDITION

While you are in port, you must organize your expedition into the interior. Your expedition consists of you (your current hunter marker), your hunters, your supplies, and, after you have been on the trail, the animals



you have captured. Set aside an area on the table where you can organize the markers representing your current expedition. Any of your unused player markers are kept in the bank, away from your expedition.



GATHERING SUPPLIES

When you are in port, you may spend your turn gathering supplies for your expedition. You will need supplies to sustain your hunters while your expedition is on the trail. If you are in Port Stanley, you may take 4 supplies from the bank and put them in your expedition. If you are in Port Livingston, you may take 2 supplies from the bank and put them in your expedition. If you choose to gather supplies, you may not move or take any other action during your turn.

HIRING HUNTERS

While you are in port, you may spend your turn looking for a hunter to join your expedition. Without additional hunters to help you, you'll never win the game. If you are in either port, simply draw one piece from the cup containing available hunters (the "hunter pool"). Place the new hunter with your expedition. You may only draw one hunter per turn. If you choose to hire a hunter, you may not take any other action on your turn.

If the hunter pool is empty, no one can hire a hunter until someone either fires or loses a hunter. No player may have more than 10 hunters (in addition to himself) at one time.

Note: Although you may only hire one hunter per turn, and only when you are in port, you may fire one or more hunters at any time; simply return the hunter(s) you don't want to the pool. Firing hunters does not count as your action for a turn. If you want to fire hunters while on the trail, you must do so before you roll the die for movement.

MOVEMENT

Once you feel your expedition has enough supplies and hunters, you should hit the trail. You may not hire hunters or gather supplies on the turn that you leave port.

To move out of port, roll one die. Move your board marker out onto the trail and then clockwise along the trail the number of spaces indicated by the die. You must move the full amount rolled unless you want to enter a port you have reached, or until you come to the first intersection on the trail.

As you travel along the trail, you will come to two places where the trail continues in two directions. At the first intersection (Albert Falls) you must stop, no matter what you rolled, and wait till your next turn. On your next turn, roll the die and then choose which path you wish to take. If you are low on supplies or don't have many hunters, you'll probably want to take the shorter trail.

You don't stop when you reach the second intersection. The path you take is determined by what you rolled on the movement die. If you are moving on an even-numbered roll, you must take the outside track toward the Elefant Graveyard. If you rolled an odd number, you must head for the Lost City.

Remember, all movement along the trail must be in a clockwise direction. Where trails come together, you must follow the arrows. If you begin your turn on the space adjacent to a port (one with a two-way arrow), you may either head on along the trail or enter the port.





HAZARDS AND REWARDS

After each move, you will land on one of several different types of spaces. Some are hazards, and some are hunting areas. The following sections explain what you must do.



If you end your move on a river crossing space, you must roll one die. If the result is a 6, you must lose one animal, chosen randomly from those you have captured. If you have no animals you must lose 1 supply. A lost animal is returned to the cup. Lost supplies are returned to the bank.

Swamps



If you end your move in a swamp, you must lose one animal, chosen randomly from those you have captured. If you have no animals, you must lose 1 supply.

Quicksand



If you end your move in a quicksand space, roll one die. If the result is an even number, nothing happens. If the result is an odd number, you must lose one of your hunters (chosen randomly). If you have no hunters, you lose 1 supply.

Lost!



If you end your move in the "Lost!" space, you must roll one die and move backward along the outside trail the number of spaces indicated by the die.

The Elefant Graveyard



If you end your move in the Elefant Graveyard, you must lose one elefant. If you have no elefant to lose, there is no penalty. Whether you lose an elefant or not, you may take one Ivory marker from the bank and place it with your expedition. Ivory is worth points when you return to port.



If you end your move in the Lost City, you must lose one of your hunters (chosen randomly). If you have no hunters, there is no penalty. Whether you lose a hunter or not, you may take one Relic marker from the bank



and place it with your expedition. Relics are worth points when you return to port.

Empty spaces

If you end your move in an empty space, your hunters camp overnight and consume supplies. (Albert Falls and the even-odd space are considered empty spaces, even though they have words in them.) Each white hunter, including yourself, uses 1 supply. Every two native hunters use 1 supply between them (round fractions up). Used supplies are returned to the bank. (You may make change.)

If you do not have enough supplies to pay for all your hunters, you lose each hunter that is not supplied. You may decide which hunters are lost (returned to the hunter pool). You may not fire hunters at this time to keep from having to pay supplies for them. While on the trail, you may only fire hunters before you roll the die to move.

If you have any captured animals, you may use them for food, using the animal's point value as its supply value. However, if your expedition eats an animal, you get no change from the bank if you don't eat the whole thing – and you can't take it with you.

There is no penalty for not being able to supply yourself, but the only time you may go without supplies is after all your hunters are lost.

Hunting spaces



If you end your turn on a hunting space, you have reached an area where game is plentiful. You must draw a number of markers from the animal cup equal to the number printed on the hunting space. Place these animal counters face up near your expedition.

Next, place your hunters adjacent to the animals you wish to try to capture. Several hunters may team up against one animal to increase your chances of capturing that one, but each hunter can only fight one animal during a turn. Each killer animal (marked with a red dot) that you do not capture is going to kill one of your hunters.

Once you have your hunters arranged the way you want against the animals, you are ready to resolve the hunt. First, you must return to the cup any non-killer animals that have no hunters adjacent to them. (These are the ones that got away.)

Now check to see if your hunters (and yourself) succeed in capturing any animals. Resolve each hunting situation (animal vs. hunter or hunters) one at a time. Total the hunting value of the hunters teamed up against the animal and roll one die. If the die roll is a 1, the animal gets away. If the die roll is 2 or more, add that result to the total hunting value of the hunters against that animal. If this total equals or exceeds the point value of the animal, it is captured. If the total is less than the animal's value, the animal gets away.

After all hunting situations are resolved, each killer animal that was not captured kills one of your hunters (your choice). If you have run out of hunters except for yourself, nothing happens. (You cannot be killed.)

Any animals that you captured are kept with your expedition. Any animals that get away are returned to the cup.

SCORING

Each time you enter either port with captured animals, Ivory, or Relics, the scorekeeper adds these points to your total. All animals are worth their printed point value. The value of each Relic and piece of Ivory is determined by totalling the roll of three dice. Once they are scored, animals are returned to the cup, and Ivory and Relics go back to the bank.

As soon as a player is in port and has scored 33 or more points, he may use his 3-point hunter marker. When a player reaches port and has scored 66 points or more, he may use his 5-point hunter marker. When a player is in port and has scored a total of 100 or more points, he wins the game!

OPTIONAL RULES

The following rules may be added at your discretion:

THE APE MAN: If you have captured the ape man, you may strike a bargain with him. If you release all your captured animals, he will go to another expedition of your choice and release all of that expedition's captured animals. Released animals are returned to the cup. The ape man will then return to your expedition.

HURRY HOME: Once you have captured as many animals as you want on your current expedition, you may speed your trip home by not hunting. If you land on a hunting space, you may choose to treat it as though it were a blank space (consume supplies). You may then roll the die and move again. Note: You may only roll again if you land on a hunting space and do not hunt.

CREDITS

Game design and art: Tom Wham

Editing: Kim Mohan

Production: Patrick Price, Roger Raupp

Venerable aid: Ron and Gladys Bierce, Tom Champeny, James M. Ward, Kim Mohan, Roger Raupp, and The Next Door Pub.

Inventory of game pieces

WILD ANIMALS

No. of pcs. Name	Point value	No. of pcs. Name	Point value
1 Mad Mom	16	2 Antelope	7
1 Ape Man	14	2 Hyena	7
1 Eagle	12	2 Wart Hog	7
12 Elefant	10	1 Vulture	7
1 Cheetah	10	2 Baboon	6
3 Hippo	9	2 Zebra	6
3 Lion	9	2 Aardvark	5
2 Rhino	9	2 Ostrich	5
2 Gorilla	9	1 Python	5
3 Crocodile	8	1 Bush Baby	3
2 Giraffe	8	-	

PLAYER MARKERS

The sets of player markers are for Bill, Erik, Jack, Osgood, and Paula. Each set contains three expedition markers (1, 3, and 5 point hunting values) and a board marker (unnumbered), for a total of 20 pieces.

WHITE HUNTI Name	ERS Value	NATIVE H Name	HUNTERS Value
Ned Net	4	Aubrey	5
Smudly	3	Percy	4
Tom Trap	3	Amos	3
Bill Brute	2	Ed Oop	3
Binoc Bill	2	Firemon	3
Colonel	2	Zartan	3
Frenchy	2	Chief	2
Sam Smyle	2	Rongwae	2
Lliam	1	Yessir	2
Louie	1	Fritz	1
Otto	1	Sleepy	1
Pistol Pete	1	Twoleft	1

SUPPLY MARKERS, RELICS & IVORY

You can make more of these if you lose some or just need some more to keep the bank stocked. The 33 supply markers in the game include two 10's, two 8's, four 6's, six 4's, eight 2's, and eleven 1's. There are five Ivory markers and five Relic markers.

Summary of board spaces

RIVER CROSSING: Roll a die; on a 6, lose one random animal. If you have no animals, lose 1 supply.

SWAMP: Lose one random animal. If you have no animals, lose 1 supply.

QUICKSAND: Roll a die; on a 1, 3, or 5, lose one random hunter If you have no hunters, lose 1 supply.

LOST!: Roll a die; immediately move backward along the trail that number of spaces.

ELEFANT GRAVEYARD: Lose one elefant, if you have any to lose. Take one Ivory marker for your expedition.

THE LOST CITY: Lose one random hunter, if you have any to lose. Take one Relic marker for your expedition.

EMPTY SPACE: Consume supplies, 1 for each white hunter (including you) and 1 for each two native hunters in your expedition.

HUNTING SPACE: This is what you came for. Pick the indicated number of animals from the cup and hunt away.

ALBERT FALLS: Stop without passing through this space and wait until your next turn, then choose which way you want to go.

EVEN/ODD: If your move started on or before this space, follow the proper path depending on what your movement roll was for the turn you're about to take.

PORT LIVINGSTON and PORT STANLEY: You can stop off at either place (exact roll not needed) to score captured animals, gather supplies, and hire hunters.





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DN

The way things are, these days, in darkest Aferca

Even though the Anglish have taken most of the coast and the Dushmen and the Frensh have staked their claims on the interior, Aferca is still dark and unknown

⁻ a land of mystery and danger. It is a place where the wild animals still reign supreme, and human orphans can grow up to live among them. Most famous among the orphans, perhaps, is the infamous Ape Man, known locally as the ape man.

For some reason, the zoos of the world are suffering an incredible shortage of large animals. The price for live animals has reached an all-time high. As a result, buyers from all over the world have flocked to the ports of Aferca in search of live animals for sale. Hunters have come to Aferca from every other land, to capture and sell what the buyers want. And the poor ape man is hard pressed to keep his animal friends free – in fact, the ape man's own brother, Zartan, has sold out to the hunters and now seeks game for profit.

At first, only foreigners went in search of game, but the incredible profits to be made soon drew the natives to the trade. Native hunters, of course, excel at their trade, since they have done it all their lives (but for less greedy reasons).

Foremost among the native hunters is Aubrey M., who gave up a prestigious teaching job at a university to run around in the jungle wearing a grass skirt. His favorite sport is aggravating aardvarks. Leastmost among the native hunters is a man known only as Sleepy. No one has ever heard him speak, but he is especially skilled at beating bush babies out of the bushes.

Frequenting the waterfront watering holes of Port Livingston and Port Stanley may also be found an unusual assortment of white hunters. Their services may usually be had for varying amounts of gin and whiskey. A noted white hunter, Ned Net, arrived one day on a ship that pulled into Stanley. He was snarled in a cargo net from which he has never been able to extricate himself. To many this would be considered a burden, but Noble Ned has proven himself quite adept at ensnarling elefants, and earns a good living despite this handicap.

Port Stanley

Situated on a headland by a quiet bay, Port Stanley has of late become a beehive of activity. Lining the streets are rows of animal pens, and across from the pens thrive hundreds of dry goods merchants. Lining the docks are the everpresent waterfront taverns. Lining the sidewalks (and lying on them) are drunken sailors, dockworkers, and hunters. Five to ten great steamships enter or leave the port each day, as the animals are shipped off and the supplies (and gin) arrive.

The city was founded early in the century by Stanley S. Livingston, who said he had a dream one day while

<u>A travelogue by Tom Wham</u>

sleeping on the beach. When he awoke, there was the city in all its glory, and he was the sole owner of all the taverns.

Stanley S. Livingston

Years ago, a young man with a dream was washed ashore on the wild coast of Aferca during a typhoon. Exhausted, he slept on the beach for days. That, to make a short story shorter, was how Port Stanley came to be.

Once the great explorer founded the city that bears his first name, he set off into the wilderness. He forged new trails and found many things. He discovered a great mountain, capped with snow; tribes of natives, hitherto (and still) unknown; and wild beasts that defied description (they took great offense at what he called them). Perhaps his most important achievement was finding the lost colony founded by Albert Switzer (the man responsible for those chewy red things we all eat at the movies).

He returned from his trip along the Great Green Greasy Limpoopoo River, and emerged from the jungle near the river's mouth. Since it had been a long time between naps, he slept and dreamed there, too - and founded a city in honor of his last name.

The infamous Albert Falls

This spectacular torrent of falling water is the high point of any trip to the interior. Its hypnotic effect causes all who pass by to stop and stare. Waters of the not-sogreat grey greaseless Zamboni River fall more than 300 feet to the Limpoopoo Plains below. The huge cloud of mist around the falls nourishes a variety of plants, and the cliffs nearby are covered with a luxurious carpet of artificial turf. The local people call the place Mosi voa Hooha (that funny-looking green place). It is said that the famous explorer Stan Livingston once dared his friend Prince Albert (of can fame) to go over the falls in a barrel. He did, and was never seen again.

The Lost City

Hidden in the bushes by the banks of the Greasy Limpoopoo are the ruins of what might have been a oncemighty city. Its towers reach more than three feet into the sky, and its walls are pretty hard to find unless you stub your toe on one of them. Few people can find the Lost City easily, and fewer still are impressed by what they do discover. There is, however, a strange air about the place, and most hunters hate to go near the city, let alone explore it. An enterprising Eastern merchant once mounted a well-equipped expedition to the city but never returned. Since then, other expeditions that dare to go near the Lost City have brought back a steady stream of artifacts that sometimes bring them even more money than an elefant. As an old Afercan saying goes, "The price is up to the dice."

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The forum

(From page 6)

have participated in high-level adventures with 19th to 25th level characters and I find them to be greatly enjoyable if played correctly.

For instance, I have recently participated in a campaign where all of the characters were at least 20th level. We entered the nine hells to fight the various devils. We managed to kill a lot of lesser devils and a few greater devils. Among that we killed a couple of the arch-devils.

Now, most people would think this was outrageous. Who'd even think of killing a demon or a devil so powerful? Well, this brings me to a simple question: If you have worked to a point where your characters are 20th level, who are they supposed to fight?

The obvious answer in my mind is the various demons and devils listed in all three of the monster books. Still outrageous? If not for fighting high-level devils then what the devil (no pun intended) are these powerful creatures for?

If you said to fight high-level characters you are correct. If you think killing demons and devils of the unique sort is outrageous, then you're the one being outrageous. Sure, all your middle-level characters have killed manes demons and maybe even some styx devils in their career but wouldn't that invoke the wrath of their masters?

Some say that killing Orcus or Baalzebul throws the balance out of a campaign but I think that if the balance of a campaign rests on a bunch of overly powerful, ugly monsters then your campaign is out of balance to begin with.

Think about the classic myths. Wasn't the hydra supposedly super-powerful? Hercules

defeated it, didn't he? Well, there's your answer. The purpose of creating those powerful monsters is to challenge a powerful creature.

Think about 20th level characters travelling through modules like The Sinister Secret of Saltmarsh, Secret of the Slavers Stockade, or even Against the Giants. Then think about Queen of the Demonweb Pits. Isn't there a demon in that? Don't you think if she's causing so much trouble you should kill her? I know I did when I took on that adventure and I'll tell you it was fun! I admit, 400th level characters or AT-AT walkers tromping across Greyhawk destroying things like they destroy Rebel bases in The Empire Strikes Back is getting a little out of hand, but high levels doesn't necessarily make up a Monty Haul campaign.

I think that before someone complains about high-level campaigns they should think about this: If people don't want high-level characters then why do they want so many new high-level spells and monsters? Why does EGG continue creating new demon and devil princes?

I guess the point of all this ranting and raving is just to say that if you don't think that high-level monsters are fun (especially demons and devils) then try taking your hard-earned 20th level fighter through a lair of orcs and see how much challenge and fun you get out of it. You might even change your mind!

Adam Zar DeKalb, Ill.

* * * *

Regarding Mike Beeman's reply to Edward R. Masters' contention that the elemental planes should be non-spatial, namely that the "ultracosmic impenetrable walls" *do* in fact exist in the



AD&D cosmology, I would like to call our readers' attention to an article from issue #8 of this magazine (also reprinted in Best of THE DRAGON Vol. I) entitled "Planes: The Concept of Spatial, Temporal and Physical Relationships in D&D." This article stated that the diagram of the planes was a "two-dimensional diagram of a four-dimensional concept" (emphasis added). The concept of a large or infinite number of infinitely large three-dimensional planes can be easily explained through this statement.

Assume, for the sake of argument, that all of the planes of existence are two-dimensional; Euclidean planes, as students of geometry will recall. Now, assume that all of the various planes, from the Prime Material to the 666 layers of the Abyss to the Plane of Shadow, are all stacked five inches apart, and parallel. Now, add a fourth dimension, namely height. At this point, all of the planes are three-dimensional and infinite, yet all of them co-exist.

There are two arguments against this representation. The first, that time is the fourth dimension, can be eliminated easily by referring only to spatial, not temporal, dimensions in our discussion. The second, that under the scheme above the planar traveler would have to physically pass through all intervening planes on the way to his destination, requires a little more thought.

As some readers of (semi-) heroic fantasy may recall, L. Sprague de Camp and Fletcher Pratt proposed in *The Mathematics of Magic*, one of their Harold Shea stories, that there are six dimensions – three in space, one in time, and two defining the relations of the planes to each other. Now, in two dimensions, any object that is finite *with respect to those dimensions* may be reached from any other object similarly defined, as long as the objects have some space between them. This space is the Astral and Ethereal Planes, which exist parallel to one anothere within these two dimensions. Using astral or ethereal travel, it is possible to visit any plane of existence without traveling through the intervening planes.

If a six-dimensional multiverse is adopted, the "ultra-cosmic impenetrable walls" do not exist; they are merely distortions caused by rendering the six dimensions on a two-dimensional surface. The DM is free to have any number of coexistent planes for an infinity of adventures. The AD&D cosmology is *not* illogical, merely difficult to explain logically, and as any debater will tell you, there is a world – perhaps many worlds – of difference between the two.

Readers interested in interplanar and dimensional relationships may find several books interesting. *Flatland*, by Edwin Abbott, and its sequel *Sphereland*, by Dionys Burger, are especially useful. Also interesting, although focusing more on the application than the theory, are the aforementioned Harold Shea stories, collected into two volumes: *The Compleat Enchanter*, from Del Rey Books, and *Wall of Serpents*, published by DAW Books.

> Brian M. Ogilvie Kalamazoo, Mich.

Recently I purchased the rules for the STAR FRONTIERS® Knight Hawks game and I was very satisfied with its contents; rules for spaceship combat were long overdue. I did notice some points that were weak, however, and my gaming group and I set out to strengthen them.

*

For example, the rules failed to clearly define the Star Law/Spacefleet connection. Star Law is clearly the police force, but is it responsible for the Spacefleet also? If not, what is their jurisdiction? How do they interact with the Spacefleet?

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ТМ

In my STAR FRONTIERS game campaign, Star Law is a separate department of the UPF. Its primary function is the protection of trade routes and the apprehension of pirates and other criminals. Star Law is divided into intersystem departments, each run by a chief and having a complement of assault scouts, patrol scouts (a two-man bomber-size ship, hull size two), and fighters. Larger departments such as Prenglar and Cassadine sometimes have one or two frigates in addition.

Functioning as they do, the departments work very closely with the planetary militias. The jurisdiction of each department of Star Law extends throughout the systems in which they are based. They may, however, chase criminals outside of their systems if in close pursuit. Star Law Rangers are usually better trained than the average Spacefleet enlisted man.

In addition, the weapons and ships [of the

Knight Hawks rules] are not discussed in great detail. While this is not necessary for play, it does add a realistic touch. Perhaps a "technical manual" could be sold as a game accessory.

I've also added several new ships. The UPF has the patrol scout, used for attacking larger ships, and the gunboat (created by a friend of mine). The gunboat is a hull size seven ship armed with energy weapons, used for the defense of larger, unarmed ships against fighters. The Sathar, in my campaign, have developed a mine sweeper to make their campaign of destruction a little easier.

The STAR FRONTIERS Knight Hawks game is fine. These are simply some changes that better suit my personal needs, and they are offered for other referees to consider.

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I'm shocked at the RPGA Ranking System. All points of it are well thought out except the placement of fun as a bonus point area when fun is the only reason I play. If the players are boring the game is boring, no matter how well they execute their characters' actions of work together. James Brewer Lebanon, Pa.

I have a great many objections to Alan Zumwalt's article in issue #86, "Dragons and their deities." First of all, I do not consider Tiamat and Bahamut to be gods. As far as I'm concerned, they are merely frighteningly powerful monsters, the most deadly of all dragons, but certainly not gods. (I've always disagreed with multiplying the experience points for killing them by ten when fighting them on their own planes.) Even the Monster Manual refers to Bahamut as King of Good dragons, and not as any kind of god. If dragons do worship, they would certainly not worship anyone as comparatively weak as Bahamut or Tiamat - possibly Odin or Seth or any truly powerful god of the proper alignment. They would much rather worship dragon gods, but apparently there are none. There is a definite need for an "official" dragon pantheon, with dragon gods of all the alignments. (As it is now, pretending for a moment that Tiamat is a goddess, we have chaotic evils worshiping her, when common sense dictates that they would worship only a chaotic evil god. Remember that in many cases there is more similarity between chaotic goads and chaotic evils than between chaotic and lawful evils.)

However, let us pretend for a moment that Tiamat and Bahamut are gods, and therefore have clerics. Alan would have us believe that their clerics sacrifice at least 10%-40% of each year's garnering of treasure to them. I submit that no evil dragon in the world is going to sacrifice 40% of a year's salary without a fight. As Tiamat and her five consorts are greatly outnumbered by the thousands of evil dragons running around loose, and she is only outside her lair 10% of the time, very little religious sacrifices are ever going to be collected. (An ancient, huge, spell-using red dragon would tear up any of her consorts.) In Bahamut's case the problem is even greater: Why would a lawful good entity demand 10%-40% of a dragon's yearly take in treasure? It seems much more reasonable to demand good deeds (which good dragons are supposed to be doing anyway) as a sacrifice. Bahamut, of all the dragons, is the least materialistic, after all.

Finally, there is a problem with the concept of dragon "parishes." Dragons are so isolationist that they would greatly resent a cleric patrolling their territory. Probably they would give the cleric ten seconds to leave the area, telling him what Tiamat can do with her demands for a sacrifice. Dragon worship is not the least bit organized; to a dragon, the concept of organized religion is laughable. He may raise a short prayer in thanks to Tiamat after slaughtering a group of elves, but isn't likely to go beyond that.

In conclusion, I would like to say that Alan's article was interesting; it had never occurred to me that dragons might have deities of their own (because, as I say, I don't consider Tiamat and Bahamut to be gods). I like the idea, and would like to see a dragon pantheon. Alan was true to dragon psychology in many cases, except where noted above. I especially liked his consideration of the problem of subdual, and his explanation of dragon clerics' non-power over the undead.



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01-301 (1 of 2)



01-305



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WALKED INTO RAMALI. THAT hadn't been my intention, you understand, nor that of my superiors. They had provided me with a first-class Scout, especially equipped for my purposes, not to mention all kinds of necessities that would be

useful in my mission. Multi-layered robes to keep the heat of the desert from my skin, soft padded boots to keep my feet from blistering, and a Camelogue for convenience in getting from point A to point B had been provided.

Not expecting their equipment to fail and dump me in mid-desert, they neglected to provide a way to transport more than a few quarts of the water stored in the Scout's tanks. They also failed to provide any but the most superficial Manual on the Camelogue. This machine seemed to be damaged after the Scout's drive failed at the last minute, forcing me to use emergency procedures and land in the desert a day and a half out of Ramali.

The beast, which I found impossible to think of as a bio-mechanism, grumbled, snorted and huffed along at my heels, limping painfully, though I was sure that his legs had not sustained any damage. When I had insulted him by presuming to mount, he had turned his long neck and looked at me with total disbelief. He had given an anguished groan and collapsed, which wasn't easy to do since he was kneeling. It was as if all the starch had gone out of him. His neck went limber as a wet noodle, his legs did not finish crumpling until he lay flat, and his sides flattened out like empty balloons.

The Camelogue, like the other beast-analogues, is specifically constructed or grown for certain traits. It needs neither water nor food. A hundred-mile check, a squirt of light oil to its moving joints, and an energy pill inserted into its access spout do all that is needful. Its large feet, like those of its Terran counterpart two and a half galaxies removed from the present location, are designed to plod easily over deep sand. That's what the directions said.

He drank half my water the first day. There was simply no way that I could look into those deep, longlashed eyes without melting into a puddle of slush. He made a big dent in my emergency rations, too, though I'd have thought that even a Camelogue would have turned up its nose at that. But he pestered me for most of the food and water our first day out.

C-137-D, standard-issue Camelogue (which I named Cheshu), was purest ham. I knew that he could have carried my weight, that he needed no water or food. He knew that I knew. But there was no way on Galmesh to make that knowledge serve my purposes. I wondered still again why the Service had such a bias against sending in its reps with recognizable equipment. Way out here at the tag end of a forgotten nebula, anti-Tech sentiments could hardly have been dreamed of as yet.

However, that was academic. There I was, padding my way across scorching sand on feet that padded boots couldn't save from torture, followed by a useless

Key to Ramali

Illustrations by Mark Nelson

hunk of mechanism that drooled down the back of my burnous from time to time, not to mention that belched foul air in my ear.

Only the fact that he was carrying our supplies and my compact catalogue kept me from despairing. Without my kit of samples and the catalogue of processes, items, and systems, it would be impossible to find something that the Galmezz might want in trade for their endless supplies of silicates.

Strange as it might seem, our home Milky Way is the only galaxy found so far with abundant supplies of the stuff. As the basic element from which practically everything is fabricated now, silicates are as necessary to the Intergalactic Confederation as petroleum was to pre-space Earth.

It was an important mission of its kind; nevertheless, it was low status. No Initial Negotiation Team was assigned the task of making the deal. No Tryllabi had *esp-* ed the place and its people. No K'r'ss psychic probe had been sent to monitor it. A fast fly-by had scanned the world. It found silicon in unwonted abundance, intelligence (which showed up as a blue spark on the scanners) in one dominant species. No radiation weapons. And into this void they dumped me, "Spec I" Thorn Garvas, with, of course, my trusty steed Cheshu.

I let him catch up with me and reached up for the umpteenth time to make certain my mini-translator was still in place between his humps. Without that, I might well find myself eaten — or what was infinitely worse, worshipped — for the cause of the Intergalactic Confederation. I cursed my enlistment for the millionth time and forged ahead, hearing the Camelogue complaining bitterly at my heels at being rushed.

Something loomed up out of the sun's glare ahead. Walls? It seemed so. Not too high. Lumpy and illshaped, evidently made of mud. This meant water. I hurried even faster, leaving Cheshu to follow at his own speed.

The gate was open and had been, evidently, for generations, as it was off its leather hinges and halffallen against the inner wall. That spoke well for the inhabitants' unwarlike nature, I hoped. I poked my head into the street and looked both ways.

It was odd, to say the least. Instead of the street driving straight through town and out the other side, it went crosswise, right and left. A solid front of adobelike buildings faced the gate-hole. Down to the right, I could see that a thoroughfare of some kind cut through to whatever was beyond. I moved into the welcome shadow of the wall and the overhanging balconies and stepped along quietly, my eyes peeled for one of the inhabitants.

Cheshu's feet schlump-schlumped in the hardpacked dirt behind me. The surrounding quiet was eerie, like midnight rather than noon, and I wondered if it might not be tactful to warn everyone of my arrival.

Stopping in the middle of the street I had just reached, I called out, "Hey! Is anyone here?"

I hadn't realized that there had been an almost subliminal hum of some sort of activity until it went quiet. The shocking silence lasted for what must have been at least a minute. Then all hell broke loose.

It sounded as if a fox had found its way into a hen roost: shrieks and squawks and flutters and flaps. Shutters above my head slapped open for an instant, then slammed shut. Heads poked out of doorways and snapped back with the quickness of turtles.

I had known that this was a primitive place without prior contact with any other species from off-planet. Whatever the local rulebook contained, instructions on how to make the acquaintance of an alien creature wasn't in it. It would take a while, I could see, for the locals to make up their minds about what to do.

It was hard to tell, from the jack-in-the-box glimpses I caught of the inhabitants, what sort they might be. I've dealt with every sort of rational creature contained in the Five Galaxies, as well as some less rational ones. To a casual glance, these seemed pretty much standard HS-types: upright, head on top, four limbs — two of which were manipulators and two for walking. Just like me. But they were so swaddled in felt-like stuff that their faces were invisible. I do like to size up facial expressions, even when I haven't the foggiest notion what they mean.

I stood patiently in the middle of a shady spot, enjoying the faint breeze that the arrangement of the streets and buildings seemed to pull through the town. Cheshu never let up for an instant. A constant mutter from behind my right shoulder let me know exactly what he thought of me, the Service, Galmesh, and Ramali. He didn't expect to like the Galmezz, either. I could tell from his tone.

At last a door — to be precise, a heavy swatch of fabric — opened up and a single shape came toward me. I could tell from its hesitant gait that it expected the worst at any moment. The local hero, I guessed.

I returned to Cheshu's side and activated the translator, which would do no good until the approaching Galmezz said something. I stepped forward and showed my empty hands. I took off my burnous and let him or her look at my face. I considered stripping to show how inoffensive I was, but some cultures found that offensive. I decided to play this by ear.

After stopping and looking for a long time, the Galmezz reached up a four-fingered hand and pulled a string hanging down beside its head. It was just like curtain-time at my old school. The thick veiling parted in the middle and gathered at each side of the tannedleather face. That face was so dark and the eyes so pale it almost seemed as if I were looking into twin holes, out into the desert sky.

When the thin-lipped mouth opened, the translator and I were treated to an oration — or a sermon; I wasn't quite sure which. The long arms gestured outward, up, down. The syllables rumbled forth in a continuous flood. Even Cheshu seemed depressed by the torrent of language that poured about our defenseless ears.

The Camelogue plodded forward – one step, two, three – and stopped in front of the Galmezz. With aplomb that filled me with total admiration, he burped loudly into the sunburned face. He may not be a camel, but no effort was spared to make him seem like one. His breath was uniformly horrid.

Unaccustomed to such display, the Galmezz paused in mid-flight. His hands moved aimlessly for an instant. Then they were folded devoutly across the narrow chest. He dropped to his knees in the dust. I moved toward him to see if the Camelogue's blast had killed him, but before I could get to his side, Cheshu looked down his sneering nose at the kneeling being. He nodded forward and nosed the Galmezz onto his face in the dirt.

The Galmezz moaned. I stared in consternation at both victim and victor. One mission shot to hell by supersophisticated equipment, I thought, edging up beside Cheshu to touch the moaning creature at his feet.

Cheshu, as if possessed by some diabolical afreet native to this desert place, bent his long neck and bit me on the arm. It was not a playful nip blood oozed down my sleeve inside the layers of robe.

In the comparative silence, the translator, untroubled by the ramifications of the byplay, had been humming quietly. Now it burst forth in purple rhetoric: "Lo, we the humble folk have waited for a sign from the Most High Gods. Our miserable lives we have poured into the dust, waiting. Our blood has watered the sands. Our hearts have beaten in the rhythms of the god-words of the prophets of old.



You have come at last, Oh Mighty One. Give us an indication of thy will -["]

I reached up and shut the thing off. I knew that kind of greeting from other worlds and other systems and other nebulae. I hate being a god! But I touched the man on the shoulder.

He looked up, saw who it was, and ducked back into his crouch.

Ahh. Good. I was *not* the newly-arrived divinity. There could be only one other. I turned and gazed at Cheshu, who drooled. One feathery lash winked downward.

I silently cursed the Techs who design and program the analogues. Every time I've ever dealt with one, it has had unexpected and unexplained directives in its But come. I will take you to the Sa'ak." He backed devoutly toward the door from which he had come.

It was a tight fit for Cheshu, but I managed to squeeze him in, humps and all. He loomed in the semi-darkness, which was relieved only by a tallow lamp. I thought that he was sneering.

The Sa'ak was a woman so old that it seemed as if she needed a paperweight to keep her from drifting off her chair. But her eyes – pale like those of her emissary – were shrewd. Despite her frailty, the Sa'ak appeared to be a wise and well experienced leader, not easily duped by superstition or fear of the unknown. I could see that she wouldn't swallow any hokum. It was written all over her.

I unsnapped the translator from between Cheshu's



internal computer. Nobody would ever think to explain things to the poor sod who had to use the beast. No, I could put my life on the line every day and twice on Sunday, but they'd never trust me with any of their secrets — or their in-jokes. I never was sure which was which.

Cheshu looked me in the eye. Then he nudged the Galmezz with his sloppy nose, urging him to his feet. Now I could see him, and I realized that the moans were sheer ecstasy. But he was, at least, sensible again.

I spoke into the translator. "I am the servant of the god Cheshu. We have come from the sky in order to make your lives easier, to comfort your hearts, and to reward your long generations of faithfulness. Let us go into a house where you may be shown the things that our brothers in the sky will send to you."

He bowed, almost sweeping his headgear in the sand of the street. "Such honor is undeserved, Great Ones. humps and set it on the low table before her chair. Behind me, Cheshu burped gently, filling the room with stench and our guide with even greater fervor. He went flat on his face and stayed there.

I didn't dare take the other chair. That might well seem presumptuous. I sat on the floor and looked up into the Sa'ak's guizzical face.

"What is that?" she asked me, jerking her chin toward the Camelogue.

"C-137-D, standardissue Camelogue," I answered. "Used for the transportation of personnel and equipment on desert worlds. Very useful, but also unpredictable. Not one of our best trade items.

I have catalogues full of wonderful things that would make life easier for your people."

"In return for what?" No kidding that one, for sure.

"In all the known worlds, there are only two containing considerable silicon. Though many are desert, they are mostly stone or lava, useless for our purposes. We have mined the first, whose sun is not even visible from this planet, almost to depletion. We need new sources of the stuff. You have more than you need – from space it can be seen that most of your landmass is covered with it, with just barely enough sea and arable land to make Galmesh habitable."

"Let me understand clearly. You ... want ... sand?" Her tone was skeptical to the tenth power.

I sighed. "I know it must seem odd to you. But my kind and its allied species in the Confederation make all kinds of useful things from it. Do your people make glass?" I looked around the dim room. Sure enough, a glass cup sat on a side table. "Like this — it changes into useful things. We have ways of changing it even more. Into almost anything we want."

"And you are willing to trade useful things to us for all that stuff out there?" I could tell from the sweep of her hand and the angle of her thin eyebrows that she thought we must be the prime fools of all time.

"True. Here. Look at the pictures." I held out the catalogue, which was a holocube that showed everything from aardvarks to zygotes in living tri-dee.

She put it to her eyes, after a bit of coaching. She touched the button time after time. Sometimes I saw her cheek twitch faintly, as if she were concealing a grin. Mostly she just looked, as impassive as her own sand. It took a long time, and that was just the basic list. My master list had over ten million items and systems in it.

When she set the thing back onto the table there was amusement in her eyes.

"I will admit that your kind has a number of very interesting things. All aimed, it seems, at making life easy for rational beings?"

"Almost all," I answered.

"That seems terribly short-sighted, but it's your own affair. But I'm afraid that I cannot countenance the weakening of my own people with such luxuries. They live adequately, if they exert themselves to the proper extent. Their worst enemy is boredom. Their religions alleviate that, to some extent, but even those are wearing thin. This . . . Camelogue. You said it might be traded?"

I looked into those shrewd eyes. Hmmm.

"It can, indeed!" I chanced a quick look at Cheshu, and he was standing there with an insufferably smug expression on his face. The old devil knew exactly what we were saying. As well he might, being a basic translator himself.

"The presence of a resident deity, here in Ramali, would be a thing of great interest and benefit to my people. They would be inspired to travel here, which is always good for preventing inbreeding. It also makes a profit for the shopkeepers. This Camelogue . . . how is it operated?"

I got up and hauled Cheshu over into the best light. "He is entirely self-operated. Too much so, at times, but that would make for even more interesting lives than a predictable god would, don't you think?"

She nodded, eyes twinkling.

"I have the instruction book here." I took it out of my pocket and laid it on the table. "And all the necessities — oil for his joints, energy pills that he must have every hundred miles or so to keep him going are stored in his humps. You open them so. . . ." I touched the pressure points at the bases of those useful extrusions and they popped open to reveal their contents. "If he should get rambunctious or if you simply don't need him for a while, you can turn him off by pushing his tail straight up. In that state, he doesn't need anything. Just be sure that you give him his oil and his pill before starting him again. And you do that by pulling his tail right down and kicking him in the belly . . . so!" I gave the beast a heartfelt kick in the gut. He didn't feel it, of course, but it did me a world of good.

She hissed, and the groveling Galmezz looked up. She shot a fast stream of instructions at him, and he backed out of the room in a hurry.

"Though still a novice, Urrgho may one day be chief priest, I think. He has all the qualifications. Meanwhile, I will need one to care for the . . . god's physical needs. My grandson will do nicely, I think."

The grandson was there almost before she got the words out of her mouth. He was tall and slender, much like Urrgho. His eyes were filled with devilish wit, just like his granny's.

We went through the maintenance procedure again, without Urrgho's presence. Then the Sa'ak signed the contract that gave the Confederation rights to the more remote sandbeds of Galmesh. I assured her, showing her the fine print, that it was ironbound: a god for the Galmezz, no more silicon depletions for the Confederation.

By that time, I was weary all the way down to my padded boots. But it was time to go. I didn't want to confuse the issue of the new Galmezzan godhead by my presence.

I stepped up to Cheshu and looked into his eyes. "You be a good god, do you hear? Sneer a good bit. Nothing nasty like biting — after all, you're representing the Confederation now. The sole representative on Galmesh, even after the mining starts. They're going to use the remote-transmission method. Can't hurt sand at all."

I stopped. Silly, this chattering to something that I knew was nothing but a bio-mechanism. But the look in his sleepy eyes was a bit sad. I felt it myself.

I patted his neck, folded the contract into my inner pouch, and donned my burnous. Bowing to the Sa'ak and her grandson, I said, "I'll go now. Take care of the old . . . god."

The Sa'ak cackled with laughter. "He will take care of us. That's the work of a god, you know!" She winked wickedly, and her grandson grinned.

Laughing, I turned into the darkness of the street. It was a long walk back to the Scout, even with my water bag refilled by the useful Urrgho. But the Service would home on my distress signal. After a while. I hoped.

ICE can stand the heat

A long look at Iron Crown's *Rolemaster* series Review by Arlen P. Walker

ROLEMASTER is the role-playing rules from ICE (Iron Crown Enterprises), and it consists of four "LAW" packages – ARMS LAW, CLAW LAW, SPELL LAW, and CHARACTER LAW. In addition, CAM-PAIGN LAW might be considered part of this series.

The series represents a large investment (\$48, including CAMPAIGN LAW), but is it worth it? The rules read like a set of war game rules, complete with the numeric progression of chapter heads (3.0, then

If your character dies and is brought back to life, he gets experience points equal to his own kill value. This could lead to a campaign in which characters would literally be dying to gain levels.

3.1.1, etc.). The prose doesn't flow very well, but it is still a lot easier to understand than some rules on the market.

ARMS LAW was released first. It attempted to completely individualize weaponry, giving each weapon its own damage chart. SPELL LAW followed, attempting to do much the same thing with magic, while CLAW LAW, the third in the series, attempted to individualize animal and unarmed humanoid attacks. With the release of CHARACTER LAW (covering the generation and advancement of characters) the series came to a head, and ICE began offering the complete system (all four of the LAW modules) under the ROLE-MASTER title.

The history of this system points to a desire for variety, a desire to break through the confinements of other systems and present a system filled with choices for players and characters alike. Has the ROLEMASTER system succeeded at this?

CHARACTER LAW

Character generation for the ROLE-MASTER system is detailed in the CHAR-ACTER LAW module. Although it was the last of the modules produced by Iron Crown, it is the module most players will turn to first, as it tells you what you can be and how you can get to be it.

The character generation system presented here suffers from the all too prevalent assumption that one or two bad rolls render a character unplayable. To generate



a character, you roll percentile dice ten times, then assign them to the characteristics in any order you wish. Then you pick a profession (character class) and raise the two primary scores for that profession up to 90, if they are not already 90 or better.

It seems a bit contradictory, in a game system which seems to strive for variety in almost every other area, to limit the prime characteristics for a given character class to a 10% range. This range seems too narrow to be able to encompass every member of a given class. And this is not merely a method of ensuring that a player character's scores will show him to be an above average specimen, as NPCs are generated in the same manner.

Before starting play, characters are awarded the equivalent of two levels of experience. This is to simulate a character's past up to the point he decided to leave home, and it forces a player to think about where his character has been and where his character is going.

The ten characteristics are divided into primary characteristics and development characteristics. The primary characteristics are: Strength, Quickness, Presence, Intuition, and Empathy; the development stats are Constitution, Agility, Self Discipline, Memory, and Reasoning. One could argue about the inclusion or exclusion of any of these stats in their respective categories, but the advancement system based on this arrangement works.

The advancement system is particularly interesting. Instead of granting an acrossthe-board improvement in all skills pertaining to a character's profession, or allowing advancement only in skills used successfully, the ROLEMASTER system lets you choose the skills your character will advance in; but skills must be chosen as advancement to the next level begins. This simulates the character's concentration on those skills during the interval between levels, which contributes to the character's internal consistency. A character cannot suddenly become an expert in the use of a recently acquired tool, but must spend time developing it.

An interesting way of gaining experience presented in this system is the gaining of "idea points." These points are calculated as a percentage of the experience points picked up by the party and awarded to the character whose idea or plan made it possible. Although an excellent idea, there are problems involved with its execution. When a plan is discussed by the party, it is very difficult to keep track of whose subtle consideration transformed a sure failure into a successful operation. And did the idea succeed by luck or brilliant planning? Also, what if the character who thought of the plan was dumb? Why should a character get experience points for an idea which, if he were role-played properly, he would never have thought of in the first place?

This type of subjective awarding of experience is almost certain to lead to arguments, but it's the only way to reward characters whose minds, rather than physical or magical skills, are needed for a task. If you have trouble grasping why a plan deserves experience points, imagine a battle. The general will plot the strategy for his troops, sending them into battle to take the high ground to reinforce a weak point in his front, but he will not actually get out there and fight alongside his troops. Yet he learns from the battle, from the mistakes in planning and execution made by himself and his opposition. Other ways of gaining experience include the standards – killing, inflicting and receiving damage, casting spells – as well as some unusual ways – unusual or difficult manuevers, having religious experiences (visions, etc.), travel, and dying.

Getting experience for dying is something I find difficult to swallow. If your character dies and is brought back to life, he gets experience points equal to his own kill value. Yet, if the character is miraculously snatched back from the brink by an herb or healing spell, he gets only half the number of points. This could conceivably lead to a campaign in which characters would literally be dying to gain levels.

Travel is also a rather unusual way to gain experience, but it makes so much sense I'm surprised it hasn't been done before now. We tend to think of a well-traveled character in this world as experienced – why not in our fantasy world as well? Traveling through disparate cultures can certainly heighten a character's ability to think on his feet.

There are 19 different character classes available in this game. But this variety is augmented by the freedom of choice (especially for spell users) available here. You are not limited in the choice of character class or race by a set of random dice rolls. You roll the set of characteristics, arrange the scores in the order you find most beneficial for the character class you want to play, and apply the race bonuses. Voilá! You have a character of the precise race and class you desired.

SPELL LAW

ROLEMASTER's magic system is detailed in SPELL LAW. The first thing you will notice about it is the tremendous number of spells, almost 2,000 in all, divided into three "realms" of 54 lists each. Each of these lists, in turn, is divided into 50 levels, with no more than one spell per level, although there are many levels with no spells at all.

As might be guessed, this abundance of available spells leads to a great deal of difference between mages, but without a major disparity of power between mages of the same level.

The character class you choose will dictate which of the three realms (Essence, Channeling, or Mentalism) you may learn spells from, and your level dictates the number of spells you may choose, as well as their complexity.

Then, depending upon your character's class, you may apply one of five types of study to your character's spell lists. The study types (called "picks" in the rules) govern how high in the given lists your character can learn. Type "A" is the lowest, allowing only the first five levels to be learned, while "B" allows a character to learn the first ten levels. A "C" pick can be added to an "A" pick to extend a character's capabilities to level 10, while a "D" pick can add to a "B" and allow a character to learn spells up to level 20. The first "E"

pick will extend this limit to level 25, a second to level 30, and the third to level 50.

But, while a pick will allow a character to learn a spell, there is a difference between knowing and doing. Even if a character knows a spell, he cannot cast it (except from an item) if it is of a higher level than he is. For example, a third level character cannot cast a spell higher than level 3, even if he has used a type "B" pick and learned a list through level 10.

You are able to "purchase" picks initially during the character development process. After your character has been set up, you gain new picks at the rate of one pick per experience level gained.

These picks represent different types of ability within the spell lists. A "pure spell user" (one who concentrates on spells from only one of the three realms – e.g. Essence) has the most wide-open advancement possibilities, able to learn (eventually, of course) spells to level 50 from any list within that realm. When spell-casters mix



realms, they are limited in the types of picks possible. As a result, they become less able to advance in some lists within their realms than pure spell users. The "semi-spell users," who combine fighting with spell use (much like the paladin or ranger from the AD&D® game) cannot learn past level 5 in any list.

But spell levels in this system don't mean as much as they do in the D&D® game, for example. Fireball is an 8th level spell here, and it is a much weaker version than in the D&D game, affecting only a 10' radius. There's an advantage to this approach in that it leaves room for some very interesting low-level spells. Loosen Earth, for example, is a second level spell from the Earth Mastery list which loosens 100 cubic feet of earth to the consistency of plowed ground, and Balance, a first level spell from the Body Reins list, adds 50 to any roll for a slow manuever.

The spell-casting system is somewhat

more complicated than in other games, but not unplayably so. First of all, the time it takes to cast the spell is determined by the difference in the level between the caster and the spell. A spell which is closer to the caster in level will take longer to cast than one several levels below him, the assumption being he must concentrate harder and go slower because it is more difficult for him to perform it.

The caster must then make a targeting or attack roll. There are modifications to this roll for distance, level of mage, and other logical factors. If this roll succeeds, the target gets a resistance roll.

There are the usual modifications to the resistance roll for power of spell and level of target, as well as one for the quality of the attack roll (the better the attack roll, the harder it will be to make the resistance roll). A lot of rolling? Yes, but the effect seems more consistent, and calculating the modifiers doesn't take that long once you're used to the system.

While a pick will allow a character to learn a spell, there is a difference between knowing and doing. Even if a character knows a spell, he cannot cast it if it is of a higher level than he is.

There are also some interesting variations on healing in this system. For example, a class of healer exists whose members are allowed to magically heal wounds on their own bodies. As a result, these healers have a list of transference spells available which will transfer a wound from someone else to themselves, where they can attempt to magically heal the wound. Much like the Empath from one of the *Star Trek* episodes, they risk death if the wound they attempt to heal is too much for them to bear.

ARMS LAW

This module was the first system published by ICE, and it does for combat what SPELL LAW does for magic. It consists of a thick packet of charts, one for each weapon covered, plus others containing critical hit tables, fumble results, and a capsule version of dice modifiers.

The charts cross-index a percentile roll with an armor type (twenty different armor classes are covered), and the charts for each weapon are different. The cover blurb says, "ARMS LAW... because a mace is not an arrow or a scimitar..." and they are right.

But are the tables correct? Perhaps. True, the damage progressions for each weapon are different, but the values and progressions seem to be arbitrary. Then again, whose aren't? I don't believe there IS a way to accurately reflect in a game the amount of damage a weapon can do, without some well-documented real-life experimentation, and I, for one, do not volunteer to carry such research out. damage values run quite high, and it is possible to kill practically anything with one blow.

But critical hits do not necessarily mean high damage hits. They might not add anything. All the critical hit letter on the damage chart means is you need to make one more roll on the critical hit table to discover what, if anything, happens.

The dice rolls in this system are openended, meaning there is no theoretical limit (upper or lower) to the roll. There's no point in rolling beyond 250 on any of these tables, and the practical limit of most of the combat tables is 150.

If you roll above 95 on an open-ended roll, you roll again and add this roll to the last. As long as you continue rolling above 95, you continue adding and rerolling. This method allows you to roll higher than 100 on percentile dice. But if you roll below 05 on percentile dice, you get the dubious delight of rolling below zero. If you roll below 05, then you roll again and subtract



The only thing to do with any damage table that seems too unreasonable to use is to modify it yourself, but in this case, that is far too much work. Revising a table consisting of 2,000+ entries and maintaining some sort of consistency with the unmodified charts is not the sort of thing I'd like to make a practice of doing. The tables do not seem so very far off, in any case, and seem to be consistent enough to avoid havoc, so this is not a serious problem.

The benefit of this system is that one roll (or two, if a critical hit is involved, which is about half the time) is sufficient to determine if you hit and how much damage you did. The charts play very fast. All that is necessary is that you set out the character for the weapons everyone is using before combat begins and pass them around as necessary during melee.

Combats can be short in this system, however, and that is probably one thing you should counsel your players about. The this roll from the last. If this second roll is 95 or better (making your total -90 or less) you roll again. As long as you can roll 95 or better you continue rolling and subtracting.

Although there is no table with entries above 250 or below 00, this doesn't mean those are the practical limits of the rolls. It is possible to have a -120 (or even worse) modifier to your roll, or a +100 (or better) modifier, so sometimes you might need one of those large rolls!

A level bonus is applied to your attack rolls for weapons, and simulates your more experienced approach to the use of your tools. As you increase in levels, so, too, does your probable damage. An experienced swordsman knows better where to aim his weapon to get the most from it.

Unfortunately, parrying is a problem in ARMS LAW. Two-handed weapons cannot parry. Why a metal-hafted weapon cannot be used to parry I can't imagine, unless it's a concession to speed of play.

CLAW LAW

What ARMS LAW does for weapon attacks, CLAW LAW attempts to do with animal attacks. There are provisions (that is to say, charts) for beak/pincer, bite, claw/ talon, grapple/grasp/envelope/swallow, horn/tusk, stinger, trample/stomp, fall/ crush, and ram/butt/bash/knock down/slug attacks, as well as a general attack table for "tiny animals."

In addition to the usual numbers, each one of these tables has four lines drawn across them, marking four maximum results possible for certain subcategories of attacks (most being small, medium, large, or huge creatures attacking).

CLAW LAW is unusable without ARMS LAW, as it depends upon the critical tables published there, so don't buy just CLAW LAW alone if you're aiming to use it for your animal encounters. In recognition of this, ICE sells it in one of three packages: by itself, for those who already own ARMS LAW, in the set with the ROLEMASTER system, for those who wish the entire series; and packaged together with ARMS LAW for those wishing only to add to or replace their current combat system.

Some general rules seem apparent in the damages listed here. Claws, for example, do less damage than beaks, but bites (as in teeth) do more damage than beaks. Also, unlike the ARMS LAW charts, it seems that no "weapon" is more effective against some armor types and less effective against others than another weapon. If a chart gives a weapon a higher damage against one armor class than another weapon, then it will have a higher damage than the other one against all armor classes. The only readily apparent exception to this rule is the Horn/Tusk table when compared to the Bite table. Bite has the higher damage rating until we arrive at plate armor, when the Horn/Tusk table receives the higher rating.

By far the highest damage can be found on the Fall/Crush table, a sure hint to avoid attempting any maneuvers in which failure would mean a fall if there is at all a chance of failing.

Further, the section entitled "Historical Weapons" seems to invalidate the entire reason for inventing the ARMS LAW system. Weapons which have not been covered in ARMS LAW are given equivalents which have already been covered. For example, if you wish to have your character use a Katana, you use the same chart as if he were using a broadsword. The cover blurbs (for ARMS LAW) say, "Because a mace is not an arrow or a scimitar . . ." yet this section says a broadsword is both a long sword and a sabre (as well as a Katana) and a dart is a dagger, because they use the same tables. True, there are some armor class modifications (sound familiar?), but the damage progression is the same. You simply make one more adjustment to the attack roll, based on an armor class modification table.

But table is perhaps too strong a word to describe the list of modifications, as fully

two-thirds of the entries are uniform, across-the-board modifications, not requiring any different bonuses for different armor types. This section could quite easily have been omitted from this module, having little if anything to do with animals.

For that matter, the animal descriptions have little if anything to do with animals. Calling them descriptions, in fact, is probably overstating the case dramatically. What ICE has given us is a table of facts about the number of attacks, size, etc., of the creature. We are told nothing else about the animal, including what it looks like, where it can be found, and how it will behave if found. This can be rectified in most cases through access to an encyclopedia, if you have the time, but there are some beasties which will only be known through exposure either to rules from other game systems or classical mythology. I realize they were probabaly attempting to hold down expenses in order to produce this game at a fair price, but still this paucity of information strikes me as foolish economy.

Also included in this package are the rules for martial arts combat. These are at least closer to the theme of the rules than the Historical Weapons section, as they deal with man's natural weapons.

Fans of Black Belt Theater will probably be disappointed in these tables, as none of the arts are granted the superhuman powers seen in the movies. Actually, little damage is done (aside from the rolls possible on the critical tables) against foes in plate armor.

Kung Fu is presented as clearly superior to any other form of unarmed combat, and they attempt to balance this by stating that it requires a spiritual and mental discipline as well as a physical, and the character must therefore have spent some time in a monastery. I wonder how many ex-monks are going to be wandering around in this game?

I couldn't find guidelines for the progression of martial artists as player characters. I would guess that the "FRP level" category on the combat capabilities table is probably involved in it, but I haven't the foggiest idea how.

CAMPAIGN LAW

This book is not included in the ROLE-MASTER series, but is instead available separately for \$10.00. It includes almost anything you need to think about before starting a campaign world, and it even includes a suggested outline of the procedure for developing a campaign.

DMs are advised to first develop the gods, and then decide on the world these gods would create. That is certainly one way, but I would disagree with any formulation of it as the *best* way. After postulating the gods and their effect on the world in either order, however, I certainly applaud the rest of the material, as there follows a great amount of information about the interaction of forces in nature and what effects they have on the terrain and climate of an area. Suggestions are also included for filling in the details, such as what kinds of vegetation grow where, and what animals prefer what climates, as well as a list of the important formative elements of a culture, and what kind of effect an abundance or lack of something can be expected to have upon a culture.

CAMPAIGN LAW also contains information concerning how to bring the events in a campaign world up to the date of the adventures. A discussion of the economics of the cultures is set here, but I'm afraid the tables and charts presented to illustrate it are quite inconsistent.

For example, although a full suit of chain mail takes almost twice as long to make as a chain hauberk and weighs significantly more (indicating more metal used in its construction), it still costs noticeably less than the hauberk. A wagon costs more than the horse to pull it. A Main-Gauche costs three times the price of a dirk and four times that of a dagger, and even more than a broadsword. A Claymore costs the same as a bastard sword, yet 15 Claymores can be produced in the time it takes to produce one bastard sword! And a Claymore is listed as a one-handed sword (5-10 lbs., no less), when, as is obvious from its weight, it's really a two-handed sword.

After these charts is a recap of the CHARACTER LAW procedure for creating characters, with notes on creating NPCs. Since this material is given in



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A discussion of the economics of the cultures is set [in CAMPAIGN LAW], but the tables and charts presented to illustrate it are quite inconsistent.

CHARACTER LAW anyway, and since this section deals almost exclusively with the ROLEMASTER generation sequence, it is difficult to see why this section was even included. If you don't have CHARACTER LAW, you will not be able to generate and play a character by the information presented here; and if you do, you don't need this section.

Then there follows a set of common sense guidelines for the preparation and running of a scenario. But simply because the



material presented here is commonsensical does not mean that it is unnecessary. A great many referees could benefit from this section. Too many games are run without thought or adequate preparation, which results in boredom.

These guidelines take up 24 pages of the 56-page book. The remainder of the book serves as an example of the rules presented in the first part.

Iron Crown also presents information on the world of Vog Mur. Vog Mur is not a



complete world, but rather just a section of one, composed of three islands off the coast of an uninhabited land called Emer.

The first steps in this outline are for the most part skipped; only a segment of the world is presented. This section skimps on a few things I would call necessary. Why is the golem there? What are the behavior patterns of the trolls?

But in fairness, aside from these glitches, the outline is followed relatively well and includes much detail.

In all, Vog Mur completely answers the question of what a campaign is. But there are all too few answers to the whys which spring to my mind. Once you accept the premise given in the opening, the module is well detailed. But information is lacking about the behavior of some of the creatures. I think the system relies on the reader sharing the image of the monsters and humanoids involved, and that can be a mistake. Too many people have created too many worlds for things to be taken for granted.

CONCLUSIONS

Is the ROLEMASTER system worth the \$48, then? The answer is a resounding "maybe." If you want a freer, more open game than you are currently playing, I'd say it is probably worth it. Even with the inconsistencies noted it still allows more freedom of choice than almost any other game. Although the physical size of the game is rather imposing, the actual mechanics run rather smoothly and simply.

But if you're a stickler for realism and want to twiddle with the rules until they satisfy your vision of reality, I'd hate to recommend this game. Some parts of it are relatively easy to twist about, but others are nearly impossible.

Perhaps you are not interested in the entire set, but only in one or two of the modules. These modules are all available separately. SPELL LAW is available for \$17.95; CHARACTER LAW for \$10.00; CLAW LAW for \$6.00; and the ARMS LAW/CLAW LAW boxed set for \$16.00. With differing degrees of difficulty, these modules are all able to fit into other game systems.

Of the individual modules, I think SPELL LAW is the easiest to graft on to any given rules system, and also the easiest to work with. ARMS/CLAW LAW would have difficulty fitting with systems which fix a character's hit points at a rather low total, such as the RUNEQUEST® game. CHAR-ACTER LAW is almost useless unless you're playing the ROLEMASTER system.

Whether you're looking for a new system to run or not, CAMPAIGN LAW is definitely worth the \$10 price of admission. The information and guidelines this book will give you on fleshing out and filling in a consistent campaign world are almost invaluable. All I can say is that if this book had been available when I first began running campaigns, it would have saved me at least a year of development time.





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ON THE COVER

The end of the world comes on April 17, 2322, as The Apocalypse destroys all major world captials, and is in turn attacked by the nations of Earth. What events led up to this and what happened afterwards are discussed in "Before The Dark Years," on page 71.



Since the ARES[™] Section first appeared in DRAGON® Magazine #84, we've received letters and comments on the section from our readers, both pro and con, about the return of science-fiction gaming material to these pages. The majority of responses has been very favorable; people as far away as South Africa has expressed happiness with this new section.

Most of the criticisms we did receive came from people who had no interest in science-fiction gaming and believed that DRAGON Magazine was supposed to be exclusively fantasy oriented. DRAGON Magazine has never been completely fantasy oriented. For years it has carried articles on boardgaming, TOP SECRET® and TRAVELLER® games, and a host of related subjects. The major thrust of the magazine is obviously on the AD&D® game, but a good share of attention has been given to other products as well.

The demand for science-fiction material increased considerably in recent months, particularly with the production of the STAR FRONTIERS® game. We could no longer ignore the mail asking for STAR FRONTIERS, GAMMA WORLD®, TRAVELLER, and superhero role-playing game articles, and DRAGON Magazine was (and is) the best possible vehicle to get these articles out. Careful readers will note that the majority of each issue of DRAGON Magazine still provides solid fantasy gaming material that cannot be gotten elsewhere.

A few people thought the public demand for science-fiction gaming wasn't great enough to justify having the ARES Section. Happily, they were wrong, and the mail proved it.

The editors

ARES™ Section 88 THE SCIENCE-FICTION GAMING SECTION

Editors: Roger Moore & Mary Kirchoff Design director: Kristine Bartyzel Editorial assistance: Patrick Lucien Price, Georgia Moore Graphics and production: Roger Raupp, Marilyn Favaro

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One of the most popular topics for debate among pure strain humans and mutant animals alike centers around the question: What was the world like before it blew up? Scholars and adventurers of nearly every Cryptic Alliance have searched the world for clues on the history of the "Gamma World" (as inhabitants of Earth are prone to call it in the middle of the 25th century). The results are often confusing and contradictory, deepening the mysteries of the past.

Careful research has brought to light the following information on the years before the old world ended and the Gamma World began. It is possible that adventurers might recover some or all of this material as they explore the ruins of the Ancients or communicate with living beings or intelligent computers who might have survived the wars.

Obviously, this information is of great use in establishing a consistent GAMMA WORLD® game campaign. The GM, however, should feel free to alter, delete, or add to this timeline if he wishes, to create his own personalized game world. Contradictory information may be given to player characters during a campaign; data from the Shadow Years and after is especially questionable in accuracy. **1945** — First use of atomic weapons in warfare.

1957 — *Sputnik I*, the first artificial earth satellite, launched

1961 — First manned spacecraft (Vostok I) launched

1969 — First manned lunar landing made by *Apollo 11* spacecraft

1981 — American space shuttle service begins (earth orbit).

1988-1990 — World War III, worldwide general conflict between East and West, limited nuclear weapons exchange before ceasefire

1999 — First self-aware "think tank" computer activated

2002 — First manned spaceflights to Mars launched (*Ares I/II*); primary base established at Mariner Valley

2003-2021 — Ecosystem collapse in Atlantic and Pacific oceans; world-wide food and water shortages, severe civil disturbances; collapse of Japanese and European economies.

2010 — American, Chinese, Indian, and Soviet international conferences lead to establishment of the First World Council.
2013 — Rise of the first commercial business blocks to control countries.
2019 — First commercial spaceport opens (First Texan Space Complex)

2020 — First Earth-orbital commercial space factory assembled.

2034 — American and Canadian governments unify and form United North America.

2046 — Orbital city Atlantis becomes first politically independent space colony; moves to Martian orbit
2047 — Columbus, Magellan, and

Marco Polo unmanned interstellar probes launched from Earth orbit.
2050 — Brazil establishes SAEU (unified South American government).
2061 — Columbus reaches Alpha Centauri and maps local planetary systems.

2066 — Establishment of Mount Olympus and Mount Arsia colonies on Mars.

2072 — Magellan reaches Tau Ceti; discovers terraformable planet (Gaea).
2076 — All Martian colonies gain political independence through treaties; Federation of Mars established.

2077 — SAEU collapses after civil war. **2078** — Mutiny aboard *International Station One* (first true space war), arrest and execution of mutineers.

2087-2089 — First Venerean terraforming project attempted, but fails.

2095 — Lunar population reaches

10,000 at Tycho Center moonbase.
2100 — Genesis project (re-terraforming of Earth's environment) completed.
2101 — Terraforming of larger asteroids begins.

2104 — The *Three Suns*, the first manned interstellar spacecraft, launched toward the Alpha Centauri system.

2104-2111 — Widespread civil disorders in Asia lead to formation of Asian Coalition, collapse of Soviet Union.
2109 — Thorium fusion propulsion system perfected and goes into systemwide use.

2120 — Three Suns arrives at Alpha Centauri, establishes first extra-solar human colonies at Gagarin, Armstrong, Greenwood, and Sorokin.

2120 – Second Venerean terraforming project attempted; project crew lost in satellite collision.

2126 – Start of international conferences to develop a world government.

2131 – Sorokin colony abandoned.
2132 – The *Humanity* launched for Tau Ceti system.

2138 – Artificial gravity control achieved.

2144 — Martian world population reaches 10,000 (combined colonies). **2145** — World Union established; all national governments subordinated to World Union General Council in London. Uniform currency (the domar) established worldwide.

2163 – Construction of Trans-Plutonian Spaceyards completed.

2182 – Autonomists Society established, a terrorist organization promoting world-wide democratic anarchy. **2200-2300** – General dates for the "Great Migration" of manned and unmanned interstellar spacecraft to worlds within a 10-parsec radius of Sol; 28 colonization missions and 196 exploratory missions dispatched.

2236 – IMT (instantaneous mass transporter) tested and developed.

2261 – Albuquerque accident kills 5 million people in nuclear explosion. **2266** – Breakup of WU General Council; United America, Asian Coalition, India, and other countries develop divergent policies.

2277 – The *Warden*, the largest interstellar colony ship ever built, laid down at the Trans-Plutonian Spaceyards by the United Western Starship Cartel program.

2282 — League of Free Men established, promoting the rise of pro-worldgovernment factions; terrorism increases world-wide.

2288 — Warden completed; trials and loading begin for 45-year voyage to Xi Ursae Majoris double-star system.
2289 — Work on giant starship *Morden* begins at Trans-Plutonian Spaceyards.
2290 — Warden leaves Solar System;
1.55 million human colonists and crew

aboard. **2302** — *Star Voyager II* returns on robot drive with crew infected by "Canopus Plague;" ship destroyed after infecting crew of Earth-orbital spaceport.

2302-2309 — Several major outbreaks of "Canopus plague" throughout Solar System; Iapetus colony sealed off and destroyed.

2309-2322 - "The Shadow Years," so

called because of the world-wide destruction of records and archives through terrorist action and government-supported sabotage. **2309** – (Sept 16) Start of Social Wars; initial collapse of Earth civilization begins; rioting and terrorism spread. League of Free Men and Autonomists



are major instigators of world-wide conflict.

2314 – Social Wars expand into space with terrorist strikes against Earth-orbital colonies, Tycho Center, and other spaceports throughout solar system.
2321 – Ecological warfare causes destruction of ocean plankton and collapse of all coastal economies; introduction of nuclear and dimension-warp warfare into conflict.

2321 – Fragmentary transmissions from the *Warden* received; ship apparently entered radiation cloud and crew was lost.

2322 – (April 12) "The Ultimatium," the first appearance of The Apocalypse, a radical group ordering an immediate cease-fire in world-wide conflict.
2322 – (April 17) Radiation strike made against all major national capitals by The Apocalypse. Retaliatory attacks reduce Earth's civilization to ruins in one week. System-wide trade, transportation, and economic collapse.

2322 – (May 23) Major strikes successfully disable space fleets around Jupiter and Earth. Two of Saturn's moons vaporized.

From here on in, only fragmentary historical records can be found. Most pieces of data were obtained from friendly cybernetic installations and think tanks which were able to link up with the remains of hidden libraries, orbital installations, or earth/space communications systems. All further information is considered questionable at best and can only rarely be confirmed.

2322 — Social Wars produce major world-wide volcanic and earthquake activity; collapse of polar ice-caps; world-wide flooding; ozone layer collapse with heightened exposure to ultraviolet and solar radiation. Extreme alterations and die-offs throughout biosystem of Earth.

2322 — Processed-ice asteroid (guidance circuits sabotaged by terrorists) strikes Mars; eight-year duststorm and climatic disruption result. All colonies on planet isolated; Federation charter suspended for duration.

2323-2340 — Rise of every known Cryptic Alliance takes place from the intact cities and power stations of Earth. **2325-2330** — Satellite Wars change the technological levels of all the terraformed asteroids and moons of all the planets.

2330-2340 — Last known interstellar missions flee solar system from asteroidal and outer satellite colonies; Trans-

Plutonian Spaceyards abandoned; all outer colonies except Saturn World Fusion shut down; Mercury mining colonies abandoned and apparently die out.

2331 – Trans-Plutonian Spaceyards assume control of their own programs and generate robotic "life."

2336-2340 — Occasional reports from space communications systems of transmissions from the *Warden;* status unknown.

2380 – Saturn World Fusion ceases all Earth-directed transmissions; fate unknown.

2381 — Severe worldwide earthquakes; explosive vulcanism around Pacific basin.

2381-2388- "Years Without Summer;" blackouts and prolonged winters common.

2385 — Ultrawave transmissions from Trans-Plutonian Spaceyards report open warfare between cybernetic installation there and the presumedly automated starship *Morden*. Further transmissions cannot be interpreted and may be in code.

2399 – Short period of lasercom contact with Deimos Base at Mars; PCI at Deimos noted to be insane; no information on Martian colonies.

2420 – Strange transmissions picked up from *Warden's* last known position.
2450 – Approximate start of the GAMMA WORLD "gametime."

Further notes on timelines

The use of timelines is a logical method for creating campaign consistency in any game. The timeline is also the perfect springboard for developing new ideas in a game, whether it has a fantasy or science-fiction nature. How a thing came to be, where it is now, and how tribes or towns developed can become very important to the play of any given game; the timeline is the tool that best defines the general background that player characters can work from.

For example, take some player characters starting out in a small tribe in a GAMMA WORLD® game campaign. The game master presents every player with a small timeline for the tribe that he or she starts in; the players may then launch into scenarios from there.

In this example, suppose you (as the GM) have created a tribe that had its beginnings with the Green Beret battalions. One unit was dropped on an important military installation during the Social Wars with orders to hold the ground at all costs. The soldiers succeeded against terrible odds; when the battle was over, only 249 men and women were left out of a 2,000 person unit.

The years went by, and these men and women held their ground using their excellent foraging skills to survive. After a decade, they realized their mission was obviously over but they had made a home for themselves in the land around the installation. Several generations passed; at the beginning of the game timeline (A.D. 2450), the real reason for their being there has been lost in the sands of time. Now the unit has grown into a powerful tribe, all members of which have unusually good unarmed combat and survival skills from their ancient military heritage.

Here is an example of what the players might receive for a tribal timeline:

Legendary history of the Green Buray Tribe

Since the earliest times, it has been taboo to move from the homeland. A great spear in the sky brought the tribe here and will come back when the tribe is worthy. The greatest hero of tribal legends is Jon Wan, who was never defeated in battle and brought back from the east many powerful weapons of the Ancients.

In your great-grandfather's times, the whole tribe was almost destroyed by orlens; since then orlens have been the tribe's most hated enemy. The great hero Ren Spearhead brought back a huge herd of brutorz from the north during this time.

Great snows came to the lands in your grandfather's time, and half of the tribe went west to escape them; two survivors bring back news of a city of Ancients filled with horrible metal monsters. The cave of the Elder Ones was found and worship began; the cave demanded sacrifices of things of the Ancients.

Present times: Three young warriors went into the cave and never returned. Lights have appeared on the western horizon at night. The young hero Rog saw a great desert to the south where things of Ancients were buried under the sand.

Using tribal timelines, your players won't have to ask, "What will we do next?" They'll be able to take their own lead from the timeline, developing adventures from the information given to them. Where are the orlens now? What about the Southern Desert and the artifacts there? The campaign is off and running!

The Marvel[®]-Phile



by Jeff Grubb

Welcome to the first in a series of articles detailing the diverse denizens of the Marvel Universe[™] for the MARVEL SUPER HEROES[™] Role-Playing Game. The fine folks at TSR, Inc., are bringing forth the most up-to-date information on the good guys and bad guys in adventure modules and accessories. The Marvel Universe is SO huge, however, that we are opening a branch office in DRAGON® Magazine to provide additional heroes and villains, as well as more detailed backgrounds and histories on those heroes and villains mentioned elsewhere.

For the first article, we thought we'd hit several birds with one mallet and take on the Marvel Universe's mightiest fighter and a few of his foes. Without further ado, we present the Mighty ThorTM, the malicious LokiTM, and little UlikTM, too (with a tip of the winged helm to Bruce Nesmith, who first penned Thor's stats for *Avengers* a. *Assembled.*)

THORTM Norse Thunder God

Fighting: UNEARTHLY (100) Agility: EXCELLENT (20) Strength: UNEARTHLY (100) Endurance: UNEARTHLY (100) Reason: TYPICAL (6) Intuition: EXCELLENT (20) Psyche: AMAZING (50)

Health: 320 Karma: 76 Resources: EXCELLENT Popularity: 100

Powers:

DENSE FLESH: Asgardians in general have tougher skin than mere mortals,

MARVEL characters illustrated by Walt Simonson ©1984 MARVEL COMICS GROUP, Division of CADENCE Corp. All Rights Reserved.

giving them Good Body Armor. Thor is superior to most Asgardians, such that his skin provides Excellent Body Armor.

SPECIAL WEAPON: Mjolnir, Thor's mystic hammer, is a unique weapon constructed of the magical material called uru metal, a Class 1000 Material. When using his hammer, Thor's fighting ability is raised to the Shift X level of the chart. The hammer has been enchanted by Odin's magics, allowing Thor the following powers:

1) Returning: The hammer will always return to the spot from which it was thrown. Thor can throw the hammer ten areas.

2) Weather Control: By tapping the hammer on the ground once, Thor can summon and control weather at an Unearthly level. He may create lightning bolts of Monstrous damage originating from the clouds or his hammer.

3) Dimensional Travel: By spinning the hammer along a predetermined path, Thor can break through dimensional walls to cross into other dimensions, including his native Asgard. 4) Worthiness: The hammer was enchanted by Odin with this magic to prevent it from being used by unjust or malicious beings. Only the pure of heart and noble of spirit may wield the hammer. Other than Thor, the original owner, a being must have at least Remarkable Strength and expend 1000 Karma (earned in doing good deeds totally) to wield the hammer. There may be only one worthy wielder at a time. Any artificial device may pick up the hammer if it has Remarkable Strength. 5) Flight: Thor "flies" by throwing his hammer and grasping the thong, letting himself be pulled along by the hammer. He may fly with Amazing Speed, can carry as much as he could normally lift in this fashion.

6) Shield: By spinning his hammer swiftly, Thor can deflect all missiles and energy beams (including magical energy) of Remarkable strength or less. This shield will also protect those behind him.

Talents: Though Thor prefers his hammer, he is trained with the sword and receives a column shift to the right when using one.

Thor's Story: Thor is the son of Odin, All-Father of the gods of the dimension of Asgard, and Jord, one of the guises of the elder Earth goddess Gaea. As a union of Asgard and Midgard (Earth), Thor has powers far surpassing those of normal Asgardians. Thor has visited Earth several times in his long life. In the 9th century A.D., his exploits caused him to be worshipped by the Vikings, a practice he encouraged until saddened by the atrocities committed in his name by fanatics. During the Middle Ages, Odin dispatched Thor to Earth in mortal guise, where he became the basis for the tales of Siegmund and Siegfried.

In the mid-20th century, Odin again sent Thor to Earth as a mortal, this time to teach the headstrong youth some humility. Stripped of his memory and powers, Thor became a lame medical student, Donald Blake. For several years Blake studied and practiced medicine in the New York area; while on vacation in Norway, Blake discovered the cave where he, as Thor, was born. Within the cave was his uru hammer, disguised as a walking stick. Striking the stick against the ground, Blake became Thor.

Having learned the lesson of humility, Thor has since given up his mortal form and now uses the secret identity of Sigurd Jarlson – construction worker. He retains his godly abilities in this secret identity.

For many years Thor has fought against evil on Earth and in Asgard. He was a founding member, with the original Ant-man[™], Iron Man[™], and Wasp[™], of the New York-based Avengers, and has always proved a tough match against foes in both worlds.

In the time since Thor reappeared on Earth, his hammer has lost two of its original enchantments. The first, an ability to travel through time, was removed by Immortus, Lord of Limbo, to salvage the planet of the Space Phantoms. The second, which transformed Thor into Dr. Blake and back, was removed by Odin to be bestowed on an alien champion, Beta Ray Bill, who bested Thor in honest combat.

LOKITM

Norse God of Mischief

Fighting: REMARKABLE (30) Agility: EXCELLENT (20) Strength: AMAZING (50) Endurance: AMAZING (50) Reason: EXCELLENT (20) Intuition: EXCELLENT (20) Psyche: MONSTROUS (75)

Health: 150 Karma: 115 Resources: EXCELLENT Popularity: 25

Powers:

DENSE FLESH: Loki, due to his giantish

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heritage, has Excellent Body armor.

MAGIC: Loki is a sorcerer of Monstrous ability. His spells, however, last only as long he concentrates on them - he must make magical talismans to holds spells of a permanent nature. He can create mystic shields and fire bolts of mystic energy for Monstrous effect, though this weakens his other spells.

Loki uses his Personal energies to cast his thoughts into other minds (but cannot read minds), plant hypnotic suggestions, cast his image in other areas, and see into other places. He may reach into other dimensions with these powers.

Loki taps Universal Energies to transform himself and others into different shapes and guises, enhance another's power or ability by three ranks, or open a physical portal between the dimensions (usually Asgard and Earth).

Loki rarely uses dimensional energies, since the powers he could evoke are often more dangerous than he is. In general, Loki uses his magic to get others to fight for him, rather than taking a direct hand in magical combat.

LOKI'S TALISMANS: Loki can enchant items and increase the abilities of others permanently by means of talismans. Loki can make these talismans using the Building Things section of the Campaign Book, by utilizing his Psyche score instead of Reason. A 50% chance exists that the talisman requires something unique (such as a lock of Thor's hair) that would require the God of Mischief to engage in some thievery. Up to five separate abilities can be enchanted in one talisman, but no ability or power can be above Amazing. Loki has hidden a Talisman in his castle that will restore

him to life in the (unlikely) event of his demise.

Loki's Story: Loki is the son of Laufey, King of the Giants of Jotunheim in the dimension that houses Asgard. Laufey was defeated by the forces of Odin, and the god-sized child was adopted by the All-Father and raised in Asgard. As the young Loki matured, his talent for practical jokes earned him the title "God of Mischief." One of his favorite targets (later a major foe) was his half-brother Thor, the Thunder-God. As Odin's bloodson, Thor was closer in Odin's heart, which gave Loki jealous fits and made his pranks even more malicious.

With Thor's return to Asgard after learning humility, Loki has continued to plague the Thunder God. Loki was inadvertently responsible for the formation of the Avengers, as it was his illusions that caused the Hulk™ to destroy a railroad bridge and force the four heroes together. Loki has tried to blacken Thor's reputation, has created or enchanced villains such as the Absorbing Man[™] to battle Thor, has tried to steal Mjolnir, and has led the forces of the giants against Asgard in several attempts to cause Ragnarok and the twilight of the gods.

Loki has always been defeated in these attempts; at various times he has been turned into a tree, banished from Asgard, stripped of power and sent to Earth, turned to stone, and chained to a mountain beneath a acid-dripping serpent. Despite the elaborate nature of Odin's punishments, Loki has always managed to bounce back with yet another plan to harass Thor and endanger Asgard.

ULIKTM Leader of the Lost Trolls

Fighting: MONSTROUS (75) Agility: GOOD (10) Strength: UNEARTHLY (100) Endurance: UNEARTHLY (100) Reason: GOOD (10) Intuition: EXCELLENT (20) Psyche: EXCELLENT (20)

Health: 285 Karma: 50 **Resources: INCREDIBLE** Popularity: 20

Powers:

DENSE FLESH: Ulik's orange hide is tough even for a rock troll, and provides him with Monstrous Body Armor.

POUNDERS: These unique weapons resemble Asgardian brass knuckles. They do not raise his fighting ability, but Ulik does 150 points damage when he hits. In addition, Ulik can use the pounders on Earth, setting off earthquakes of Monstrous damage to everything within three areas, and Remarkable damage to everything within five areas.

MINIONS: Ulik is commander of his own small band of warrior trolls. These, being normal trolls, have the following stats:

F	А	S	Е	R	Ι	Р
Re	Gd	Re	In	Fe	Ро	Ро

These trolls have a Health of 110 and Good Body Armor.

Ulik's Story: Ulik is the largest and strongest of the Rock Trolls of Gundershelm Caverns in Asgard. His early history is a mystery, for he first comes to the attention of Asgardian chroniclers in his battles with Thor. Although evenly matched, the rock troll has lost against Thor repeatedly. By using a tunnel between the dimensions, Ulik has invaded Earth twice, only to be repelled by Thor each time. Due to his powerhungry actions, Ulik has been cast out of the Domain of Trolls by King Geirrodur. However, he has assembled his own group of followers from Gundershelm and other lost troll tribes.

Ulik would be the perfect pawn for one such as Loki – big, powerful, nottoo-bright, and with a mighty hatred for the Mighty Thor. If Loki could open the tunnel (closed by Thor) from Asgard to Earth, Ulik could once again invade Midgard, while Loki would have the pleasure of bothering his hated halfbrother again.



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For as long as the oldest spacer remembers, the enigma of the Ebony Eyes has existed. It was discovered accidentally by a tramp freighter, captained by a human named Eboniyes. Over the years the phenomenon became known as the Ebony Eyes, both after the captain and the presence of black holes.

Located exactly halfway between the systems of Dramune and K'aken-Kar on the Frontier Sector Map (p. 51, STAR FRONTIERS Expanded Game Rules), the Ebony Eyes are two unique black holes that orbit one another, lying only 160,000 kilometers (16 hexes) apart. Both singularities are almost equivalent in size and strength.

Anything coming within 50,000 km (5 hexes) of one of the Ebony Eyes is lost, and will fall into the singularity within minutes. Rescue and escape are impossible. It is possible for a ship to take up an orbit around one of the Ebony Eyes at a 60,000 km (6 hex) radius; the ship would move at one hex per turn, and could start a scenario already in orbit around the Eye. An orbiting ship would have a speed of zero. A ship may enter orbit around an Eye by coming within six hexes of it at a speed of one, moving along the proper orbital path, then turning off its engines. A safe "window" exists between the holes (30,000 km wide, or 3 hexes) for ships to travel through without risk of having their flight paths altered by the singularities' enormous gravitational pull.

The two black holes, designated Ebony Eyes Alpha and Ebony Eyes Beta on official UPF astronavigational charts, are relatively small compared to average black holes. But an interesting phenomona occurs around the Ebony Eyes that is known at no other known black hole location.

Because these two black holes are so close together, the temporal and spatial fields around them have been twisted out of shape. This phenomenon causes illusionary duplicates of anything that enters the area to appear. The duplicates (0-3 of them, determined by a d4-1 roll) will appear within a few kilometers of the original object (in the same hex as the object), and will make every move that the original object makes. The duplicates will shoot illusionary weapons if the original does, and the beams and missiles launched will be duplicated as well (though duplicates will have no effect on targets). Energy sensors, radar, and all other detection devices will not be able to tell which object of an identical set is real and which is not.

Background to the Battle

Every galactic year a special research ship is sent to the Ebony Eyes to check on any changes in their energy patterns and to try new experiments. The ship stays for two standard days and is usually accompanied by a small military escort, since some of the most important scientists in the UPF are involved in the research.

This year a larger than usual military escort was sent with the research ship (the *Ensten*); an increase in Sathar hostilities in recent months brought this about. The military vessels were instructed to protect the *Ensten* at all costs, and also planned to conduct maneuvering and weapons drills in their spare time.

The trip to the Ebony Eyes was uneventful and soon the scientists aboard the *Ensten* were happily taking readings. The crews of the UPFS vessels, however, were nervous because of unusual energy transmissions they picked up as they entered the system. They were also unused to the "duplicating" effects of the local space-time distortion.

Only minutes after taking up positions at the Ebony Eyes, the UPF crews were shocked to discover what appeared to be an enormous Sathar war fleet coming around the side of Ebony Eyes Beta. The

The Battle at Ebony Eyes

A STAR FRONTIERS® Knight Hawks game scenario

by William Tracy

Sathar had gone undetected as nothing could be seen, visually or using longrange detectors, of what was on the other side of the Ebony Eyes (which are surrounded by whirlpools of matter and dust extending out to 50,000 km). The Sathar were just as surprised, and believed that a major UPF fleet had discovered the base of operations they had established at the Ebony Eyes some months ago, from which they had successfully raided UPF space and eluded discovery.

The famed Battle of Ebony Eyes resulted. It was certainly one of the most unexpected military actions to have taken place with the Sathar, and it proved to be one of the most confusing battles as well.

UPF Ships

UPFS *Ensten* (research vessel) HP 40 ADF 4 MR 3 DCR 70 Weapons: LB Defenses: RH

UPFS Admiral Clinton (battleship) HP 120 ADF 2 MR 2 DCR 200 Weapons: DC, LB(x3), PB, EB(x2), S(x4), T(x8), RB(x10) Defenses: RH, ES, PS, SS, ICM(x12)

- UPFS Honor (light cruiser) HP 70 ADF 3 MR 2 DCR 100 Weapons: DC, LB, EB, PB, RB(x6), T(x4) Defenses: RH, ES, SS, ICM(x12)
- UPFS Chivalry and Faith (destroyers) HP 50 ADF 3 MR 3 DCR 75 Weapons: LC, RB(x4), LB, T(x2), EB Defenses: RH, MS(x2), ICM(x5)

UPFS *Electron* and *Proton* (frigates) HP 40 ADF 4 MR 3 DCR 70 Weapons: LC, RB(x4), LB, T(x2), EB Defenses: RH, MS(x4), ICM(x4)

Sathar Ships

SAVB *Nova* (fortified space station) HP 300 DCR 150 Weapons: LB(x5), RB(x16) Defenses: RH, MS(x4), ICM(x12)

- SAV Blood War (heavy cruiser) HP 80 ADF 2 MR 1 DCR 120 Weapons: LB(x2), PB, EB, DC, S(x2), T(x4), RB(x8) Defenses: RH, ES, PS, SS, ICM(x8)
- SAV Famine (light cruiser) HP 70 ADF 3 MR 2 DCR 100 Weapons: DC, LB, EB, PB, RB(x6), T(x4) Defenses: RH, ES, SS, ICM(x8)



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SAV Disease and Apocalypse (frigates) HP 40 ADF 4 MR 3 DCR 70 Weapons: LC, RB(x4), LB, T(x2) Defenses: RH, MS(x2), ICM(x4)

The following 10 fighters are based aboard the fortified station *Nova*:

Fighters A-J HP 8 ADF 5 MR 5 DCR 30 Weapons: AR(x3) Defenses: RH

Scenario set up

The following is a list of the ships that fought at Ebony Eyes, with the hex number that each begins the game in and their direction of facing (see below). It also lists their speed when the battle begins. Use the appropriate counters for the ships, upside down planet counters for the black holes, an da miscellaneous ship counter for the *Ensten*.

Direction of facing is indicated by an alphabetical letter, A-F, that follows each ship's hex number. The following diagram shows in which direction a ship will face on the Knight Hawks game map:

Ebony Eyes Alpha: Hex 2019 (stationary) Ebony Eyes Beta: Hex 3519 (stationary)

UPFS Admiral Clinton: hex 3526 D (full stop)

UPFS *Honor:* hex 3326 F (full stop) UPFS *Chivalry:* hex 2929 E (full stop) UPFS *Faith:* hex 4033 C (full stop) UPFS *Electron:* hex 3233 D (full stop) UPFS *Proton:* hex 4229 A (full stop) UPFS *Ensten:* hex 3426 E (full stop)

SAVB Nova (in orbit): hex 4119 (1 hex/ turn)

SAV Blood War: hex 2816 D (2 hexes/ turn)

SAV Famine: hex 3611 B (2 hexes/turn) SAV Disease: hex 4116 C (1 hex/turn) SAV Apocalypse: hex 4116 C (1 hex/turn SAV Fighters (aboard the Nova): hex 4119



Special rules

A referee will be needed for this scenario. At the start of the game, the referee should roll dice and determine how many copies of each ship exist (d4-1), and then inform the players of the results for both their own fleet and that of the enemy. The referee will have to keep track during the game of which ships are discovered to be copies and which are found to be real. This can involve some elaborate bookkeeping.

Targeting computers and personnel will not be able to tell the difference

between real ships and their illusionary copies. If a real ship uses a weapon, any copies of it will appear to shoot the same type of weapon. Individual "to hit" rolls should be made for all weapons, both from copies and (of course) real ships. If one of the rolls is determined to hit a target, determine randomly whether the target ship or a copy of it (if any) was struck.

If an illusionary weapon hit a real ship, the ship's crew can determine which ship fired the weapon and can disregard that ship when firing back. Thus if a ship and its two copies fired missiles at another ship and only an illusionary missile hits, the target ship can disregard the "fake" ship that fired the illusionary missile when returning fire, and can thus permanently increase its chances to find which of the copied ships is the real one.

If a real ship is hit by a real weapon, it will take damage and so will its copies. A real weapon hitting a fake ship and a fake weapon hitting a fake ship will produce no effects, but no one except for the referee will be able to tell if the weapon hitting the fake ship was real or not.

Tactics and victory conditions

The Sathar will try to knock out the *Ensten's* engines, so that after defeating the UPF ships they can capture the *Ensten's* scientists (they have recognized what the ship is and how valuable its passengers would be).

The *Ensten* alone may attempt to escape the battle; both UPF and Sathar ships will not voluntarily leave the map until one side or the other is conquered. The *Ensten* may escape by exiting the game board from the far left side, between hexes 0101 and 0139. If the Sathar see they will not be able to stop the *Ensten* from escaping, they will center their efforts towards destroying it. The Sathar will follow the *Ensten* until they are destroyed.

To win, the UPF ships must destroy all the Sathar ships, but not necessarily the space fortress, and keep the *Ensten* safe. If the *Ensten* is destroyed, but the Sathar ships (excluding the space fortress) are destroyed, the game is considered a draw. If the *Ensten* escapes but all the UPF ships are destroyed, it is considered a marginal victory for the Sathar (their base is discovered and they must flee).

<u>Adventure Under</u>

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Yachts and Privateers Return

Revised statistics for STAR FRONTIERS® Knight Hawks ships

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The yachts and privateers introduced to the STAR FRONTIERS Knight Hawks game in DRAGON® Magazine #86 ("Fast and Deadly") represent new vessels designed for jobs such as these. Because of some discrepancies with the game rules contained in that article, some additional explanations are in order.

As several readers noticed, the armament allowed on the yachts and privateers more closely resembles that allowed on military vessels than civilian ones. In fact, these ships were designed as "paramilitary" vessels, and consequently are not restricted by the civilian ships' limitations on armament.

Because of the advanced technology needed to outfit these ships, however, the cost of building them also increased. To simulate this, if players in your campaign wish to purchase or build a yacht or privateer ship, require them to pay double the hull cost listed in the Knight Hawks rules.

The ship statistics given below should be considered official for the various classes of both yachts and privateers. The following abbreviations are used: HS = hull size; HP = hull points; ADF = acceleration/deceleration factor; MR = manuever rating; DCR = damage control rating. See the Knight Hawks rules for a full explanation of these ratings.

Yachts

The six classes of yachts are listed below. The specific ship statistics are for

by Douglas Niles

the first vessel of each class; these vessels have consequently given their names to the entire class of ships.

Note that the first models of the Yacht class were armed like military ships. Later models have been streamlined considerably for less warlike roles. To simulate this modification, players are allowed to add 1 ADF or MR point for each weapon or defense system that is removed. This is an exception to the Knight Hawks "Modifying Spaceships" rule.

Rim-Song Class: HS 3, HP 15, ADF 4, MR 3, DCR 29; Weapons: laser battery; Defenses: reflective hull; no lifeboats. *Imp Class:* HS 4, HP 20, ADF 3, MR 4, DCR 32; Weapons: laser battery, assault rocket battery; Defenses: reflective hull; no lifeboats.

Nova Class: HS 5, HP 25, ADF 2, MR 2, DCR 35; Weapons: laser battery, rocket battery, laser cannon; Defenses: reflective hull; no lifeboats.

Astro-Blaster III Class: HS 6, HP 30, ADF 1, MR 3, DCR 38; Weapons: laser battery, electron beam battery; Defenses: reflective hull, interceptor missiles (x4); no lifeboats.

Nebula Class: HS 7, HP 35, ADF 3, MR 3, DCR 41; Weapons: laser battery, rocket battery, laser cannon; Defenses: reflective hull, masking screen; one lifeboat. *Belvedere Class:* HS 9, HP 45, ADF 3, MR 3, DCR 47; Weapons: laser battery, rocket battery, laser cannon; Defenses: reflective hull, interceptor missiles (x4); one lifeboat.

Privateers

Privateers were designed as powerful, fast ships. Unlike yachts, these vessels have not evolved beyond their original purpose and are still used primarily for combat operations.

Thruster Class: HS 2, HP 10, ADF 4, MR

5, DCR 26; Weapons: assault rocket battery (4); Defenses: reflective hull; no lifeboats.

Lightspeed Lady Class: HS 4, HP 20, ADF 4, MR 4, DCR 32; Weapons: laser battery, assault rocket battery (3); Defenses: reflective hull, masking screen; no lifeboats.

Moonbright Stinger Class: HS 9, HP 45, ADF 3, MR 2, DCR 45; Weapons: laser cannon, seeker missile launcher (2 missiles), electron beam battery; Defenses: reflective hull, interceptor missiles (x6); one lifeboat.

Rollo's Revenge Class: HS 10, HP 50, ADF 3, MR 3, DCR 50; Weapons: laser battery, proton beam battery, electron beam battery, 6 torpedos; Defenses: reflective hull, 6 interceptor missiles; one lifeboat. *Condor Class:* HS 13, HP 65, ADF 3, MR 3, DCR 59; Weapons: disruptor beam battery, 2 laser batteries, proton beam battery, electron beam battery, 4 torpedos; Defenses: reflective hull, stasis screen, interceptor missiles (x8); one lifeboat.

Yachts and privateers in your campaign

Despite their relatively high cost, the versatility and high performance aspects of yachts and privateers are causing them to appear more and more frequently throughout the frontier. For example, the space battles fought as part of "Laco's War" have been fought almost exclusively by privateers, and both privateers and yachts promise to figure prominently in the struggles to control trade to mineral-rich Alcazzar as well (see the Mission to Alcazzar module for more information -Ed.) Other uses for these nimbles ships include duties as pleasure vessels, exploration ships, convoy escorts for corporate or military formations, high-speed freighters, scouts, mercenary transports, and even pirate ships. A

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StarQuestions

Questions and answers on STAR FRONTIERS® gaming

This time the column takes another look at the STAR FRONTIERS sciencefiction game. If you need some answers to help your gaming campaign, write down your questions and mail them to StarQuestions, Dragon Publishing, PO. Box 110, Lake Geneva, WI 53147.

Q: How high can a character's ability scores be raised?

A: No ability score can be raised above 100, including racial abilities such as Lie Detection and Elasticity.

Q: In ARES[™] Magazine #15 there was an article about putting von Neumann machines (those capable of self-replication) into the STAR FRONTIERS game. There are a few questions I have about the article's description of the machine: 1. What hull size is the machine's starship?

2. How long does it take the plant to produce 1,000 hunters?

3. How many structure points does the plant have?

4. How many stamina points does a hunter have?

5. Why are the IM and attack scores for the hunter so low? The statistics given in the article seem to be in conflict with those given in the Expanded Game Rules, p. 26, under "Robots." The hunter's IM is listed as -3 and its attack score is 40%, but the hunter has a thirdlevel computer in it.

A: The machine's starship is hull size 18, with six hatches and six engines, ADF 2, MR 2. It takes one day for the machine to produce 10 hunters, so 1,000 hunters would take 100 days. The whole plant has 1,000 structure points, and the main computer has 200. A hunter has 600 stamina points, making it slightly larger than a heavy duty robot.

by Penny Petticord

As for the hunter's statistics, it must be remembered that the hunter was not designed for combat. The creators of the machine system assumed that the operations would meet no resistance except for local flora and fauna, so they equipped hunters with only a self-defense program. A hunter cannot use weapons like robots designed for fighting; it can only use its arms. Such a robot's normal chance to hit would be 60%, but a -20% modifier is given due to the arms' size and clumsiness. The initiative modifier is also lowered due to size and slow movement.

Q: The White Light System Brief for Clarion (Gollywog) in the "Warriors of White Light" module states that the atmosphere is 16% carbon dioxide. If so, the air is unbreathable without protection. Earth, for instance, has 0.033% carbon dioxide by volume; the dangerous level is 0.5%, at which point humans will fall unconscious and soon die. A: Alter the "Atmosphere" section to read, "60% nitrogen, 24% oxygen, 16% other gases." The carbon dioxide level should be considered to be at about Earth's level.

Q: On pgs. 55-56 of the Campaign Book, it states that the ship counters for Outer Reach are white on orange, but none of the counters were printed that way. A: This was a mistake made in the production of the counters. Just mark the black on orange counters for Outer Reach with a pen to distinguish them from other counters.

Q: On p. 56 of the Campaign Book, under "Frontier Deployment Map — Star Systems," it states that the planets inside the yellow "sunbursts" on the Frontier Deployment Map are labelled by name. They aren't.

A: This was a minor glitch in the game, not critical to play. Players can label the planets if they desire.



Illustration by Jim Holloway

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BUG-EYED MONSTERS

They Want Our Women!

On silent grav sleds, the alien creatures slide through the forest, readying their lasers and stunners, drooling slightly in anticipation. They choose their first target: a little clapboard house nestled in the woods above town. They attack. The sounds of lasers and stunners are soon met by cries of fear and rage. Wild with lust, they fail to notice when one human makes it to a car and careens away to rouse the citizenry of the small town against the alien threat.

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stop the repulsive invaders and save his womenfolk from a fate worse then death.

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A simple but elegant game system with clear brief rules makes BUG-EYED MONSTERS a good introduction to adventure gaming, but its subject and smooth play will appeal to the hardcore gamer as well.

THE DESIGNER

Greg Costikyan is the designer of nine published games, including THE CREATURE THAT ATE SHEBOYGAN[®] SWORDS AND SORCERY[®] DEATH MAZE[®] RETURN OF THE STAINLESS STEEL RAT,[®] and TRAIL BLAZER[®]

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