The Monstermark System

by Don Turnbull

In *Owl & Weasel 22* I introduced a monster rating system, and this article develops on that introduction, so those veterans of the O&W article can probably skip the first bit. I will tell you where to come back. Those sluggards who did not subscribe to O&W, however (why not??) will need a brief review.

I was trying to provide a systematic method of assessing a monster's relative malignity, so that new monsters (from Strategic Review, Dungeoneer etc. — and I wonder how many of you use EPT monsters in non-EPT dungeons?) could be assigned with reasonable accuracy to levels. As it happens, revised monster level tables are not the only product of the system, particularly in its newer refined form. Many have criticised the Greyhawk experience points table, for instance, and this method provides a basis for quite accurate reappraisal. The method gives dungeonmasters better guidance than previously available on the thorny question of how many wandering monsters should appear against a party of a particular size and strength. Also — is a 4 dice +2 Su Monster about as nasty as a 4-dice Giant Snake? This method clothes the bare bones of intuition.

The 'D' Factor

In the previous O&W article I defined two factors for each monster. The first, which I now call **D** (Defence), is a measure of a monster's vulnerability:—

D = The average number of melee rounds it takes a first level fighter to kill the monster with a 1-8 sword, allowing no bonuses

$$= \frac{\text{The Monster's average hits}}{\text{Probable hits received per round}}$$

$$= \frac{\text{Monster's average hits}}{4\frac{1}{2} \times \text{probability of hitting}}$$

$$= \frac{\text{Monster's average hits} \times 40}{9\,(AC+2)} \quad \text{where AC is the monster's armour class.}$$

In case you didn't read (in O&W) the bit about the average roll from a particular die, the average roll of an 8-sided die is $(8+1)/2 = 4\frac{1}{2}$; that of a 6-sided die is $(6+1)/2 = 3\frac{1}{2}$ etc. So a beast with 4 8-sided dice has an average of $4 \times 4\frac{1}{2} = 18$ hits. Similarly a beast delivering a 1-10 bite will inflict $(10+1)/2 = 5\frac{1}{2}$ hits per bite on average, and a character with 4 4-sided dice will have an average of 10 hits. (Incidentally, do you know the probability of rolling that all-characteristics-above-15 character you have hidden away?).

The 'A' Factor

The other factor which I call **A** (Aggressiveness) enumerates the risk you take in attacking a particular monster, i.e. the number of hits it hands out during the time it takes you to kill it:—

A = the average number of hits a monster would hand out to a character of AC2 during the number of melee rounds denoted by **D**.

= **D** *times* the probability of the monster hitting an AC2 defender each round *times* the average number of hits it delivers if successful.

I will come back to the methods of calculation, in illustrative form, later, but first must note that there are, of course,

problems with both factors. A first level fighter, used as the criterion for **D**, can't hit some monsters at all without magic weapons; in this case **Dx** is calculated and displayed, where x is the lowest level of fighter capable of delivering damage. A normal sword cannot damage certain monsters no matter how strong or high level the fighter, so **(D)** — or even **(Dx)** — indicates what the value of **D** would be were normal weapons effective against the monster (and the final assessment of the monster's malignity would have to incorporate some sort of bonus).

Equally, **A** can't be calculated for certain monsters such as Wights which don't hand out hits but instead drain levels (which could be fatal or merely serious, depending on the initial level of the victim). In my view there is no way of assessing a realistic comparative value of **A** in these circumstances.

Another unrealistic element which creeps into both factors is their assumption of one-on-one combat — the possibility of many-to-many melee has to be ignored since the computations soon get far too complex and long-winded. I had to picture a line of first level fighters attacking a monster successively — in other words each would wait for his predecessor to keel over before going into action; this is possible in games involving Andy Davidson, but is far from normal practice.

The Monstermark

Bearing these restrictions in mind, however, it seems that the method is not without value and in this article (Come back, the rest of you!) it is developed further to introduce the Monstermark which I will call **M** (for obvious reasons). For quite a lot of monsters **M** is the same as **A**, but for those with poison, paralising powers, magical defence and attack mechanisms etc. **M** attempts to support **A** as a modified value. For those monsters without an **A** factor, **M** has to be assessed (and these values are open to considerable challenge and debate)

One thing which must be tackled early is the monster attack modes I have devised. I have no doubt other DMs use other modes, and I claim no original thinking in developing the modes; it struck me quite early, however, that a beast would have one helluva job attacking an opponent with the horn on top of its head at the same time as biting him (or someone else) as Greyhawk has it in some cases, so I thought a monster's melee mode had better be regularised. For brevity here I will adopt a standard notation for each monster:

$$N: \quad p_1 n_1 : p_2 n_2 : p_3 n_3 \ldots \ldots : \quad S$$

N refers to the number of attacks the monster makes per melee round (usually one). I have ignored for simplicity the possibility of attacks on two different victims in the same round, of which some monsters are capable.
$p_1 p_2$ etc. refer to the probability of a particular mode of attack (biting, clawing etc. — the actual mode isn't specified but you can find it in the rules);
while
$n_1 n_2$ etc. represent the average number of hits handed out by that mode of attack if it is successful.
S refers to special powers and may be one or more of a number of things — Po for poison, Pa for paralisation, Ma for magical defence and/or attack methods, Pe for petrifaction, L for level drain, S for strength point drain, and if anything else crops up I will define it then.

A few examples might help to clear up a lot of things at this stage. Let us calculate **D, A** and the melee notation for three different beasts.

The Monstermark System

1. A Bugbear has 3 dice +1, AC5, one attack per round, 2-8 damage if successful. It has no special powers.

$$D = \frac{14\frac{1}{2} \times 40}{9 \times 7} = \text{about } 9.2$$

$$A = D \times \frac{2+8}{2} \times 0.4 = \text{about } 18.4$$

Melee notation is: 1 : 100% 5 : –

2. A Manticore has 6 dice +1, AC4 and attacks once per round; 60% of the time it attacks with two 1-3 claws (average 2 each) and a 1-8 bite (average 4½), the other 40% it uses six 1-6 iron spikes. It does nothing special (isn't that lot enough?).

$$D = \frac{29 \times 40}{9 \times 6} = \text{about } 21.5$$

$$A = D \times \frac{9}{20} \left(\left[\frac{6}{10} \times \frac{1+3}{2} \times 2 \right] + \left[\frac{6}{10} \times \frac{1+8}{2} \right] + \left[\frac{4}{10} \times \frac{1+6}{2} \times 6 \right] \right)$$
= about 145

Melee notation is: 1 : 60% 8½ ; 40% 21 : –

3. A Giant Snake has 4 dice and AC4; it attacks twice per round – one bite (1-6 plus poison) and one constriction (2-8), we will assume on the same victim. The poison apart, it has no special powers.

$$D = \frac{18 \times 40}{9 \times 6} = 13.3$$

$$A = D \times \frac{9}{20} \left(\frac{1+6}{2} + \frac{2+8}{2} \right) = 51$$

Melee notation is : 2 : 100% 3½ : 100% 5 : Po

I hope this helps illustrate the method of calculation as well as the notation. Applying these methods to some simple human-type monsters:

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A=M
Kobold	7	1	1 : 100% 2½ : –	1	2.2	1.1
Orc	6	1	1 : 100% 3½ : –	1	2.5	2.2
Goblin	6	1½	1 : 100% 2½ : –	1	3.75	2.3
Gnoll/Hobgoblin	5	1½	1 : 100% 4½ : –	2	4.3	4.8
Ogre	5	4+1	1 : 100% 5½ : –	4	12.1	29.9
Hill Giant	4	8	1 : 100% 9 : –	6	26.7	120
Stone Giant	4	9	1 : 100% 10½ : –	6	30	189
For comparison, some simple non-humanoids:						
Stirge	7	1	1 : 100% 2 : –	1	2.2	2
Wildcat	8	2	1 : 100% 10½ : –	–	4	6.3
Lizard Man						
unarmed	5	2+1	1 : 40% 4 : 60% 4½ : –	–	6.3	8.2
armed	5	2+1	1 : 100% 4½ : –	–	6.3	8.6
Bugbear	5	3+1	1 : 100% 5 : –	2	9.2	18.4
Centaur	5	4	1 : 50% 3½ : 50% 4½ : –	–	11.4	29.6
Su Monster	6	4+2	1 : 100% 12½ : –	–	11.1	62.5
Minotaur	6	6	1 : 50% 5 : 20% 2 : 30% 4½ : –	5	15	57.4
Manticore	4	6+1	1 : 60% 8½ : 40% 21 : –	5	21.5	145
Griffon	3	7	1 : 40% 5 : 60% 9 : –	–	28	103.6
Ent	2	8	2 : 100% 10½ : 100% 10½ : –	–	40	420
Invisible Stalker	3	8	1 : 100% 10 : –	5	32	160

It is immediately obvious, even considering only these simple cases, that there is more to this business than hit dice, and anyone who uses that criterion alone to assess the risks of attacking deserves to die a cruel and hard death. Rightly an experience point system based only on hit dice should be questioned (though in fairness to Greyhawk that system does not rely on hit dice alone). An 8-dice Giant is child's play compared with an 8-dice Ent – I'd be more careful which trees you rest under (or whatever it is you do under trees) in future – a 6-dice Minotaur is in reality quite docile, while Su Monsters and Manticora are far more fearsome than one might have thought. Greyhawk's monster level table is, to say the least of it, questionable even on this limited evidence.

Special Powers

Moving on to more complex matters, it will sooner or later

(so it might as well be now) be necessary to enumerate the 'bonus' to be assigned to the 'special power' section of the melee notation – in other words to define the relationship between **A** and **M** when they are not equal. All this is very subjective and I would be surprised not to meet with different views, but the following bonus relationships seem to give results which instinctively 'feel' right:

Pa = paralisation		**M** = 2A	
Pe = petrifaction		**M** = 2½A	
Po = poison		**M** = 2A	
Ma = magic attack/ defence methods		**M** = 1½A – 3A depending on	
S = Strength point drain		**M** = 1½A	extent
L = Level drain		**M** = 2½A	
R = regeneration potential		**M** = 1½A	
H = strong hug(Owl Bear)		**M** = 1½A	

In Ma I have included those cases in which normal weapons are not effective; I think this, on its own, only warrants a 50% bonus since it is rare to have a character without at least a +1 sword, and many DMs will let you purchase them at the local market before the trip.

Using these relationships, we can now look at some monsters with simple special powers, leaving the tough and unusual customers until later. In the odd case of a monster with two or more special powers, the **A–M** bonus is increased accordingly.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Shadow	7	2+2	1 : 100% 2½ : S Ma	4	5.4	4.1	8.2
Harpy	7	3	1 : 40% 4 : 60% 3½ : Ma	3	6.7	14.8	22.2
Blink Dog	5	4	1 : 100% 3½ : Ma	4	15.6	24.5	36.8
Gargoyle	5	4	1 : 40% 6½ : 60% 7½ : Ma	4	(11.4)	(26.2)	39.3
Medusa	8	4	2 : 100% 4½ : 100% 2½ : Pe	–	8	22.4	56
Cockatrice	6	5	1 : 100% 3½ : Pe	5	12.5	19.7	49.2
Owl Bear	5	5	1 : 40% 11½ : 60% 7 : H	4	28.6	113.1	169.7
Phase Spider	6	5	1 : 100% 3½ : PoMa	4	12.5	19.7	59.1
Ogre Magi	4	5+2	1 : 100% 6½ : RMa	5	18.1	53.1	106.2
Displacer Beast	4	6	2 : 100% 5 : 100% 5 : Ma	4	30	135	202.5
Intellect Devourer	4	6	1 : 100% 10 : Ma	–	(90)	(405)	1215
Basilisk	4	6+1	1 : 100% 5½ : Pe	6	20.7	51.3	128.4
Lammasu	6	6+2	1 : 100% 7 : Ma	5	16.1	56.4	84.6
Troll	4	6+3	1 : 100% 9½ : R	5	22.2	105.6	158.4
Wyvern	3	7	1 : 67% 3½ : 33% 9 : Po	5	28	74.7	149.4
Gorgon	2	8	1 : 100% 7 : Pe	–	40	140	350
Umber Hulk	2	8	1 : 100% 19 : Ma	5	40	360	540
Couatl	5	9	2 : 100% 2 : 100% 5 : MaPo	–	25.7	108	216
Lurker	6	10	1 : 100% 3½ : Sm	–	25	52.5	131.3

Note: Sm for the Lurker is 'smother' which in the circumstances warrants a **M** = 2½A relationship, I think.

Again, clear evidence to show that all in the Greyhawk garden is not lovely. What on earth is the Shadow doing in the fourth monster level? And witness the wide variation in the others – even if my **A – M** relationships are at times suspect (and they are at least arguable) the wide variation exists in **A** alone. Confirmation I think that this method puts us on the right track (although there is the possibility that it puts us consistently on the wrong track . . . . I'm not sure how to prove which is which!)

The Undead and other 'Specials'

At any rate, let us confidently advance to complete the set. So far we have missed the Undead, the Giant Insects, the Lycanthropes, the 'wanderers' and the Fire-Breathers, plus a few very tricky customers, plus any others I have missed, plus EPT monsters and new monsters from any other source. In the *Undead* category we meet for the first time monsters who have no **A** factor, and the values of **M** are, therefore, the product of **D** and instinct. The precise value of **M** is not of course as important as its order of magnitude.

For a Mummy we will need Di = Disease which qualifies for **M** = 1½A. In the case of the Mummy, we must also bear in mind that the monster is very vulnerable to fire so the calculation below applies to a fire-proof Mummy (there are other examples of this elsewhere but none perhaps so obvious as this one). A normal Mummy would have a much smaller **M**; how much smaller is a subjective matter. But let me not stress to much the inadequacies of the system . . . .

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Skeleton	7	1	1 : 100% 3½ : —	1	2.2	.9	.9
Zombie	7	1	1 : 100% 4½ : —	2	2.2	2	2
Ghoul	6	2	1 : 60% 4 : 40% 2½ : Pa	2	5	3.3	6.6
Wight	5	3	1 : — : LMa	3	(8.6)	—	70
Wraith	3	4	1 : 100% 3½ : LMa	4	(16)	(25.2)	75.6
Mummy	3	5+1	1 : 100% 6½ : DiMa	5	(41.8)	(122.2)	244.4
Spectre	2	6	1 : 100% 4½ : LLMa	5	(30)	(60.75)	243
Vampire	2	8	1 : 100% 5½ : LLMa	6	(40)	(110)	440

A remarkably self-consistent set of results for the Undead which may help us later in drawing up new monster level tables. These calculations also show how important it is to recruit a high-level Cleric to the party — anything worse than a Ghoul is rather too tough for a small cleric-less party. Nowadays some nasty-minded DMs (this one included) are apt to put high-level anti-Clerics with their Undead to challenge and oppose any turning away; this is a dirty trick, of course, but the resulting anti-cleric-v-cleric mental combat may make the psionic rules worth while (I have found no other reason).

So onto the *Giant Insects*, some of which are simple, others less so. I had better explain that my melee notation for the Giant Scorpion, which looks a bit odd, is the result of my ruling that this beauty attacks with two pincers (1—10) each on the same opponent and if either or both pincers hit, the victim also suffers a sting attack (1—4 plus poison) which automatically hits if both pincers have hit but which has the normal probability of hitting if only one pincer has hit. Since it is a 3-dice beast, it requires a roll of 13 or more to hit which means a hit probability of 8/20. Therefore the probability of both pincers missing is $(12/20)^2$ which is 36%, and this is the only time the sting attack is not attempted. So the sting will attack 64% of the time, 16% automatic hit, 48% normal probability of a hit. This makes the calculation for that beast rather complex and it may be worth displaying as an example:

$$D = \frac{\text{Average hits} \times 40}{9\,(AC+2)} = \frac{13\frac{1}{2} \times 40}{9 \times 8} = 7\frac{1}{2}$$

$$A = 7\frac{1}{2} \times \frac{4}{25}\left(\left[\frac{1+10}{2} \times 2\right] + \frac{1+4}{2}\right) + 7\frac{1}{2} \times \frac{12}{25}\left(\frac{1+10}{2} + \left[\frac{2}{5} \times \frac{1+4}{2}\right]\right)$$

$$= 7\frac{1}{2} \times \frac{26}{5}$$

$$= 39$$

(Incidentally, this prompts me to ask anyone who disagrees with my arithmetic to let me know in what respect we differ. I can't hope to have carried out all these calculations without error).

We need to intorduce De = Deafness and Ad = Acid for the Bombardier Beetle, together warranting **M = 3A**. Also note the Giant Wasp's virulent poison requires **M = 3A** at least and the Giant Tick as disease-bearer needs **M = 2½A**.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Giant Fire Beetle	4	1—1	1 : 100% 1½ : —	4	2.6	7	7
Giant Bombardier Beetle	4	1	1 : 100% 6½ : DeAd	4	3.3	5.4	16.2
Giant Spider	7	2	1 : 100% 2 : Po	3	4.4	2.7	5.4
Giant Toad	6	2	1 : 100% 5¼ : Po	2	5	8.25	16.5
Giant Leech	8	2	1 : 100% 7 : LPo	—	4	8.4	25.2
Giant Tick	4	3	1 : 100% 2½ : Di	—	10	10	25
Giant Wasp	5	3	1 : 100% 4½ : Po	—	8.6	15.4	46.2
Giant Scorpion	6	3	2 : 2 x 100% 5½ : 64% 2½ : Po	4	7.5	39	78
Giant Snake	4	4	2 : 100% 3½ : 100% 5 : Po	3	13.3	51	102
Giant Boring Beetle	3	5	1 : 100% 10½ : —	4	20	94.5	94.5
Giant Slug	8	12	1 : 100% 6½ : Ad	5	24	109.2	218.4

The *Lycanthropes* are, for a change, relatively easy. None can be hit by normal weapons but that apart there is no complication. Di in this case is lycanthropy which alone would require **M = 1½A**, so **M** is at least **2A** in all cases to reflect lycanthropy and invulnerability to normal weapons.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Wererat							
(rat form)	7	3	1 : 100% 2 : MaDi	3	(6.7)	(5.3)	10.6
(human form)	7	3	1 : 100% 4½ : MaDi	3	(6.7)	(12)	24
Werewolf	5	4	1 : 100% 5 : MaDi	4	(11.4)	(22.9)	45.8
Wereboar	4	4+1	1 : 100% 7 : MaDi	4	(14.1)	(44.3)	88.6
Weretiger	3	5	1 : 100% 10½ : MaDi	4	(20)	(94.5)	189
Werebear	2	6	1 : 100% 9 : MaDi H	4	(30)	(162)	405

Again a useful and consistent set of results which belies the Greyhawk tables. Lycanthropes seem to me a much-ignored feature of dungeons — I am sure more could be made of their peculiarities and the behaviour their 'mission' would lead them to exhibit. Methinks the Editor would welcome an article on this subject from someone who has done some in-depth study.

Only a few of the *'wandering' monsters* lend themselves to the analysis. Some (Yellow Mould, Green Slime, Grey Ooze for instance) are really traps rather than true monsters and there is no difficulty in killing or avoiding them once their presence has been detected. The Rust Moster is a damned nuisance but can't harm a person at all unless there is something very peculiar about his insides. Generally, these types of 'wanderer' can be spread throughout all levels of a dungeon. This leaves us with a few 'true' wanderers, none of which present any calculation difficulty.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Carrion Crawler	3	3+1	1 : — : 8xPa	2	12.9	—	120
Gelatinous Cube	8	4	1 : 100% 5 : Pa	1	8	18	36
Ochre Jelly	8	5	1 : 100% 7 : —	3	10	31.5	31.5
Black Pudding	6	10	1 : 100% 13½ : —	—	25	202.5	202.5

One obvious question arises here — why is the Ochre Jelly ranked on Greyhawk level 3? Its only special property is that weapon hits cause it to multiply — and who, moderately familiar with dungeon lore, is daft enough to go hitting Ochre Jellies with swords?

Next time we will tackle the fire - breathers and round up the remaining nasties plus any others which have so far escaped the net. In the meantime, if you want to practice the method of analysis, work out **M** for (a) a 5-headed Hydra and (b) a 9+2 dice Shedu. The answers will be given next week (but no prizes!).

The Monstermark System

by Don Turnbull

Last issue I explained the Monstermark System and its application to determining monster malignity. In the hope that the tedious, but necessary, arithmatic hasn't put you off the Monstermark System for ever, the exposition this time completes the set of monsters and examines one of the practical uses of the system.

The Fire-Breathers

The Fire-breathers cause more complications, though fire-breathing itself does not require handling as a special power — it is just another attack mode. Dragon melee rules are explained in some detail in *Monsters & Treasure* but Hell Hounds etc. get thin treatment. I rule that a Hell Hound will try to bite each round; if successful there is a 40% chance it will also set fire to its victim but it can only use its fire weapon twice in one day. Similarly a Chimaera will attack with two 1-3 claws 20% of the time and with all three heads the other 80%; if the latter is the case there is a 20% chance the dragon head will breathe fire (3-18) rather than bite (3-12). Similarly the Fire Lizard will breathe fire 58.3% of the time with its 1-10 breath weapon.

The calculation for Hell Hounds is quite easy — taking a 3-dice beast D works out by the normal method to 10, so for 10 melee rounds the beast has a probability of 8/20 of hitting. This gives 4 hits total, each with 3½ average damage, or a total average damage of 14. Additionally there is a 40% chance that it will breathe so this happens 1.6 times during the 10 rounds, each with 10½ average damage or a total of 16.8 damage. Adding this to the 14 gives a grand total of 30.8 = A. A 4-dice beast has D = 13.3 and a probability of 9/20 of hitting which means 6 rounds in which the beast will hit for 3½ average damage — total 21 damage. There is a 40% chance that it will breathe and if its breath weapon were unlimited it would breathe in 2.4 rounds, but it is limited to 2 fire-raisings per day so the additional damage is $2 \times 14 = 28$ and $A = 21 + 28 = 49$. The stronger Hell Hounds will also use up their breath potential during the melee so one allows for just 2 lots of fire hits.

For Dragons and the Fire Lizard the arithmetic is a bit more tedious. Taking the Fire Lizard as an example, I use the following melee system:—

Each round roll two 6-sided: 2-6 = 2 claws (1-8 each)
and one bite (4-16)
7-12= breath weapon (1-10)
maximum 3 times/day

In melee notation terms this is 1 : 41.7% 19 : 58.3% 5½ : —

Once the beast has used up its fire ration it will claw and bite each time it hits; the questions are — how long before the fire supply runs out and how many rounds normal melee will it therefore sustain? Since it is a 12-dice beast it hits AC2 with probability 14/20 and D works out to 60. Therefore it will hit on $60 \times 14/20$ rounds = 42 rounds. If x is the number of rounds it takes to use up its fire, then x times 58.3% = 3 from which $x = 5.14$ so the breath weapon will be exhausted during the melee period. Therefore one can expect 3 rounds of fire @ 5½ average damage and 39 rounds of normal melee @ 19 damage, a total of 757.5 = A. This is one of the few monsters whose opponent wishes it had a greater fire potential.

A similar method of calculation applies to the Dragons (and I have taken average maturity so the breath weapon delivers 3½ hits per die) but the Chimaera in my rules has an unlimited breath weapon (it only uses it 16% of the time anyway) which makes things easier.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A-M
Hell Hound	4	3	1 : 100% 3½ : 16% 10½ : —	5–6	10	30.8
	4	4	1 : 100% 3½ : 18% 14 : —	5–6	13.3	49
	4	5	1 : 100% 3½ : 18% 17½ : —	5–6	16.7	61.25
	4	6	1 : 100% 3½ : 18% 21 : —	5–6	20	73.5
	4	7	1 : 100% 3½ : 20% 24½ : —	5–6	23.3	89.8
Fire Lizard	2	12	1 : 41.7% 19 : 58.3% 5½ : —	—	60	757.5
Chimaera	4	9	1 : 20% 4 : 64% 15 : 16% 18 : —	6	30	239
Dragon – White	2	5	1 : 41.7% 14 : 58.3% 17½ : —	6	25	168
	2	6	1 : 41.7% 14 : 58.3% 21 : —	6	30	210
	2	7	1 : 41.7% 14 : 58.3% 24½ : —	6	35	276.5
Dragon – Black	2	6	1 : 41.7% 15½ : 58.3% 21 : —	6	30	225.8
	2	7	1 : 41.7% 15½ : 58.3% 24½ : —	6	35	298.3
	2	8	1 : 41.7% 15½ : 58.3% 28 : —	6	40	347.5
Dragon – Green	2	7	1 : 41.7% 16 : 58.3% 24½ : —	6	35	305.5
	2	8	1 : 41.7% 16 : 58.3% 28 : —	6	40	356
	2	9	1 : 41.7% 16 : 58.3% 31½ : —	6	45	478.5
Dragon – Blue	2	8	1 : 41.7% 18 : 58.3% 28 : —	6	40	390
	2	9	1 : 41.7% 18 : 58.3% 31½ : —	6	45	526.5
	2	10	1 : 41.7% 18 : 58.3% 35 : —	6	50	581
Dragon – Red	2	9	1 : 41.7% 21½ : 58.3% 31½ : —	6	45	610.5
	2	10	1 : 41.7% 21½ : 58.3% 35 : —	6	50	675.5
	2	11	1 : 41.7% 21½ : 58.3% 38½ : —	6	55	878.8
Dragon – Golden	2	10	1 : 41.7% 24½ : 58.3% 35 : —	6	50	766.5
	2	11	1 : 41.7% 24½ : 58.3% 38½ : —	6	55	985.3
	2	12	1 : 41.7% 24½ : 58.3% 42 : —	6	60	1081.5

There is no doubt about dragon strength and fearsomeness overall, but to lump them all together on monster level 6 is too much of an approximation for my liking; an average White Dragon is about as dangerous as a Weretiger which is listed on level 4.

Golems and other 'Nasties'

Before moving on to those really tricky customers the Golems, the Elementals and the Demons there is a miscellany of monsters which for some reason have been omitted so far. None of these are particularly difficult to deal with (in arithmetical terms at any rate) so a bare list will suffice, pausing only to define F = Freeze for the Ice Phantom, T = Tentacle Brain Penetration for that nasty customer the Mind Flayer and Sw = Swallow for the Purple Worm which seems to have been parted from its mates in the wandering section.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Ice Phantom	5	3	1 : — : F	—	(8.6)	—	60
Doppelganger	5	4	1 : 100% 6½ : Ma	4	11.4	33.4	50.1
Tracker	1	5	1 : — : Pa	—	33.3	—	200
Triton	5	6	1 : 100% 10½ : Ma	—	17.1	81	202.5
Hydra	5	5	5 : 5 x 100% 3½ : —	5	14.3	75	75
	5	6	6 : 6 x 100% 3½ : —	5	17.1	108	108
	5	7	7 : 7 x 100% 3½ : —	5	20	220.5	220.5
	5	8	8 : 8 x 100% 4½ : —	5	22.9	370.3	370.3
	5	9	9 : 9 x 100% 4½ : —	6	25.7	468.6	468.6
	5	10	10 : 10 x 100% 4½ : —	6	28.6	707.1	707.1
	5	11	11 : 11 x 100% 5½ : —	6	31.4	1045.8	1045.8
	5	12	12 : 12 x 100% 5½ : —	6	34.3	1278.8	1278.8
Shambling Mound	0	6*	2 : 2 x 100% 4½ : SmMa	—	73.3	297	594
(*10-sided hit dice)	0	7*	2 : 2 x 100% 4½ : SmMa	—	85.6	385	770
	0	8*	2 : 2 x 100% 4½ : SmMa	—	97.8	440	880
	0	9*	2 : 2 x 100% 4½ : SmMa	—	110	594	1088
Djinn	5	7+1	1 : 100% 9 : Ma	—	20.6	92.3	138.5
Salamander	4	7+3	1 : 27.8% 12½ : 72.2% 13½ : —	5	25.6	168.9	168.9
Naga (Water)	5	7	1 : 100% 2½ : PoMa	—	20	25	62.5
	5	8	1 : 100% 2½ : PoMa	—	22.9	28.6	71.5
Naga (Spirit)	5	9	1 : 100% 2 : PoMaPa	—	25.7	30.8	92.4
	5	10	1 : 100% 2 : PoMaPa	—	28.6	34.3	102.9
Naga (Guardian)	5	11	2 : 100% 2 : 100% 5 : PoMa	—	31.4	154	385
	5	12	2 : 100% 2 : 100% 5 : PoMa	—	34.3	168	420
Mind Flayer	5	8+3	1 : — : T	—	24.8	—	700
Shedu	4	9+2	2 : 2 x 100% 3½ : Ma	—	31.5	132.2	198.3
Efreet	3	10	1 : 100% 13½ : Ma	—	40	324	486
Lich	3	10	1 : 100% 5½ : PaMa	—	40	132	396
Ghost	0	10	1 : — : Ma	—	(100)	—	1600
Roper	0	10	6 : 6 x 100% 12½ : MaPo	—	100	1500	3750
	0	11	6 : 6 x 100% 12½ : MaPo	—	110	1650	4125
	0	12	6 : 6 x 100% 12½ : MaPo	—	120	1800	4500
Purple Worm (front)	6	15	1 : 100% 13 : Sw	6	37.5	341.3	682.6
(rear)	6	12	1 : 100% 4½ : Po	6	37.5	118	336

The separate treatment of the two parts of the Purple Worm is a bit unsatisfactory (probably for the Worm as well); since it is pretty unlikely that one opponent (which is the basic criterion of the method) will be engaged at both ends at the same time, perhaps the best answer is the average value of M which is 509.3. These calculations make the Ropers the most fearsome beasts we have met so far; I don't recall ever meeting them down a dungeon, and I devoutly hope I

Continued from page 15

never will.

Incidentally, if there is a monster missing from the above lists which you expect me to include, I have only listed those in my own dungeon or potentially so; if you want more music you had better get out your calculator and play it yourself! Sooner or later though I have to work round to the nasties in the shape of Golems, Elementals and Demons.

The main characteristics of the Golems are (a) a fixed number of hit points, (b) a very low armour class which means we will have to calculate D_x rather than D in most cases, and (c) invulnerability to normal weapons. None of these are difficult factors to incorporate.

Take the Stone Golem as an example. It has AC –3 and 60 hits and its melee notation is 1 : 100% 13½ : Ma. A fighter of level 1–3 cannot hit the beast and it is affected only by weapons with a +2 bonus or greater; I rule that it has the hit probability of a 10-dice beast (12/20 against AC2).

$$(D_4) = \frac{60 \times 40}{9 \times 1} = (266.7)_4 . \qquad (A_4) = \frac{800}{3} \times \frac{12}{20} \times \frac{27}{2} = (2160)_4$$

The Ma bonus I rate as 200% (i.e. $M = 3A$) but M should be doubled again to reflect the fact that we are working from (D_4) rather than (D). So $M = 6A = 12,960$. That Rock-Mud spell would come in handy.

The other two are approached in the same way but note that $M = 12A$ for the Iron Golem which has poison and magic immunity and can only be hit by fighters of level 7 or higher with weapons of bonus +3 or better. All Golems are on Greyhawk level 6.

Monster	AC	Hit Dice	Melee notation	Greyhawk Level	D	A	M
Flesh Golem	–1	40	2 : 2 x 100% 4½ : Ma		(177.8)	(960)	1920
Stone Golem	–3	60	1 : 100% 13½ : Ma		(D_4)=(266.7)$_4$	(A_4)=(2160)$_4$	12960
Iron Golem	–5	80	1 : 100% 22 : MaP°o		(D_4)=(177.8)$_4$	(A_4)=(2737.7)$_4$	32849

If I should ever run into the odd Iron Golem or two, I hope I remember to bring the tame Rust Monster along!

Elementals are of four types — Air, Earth, Fire and Water — and the hit dice of each type varies according to its method of summoning. Staff Elementals have 8 dice, Device Elementals 12 dice and Conjured Elementals 16 dice. Non-magical attacks have no effect on them which means the property Ma and $M = 2A$. Their attack varies according to the victim's element — I have assumed all attacks take place on earth (i.e. down a dungeon) except that I have added for the Water Elemental its more violent attacks against a victim in the water element (which is not impossible down a dungeon). All Elementals have AC2 and are ignored in the Greyhawk tables.

Elemental	HD	Melee notation	Victim's element	D	A	M
Air	8	1 : 100% 9 : Ma	Earth	(40)	(180)	360
	12	1 : 100% 9 : Ma	Earth	(60)	(378)	756
	16	1 : 100% 9 : Ma	Earth	(80)	(504)	1008
Fire	8	1 : 100% 13½ : Ma	Earth	(40)	(270)	540
	12	1 : 100% 13½ : Ma	Earth	(60)	(567)	1134
	16	1 : 100% 13½ : Ma	Earth	(80)	(756)	1512
Water	8	1 : 100% 4½ : Ma	Earth	(90)	(180)	180
	12	1 : 100% 4½ : Ma	Earth	(60)	(189)	378
	16	1 : 100% 4½ : Ma	Earth	(80)	(252)	504
Water	8	1 : 100% 16½ : Ma	Water	(40)	(330)	660
	12	1 : 100% 16½ : Ma	Water	(60)	(693)	1386
	16	1 : 100% 16½ : Ma	Water	(80)	(924)	1848
Earth	8	1 : 100% 18 : Ma	Earth	(40)	(360)	720
	12	1 : 100% 18 : Ma	Earth	(60)	(756)	1512
	16	1 : 100% 18 : Ma	Earth	(80)	(1008)	2016

The main problem with the Demons is to come to an assessment of their magical powers and particularly their ability to gate in allies. Opinions will vary but I suggest $M = 3A$ for Demons I and II, $M = 3½A$ for Demons III and IV, $M = 4A$ for Demon V and $M = 5A$ for Demon VI. For the Succubus' magical power alone I would suggest $M = 3A$ but its level draining kiss needs an extra bonus and I settle for $M = 4A$ overall. Additionally some Demons get extra bonus for AC – 1 or less. Demons are not listed in the Greyhawk tables.

Demon	AC	Hit Dice	Melee notation	D	A	M
I	0	8	1 : 40% 8½ : 60% 9 : Ma	160	704	2112
II	–2	9	3 : 2 x 100% 2 : 100% 10 : Ma	D_4=90	A_4=756	4536
III	–4	10	1 : 50% 18 : 50% 17½ : Ma	D_4=66.7	A_4=710	6390
IV	4	7 (1-10)	3 : 2 x 100% 4½ : 100% 7 : Ma	(28.5)	(376.4)	2634.8
V	7	7	7 : 6 x 100% 4½ : 100% 5 : Ma	(15.6)	(248.9)	1991.2
VI	2	10	1 : 41.7% 13 : 58.3% 17 : Ma	(50)	(535.5)	5355
Succubus	9	6	2 : 2 x 100% 2 : MaL	(10.9)	(19.6)	78.4

I have not tackled the Princes since I don't expect to use them.

A rather surprising set of results — surprising in A as well as M, so it is not just the bonuses which cause the unexpected variation. Yet the beasts with the highest values of M are the ones with low AC, so perhaps the results are not so surprising after all. Did the designers feel that the increased magic resistance and power of the high-numbered Demons more than adequately compensated for a weak AC? If so, it seems they are wrong.

It is worth digressing a bit to stress the importance of AC. Take a fictitious beast with variable AC between –1 and 9, with hit probability 50% and 10 dice, which hands out 2–12 damage per hit — melee notations is 1 : 100% 7 : —

AC	9	7	5	3	1	–1
D	18.2	22.2	28.6	40	66.7	200
A=M	63.7	77.7	100.1	140	233.5	700

A wide variation in M, solely the product of variation in AC. Yet do we consider AC when deciding whether or not to attack a particular beast? I think not — most players' minds are set on the possible damage they could take, and this I suggest can be dangerously misleading.

EPT Monsters

I suspect mine is not the only dungeon to contain free adaptations of Empire of the Petal Throne (EPT) monsters so I have included some here. We need I = Insanity (qualifying for $M = 2A$) for the Hliir, H = Hypnosis ($M = 2A$) for the Marashyalu and E = Electrical Defence ($M = 2A$) for the Ruum. MC in the melee notation for the Ngayu is Metal Corrosion (no bonus since it doesn't affect the person).

Monster	AC	Hit Dice	Melee notation	D	A	M
Chnelh	7	1–1	1 : 100% 3½ : —	1.6	1.2	1.2
Kurgha	6	1	1 : 100% 2½ : —	2.5	1.6	1.6
Qol	2	1+1	2 : 100% 3½ : 100% 2½ : Po	6.1	9.1	18.2
Mrur	6	1+3	1 : 100% 3½ : R	4.2	3.6	5.4
Hlutrgu*	7	2	25% 1 : 100% 3½ : —			
			25% 2 : 2 x 100% 3½ : —			
			25% 3 : 3 x 100% 3½ : —			
			25% 4 : 4 x 100% 3½ : —	4.4	7.9	7.9
Shedra	6	2	1 : 100% 4½ : —	5	6.8	6.8
Huruu	7	2+3	1 : 100% 3½ : De	5.9	6.2	9.3
Hlyss (1st)	4	2	2 : 100% 3½ : 100% 4½ : Pa	6.7	16	32
Hlyss (2nd)	4	3	2 : 100% 3½ : 100% 4½ : Pa	10	32	64
Hlyss (3rd)	4	4+1	2 : 100% 3½ : 100% 4½ : Pa	14	50.7	101.4
Hlyss (4th)	4	5+1	2 : 100% 6½ : 100% 5½ : Pa	17.4	94	188
Hlyss (5th)	4	6+1	2 : 100% 6½ : 100% 5½ : Pa	20.7	112	224
Dlaqo	2	3	1 : 100% 3½ : —	15	21	21
	2	6	1 : 100% 6½ : —	30	87.8	87.8
	2	9	1 : 100% 12 : —	45	324	324
Muagh	8	3	1 : — : Ad	6	—	30
	8	6	1 : — : Ad	12	—	60
	8	15	1 : — : Ad	30	—	150
Shen	2	3	1 : 70% 4½ : 30% 10½ : —	15	37.8	37.8
Mnor	2	3+1	1 : 100% 3½ : —	16.1	22.6	22.6
Kavi	7	4	1 : 100% 7 : L	8.9	—	110
Ngayu	4	4	1 : 50% 3½ : 50% MC : —	13.3	21	21
Marashyalu	3	4	1 : 100% 9 : H	16	64.8	129.6
Biridlu	3	4+1	1 : — : Sm	16.9	—	120
Thunruu	4	5	1 : 100% 7 : —	16.7	52.5	52.5
Feshenga	4	5	1 : 100% 4½ : Po (25%)	16.7	33.8	50.7
Tsuruu	3	5+3	1 – 4 : 1 – 4 each 3½ : Ma	22.7	89.3	178.6
Zrne	5	6	1 : 100% 7 : PoMa	(17.1)	(54)	162
Aqaa	2	6	1 : 100% 10½ : Sw	30	142	284
	2	12	1 : 100% 10½ : Sw	60	284	568
	2	18	1 : 100% 10½ : Sw	90	426	852
Hra	4	7	1 : 100% 7 : LR	23.3	81.7	245.1
Hliir	2	8	1 : 100% 7 : I	40	140	280
Sagun	3	10	1 : 100% 10½ : Po	40	252	504
Ruum	2	11	2 : 100% 4½ : 100% 5 : E	55	366	732

* (The complex melee notation is due to the beasts' uncertainty whether to throw one, two, three or four darts at its opponent.)

So the set is virtually complete and I am left wondering what to do with all these results. Go out and stamp the appropriate Monstermark on each monster's anatomy? There are a few obvious omissions — the Titan and the Beholder for

instance — but when you think about their properties you will realise why I have ducked them. Further monsters can be added at will — and the method provides a useful check for 'designers' of new monsters. I wonder whether the bloke who devised the Roper, for instance, realised just what a fearsome beast he was putting out on the market.

Monster Level Tables

Greyhawk has not been completely discredited and there still remains discernable correlation between the Monstermarks and the Greyhawk monster level tables. But the correlation is sufficiently weak to suggest that the tables need revision. Nearly 200 monsters have been mentioned in this article, so if you want to include them all and yet retain a reasonable number in each monster level, I suggest Greyhawk's six levels be abandoned in favour of twelve new levels based on the Monstermarks. The ranges of **M** have been chosen so as to provide between 10 and 20 monsters on each level to make die-rolling easy. Some monsters are not included — the Rust Monster and the more-or-less static 'wanderers' such as Green Slime. Humans are also excluded (evil wizards, chaotic heroes and the like) though they too can be added. I have inserted a few more for which there is no Monstermark — the Titan, the Beholder and the Homunculus.

Here, then are my proposed monster level tables.

Level I M=0.1 to 6.0	Level II M=6.1 to 20.0	Level III M=20.1 to 40.0
1. Kobold	1. Wildcat	1. Ogre
2. Orc	2. Lizard Man (armed)	2. Centaur
3. Goblin	3. Lizard Man (unarmed)	3. Harpy
4. Gnoll	4. Bugbear	4. Blink Dog
5. Hobgoblin	5. Shadow	5. Gargoyle
6. Stirge	6. Ghoul	6. Giant Leech
7. Skeleton	7. Giant Fire Beetle	7. Giant Tick
8. Zombie	8. Giant Bombardier Beetle	8. Wererat (human form)
9. Giant Spider	9. Giant Toad	9. Gelatinous Cube
10. Chneln	10. Wererat (rat form)	10. Ochre Jelly
11. Kurgha	11. Qol	11. Hell Hound (3 dice)
12. Mrur	12. Hiutrgu	12. Hlyss (1st level)
	13. Shedra	13. Dlaqo (3 dice)
	14. Huruu	14. Muagh (3 dice)
		15. Shen
		16. Mnor
		17. Ngayu

Level IV M=40.1 to 72.0	Level V M=72.1 to 100.0	Level VI m=100.1 to 140.0
1. Su Monster	1. Lammasu	1. Hill Giant
2. Minotaur	2. Wraith	2. Griffon
3. Medusa	3. Giant Scorpion	3. Ogre Magi
4. Cockatrice	4. Giant Boring Beetle	4. Basilisk
5. Phase Spider	5. Wereboar	5. Lurker
6. Wight	6. Hell Hound (6 dice)	6. Mummy
7. Giant Wasp	7. Hell Hound (7 dice)	7. Giant Snake
8. Werewolf	8. Hydra (5 heads)	8. Carrion Crawler
9. Hell Hound (4-5 dice)	9. Spirit Naga (9 dice)	9. Hydra (6 heads)
10. Ice Phantom	10. Succubus	10. Djinn
11. Doppelganger	11. Homunculus	11. Spirit Naga (10 dice)
12. Water Naga	12. Dlaqo (6 dice)	12. Hlyss (3rd level)
13. Hlyss (2nd level)		13. Kayi
14. Muagh (6 dice)		14. Marashyalu
15. Thunruu		15. Bridlu
16. Feshenga		

Level VII M=140.1 to 200.0	Level VIII M=200.1 to 280.0	Level IX M=280.1 to 450.0
1. Stone Giant	1. Displacer Beast	1. Ent
2. Manticore	2. Couatl	2. Gorgon
3. Invisible Stalker	3. Mummy (fireproof)	3. Vampire
4. Owl Bear	4. Spectre	4. Werebear
5. Troll	5. Giant Slug	5. Black Dragon (7-8 dice)
6. Wyvern	6. Black Pudding	6. Green Dragon (7-8 dice)
7. Weretiger	7. Chimaera	7. Blue Dragon (8 dice)
8. White Dragon (5 dice)	8. White Dragon (6-7 dice)	8. Hydra (8 heads)
9. Tracker	9. Black Dragon (6 dice)	9. Guardian Naga
10. Salamander	10. Triton	10. Lich
11. Shedu	11. Hydra (7 heads)	11. Air Elemental (8 dice)
12. Water Elemental (on land — 8 dice)	12. Hlyss (5th level)	12. Water Elemental (on land — 12 dice)
13. Hlyss (4th level)	13. Aqaa (6 dice)	13. Dlaqo (9 dice)
14. Muagh (15 dice)	14. Hra	
15. Tsuruu	15. Hliir	
16. Zrne		

Level X M=450.1 to 800.0	Level XI M=800.1 to 2000.0	Level XII M=2000.1 up
1. Umber Hulk	1. Intellect Devourer	1. Roper (10-12 dice)
2. Fire Lizard	2. Red Dragon (11 dice)	2. Stone Golem
3. Green Dragon (9 dice)	3. Golden Dragon (11-12 dice)	3. Iron Golem
4. Blue Dragon (9-10 dice)	4. Hydra (11-12 heads)	4. Earth Elemental (16 dice)
5. Red Dragon (9-10 dice)	5. Shambling Mound (8-9 dice)	5. Demon I
6. Golden Dragon (10 dice)	6. Ghost	6. Demon II
7. Hydra (9-10 heads)	7. Flesh Golem	7. Demon III
8. Shambling Mound (6-7 dice)	8. Air Elemental (16 dice)	8. Demon IV
9. Mind Flayer	9. Fire Elemental (12-16 dice)	9. Demon VI
10. Efreet	10. Earth Elemental (12 dice)	10. Will O'Wisp
11. Purple Worm	11. Demon V	
12. Air Elemental (12 dice)	12. Titan	
13. Fire Elemental (8 dice)	13. Aqaa (18 dice)	
14. Earth Elemental (8 dice)	14. Water Elemental (in water — 12-16 dice)	
15. Beholder		
16. Aqaa (12 dice)		
17. Sagun		
18. Ruun		
19. Water Elemental (16 dice on land)		
20. Water Elemental (in water — 8 dice)		

A revised Monster Determination Table is probably necessary and one will be suggested next time, together with an examination of some other possible uses of the Monstermark, including how to determine experience points.
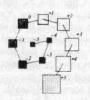
The Monstermark System

by Don Turnbull

This time it is probably best to start with a Monster Determination table since we now have twelve monster levels (*see White Dwarf 2*) as opposed to *Greyhawk's* six. To compose a new table isn't easy, however. Should it be impossible, or merely highly improbable, for a party to meet a Demon or a Golem on the first dungeon level? Should 'simple' monsters be banned from deeper dungeon levels, on the assumption that if they ever got down there by mistake they will long since have been chewed up by the inmates?

Monster Determination Table

Level Below Ground	Monster Level Table											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1–6	7–12	13–19	20								
2	1–3	4–8	9–13	14–17	18–19	20						
3	1	2–5	6–9	10–12	13–15	16–18	19	20				
4	1	2–4	5–7	8–10	11–13	14–16	17	18	19	20		
5	1	2	3–4	5–7	8–10	11–13	14–15	16	17	18	19	20
6,7		1	2	3–5	6–8	9–11	12–14	15–16	17	18	19	20
8,9			1	2–3	4–6	7–9	10–12	13–15	16–17	18	19	20
10–12				1	2–3	4–6	7–9	10–12	13–15	16–17	18–19	20
13+				1	2	3–4	5–7	8–10	11–13	14–16	17–18	19–20

Additionally, I believe the Monster Determination Table should not be viewed in isolation from the other parameters of a dungeon. A lot depends, for instance, on the dungeon's generosity or otherwise. One which swims in Gold Pieces should have harder monsters than one with little treasure otherwise balance will be lost. And how does a DM attempt to relate the general level of an exploring party (which he probably doesn't know when the dungeon is designed) with a 'fair' level of monster toughness? A party of first level characters venturing for the first time into a dungeon would not care to meet half a dozen Trolls, but the same party, a few adventures later and with a few thousand experience points and magical items under their belts, might relish Troll-bashing. Again, my own experience is that few parties will venture deep into a dungeon, no matter how strong they are, while they have reason to suspect reasonably rich pickings still remaining on level 1. Perhaps this is a good reason for limiting the number of rooms on the easier levels.

To compose a new table is therefore rather more complicated than it might at first appear, and before doing so a DM will have to reconcile quite a lot of subjective judgements. He may, of course, merely combine my suggested monster levels (so that level 1 and level 2 monsters would be in level 1, level 3 and level 4 monsters would comprise level 2 etc.) and use the table in volume III of the rules (page 10).

Experience Points

However, a second practical use of the Monstermark is to determine the experience points which should be awarded for slaying a particular beast. Although it has been said by quite a few D&D addicts that the Greyhawk system of experience points, which is based on monsters' hit dice, is too stingy I don't think this is something which can be considered in isolation. Overall, the DM has to decide how generous or stingy his dungeon should be and the number of experience points available per level is not a bad measure. However, there are drawbacks which include the following at least:—
(a) the number of features (rooms etc) wherein experience can be gained will vary from level to level and from dungeon to dungeon; if the overall experience points total is to be the same in all cases, those dungeons whose first level contains a large number of rooms, like mine, would be populated

exclusively with weak beasts, and that's no fun, particularly for the DM who never gets to see anyone killed.
(b) DMs award experience points for different things — some award them only for gold and for monster-slaying; others add the use of spells and success in turning away Undead, while still others (I understand) award experience to a character for finding a magic sword, wand or other device/artifact. Amongst the players who regularly penetrate the Greenlands Dungeon is one who persistently claims that his successful mapping, which allows the party to get out alive (only every so often) should be rewarded with experience points — and he has a case, though he knows damned well I will never concede it.
(c) DMs are — and in my opinion should be — apparently inconsistent in handing out experience points. If a party meets and kills a single Hobgoblin, gaining X experience points for doing so, should they get 10X points for killing 10 Hobgoblins? 50X for killing 50 of the things? I doubt it — the risk taken does not bear a linear relationship to the number of monsters; killing a single mewling, puking, scared-stiff Hobgoblin is not only an act of cowardice and uncharitable to boot, it also carries virtually no risk for any party. How to allow for this factor is, however, quite another matter and I have ignored it in the analysis which follows. Yet another aspect in which contributions from readers would be welcome.

We are therefore in a morass of subjective judgements from which there seems little hope of escape (now we're back to the Greenlands Dungeon again). In the final analysis it is the DM who must reconcile these judgements in his own mind when designing his masterpiece and the proof of the pudding will, as usual, only emerge after the damned thing is eaten and it's too late to change it. DMs must start their task secure in the knowledge that a generous dungeon leads rapidly to boredom; to 'own' a 38th level fighter (which an acquaintance of mine actually claims to do) is cold comfort when no self-respecting DM will let him enter another dungeon. Contrariwise, the designer of a harsh and stingy dungeon can't expect to keep his friends for long — and it must be a very lonely job designing dungeons which no-one will enter.

Inevitably it will be difficult, particularly for an inexperienced DM, to avoid these extremes, in which case the only hope is to be sensitive in the course of play itself, varying treasure and number of monsters to try to counter-balance whichever extreme seems to be inherent in the dungeon's design. The looks on the players' faces will give sufficient guidance.

When I first started this racket, my dungeon was too hard but I kept rigidly to the pre-prepared plans. The result was the death of a number of well-beloved characters and the near-ostracism of my dungeon. More recently, I have designed with the original fault in mind and have tried to correct it; sometimes I have failed and it emerges as too tough, while at others it emerges that I have over-reacted towards the simple extreme. So let me nail my colours to the mast — when engaged in the happy art of DMing, I unashamedly bend things quite regularly nowadays to try to preserve my sense of the balance. Whether I have succeeded or not I don't know, but at least players still want to penetrate — and occasionally don't seem to mind perishing in — the Greenlands Dungeon. I have avoided the strong temptation to conduct a secret vendetta against any particular character; mind you, if I ever get my hands on that sod Witherspoon. . . .

All this may sound like heresy, but I believe flexibility and sensitivity are the most important qualities of a good DM. After all, the main purpose of playing the game is to enjoy it, for good or for ill — players can't do this if they have to spend

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time perpetually rolling new characters to replace the bodies littering the upper levels, nor can it be particularly enjoyable to own a 132nd level fighter who needs a fleet of lorries to carry all his goodies, who employs a full-time librarian to store and catalogue them and to whom slaying an Iron Golem at every turn is merely passing the time of day.

So, circuitously, back to experience points. In my view they are intended to reflect *risk*. A character gets experience for meleeing with a monster because there is a finite, non-zero, risk that he will be killed or at least suffer wounds which could contribute to his eventual death. He gets experience for gold because he has taken risks in order to grab it. He gets experience for surviving traps, magical attacks and the ceiling falling on him. He should not, however, get experience for finding a magic sword or that seven-spell scroll since these things will assist him in getting experience by other means. He should get experience for being kissed by a Succubus or charmed by a Harpy, but thrashing around in the straw in room 47 with the Priestess should be rewarded, not with experience points, but with the loss of 2 − 5 strength points (depending on the Priestess) and an utter shattering of constitution for the rest of the day.

Since the whole purpose of the Monstermark is to measure the risk inherent in tackling a particular monster, experience points should bear a linear relationship to **M**. But there is a difficulty, no matter how you have resolved the various subjective problems I mentioned earlier. If there was a 1:1 relationship between experience points and **M** values, killing a Kobold would earn a mere 1.1 points — not worth the effort — while slaughtering an Iron Golem would earn nearly 33,000. Granted there are only two monsters with five-figure values of **M** and precious few with **M** in excess of 2,000 so that extreme might be tolerable, but the lower extreme end of the scale is quite ludicrous.

At the least, killing a Kobold should be worth 5 or 10 experience points, otherwise no-one will ever be promoted.

Men & Magic suggests, with a good deal of justification, that experience points awarded should vary according to the level of the character. If a first level fighter performed an act in the dungeon's first level which earned 100 experience points, the same act performed by a 5th level fighter in the dungeon's 4th level would earn 4/5 x 100 = 80 points. This seems very sensible, though I don't see why a 4th level fighter in the dungeon's 5th level should not get 5/4 x 100 = 125 points for the same act (Men & Magic rules that ratios greater than 1:1 are not permitted and would award 100 points only in the latter example). To select the dungeon's level as a modifier seems to me inappropriate, and this is recognised by the Greyhawk system. Now we have **M** which is an ideal modifier, and I can suggest the basic rule:

Experience points awarded are proportional to

> the Monstermark **M**
> character's level

The constant of proportionality must be devised so as to reconcile the various subjective judgements I mentioned earlier, and for simplicity **M** should be rounded up to the next highest multiple of 5 before entering the calculation.

For the sake of some examples, let the constant of proportionality be 10, so

$$\text{Experience points} = \frac{10M}{\text{character's level}}$$

with **M** rounded up. In all examples I will assume that total experience points gained are divided equally between all the characters actively participating.

Example 1

A lone 2nd level fighter happens upon three Goblins and kills them. Since **M** = 2.3 for a goblin, this is rounded up to 5 and the total experience is 3 x 5 x 10 = 150. Since he is

second level he gets 150/2 = 75 points for this heartless act.

Example 2

A party happens to slay a Manticore with the loss of a bit of life. Discounting those killed, three fighters (two 3rd level, one 4th), a 3rd level cleric and a 5th level MU actually participated in the scrap. **M** = 145 for a Manticore so the total experience available is 1450 (Greyhawk would say 650). Since five characters are involved they share out equally — basic 290 points each.

The third level fighters and the cleric would each get 290/3 = 96.7. Say 100.

The fourth level fighter would get 290/4 = 72.5. Say 75.

The fifth level MU would get 290/5 = 58. Say 60.

(Again, rounding up the resulting experience points for each character to the next multiple of 5 keeps the arithmetic tidy).

Example 3

A large party emerges triumphant from a melee — a complex business involving four Giant Snakes and Two Giant Scorpions. Survivors who actively participated in the melee were five fighters (two 4th level, two 3rd level and a foolhardy 1st level who couldn't find the door), two clerics (one 5th, one 2nd level) and a 3rd level MU.

M = 102 for the Snakes so the experience available is 105 x 4 x 10 = 4,200.

M = 78 for the Scorpions so the experience available is 80 x 2 x 10 = 1,600.

Total experience available is 5,800 (Greyhawk would say 600), shared equally between eight characters which means 725 each in basic terms.

The two fourth level fighters each get 725/4 = 181.25 or 185.

The three third level characters each get 725/3 = 241.7 or 245.

The second level cleric gets 725/2 = 362.5 or 365.

The first level fighter gets 725 — lucky dog!

The fifth level cleric has to be content with 725/5 = 145.

Example 4

A lone 8th level fighter, cut off from his mates in an unexplored part of the dank fifth dungeon level, luckily kills a Shambling Mound of 7 dice. **M** for this beast is 770 so he gets 770 x 10/8 = 962.5 or 965 points. Mind you, how he survived the 385 hits the thing would on average hand out is quite another matter; let's say he was clad in a Centurion tank.

(One disadvantage of this system is that the strong and high-level characters subsidise the weak and low-level; they may wish to do this, of course, but if they don't they could, for instance, agree to divide the total experience points in proportion to the level of the character in the first place).

Off-hand I would say this is not far off the mark — the results don't seem particularly generous or particularly stingy. The fighter in example 1 would need to repeat his encounter 27 times to gain promotion to third level, while our friend in the Centurion, to attain 9th level, would need to find another 124 Shambling Mounds! This may seem too many, but remember he should be picking up a fortune in GP on the fifth level and every 965 GP he finds means one fewer Shambling Mound to tackle. In that light, a factor of 10 may be too generous (and from my limited experience of the system I should say it is). If you regard the factor of 10 as too high or too low, which depends on the standard you have set in your dungeon, it is a simple matter to vary it to suit your taste. My own dungeon uses a factor of . . . ah, that would be telling.

Wandering Monsters

Another use of **M** is to give guidance on the number of wandering monsters which should appear against a party of a particular size and strength. I assume that other DMs agree with me that wanderers should present a party with just as great a threat as treasure-guardians — I don't think their

presence is worthwhile if they are only there to boost experience and help the party limber up. It is an easy business to calculate the average number of hits a party can take, as the following example shows.

Example

A party consisting of four fighters (one 2nd, one 3rd and two 5ths), three clerics (one 1st, two 4ths) and three MUs (one 2nd, two 3rds) meets some wandering Bugbears. How many Bugbears should be arranged if the encounter is
(a) to be fatal to the entire party?
(b) to reduce the party by half their hits?
(c) to reduce the party's hits by two hits per character?

Assume no magic weapons, armour or spells, and don't allow either side to run away.

First, the average hits of the party:
Two 5th level fighters (5 dice +1) have average hits
$2 \times (5 \times 9/2 + 1) = 47$.
One 3rd level fighter (3 dice) has average hits
$3 \times 9/2 = 13\frac{1}{2}$
One 2nd level fighter (2 dice) has average hits
$2 \times 9/2 = 9$
Two 4th level clerics (4 6-sided dice) have average hits
$2 \times 4 \times 7/2 = 28$
One 1st level cleric (1 6-sided die) has average hits
$7/2 = 3\frac{1}{2}$
Two 3rd level MUs (2 4-sided dice) have average hits
$2 \times 2 \times 5/2 = 10$
One 2nd level MU (1 4-sided die + 1) has average hits
$5/2 + 1 = 3\frac{1}{2}$
Total average hits for the party = $114\frac{1}{2}$.

(a) **M** for the Bugbear is 18.4 so we need $\frac{114.5}{18.4} = 6.22$ to deliver the right number of hits. So 7 of them are likely to slaughter the party.
(b) To deliver half hits we need half the number or 3.11. 3 Bugbears will probably do the trick.
(c) To deliver 2 hits per character requires 20 hits so we need $\frac{20}{18.4} = 1.1$ Bugbears and a single wanderer nearly meets this condition.

Not only is this method tedious — who would expect a DM to cower behind his screen for long enough to work out that lot? — but it is also wildly approximate, for one reason because it disallows the use of magic in any form. A single Sleep spell for instance would upset all the arithmetic and it's hard to believe no magic swords or whatnot. In any case, a party which had no magic use at all would be pardoned for hastily seeking the nearest exit if they happened to meet 7 Bugbears.

So this method can give a very rough guide, at best, and I suppose it may be of limited use to designers who plot out their wanderers before the game. I have found it useful to roll for the wanderers and their hits when planning the dungeon (in other words to pre-plan the wanderers, though not their locations, in the same detail as the guardians of treasure). This saves a lot of time when that 6 appears, but is risky in that a large party of wanderers could happen to appear just when a much-battered and depleted group of adventurers had deservedly reached the exit stairs. Again, intuition and flexibility are the best guides — in such a case, reduce the number of wanderers on the spot; if the players find out you are bending your own rules, I hardly think they will complain.

Monsters and Treasure

Finally, another possible use for **M** but one which I don't intend to pursue. This is to regulate monsters and treasure so that a monster with high **M** always guards a rich hoard while a low **M** monster guards the peanuts. Frankly, I don't think such a constraint adds to the game and may even detract from its enjoyment. There seems to be no reason why a couple of Orcs shouldn't be left guarding 5,000 GPs — they may simply be short of Orcs willing to undertake the unsocial hours of guard-duty, and look at the pleasant surprise the party will get. On the other hand, most DMs have a grisly sense of humour and stationing a regiment of Ogres to guard a couple of hundred silver pieces may well appeal to it (again, the Ogre economy might be based on silver since they hate the sight of gold and its touch brings them out in spots). Nor do I think a DM should give such obvious clues as to the location of his richest treasure. So I do not intend to investigate this idea further, but anyone wanting to do so can profitably pursue the method already derived for experience points.

With that, I think we have now covered the obvious uses of the Monstermark, but if readers derive other applications I would be interested to learn about them. It has been a very long haul, but I hope you will think it worth the effort.