

The Angband Manual



Table of Contents

1	General information	1
2	Creating a Character	6
3	Exploring the Dungeon	15
4	Attacking monsters	24
5	Playing the Game	34
6	Command Descriptions	41
7	Option Descriptions	52
8	Customising the game	57
9	Debug Command Descriptions	61
10	Version Information	63
11	Credits	71

1 General information

1.1 Using the Online Help

You can press Escape ('ESC') at any time to leave the online help.

You can press Space to advance one page, Plus ('+') to advance one half page, or Return to advance one line. If you reach the end, you will jump back to the start. You can press Minus ('-') to back up one half page, Underscore ('_') to back up one page, or Equal ('=') to back up one line. If you reach the start, you will stay there. Advancing by one page is the most efficient method.

You can press Hash ('#') [or Percent ('%')] to go to a specific line [or file].

You can press Slash ('/') [or Ampersand ('&')] to search for [or highlight] a string. This is case-insensitive by default, but Pling ('!') toggles it to case-sensitive. Use '#', '0', 'Return', '/', Return to restart a search from the top of the file.

Please press Space to view the rest of this file...

1.2 General Information

Angband is basically a complex single player dungeon simulation. A player creates a character, choosing from a variety of races and classes, and then plays that character over a period of days, weeks, even months.

The player will begin his adventure on the town level where he may acquire supplies, weapons, armor, and magical devices by buying from various shop owners. Then the player can descend into the Pits of Angband, where he will explore the many levels of the dungeon, gaining experience by killing fierce creatures, collecting powerful objects and valuable treasure, and returning to town occasionally to buy and sell supplies. Eventually, as the player grows more experienced, he may attempt to win the game by defeating Morgoth, the Lord of Darkness, who resides far below the surface.

Note that Angband is a very complex game, and it may be difficult to grasp everything at first, especially if you have never played a "roguelike" game before. You should probably browse through all of the "online help files", especially this one, before beginning any serious adventuring...

1.3 About the game

Angband has been maintained by a succession of volunteers since it was written in the early 1990s. The most recent maintainer is Andi Sidwell.

Angband will run on a wide variety of systems (including Unix, Macintosh, Windows). It is written in C, and the source code is freely available. Creating a version for a new platform involves writing as few as 100 lines of code and recompiling.

See the Official Angband Home Page at <http://rephial.org/> for up to date information about the latest version of Angband, including a complete list of recent modifications and a wiki about the game which includes a full user guide.

You can post compliments, complaints, suggestions, bug reports, and patches at <http://angband.oook.cz>, or to the newsgroup 'rec.games.roguelike.angband'. You can also post interesting experiences and ask for help.

This version of Angband is under the GNU General Public Licence (GPL) version 2. A copy of this licence is included with the game, in the file copying.txt.

If you're interested in the development of the game, the public bug tracker and development road map are at <http://trac.rephial.org>.

The basic help files supplied with this game are more or less up to date, but when in doubt, you should ask the newsgroup or the forum for confirmation.

Note that spoiler files are not distributed with the source since they may spoil the game for new players (hence their name). If you want to use them, you can obtain them from various places as with the source and executables. Spoiler files may be placed into the "lib/info" directory, or into a user specified external directory, to allow access via the "online help" system.

Remember to tell all your friends about how much you like Angband...

1.4 A quick demonstration

Angband is, as mentioned above, a very complex game, so you may want to try the following quick demonstration. The following instructions are for demonstration purposes only, and so they are intentionally boring.

For this demo, we will assume that you have never played Angband before, that you have not requested any special "sub-windows", that you have not requested any special "graphics" modes, that you have a "numeric keypad" on your computer, and that you are using the default options, including, in particular, the "original" command set. If any of these assumptions are incorrect, you will need to keep in mind that this demo may not work. There are many ways to view this file while playing, in particular, you should be able to view it using the "online help" built into the game.

Any time you see the '-more-' prompt, read the message and press space. This takes precedence over any other instructions. At any other prompt, for example, if you accidentally hit a key, you can normally "cancel" the action in progress by pressing escape.

When the game starts up, depending on what platform you are using, you may be taken directly to the character creation screen, or you may have to ask to create a new character by using the File menu. In either case, you will be shown the character information screen, and you will be given a series of choices. For this demo, press 'a' four times to elect a "female human warrior" character with the point-based stat allocation system. You will now be presented with a description of your character. Look over the description briefly, there is a lot of information here, and most of it will not make any sense. Press enter three times and your character will be placed into the "town".

You should now be looking at the basic dungeon interaction screen. To the left is some information about your character. To the right is an overhead view of the town. Nothing happens in Angband while the game is waiting for you to specify a command, so take a good look at the town. You will see a variety of symbols on the screen. Each symbol normally represents a terrain feature, an object, or a monster. The '@' symbol is special, it represents your character. You can use the '/' command to find out what a given symbol represents. Press "/" then '@' now to verify the meaning of the '@' symbol.

The solid blocks (which may be '#' symbols on some systems) around the edge of the town represent the walls that surround the town. You cannot leave the town above ground, although some games derived from Angband (called "variants") have an overground element.

The large rectangles represent stores. The "numeric" symbols represent an "entrance" to a store. The '.' symbols represent the "floor". It is currently daytime, so most of the town should consist of stores and illuminated floor grids.

Any "alphabetic" symbols always represent monsters, where the word "monsters" specifies a wide variety of entities, including people, animals, plants, etc. Only a few "races" of monsters normally appear in town, and most of them are harmless (avoid any mercenaries or veterans if you see them). The most common "monsters" in town are small animals (cats and dogs) and townspeople (merchants, mercenaries, miscreants, etc).

Now use the 'l' command to "look" around. This will cause the cursor to be moved onto each "interesting" square, one at a time, giving you a description of that square. The cursor always starts on the square containing your character. In this case, you will see a message telling you that your character is standing on a staircase. Keep pressing space until the prompt goes away.

Now press 'i', to display your character's "inventory". New characters start out with some objects to help them survive (though there is an option to start with more money instead). Your character will have some food, a potion, some torches, and a scroll. Press 'e' to see what you are wearing. You will find you are wearing armour on your body, wielding a broad sword and lighting the way with a torch. You have many other equipment slots but they are all currently empty.

Press 't' to take something off. Note that the equipment listing is reduced to those objects which can actually be taken off. Press 'g' to take off the armour, and then press 'e' again. Note that the armour is no longer shown in the equipment. Press escape. Press 'w' to wield something and observe that the inventory listing is reduced to those objects which can actually be wielded or worn, press 'e' to put the armour back on.

Monsters can only move after you use a command which takes "energy" from your character. So far, you have used the 'w' and 't' commands, which take energy, and the 'e', 'i', 'l', and '/' commands, which are "free" commands, and so do not take any energy. In general, the only commands which take energy are the ones which require your character to perform some action in the world of the game, such as moving around, attacking monsters, and interacting with objects.

If there were any monsters near your character while you were experimenting with the 'w' and 't' commands, you may have seen them "move" or even "attack" your character. Although unlikely, it is even possible that your character has already been killed. This is the only way to lose the game. So if you have already lost, simply exit the game and restart this demo.

One of the most important things that your character can do is move around. Use the numeric keys on the keypad to make your character move around. The '4', '6', '8', and '2' keys move your character west, east, north, and south, and the '7', '9', '1' and '3' keys move your character diagonally. When your character first moves, observe the '>' symbol that is left behind. This is the "staircase" that she was standing on earlier in the demo - it is the entrance to the dungeon.

Attempting to stay away from monsters, try and move your character towards the entrance to the "general store", which is represented as a 'l' on the screen. As your character moves around, use the 'l' command to look around. You can press escape at any time to cancel the looking. If you die, start over.

One of the hardest things for people to get used to, when playing games of this nature for the first time, is that the character is not the same as the player. The player presses keys, and looks at a computer screen, while the character performs complex actions, and interacts with a virtual

world. The player decides what the character should do, and tells her to do it, and the character then performs the actions. These actions may induce some changes in the virtual world. Some of these changes may be apparent to the character, and information about the changes is then made available to the player by a variety of methods, including messages, character state changes, or visual changes to the screen. Some changes may only be apparent to the player.

There are also a whole set of things that the player can do that can not even be described in the virtual world inhabited by the character, such as resize windows, read online help files, modify colormaps, or change options. Some of these things may even affect the character in abstract ways, for example, the player can request that from now on all monsters know exactly where the character is at all times. Likewise, there are some things that the character does on a regular basis that the player may not even consider, such as digesting food, or searching for traps while walking down a hallway.

To make matters worse, as you get used to the difference between the player and the character, it becomes so "obvious" that you start to ignore it. At that point, you find yourself merging the player and the character in your mind, and you find yourself saying things like "So yesterday, I was at my friend's house, and I stayed up late playing Angband, and I was attacked by some wild dogs, and I got killed by a demon, but I made it to the high score list", in which the pronoun changes back and forth from the real world to the virtual one several times in the same sentence. So, from this point on you may have to separate the player and the character for yourself.

So anyway, keep walking towards the entrance to the general store until you actually walk into it. At this point, the screen should change to the store interaction screen. You will see the name of the shop-keeper, and the name of the shop, and a list of objects which are available. If there are more than twelve different objects, you can use the space or arrow keys to scroll the list of objects. The general store is the only store with a fixed inventory, although the amount of various items may vary. One of the items sold here are flasks of oil. Press 'down' to highlight the line with flasks of oil and press the 'p' key to purchase some. If you are asked how many you want, just hit enter. Any time you are asked a question and there is already something under the cursor, pressing return will accept that choice. Hit enter to accept the price. Many commands work inside the store, for example, use the 'i' command to see your inventory, with the new flask of oil. Note that your inventory is always kept sorted in a semi-logical order, so the indexes of some of the objects may change as your inventory changes.

Purchase a few more flasks of oil, if possible: this time, when asked how many you want, press '3' then return to buy three flasks at once. Flasks of oil are very important for low level characters, because not only can they be used to fuel a lantern (when you find one), but also they can be ignited and thrown at monsters from a distance. So it is often a good idea to have a few extra flasks of oil. Press escape to leave the store. If you want, take time to visit the rest of the stores. One of the buildings, marked with an '8', is your "home", and is not a real store. You can drop things off at home and they will stay there until you return to pick them up. The interface is exactly the same as a store, but there is no payment.

Now move to the staircase, represented by the '>' symbol, and press '>', to go down the stairs. At this point, you are in the dungeon. Use the 'l' command to look around. Note that you are standing on a staircase leading back to town. Use the '<' command to take the stairs back to town. You may find that any townspeople that were here before have disappeared and new ones have appeared instead. Now use the '>' command to go back down the stairs into the dungeon. You

are now in a different part of the dungeon than you were in before. The dungeon is so huge, once you leave one part of the dungeon, you will never find it again.

Now look the screen. Your character may be in a lit room, represented as a large rectangle of illuminated floor grids ('.'), surrounded by walls. If you are not in a lit room, keep going back up to the town and back down into the dungeon until you are. Now look around. You may see some closed doors ('+') or some open doors ('') or some open exits ('.') in the walls which surround the room. If you do not, keep playing the stairway game until you are in such a room. This will keep the demo simple.

Now look around using the 'l' command. You may see some monsters and/or some objects in the room with you. You may see some stairs up ('<') or some stairs down ('>'). If you see any monsters, move up next to the monster, using the movement keys, and then try and move into the monster. This will cause you to attack the monster. Keep moving into the monster until you kill the monster, or it runs away, or you die. If you die, start a new game. If the monster runs away, ignore it, or chase it, but do not leave the room. Once all the monsters in the room are dead or gone, walk on top of any objects in the room. Press 'g' to get the object, and it will be added to your inventory. If there are any closed doors ('+') in the room walk up next to them and press 'o' and then the direction key which would move you into the door, which should attempt to "open" the door.

Now use the movement keys to explore the dungeon. As you leave the room, you will probably notice that your character cannot see nearly as far as she could in the room. Also, you will notice that as she moves around, the screen keeps displaying some of the grids that your character has seen. Think of this as a kind of "map" superimposed on the world itself, the player can see the entire map, but the character can only see those parts of the world which are actually nearby. If the character gets near the edge of the "map" portion of the screen the entire map will scroll to show a new portion of the world. Only about ten percent of the dungeon level can be seen by the player at one time, but you can use the 'L' command to look at other pieces of the map. Use the '.' key, then a direction, to "run" through the dungeon. Use the 'R' key, then return, to force your character to "rest" until she has recovered from any damage she incurs while attacking monsters. Use the 'M' key to see the entire dungeon level at once, and hit escape when done. If your food rations are still at index 'a' in your inventory, press 'E', 'a' to eat some food. If your oil is still at index 'b' in your inventory, and there is a monster nearby, press 'v', 'b', '' to throw a flask of oil at the nearest monster. To drop an item from your inventory, press 'd' plus the index of that item. You can use the '^X' key to quit and save the game.

You now know enough to play a quick game of Angband. There is a lot more for you to learn, including how to interpret information about your character, how to create different kinds of characters, how to determine which equipment to wield/wear, how to use various kinds of objects, and how to use the more than fifty different commands available to your character. The best resource for learning these things is the online help, which include, among other things, a complete list of all commands available to you, and a list of all the symbols which you may encounter in the dungeon, and information about creating new characters.

2 Creating a Character

Angband is a roleplaying game, in which you, the player, control a character in the world of Angband. Perhaps the most important thing you control is the birth of your character, in which you choose or allow to be chosen various attributes that will affect the future life of your character.

At the character creation screen you will be prompted to select the sex, race and class of your character. You also have the option to change the 'birth options' at this time. These need to be set at the character creation menu and cannot be altered later in the game. They are discussed with the rest of the options in the "options" help file.

2.1 Character Characteristics

Each character has three primary attributes: sex, race, and class. These are chosen at the beginning and which will stay fixed for the entire life of that character. The sex of your character is purely for flavour, but the race and class have many effects which are discussed in detail below.

Each character has a few secondary attributes: height, weight, social class, and background history. These are randomly determined, but are affected by the sex and race of the character. In general, these attributes are only used to provide flavour to the character, to assist in the role playing, but they do have a few minor effects on the game. For example, background history affects social class, which affects the starting money. (Not a lot, in the case of some races: for instance, Half-Trolls are always going to be the scum of society, even if their father was the Clan Chief.)

Each character also has five primary "stats": strength, intelligence, wisdom, dexterity, and constitution; they modify the abilities of the character in a variety of ways. Every stat has a numerical value, ranging from a minimum of 3, up to a normal maximum of 18, and even higher, into the "percentile" range, represented as '18/01' through '18/100': this is the maximum that can be achieved intrinsically, for any given stat. These stats can be modified further by equipment, race and class bonuses up to a maximum of '18/220'.

Each character also has several primary "skills": disarming, magic devices, saving throws, stealth, searching ability, searching frequency, fighting skill, and shooting skill, which are derived from the character's race, class, level, stats, and current equipment. These skills have rather obvious effects, but will be described more completely below.

Each character may have one or more "racially intrinsic skills", based on the race of the character. These may include special resistances, or abilities such as infravision.

Each character has a number of "experience points", which increases as the character defeats monsters and attempts new spells and uses new items. Characters also have a level, which is based on experience. The amount of experience required to gain a new level is dependent on the character race and class. Races and classes with more intrinsic benefits require more experience to gain levels. As the experience rises, so does the level, and as the level rises, certain other abilities and characteristics rise as well. All characters start at 0 experience and at the first level.

Each character has some gold, which can be used to buy items from the shops in the town, and which can be obtained not only from selling items to the shops, but also by taking it from dead monsters and by finding it in the dungeon. Each character starts out with some gold, the amount of which is based on the character's social class (higher is better) and stats (less powerful

characters start with more gold). Each character also starts out with a few useful items, which may be kept, or sold to a shop-keeper for more gold. However, especially valuable items will never sell for the full price, as each shopkeeper has a maximum that he is prepared to pay for any item. The more generous shopkeepers may buy your items for up to 30,000 gold pieces: but some are really stingy, and will pay no more than 5,000.

Each character has an "armour class", abbreviated to AC, representing how well the character can avoid damage. The armour class is affected by dexterity and equipment, so the concept includes both avoiding blows and being able to take blows without being hurt. Armour class on equipment is always denoted in square brackets, usually as a figure of '[X,+Y]' where X is the intrinsic AC of the armour in question, and Y is the magical bonus to armour class provided by that item.

Each character has "hit points", or hp, representing how much damage the character can sustain before he dies. How many hit points a character has is determined by race, class, level and constitution, as follows: each race has a basic "hit dice" number - for instance, a Dwarf's basic hit die is 11, while a hobbit's is 7. This is modified by class: for instance, a warrior gets a +9 bonus to the hit die, while a mage gets no bonus and a priest +2, so a dwarven warrior's total hit die will be $(11+9)=20$ - meaning that he gets between 1 and 20 hit points per level. If he were a priest, his hit dice would be $(11+2)=13$, and get between 1 and 13 hit points per level. The hobbit mage would get only 1-7 hps per level. (All characters get the maximum at first level: thereafter it is a random roll of 1dX where X is the hit die number, when the character goes up in level.) This is further modified by constitution - a character with high constitution will get a flat bonus of a certain number of hit points per level (recalculated right back to level 1: if you gain an extra hit point per level, and you are 42nd level, you will suddenly be 42 hit points better off.)

Each character has spell points, or mana, which limits how many spells (or prayers) a character can cast (or pray). The maximum number of spell points is derived from your class, level, and intelligence (for spells) or wisdom (for prayers), and you can never have more spell points than the maximum. Spell points may be regained by resting, or by magical means. Warriors never have any spell points. If a character gains enough wisdom or intelligence to get more spell points, the result is calculated right back to first level, just as with constitution and hit points.

Lastly, each character has a base speed. Speed determines the amount of "energy" your character acquires in the game, and therefore how often you can take actions which use up energy (like moving or attacking). All beginning characters move at normal speed and the only way to increase speed is by magical means and equipment bonuses. Characters who are carrying too much weight will move more slowly. Extra speed is one of the most important boons in the game and therefore one of the rarest and most sought after.

2.2 Races

There are eleven different races that you can choose to play in Angband. Each race has its own adjustments to a character's stats and abilities. Most races also have intrinsic abilities. The bonuses to statistics and the experience penalty will be displayed next to the races as you move to select one.

Human The human is the base character. All other races are compared to them. Humans are

average at everything and tend to go up levels faster than any other race due to their shorter life spans. No racial adjustments or intrinsics occur to human characters. Humans do not have any infravision.

Half-Elf Half-elves tend to be smarter and faster than a human, but not as wise or strong. Half-elves are slightly better at magic, disarming, saving throws, stealth, archery and searching, but they are not as good at hand-to-hand combat. Half-elves are immune to dexterity draining, and have weak infravision.

Elf Elves are better magicians than humans, but not as good at fighting. They tend to be smarter and faster than humans, though not as wise or strong. Elves are better at searching, disarming, perception, stealth, archery and magic, but they are not as good at hand-to-hand combat. They are resistant to attacks involving bright light, are immune to dexterity draining, and have fair infravision.

Hobbit Hobbits, or Halflings, are very good at shooting, throwing, and have good saving throws. They also are very good at searching, disarming, perception, and stealth; so they make excellent rogues, but prefer to be called burglars. They will be much weaker than humans, and not good at melee fighting. Halflings have fair infravision. They have a strong hold on their life force, and are thus resistant to life draining. Hobbits are very partial to mushrooms and can identify them when found.

Gnome Gnomes are smaller than dwarves but larger than halflings. They, like the halflings, live in the earth in burrow-like homes. Gnomes make excellent mages, and have very good saving throws. They are good at searching, disarming, perception, and stealth. They have lower strength than humans so they are not very good at fighting with hand weapons. Gnomes have good infravision. Gnomes are intrinsically protected against paralysis and some slowing effects. Gnomes are excellent at using wands and staves and can identify them when found.

Dwarf Dwarves are the headstrong miners and fighters of legend. Since dungeons are the natural home of a dwarf, they are excellent choices for a warrior or priest - or indeed, that combination of the two, the paladin. Dwarves tend to be stronger and tougher but slower and less intelligent than humans. Because they are so headstrong and are somewhat wise, they resist spells which are cast on them. Dwarves also have excellent infravision. They can never be blinded. Dwarves are excellent at digging, and can sense nearby buried treasure. They have one big drawback, though. Dwarves are loudmouthed and proud, singing in loud voices, arguing with themselves for no good reason, screaming out challenges at imagined foes. In other words, dwarves have a miserable stealth.

Half-Orc Half-Orcs make excellent warriors and decent priests, but are terrible at magic. They are as bad as dwarves at stealth, and horrible at searching, disarming, and perception. Half-Orcs are, let's face it, ugly. They tend to pay more for goods in town. Half-Orcs do make good warriors and rogues, for the simple reason that Half-Orcs tend to have great constitution and lots of hit points. Because of their preference to living underground to on the surface, half-orcs resist darkness attacks. They have fair infravision.

Half-Troll Half-Trolls are incredibly strong, and have more hit points than any other character race. They are also very stupid and slow. They will make great warriors and iffy priests. They are bad at searching, disarming, perception, and stealth. They are so ugly that a Half-Orc grimaces in their presence. Half-trolls always have their strength sustained, and they regenerate quickly like other trolls. Unfortunately, this regeneration also requires them to eat more food than other races. They have fair infravision.

Dunadan Dunedain are a race of hardy men from the West. This elder race surpasses human abilities in every field, especially constitution. However, being men of the world, very little is new to them, and levels are very hard to gain... their hardiness ensures that their constitution cannot be reduced. They have no infravision.

High-Elf High-Elves are descended from those among the Elves who heard and answered the call from the Valar at the very beginning of time, before the sun and moon were made, and lived in the Blessed Realm for many thousands of years before returning to mortal lands. Because of this, they are far superior in terms of abilities when compared to their lesser Elven kindred. They can also see into the invisible world of ghosts and wraiths. However, they find new experience even harder to come by than Dunedain. Like normal Elves, they resist attacks involving bright light. They have good infravision and can even see cold-blooded invisible creatures.

Kobold Kobolds are a race of small dog-headed humanoids that dwell underground. They have excellent infravision, and are intrinsically resistant to poisons of all kinds. They have a good dexterity and constitution. However, they are weaker than humans, and also not noted for great intelligence. Furthermore, they are ugly, and not trusted in town. And while their constitution makes them tough, it still cannot prevent the fact that they are not the biggest of creatures, and have few hit points.

2.3 Classes

Once a race has been chosen, you will need to pick a class. The class is the character's occupation and determines stat bonuses, abilities, hit dice, and what spells (if any) the character can learn.

Warrior A Warrior is a hack-and-slash character, who solves most of his problems by cutting them to pieces, but will occasionally fall back on the help of a magical device. His prime stats are strength, constitution, and dexterity, and he will strike more blows with melee weapons than any other class. A Warrior will be excellent at fighting, shooting and throwing, but bad at most other skills. A warrior has bad stealth and cannot learn any spells.

Mage A Mage must live by his wits. He cannot hope to simply hack his way through the dungeon, and so must therefore use his magic to defeat, deceive, confuse, and escape. A mage is not really complete without an assortment of magical devices to use in addition to his spells. He can master the higher level magical devices far easier than anyone else, and has the excellent saving throws to resist effects of spells cast at him. However, he is incredibly weak, getting few hit dice and suffering strong penalties to strength and

constitution. Intelligence is his primary stat and at high levels he can cast many spells without a chance of failure. There is no rule that says a mage cannot become a good fighter, but spells are his true realm and he will get fewer blows with melee weapons than other classes.

Priest A Priest is a character of holy devotion. They explore the dungeon only to destroy the evil that lurks within, and if treasure just happens to fall into their packs, well, so much more to the glory of their temple! Priests receive their spells from a deity, and therefore do not choose which spells they will learn. They are familiar with magical devices, preferring to call them "instruments of God", but are not as good as a mage in their use. Priests have great saving throws, and make decent fighters, but they are not as good at using sharp weapons (swords and polearms) owing to the holy strictures about shedding blood, so they are better off using blunt weapons such as maces. Wisdom is the priest's primary stat and at high enough levels they can cast many prayers without a chance of failure. Priests have poor stealth.

Rogue A Rogue is a character that prefers to live by his cunning, but is capable of fighting his way out of a tight spot. He is the master of traps and locks, no device being impossible for him to overcome. A rogue has a high stealth allowing him to sneak around many creatures without having to fight, or sneak up and get the first blow. A rogue's perception is higher than any other class, and many times he will notice a trap or secret door before having to search. A rogue is better than warriors or paladins with magical devices, but still cannot rely on their performance. Rogues can also learn a few spells, but not the powerful offensive spells mages can use, and there will always be a chance of failure even with the simplest spells. A rogue's primary stats are dexterity and intelligence.

Ranger A Ranger is a warrior/mage and a very powerful class. He is a good fighter, and the best of all the classes with missile weapons, especially bows. The ranger learns spells much more slowly than a mage, but is capable of learning all but the most powerful spells. Because a ranger is really a dual class character, more experience is required for him to advance. A ranger has good stealth, good perception, good searching, a good saving throw, and is good with magical devices. His primary stats are strength, intelligence and dexterity.

Paladin A Paladin is a warrior/priest. He is a very good fighter, second only to the warrior class, but not very good at missile weapons. He receives prayers at a slower pace than the priest, but can use all but the most powerful prayers. Because a paladin is really a dual class character, it requires more experience to advance him. A paladin lacks much in the way of abilities. He is poor at stealth, perception, searching, and magical devices. He has a decent saving throw due to his divine alliance. His primary stats are strength and wisdom.

2.4 Stats

After gender, race and class are selected, you will be able to decide what stat levels your character will have, by allocating a finite number of "points" between the six statistics. These points can be allocated by selection or with a random roller (as described below in the "Stat Rollers" section).

Each race/class combination also has a recommended default setting for these statistics. Statistics can be permanently raised by various potions in the dungeon up to 18/100. They can also be temporarily drained by some monster attacks.

Strength Strength is important in fighting with weapons and in melee combat. A high strength can improve your chances of hitting as well as the amount of damage done with each hit. Characters with low strengths may receive penalties. Strength raises the amount of weight you can carry before being slowed. It also allows you to get extra blows with heavier weapons. Strength is one of the most important stats in the beginning of the game.

Intelligence Intelligence affects the spellcasting abilities of mage-like spellcasters: mages, rangers, and rogues. Intelligence will affect the number of spells you may learn each level as well as the number of spell points you receive. Intelligence is the most important stat for mages. A high intelligence may also improve your chances of successfully casting a spell. You cannot learn spells if your intelligence is 7 or lower. A good intelligence can also help with using magic devices, picking locks, and disarming traps.

Wisdom The primary function of wisdom is to determine the ability of a priest or paladin to use prayers, just like intelligence affects spellcasting. Again, high wisdom will increase the number of mana points you have and increase the number of prayers you can learn each level, while improving the chance that a prayer will be successful. A good wisdom increases your saving throw, thereby improving your chances of resisting magical spells cast upon you by monsters.

Dexterity Dexterity is a combination of agility and quickness. A high dexterity may allow a character to get multiple blows with lighter weapons. Dexterity also increases a character's chances of hitting with any weapon and of dodging blows from enemies. Dexterity is also useful in picking locks, disarming traps, and protecting yourself from some of the thieves that inhabit the dungeons. Indeed, if the character has a high enough dexterity, thieves will never be successful in stealing from him.

Constitution Constitution is a character's ability to resist damage to his body, and to recover from damage received. Therefore a character with a high constitution will receive more hit points and also recover them faster while resting. Constitution is less important in the beginning of the game, but will be the most important stat at the end.

2.5 Skills

Characters possess some different skills which can help them to survive. The starting skill levels of a character are based upon race and class. Skill levels may be adjusted by high or low stats, and may increase with the level of the character.

Infravision Infravision is the ability to see heat sources. Since most of the dungeon is cool or cold, infravision will not allow the player to see walls and objects. Infravision will allow a character to see any warm-blooded creatures up to a certain distance. This ability works equally well with or without a light source. However, some of Angband's creatures are

cold-blooded, and will not be detected unless lit up by a light source. All non-human races have innate infravision. Humans (including Dunedain) cannot gain infravision unless it is magically enhanced. Infravision does not increase with character level, and is purely dependent on race and on magical equipment.

Fighting Fighting is the ability to hit and do damage with weapons or fists. Normally a character gets a single blow from any weapon, but if his dexterity and strength are high enough, he may receive more blows with lighter weapons. Strength and dexterity both modify the ability to hit an opponent. This skill increases with the level of the character. Inspecting a weapon will show you how quickly you can attack with it.

Shooting Ability Using ranged missile weapons (and throwing objects) is included in this skill. Different stats apply to different weapons, but this ability may modify the distance an object is thrown/fired, the amount of damage done, and the ability to hit a creature. This skill increases with the level of the character.

Saving Throws A Saving Throw is the ability of a character to resist the effects of a spell cast on him by another person/creature. This does not include spells cast on the player by his own stupidity, such as quaffing a nasty potion. This ability increases with the level of the character, but then most high level creatures are better at casting spells, so it tends to even out. A high wisdom also increases this ability. It is possible to get 100% saving throw, making you immune to many attacks.

Stealth The ability to move silently about is very useful. Characters with good stealth can usually surprise their opponents, gaining the first blow. Also, creatures may fail to notice a stealthy character entirely, allowing a player to avoid certain fights. This skill is based upon race and class, but can be magically enhanced.

Disarming Disarming is the ability to remove traps safely, and also includes picking locks on traps and doors. A successful disarming or lock picking will gain the character a small amount of experience. A trap must be found before it can be disarmed. Dexterity and intelligence both modify the ability to disarm, and this ability increases with the level of the character.

Magical Devices Using a magical device such as a wand or staff requires experience and knowledge. Spell users such as mages and priests are therefore much better at using a magical device than say a warrior. This skill is modified by intelligence, and increases with the level of the character.

Searching Frequency (Perception) Perception is the ability to notice something without actively seeking it out. This skill is based entirely upon race and class, and will never improve unless magically enhanced.

Searching Ability (Searching) To search is to actively look for secret doors, floor traps, and traps on chests. Rogues are the best at searching, but mages, rangers, and priests are also good at it. This skill is based entirely upon race and class, and will never improve unless magically enhanced.

2.6 Stat Bonus Tables

Stats, hit dice, infravision and experience point modifications due to race and class are listed in the following table. To get the total hit dice and XP modifier, add the "race" and "class" numbers: for instance, a Dwarf Priest has a hit die of $11+2=13$ (i.e. he will get 1d13 hit points per level, adjusted for constitution) and an XP modifier of $20+20=40\%$.

Race	STR	INT	WIS	DEX	CON	HD (base)	XP/level	Infra
Human	0	0	0	0	0	10	+0%	None
Half-Elf	0	+1	-1	+1	-1	10	+10%	20'
Elf	-1	+2	-1	+1	-1	9	+20%	30'
Hobbit	-2	+2	+1	+3	+2	7	+10%	40'
Gnome	-1	+2	0	+2	+1	8	+25%	40'
Dwarf	+2	-3	+2	-2	+2	11	+20%	50'
Half-Orc	+2	-1	0	0	+1	10	+10%	30'
Half-Troll	+4	-4	-2	-4	+3	12	+20%	30'
Dunadan	+1	+2	+2	+2	+3	10	+80%	None
High-Elf	+1	+3	-1	+3	+1	10	+100%	40'
Kobold	-1	-1	0	+2	+2	8	+15%	50'

Class	STR	INT	WIS	DEX	CON	HD (bonus)	XP/level
Warrior	+3	-2	-2	+2	+2	9	+0%
Mage	-3	+3	0	+0	-2	0	+30%
Priest	-1	-3	+3	-1	+1	2	+20%
Rogue	0	+1	-3	+3	-1	6	+25%
Ranger	0	+2	-2	+1	-1	4	+30%
Paladin	+1	-3	+1	-1	+2	6	+35%

2.7 Ability Tables

Race	Disarm	Device	Save	Stealth	Search	Percep	Fight	Bows
Human	0	0	0	0	0	10	0	0
Half-Elf	2	3	3	1	6	11	-1	5
Elf	5	6	6	2	8	12	-5	15
Hobbit	15	18	18	4	12	15	-10	20
Gnome	10	22	12	3	6	13	-8	12
Dwarf	2	9	9	-1	7	10	15	0

... continued on next page

Race	Disarm	Device	Save	Stealth	Search	Percep	Fight	Bows
Half-Orc	-3	-3	-3	-1	0	7	12	-5
Half-Troll	-5	-8	-8	-2	-1	5	20	-10
Dunadan	4	5	5	1	3	13	15	10
High-Elf	4	20	20	2	3	14	10	25
Kobold	10	5	0	3	15	15	-5	10

Class	Disarm	Device	Save	Stealth	Search	Percep	Fight	Bows
Warrior	25(+10)	18(+7)	18(+10)	0(+0)	14(+0)	2(+0)	70(+45)	55(+45)
Mage	30(+7)	36(+13)	30(+9)	2(+0)	16(+0)	20(+0)	34(+15)	20(+15)
Priest	25(+7)	30(+10)	32(+12)	2(+0)	16(+0)	8(+0)	48(+20)	35(+20)
Rogue	45(+15)	32(+10)	28(+10)	3(+1)	32(+0)	24(+0)	60(+40)	66(+30)
Ranger	30(+8)	32(+10)	28(+10)	3(+0)	24(+0)	16(+0)	56(+30)	72(+45)
Paladin	20(+7)	24(+10)	25(+11)	0(+0)	12(+0)	2(+0)	68(+35)	40(+30)

For character classes, there are two figures: the first figure is the base level of the skill, while the second figure (in parentheses) is the bonus that the character gains to this skill every ten levels. So, to find out the total skill value of any character's skills, add the race value to the class value, and then the bonus once for every ten levels that the character has.

Please note, however, that these numbers are only good for comparing characters to each other in the absence of other bonuses from high stats (strength bonus to-dam, dex bonus to-hit, wisdom bonus to saving throw, intelligence bonus to magical device usage, etc.) or wearing magical items.

2.8 Stat rollers

There are currently two different ways to determine the starting stats of your character - you can choose which one to use from the birth screen.

Point-based The point-based method allows you to "buy" improvements to your basic stats by "spending" points on them. You have a fixed number of points to spend, and making small changes to a stat costs proportionally less than making large changes. Any unspent points are converted into your starting money that you can use to buy equipment at the start of the game.

On selecting this option, you will find that the points have already been assigned to default recommended values. These represent an algorithm's opinion for the ideal point spending. However, you are free to reallocate them as you wish.

This is the recommended birth method.

Standard roller The standard roller simply rolls three six-sided dice for each stat, leaving everything to chance. You can press 'r' to re-roll the dice, or simply accept what luck has

offered.

2.9 Character Name

Once you have accepted a character you will be asked to provide a name for the character. In general, the actual choice of a name is not important, but do keep in mind that it may have some effect on the game itself. For example, on some machines, the character name determines the filename that will be used to save the character to disk. The character name is used on the high score list.

You can play a dynasty of characters. If you use a Roman numeral at the end of your character name (like "Fred I" or "Pimplesnarg XVI"), the game will automatically increment the numeral each time you die (or win!).

3 Exploring the Dungeon

After you have created your character, you will begin your Angband adventure. Symbols appearing on your screen will represent the dungeon's walls, floor, objects, features, and creatures lurking about. In order to direct your character through his adventure, you will enter single character commands (see 'commands.txt').

3.1 Symbols On Your Map

Symbols on your map can be broken down into three categories: Features of the dungeon such as walls, floor, doors, and traps; Objects which can be picked up such as treasure, weapons, magical devices, etc; and creatures which may or may not move about the dungeon, but are mostly harmful to your character's well being.

Some symbols are used to represent more than one type of entity, and some symbols are used to represent entities in more than one category. The "@" symbol (by default) is used to represent the character.

It will not be necessary to remember all of the symbols and their meanings. The "slash" command ('/') will identify any character appearing on your map (see 'commands.txt').

Note that you can use a "user pref file" to change any of these symbols to something you are more comfortable with.

3.1.1 Features that do not block line of sight

'.'	A floor space	'1'	Entrance to General Store
'.'	A trap (hidden)	'2'	Entrance to Armoury
'^'	A trap (known)	'3'	Entrance to Weapon Smith
';'	A glyph of warding	'4'	Entrance to Temple
'''	An open door	'5'	Entrance to Alchemy Shop
'''	A broken door	'6'	Entrance to Magic Shop
'<'	A staircase up	'7'	Entrance to the Black Market

'>	A staircase down	'8'	Entrance to your Home
----	------------------	-----	-----------------------

3.1.2 Features that block line of sight

'#'	A secret door	'#'	A wall
'+'	A closed door	'%'	A mineral vein
'+'	A locked door	'*'	A mineral vein with treasure
'+'	A jammed door	':'	A pile of rubble

3.1.3 Objects

'!'	A potion (or flask)	'/'	A pole-arm
'?'	A scroll (or book)	'|'	An edged weapon
','	A mushroom (or food)	'\'	A hafted weapon
'-'	A wand or rod	'}'	A sling, bow, or x-bow
'_'	A staff	'{'	A shot, arrow, or bolt
'='	A ring	'('	Soft armour
'"'	An amulet	'['	Hard armour
'\$'	Gold or gems	']'	Misc. armour
'~'	Lights, Tools, Chests, etc	')'	A shield
'&'	Multiple items		

3.1.4 Monsters

'\$'	Creeping Coins	','	Mushroom Patch
'a'	Giant Ant	'A'	Ainu
'b'	Giant Bat	'B'	Bird
'c'	Giant Centipede	'C'	Canine (Dog)
'd'	Dragon	'D'	Ancient Dragon
'e'	Floating Eye	'E'	Elemental
'f'	Feline (Cat)	'F'	Dragon Fly
'g'	Golem	'G'	Ghost
'h'	Humanoids	'H'	Hybrid
'i'	Icky-Thing	'I'	Insect
'j'	Jelly	'J'	Snake
'k'	Kobold	'K'	Killer Beetle
'l'	Giant Louse	'L'	Lich

'm'	Mold	'M'	Multi-Headed Hydra
'n'	Naga	'N'	(unused)
'o'	Orc	'O'	Ogre
'p'	Human "person"	'P'	Giant "person"
'q'	Quadruped	'Q'	Quylthulg (Pulsing Flesh Mound)
'r'	Rodent	'R'	Reptile/Amphibian
's'	Skeleton	'S'	Spider/Scorpion/Tick
't'	Townsperson	'T'	Troll
'u'	Minor Demon	'U'	Major Demon
'v'	Vortex	'V'	Vampire
'w'	Worm or Worm Mass	'W'	Wight/Wraith
'x'	(unused)	'X'	Xorn/Xaren
'y'	Yeek	'Y'	Yeti
'z'	Zombie/Mummy	'Z'	Zephyr Hound

3.2 The Town Level

The town level is where you will begin your adventure. The town consists of eight buildings (each with an entrance), some townspeople, and a wall which surrounds the town. The first time you are in town it will be daytime, but note that the sun rises and falls (rather instantly) as time passes.

3.3 Townspeople

The town contains many different kinds of people. There are the street urchins, young children who will mob an adventurer for money, and seem to come out of the woodwork when excited. Blubbering idiots are a constant annoyance, but not harmful. Public drunks wander about the town singing, and are of no threat to anyone. Sneaky rogues hang about watching for a likely victim to mug. And finally, no town would be complete without a warm of half drunk warriors, who take offense or become annoyed just for the fun of it. (There are assumed to be other people in the town, but they are not represented on the screen as they do not interact with the player in any way.)

Most of the townspeople should be avoided by the largest possible distance when you wander from store to store. Fights will break out, though, so be prepared. Since your character grew up in this world of intrigue, no experience is awarded for killing the town inhabitants, though you may acquire treasure.

3.4 Town Buildings

Your character will begin his adventure with some basic supplies, and some extra gold with which to purchase more supplies at the town stores.

You may enter any open store to buy or sell items of the appropriate type. The price that the shopkeeper requests is dependent on the price of the item. Stores also have a maximum value, they will not pay more than that for any item, regardless of how much it is actually worth.

Once inside a store, you will see the name and race of the store owner, the name of the store, the maximum amount of cash that the store owner will pay for any one item, and the store inventory, listed along with the prices.

You will also see an (incomplete) list of available commands. Note that many of the commands which work in the dungeon work in the stores as well, but some do not, especially those which involve "using" objects.

Stores do not always have everything in stock. As the game progresses, they may get new items so check from time to time. Stores restock after 10000 game turns have passed, but the inventory will never change while you are in town, even if you save the game and return. You must be in the dungeon for the store to restock. Also, if you sell them an item, it may get sold to a customer while you are adventuring, so don't always expect to be able to get back everything you have sold. If you have a lot of spare gold, you can purchase every item in a store, which will induce the store owner to bring out new stock, and perhaps even retire.

Store owners will not buy known harmful or useless items. If an object is unidentified, they will pay you some base price for it. Once they have bought it they will immediately identify the object. If it is a good object, they will add it to their inventory. If it was a bad bargain, they simply throw the item away. You can use this feature to learn item flavors.

The General Store ('1') The General Store sells foods, some clothing, torches, scrolls of phase door, scrolls of word of recall, oil, shovels, picks, and spikes. All of these items and some others can be sold back to the General store for money. The general store restocks like every store, but the inventory types never change.

The Armoury ('2') The Armoury is where the town's armour is fashioned. All sorts of protective gear may be bought and sold here. The deeper into the dungeon you progress the more exotic the equipment you will find stocked in the armoury. However, some armour types will never appear here unless you sell them.

The Weaponsmith's Shop ('3') The Weaponsmith's Shop is where the town's weapons are fashioned. Hand and missile weapons may be purchased and sold here, along with arrows, bolts, and shots. As with the armoury, not all weapon types will be stocked here, unless they are sold to the shop by the player first.

The Temple ('4') The Temple deals in basic potions and scrolls, some approved priestly weapons, as well as prayer books.

The Alchemy shop ('5') The Alchemy Shop deals in all types of potions and scrolls.

The Magic User's Shop ('6') The Magic User's Shop deals in all sorts of rings, wands, amulets, and staves, as well as magic user books.

The Black Market ('7') The Black Market will sell and buy anything at extortionate prices. However it occasionally has **very** good items in it. With the exception of artifacts, every item found in the dungeon may appear in the black market.

Your Home ('8') This is your house where you can store objects that you cannot carry on your travels, or will need at a later date.

3.5 Within The Dungeon

Once your character is adequately supplied with food, light, armor, and weapons, he is ready to enter the dungeon. Move on top of the '>' symbol and use the "Down" command ('>').

Your character will enter a maze of interconnecting staircases and finally arrive somewhere on the first level of the dungeon. Each level of the dungeon is fifty feet high (thus dungeon level "Lev 1" is often called "50 ft"), and is divided into (large) rectangular regions (several times larger than the screen) by permanent rock. Once you leave a level by a staircase, you will never again find your way back to that region of that level, but there are an infinite number of other regions at that same "depth" that you can explore later. Monsters, of course, can use the stairs, and you may eventually encounter them again, but they will not chase you up or down stairs.

In the dungeon, there are many things to find, but your character must survive many horrible and challenging encounters to find the treasure lying about and take it safely back to the town to sell.

There are two sources for light once inside the dungeon. Permanent light which has been magically placed within rooms, and a light source carried by the player. If neither is present, the character will be unable to see. This will affect searching, picking locks, disarming traps, reading scrolls, casting spells, browsing books, etc. So be very careful not to run out of light!

A character must wield a torch or lamp in order to supply his own light. A torch or lamp burns fuel as it is used, and once it is out of fuel, it stops supplying light. You will be warned as the light approaches this point. You may use the "Fuel" command ('F') to refuel your lantern (with flasks of oil), and it is a good idea to carry extra torches or flasks of oil, as appropriate. There are rumours of objects of exceptional power which glow with their own never-ending light.

3.6 Objects Found In The Dungeon

The mines are full of objects just waiting to be picked up and used. How did they get there? Well, the main source for useful items are all the foolish adventurers that proceeded into the dungeon before you. They get killed, and the helpful creatures scatter the various treasure throughout the dungeon.

Several objects may occupy a given floor location, which may or may not also contain one creature. However, Doors, rubble, traps, and staircases cannot coexist with items. As below, any item may actually be a "pile" of up to 99 identical items. With the right choice of "options", you may be able to "stack" several items in the same grid.

You pick up objects by moving on top of them. You can carry up to 23 different items in your backpack while wearing and wielding up to 12 others. Although you are limited to 23 different items, each item may actually be a "pile" of up to 40 similar items. If you 't'ake off an item, it will go into your backpack if there is room: if there is no room in your backpack, it will drop onto the floor, so be careful when swapping one wielded weapon or worn piece of armor for another when your pack is full.

You are, however, limited in the total amount of weight that you can carry. If you exceed this value, you become slower, making it easier for monsters to chase you. Note that there is no upper bound on how much you can carry, if you do not mind being slow. Your weight "limit" is determined by your strength.

Many objects found within the dungeon have special commands for their use. Wands must be Aimed, staves must be Used, scrolls must be Read, and potions must be Quaffed. You may, in general, not only use items in your pack, but also items on the ground, if you are standing on top of them. At the beginning of the game all items are assigned a random 'flavor'. For example potions of 'cure light wounds' could be 'red potions'. If you have never used, sold, or bought one of these potions, you will only see the flavor. You can learn what type of item it is by selling it to a store, using it and noticing an effect (for example, quaffing a healing potion when injured), or casting the spell identify. Lastly, items in stores that you have not yet identified the flavor of will be labeled '{unknown}'

Chests are complex objects, containing traps, locks, and possibly treasure or other objects inside them once they are opened. Many of the commands that apply to traps or doors also apply to chests and, like traps and doors, these commands do not work if you are carrying the chest.

One item in particular will be discussed here. The scroll of "Word of Recall" can be found within the dungeon, or bought at the temple in town. All classes start with one of these scrolls in their inventory. It acts in two manners, depending upon your current location. If read within the dungeon, it will teleport you back to town. If read in town, it will teleport you back down to the deepest level of the dungeon which your character has previously been on. This makes the scroll very useful for getting back to the deeper levels of Angband. Once the scroll has been read it takes a while for the spell to act, so don't expect it to save you in a crisis. During this time the word 'recall' will appear on the bottom of the screen below the dungeon. Reading a second scroll before the first takes effect will cancel the action.

You may "inscribe" any object with a textual inscription of your choice. These inscriptions are not limited in length, though you may not be able to see the whole inscription on the item. The game applies special meaning to inscriptions containing any text of the form '@#' or '@x#' or '!x' or '!*', see 'customize.txt'.

The game provides some "fake" inscriptions to help you keep track of your possessions. Wands and staves which are known to be empty will be inscribed with '{empty}'. Objects which have been tried at least once but haven't been identified yet will be inscribed with "tried". In addition while carrying or wielding weapons or armor you may learn qualities of these items. '{average}' means that the item has no magical bonuses. '{magical}' means that it has magical bonuses although these bonuses may be negative. An item with negative bonuses is not necessarily cursed. An '{ego}' item has special abilities. If the abilities are not obvious to the wielder the item will get an '{excellent}' tag. If the item has obvious abilities, such as an increase to a statistic it will be labeled '{splendid}'. Lastly, if at any point you pick up an Artifact you will learn its name immediately and it will be labeled '{special}'. However, you may not be aware of all its powers. Note that these inscriptions are fake, and cannot be removed.

Only weapons and armor will receive these pseudo-identifications. Wands, staves, rods, scrolls, potions and mushrooms can only get the '{tried}' label. However, if using or consuming the item creates an obvious effect, you will learn the flavor.

It is rumored that rings of power and extra rare spell books may be found deeper in the

dungeon...

And lastly, a final warning: not all objects are what they seem. The line between tasty food and a poisonous mushroom is a fine one, and sometimes a chest full of treasure will grow teeth in its lid and bite your hand off...

3.7 Cursed Objects

There remain some special objects of great power that have been cursed. If you wield a cursed item, you will not be able to take it off. All cursed items will be automatically identified as cursed when you add them into your inventory. It is also possible to have your weapons or armor cursed through magical means, and this can destroy even the strongest artifact and leave you saddled with a useless piece of junk. If you want or need to remove a curse, scrolls of enchantment can be found in the dungeon that have a chance of lifting all curses except for permanent ones.

3.8 Mining

Some treasure within the dungeon can be found only by mining it out of the walls. Many rich strikes exist within each level, but must be found and mined. Quartz veins are the richest, yielding the most metals and gems, but magma veins will have some hoards hidden within.

Mining is rather difficult without a pick or shovel. Picks and shovels have an additional magical ability expressed as '(+#)'. The higher the number, the better the magical digging ability of the tool. A pick or shovel also has plusses to hit and damage, and can be used as a weapon, because, in fact, it is one.

When a vein of quartz or magma is located, the character may wield his pick or shovel and begin digging out a section. When that section is removed, he can locate another section of the vein and begin the process again. Since granite rock is much harder to dig through, it is much faster to follow the vein exactly and dig around the granite. Eventually, it becomes easier to simply kill monsters and discover items in the dungeon to sell, than to walk around digging for treasure. But, early on, mineral veins can be a wonderful source of easy treasure.

If the character has a scroll, staff, or spell of treasure location, he can immediately locate all strikes of treasure within a vein shown on the screen. This makes mining much easier and more profitable.

Note that a character with high strength and/or a heavy weapon does not need a shovel/pick to dig, but even the strongest character will benefit from a pick if trying to dig through a granite wall.

It is sometimes possible to get a character trapped within the dungeon by using various magical spells and items. So it can be a good idea to always carry some kind of digging tool, even when you are not planning on tunneling for treasure.

There are rumors of certain incredibly profitable rooms buried deep in the dungeon and completely surrounded by permanent rock and granite walls, requiring a digging implement or magical means to enter. The same rumors imply that these rooms are guarded by incredibly powerful monsters, so beware!

3.9 Traps

There are many traps located in the dungeon of varying danger. These traps are hidden from sight and are triggered only when your character walks over them. If you have found a trap you can attempt to 'D'isarm it, but failure may mean activating it.

There are some magical means to detecting all traps within a certain radius. If you cast one of these spells, there will be a 'Dtrap' green label on the bottom of the screen, below the dungeon map. At some point in the dungeon you may see a line of green squares on the floor. This line represents the extent of your detection. Beyond the green line you are no longer in the safe region.

Some monsters have the ability to create new traps on the level that may be hidden, even if the player is in a detected zone. The detection only finds the traps that exist at the time of detection, it does not inform you of new ones that have since been created.

3.10 Staircases, Secret Doors, Passages, and Rooms

Staircases are the manner in which you get deeper or climb out of the dungeon. The symbols for the up and down staircases are the same as the commands to use them. A '<' represents an up staircase and a '>' represents a down staircase. You must move your character over the staircase before you can use it.

Each level has at least one up staircase and at least two down staircases. There are no exceptions to this rule. You may have trouble finding some well hidden secret doors, or you may have to dig through obstructions to get to them, but you can always find the stairs if you look hard enough. Stairs, like permanent rock, and shop entrances, cannot be destroyed by any means.

Many secret doors are used within the dungeon to confuse and demoralize adventurers foolish enough to enter. But with some luck, and lots of concentration, you can find these secret doors. Secret doors will sometimes hide rooms or corridors, or even entire sections of that level of the dungeon. Sometimes they simply hide small empty closets or even dead ends. Secret doors always look like granite walls, just like traps always look like normal floors.

Creatures in the dungeon will generally know and use these secret doors, and can often be counted on to leave them open behind them when they pass through.

3.11 Level and object feelings

Unless you have disabled the option to get feelings you will get a message upon entering a dungeon giving you a general feel of how dangerous that level is.

The possible messages are : 1 - "This seems a quiet, peaceful place" 2 - "This seems a tame, sheltered place", 3 - "This place seems reasonably safe", 4 - "This place does not seem too risky", 5 - "You feel nervous about this place", 6 - "You feel anxious about this place", 7 - "This place seems terribly dangerous", 8 - "This place seems murderous", 9 - "Omens of death haunt this place", This feeling depends only on the monsters present in the dungeon when you first enter it. It will not get reduced to safer feeling as you kill monsters neither will it increase if new ones are summoned. This feeling also depends on your current dungeon depth. A dungeon you feel nervous about at 2000' is way more dangerous than a murderous one at 50'.

Once you have explored a certain amount of the dungeon you will also get a feeling about how good are the objects lying on the floor of the dungeon.

The possible messages are : 1 - "there are naught but cobwebs here." 2 - "there are only scraps of junk here.", 3 - "there aren't many treasures here.", 4 - "there may not be much interesting here.", 5 - "there may be something worthwhile here.", 6 - "there are good treasures here.", 7 - "there are very good treasures here.", 8 - "there are excellent treasures here.", 9 - "there are superb treasures here.", \$ - "you sense an item of wondrous power!", The last message indicates an artifact is present and is only possible if the preserve option is disabled.

You may review your level feeling any time by using the ^K command. You may also consult it by checking the LF: indicator at the bottom left of the screen. The first number after it is the level feeling and the second one is the object feeling. The second one will be ? if you need to explore more before getting a feeling about the value of the treasures present in the dungeon.

3.12 Winning The Game

If your character has killed Sauron (a difficult task), who lives on level 99 (4950') in the dungeon, a magical staircase will appear that will allow you to finally reach level 100. Morgoth lurks on this level of his dungeon, and you will not be able to go below his level until you have killed him. Try to avoid wandering around on level 100 unless you are ready for him, in case he has a habit of coming at you across the dungeon, the Mighty Hammer 'Grond' in hand, to slay you for your impudence.

If you should actually survive the attempt of killing Morgoth, you will receive the status of WINNER. You may continue to explore, and may even save the game and play more later, but since you have defeated the toughest creature alive, there is really not much point. Unless you wish to listen to the rumors of a powerful ring buried somewhere in the dungeon, or a suit of dragon scale mail that resists everything...

When you are ready to retire, simply "commit suicide" (using the 'Q' key) to have your character entered into the high score list as a winner. Note that until you retire, you can still be killed, so you may want to retire before wandering into yet another horde of greater demons.

3.13 Upon Death and Dying

If your character falls below 0 hit points, he has died and cannot be restored. A tombstone showing information about your character will be displayed. You are also permitted to get a record of your character, and all your equipment (identified) either on the screen or in a file.

Your character will leave behind a reduced save file, which contains only the monster memory and your option choices. It may be restored, in which case a new character is generated exactly as if the file was not there, but the new player will find his monster memory containing all the experience of past incarnations.

There are a variety of ways to "cheat" death (including using a special "cheating option") when it would otherwise occur. This will fully heal your character, returning him to the town, and marking him in various ways as a character which has cheated death. Cheating death, like using any of the "cheating options", will prevent your character from appearing on the high score list.

4 Attacking monsters

4.1 Attacking and Being Attacked

Attacking is simple in Angband. If you move into a creature, you attack it. You can attack from a distance by firing a missile or by magical means (such as aiming a wand). Creatures attack in the same way. If they move into you, they attack you. Some creatures can also cast spells from a distance, and others can use various breath weapons (such as fire) on you from a distance.

Creatures in walls can not be attacked by wands or other magic attacks normally stopped by walls, nor can they be shot at with bows and arrows. Tunnelling into the wall (using the "tunnel" or "alter" command) will allow you to attack any creature in the wall with your main weapon. This applies to creatures which "pass through" walls: if they "bore through" walls, the wall is no longer there, and the creature can be targetted normally.

If you are wielding a weapon, the damage for the weapon is used when you hit a creature. Otherwise you get a single punch which does minimal damage.

You may wield one weapon for melee combat, and also one missile launcher (bow, crossbow or sling). You may also wear one amulet (around the one and only neck of the character), two rings (on the two "ring" fingers, i.e. the third finger of each hand: a magic ring does not function when worn on any other finger, nor may two be worn on the same finger), one light source, and a full set of armor - body armor, shield, helmet, gloves, boots and a cloak. Any or all of these items may provide powers to the character in terms of bonuses to-hit, to-damage, to-armor class, or to other stats.

Firing a missile (while wielding the appropriate launcher) is the only way to get the "full" power out of the missile. You may of course throw an arrow at a monster without shooting it, but you will find the effects will not be what you had hoped.

Hits and misses are determined by ability to hit versus armor class. A hit is a strike that does some damage; a miss may in fact reach a target, but fails to do any damage. Higher armor classes make it harder to do damage, and so lead to more misses. Characters with higher armor classes also receive a damage reduction. This is not true for monsters, whose AC only affects the character's difficulty to hit them.

If you wish to see how much damage your weapon will do, you can inspect it. You will find the number of blows and how much damage you would do per round, including information on whether your weapon damages other types of monsters differently.

4.2 Monster Memories

There are hundreds of different creatures in the pits of Angband, many of which have the same letter symbol and color on the screen. The exact species of a creature can be discovered by looking at it. It is also very difficult to keep track of the capabilities of various creatures. Luckily, Angband automatically keeps track of your experiences with a particular creature. This feature is called the monster memory. Your monster memory recalls the particular attacks of each creature (whether or not technically a monster) which you have suffered, as well as recalling if you have observed them to multiply or move erratically, or drop treasure, etc. Otherwise you would simply have to take notes, which is an unnecessary bother.

If you have killed enough of a particular creature, or suffered enough attacks, recalling the monster memory may also provide you with information not otherwise available, such as a armor class, hit dice, spell types, frequency of spell casting, or the amount of damage for breaths or spells. These attacks will be color coded to inform you of whether or not you currently resist a specific attack. Red or orange means you do not resist it, yellow means you partially resist it, and green means you resist it or are immune. If you attack a monster with specific elemental attacks you will learn if the monster resists that element or if they are immune. There are other magical means to learn about monster's abilities that don't require you to actually experience the attacks.

This memory can be passed on to a new character even after you die by means of a re-used save file. (You must start the new character by opening the existing save file of the dead character for this to happen: using the "start new character" option will not give access to any monster memory.)

4.3 Your Weapon

Carrying a weapon in your backpack does you no good. You must wield a weapon before it can be used in a fight. A secondary weapon can be kept by keeping it in the backpack, and switching it with the primary weapon when needed. This is most often used when switching between a melee weapon and a digging tool, or when carrying two weapons, each of which provides a rare power that the character needs at two separate times.

Weapons have two main magical characteristics, their enchanted ability to hit and their enchanted ability to do damage, expressed as '(+ #, + #)'. A normal weapon would be '(+0, +0)'. Many weapons in Angband have bonuses to hit and/or do damage. A very few weapons are cursed, and have penalties that diminish your hit and/or damage bonuses. Cursed weapons cannot be unwielded until the curse is lifted. Luckily, all cursed items will be immediately shown as {cursed} when you pick them up. Unluckily, it is rumored that there exist some powerful magic that can cause your weapons or armour to become cursed. Magically identifying a weapon will inform you of the magical bonuses and penalties.

Angband assumes that your youth in the rough environment near the dungeons has taught you the relative merits of different weapons, and displays as part of their description the damage dice which define their capabilities. Any damage enchantment is added to the dice roll for that weapon. The dice used for a given weapon is displayed as 'XdY'. The number 'X' indicates how many dice to roll, and number 'Y' indicates how many sides they have. A '2d6' weapon will thus give damage from 2 to 12, plus any damage bonus. The weight of a weapon is also a consideration. Heavy weapons may hit harder, but they are also harder to use. Depending on your strength, dexterity, character class, and weapon weight, you may get attack more quickly: high dexterity and strength and low weapon weight are the main factors. Warriors may get up to a maximum of 6 attacks per round: mages and priests are limited to only 4: other classes may get up to 5. Your attacks per round with a weapon are displayed as a decimal, e.g. 2.3 or 3.4 etc. The fractions take the form of unused energy which is carried over to your next turn.

Missile weapons, such as bows, have their characteristics added to those of the missile used, if the proper weapon/missile combination is used, and then the launcher multiplier is applied to the total damage, making missile weapons very powerful given the proper missiles, especially if they are enchanted. Like weapons, 'I'nspecting ammunition will tell you how much damage you will

do with your current missile launcher.

Although you receive any magical bonuses an unidentified weapon may possess when you wield it, those bonuses will not be immediately added to the displayed values of to-hit and to-dam on your character sheet. In order to learn these plusses you must use the weapon in combat or use magical means of identification. The same applies for missiles and launchers.

Finally, some rare weapons have special abilities. These are called ego weapons, and are feared by great and meek. An ego weapon must be wielded to receive the benefit of its abilities. It should be noted that some of these items are considerably more powerful than others, and generally the most powerful items are the rarest. Some items will have an obvious effect, like an increase in infravision, or extra strength. These effects will be noticed as soon as you wield the item. Other effects, like most resistances, will need to be learned. You can learn them by either suffering an appropriate attack, or by using magical means of identification.

Some of the more common ego weapons are described at the end of this file.

4.4 Your Armor Class

Your armor class (or AC) is a number that describes the amount and the quality of armor being worn. Armor class will generally run from about 0 to 200, though exceptionally good armor can improve even on the latter figure.

The larger your armor class, the more protective it is. A negative armor class would actually help get you hit. Armor protects you in three manners. First, it makes you harder to be hit for damage. A hit for no damage counts as a miss, and is described as a miss. Second, good armor will absorb some of the damage that your character would have taken from normal attacks. Third, acid damage is reduced by wearing body armor (but the armor may be damaged instead). It is obvious that a high armor class is vital for surviving the deeper levels of Angband.

Each piece of armour has a base armor value, which, like the damage from weapons, is assumed known by the player, and a magic bonus, which will not be displayed unless the armor has been identified or was bought in a store.

Armor class values are always displayed between a set of square brackets, as '[#]' or '[#,+#]'. The first value is the base armor class of the armor. The second number is the magical bonus of the item, which is only displayed if known, and will always have a sign preceding the value. These plusses can be determined by wielding the armor in combat and being hit. Note that a few rings, amulets, and weapons also have the '[+#]' notation, indicating that they provide an armor bonus. Many pieces of heavy body armor will also have a '(-#)' (in normal brackets) before the '[#,+#]', which indicates that the weight of the armor decreases your chances of hitting monsters. This can range from nonexistent for very light armor to '(-8)' for the heaviest armor!

4.5 Non-melee attacks and resistances

The player may at some time gain access to non-melee attacks, and many monsters also have them. Perhaps the most famous of this type of attack is dragon breath, but monsters may also cast spells at the player, and vice versa. This damage generally is not affected by armor class, and does not need a hit roll to hit the player or monster being aimed at.

Some attacks are purely magical: attack spells which blind, confuse, slow, cure or paralyze the target. These attacks are resisted by monsters of higher level (native to deeper dungeon depths) and characters with a high saving throw - saving throws being dependent on class, level and wisdom. There are also available resistances to fear, blindness, confusion and stunning, and the power of "free action" prevents magical paralysis and most slowing attacks (the player may still be paralyzed by being "knocked out" in melee or by a stunning attack, but this is very rare and can be prevented with protection from stunning.) There are monsters that can cause status effects such as blindness, paralysis or confusion through their melee attack. Since this is a physical effect and not a mental one, the player will not get a saving throw. However, having resistance to that effect will prevent the negative status in all cases. It should also be noticed that most unique monsters automatically pass their saving throws, and some monsters are naturally resistant to confusion, fear and sleep. Some monsters may have spells that 'cause wounds' that can be deadly if successful but do no damage if the saving throw is passed.

Some melee attacks by monsters may drain a stat, as can some traps: this is prevented by having that stat sustained. Drained stats are temporary and can be restored on gaining a new character level or consuming rare items found in the dungeon.

Some monsters may cast spells that teleport the player character. There is no saving throw, except to those that would actually teleport him up or down one dungeon level. Having resistance to nexus will also prevent being level-teleported, but will not help against normal teleportation spell attacks. The player may teleport monsters in the same way, with a spell, wand or rod. No monsters, even Morgoth himself, can resist this teleportation. Yet...

Other attacks are usually element-based, including the aforementioned example of dragon breath. Many monsters can breathe various attacks or cast bolt or ball spells, and the player may also have access to bolt and ball spells (or breathe like a dragon, in some rare circumstances). The player, and the monsters, may be resistant to these forms of attack: resistance is handled in different ways for the player and the monster, and for different attack forms.

Bolt spells will hit the first monster (or the player) in the line of fire: ball spells and breaths may centre on a target which may be hiding behind other targets. Ball spells and breath weapons affect an area: other monsters caught in the blast take reduced damage depending on how close to the centre of the blast they are. Breath weapons are proportional to a fraction of the monster's current hit points, with a maximum cap on the damage (which is higher for the most common of such attacks, owing to the fact that the resistances are also easier to find). Bolt and ball spell damage is calculated differently - often (but not always) relative to character or monster level.

In the case of fire, cold, lightning, acid and poison, if the monster has resistance to a player attack of this kind it will take almost no damage. If the player has one or more permanent sources of resistance, he will take 1/3 of the damage he would normally take: if the player has a temporary source of resistance (whether from potion, spell or item activation), this will also reduce the damage to 1/3 of its normal level, allowing the character to take only 1/9 damage if he has both permanent and temporary resistance. Having more than one source of permanent resistance confers no extra bonus, and using more than one source of temporary resistance increases only the duration of the resistance: in both cases, either the resistance is present or it is not. But one permanent resistance and one temporary resistance are both effective simultaneously.

Elemental attacks also have a chance to damage wielded equipment or destroy items in the character's inventory. Fire attacks destroy scrolls, staves, magic books and arrows. Acid attacks

destroy scrolls, staves, arrows, bolts and can damage armor. Electricity attacks can destroy wands, rods, rings and amulets. Cold attacks can destroy potions. Items in your inventory get a saving throw, and they are unharmed if they pass it. Having resistance to the element will make an item less likely to be destroyed. Items on the floor that get caught in an elemental ball or breath are automatically destroyed without a saving throw. Weapons, armor and chests can also be destroyed if they are lying on the floor, but cannot be harmed if they are in your pack.

The character may also gain immunity to fire, cold, lightning and acid if he is fortunate to find any of the few artifacts that provide these immunities: immunity means that no damage is taken, and the character's equipment is also totally protected. Immunities are EXTREMELY rare.

Another attack that the player will come into contact with all too often is the soul-chilling nature of the undead, which can drain the character's life experience. Some monsters have a life-draining melee attack, others may cast ball or bolt spells or, in extreme cases, breathe the very force of the netherworld (shortened by the game to "nether".) There are two powers which are of assistance in this case: that of "hold life" will prevent 90% of all experience drains, and in the other 10% of cases, the amount of experience lost will be reduced by 90%. That of "resistance to nether forces" will provide resistance to nether bolts, balls and breaths, reducing the damage and preventing any experience drains from these attacks, but has no effect on melee "hits to drain experience". Monsters caught in the blast from a nether ball or breath will take damage proportional to distance from the centre of the attack, except for undead who are totally immune. The player may find wands or rods of Drain Life, which similarly are ineffective on those undead creatures which have no life to drain: however, the real player equivalent attack spell is the priest/paladin spell of "Orb of Draining", a ball spell which does damage to all monsters, double damage to evil monsters, and is resisted by none.

Other attack forms are rarer, but may include: disenchantment (both in melee or by a monster breath), chaos (breath or melee, which if unresisted will cause the player to hallucinate and be confused, and may drain life experience), nexus (which may teleport the player to the monster, away from the monster, up or down a level, or swap over two of the player's "internal" stats), light and darkness (which will blind a character unless they have protection from blindness or resistance to light or dark), sound (which will stun a character without sound resistance or protection from stunning), crystal shards (which will cut a non-resistant character), inertia (which will slow a character even if he has free action), gravity (which will blink a character, also stunning and slowing), force (which will stun the character), plasma and force (which will stun), time (which may drain experience regardless of hold life, or drain stats regardless of sustains), water bolts and balls (which may confuse and stun, and do considerable damage from high-level monsters), ice bolts (which may cut and stun, and damage potions), and mana bolts and balls (the latter usually known as Mana Storms.) Magic missiles are included in the "mana" category, whether cast by the monster or the player.

In addition items on the ground are especially vulnerable to elemental effects. Potions on the ground will always be destroyed by cold, shards, sound and force. Scrolls, staves, books, and non-metal gear will always get destroyed by fire or plasma. Scrolls, staves, and all non-mithril gear will be destroyed by acid. Rings, amulets, wands and rods will be destroyed by lightning and plasma. And finally nearly everything will be destroyed by a mana storm if left on the ground.

Some attacks may stun or cut the player. These can either be spells or breath attacks (sound, water balls) or from melee. A stunned character receives a penalty to hit and is much more likely

to fail a spell or activation. If a character gets very stunned, they may be knocked out and at the mercy of the enemies. A cut character will slowly lose life until healed either by potions, spells or natural regeneration. Both stunning and cut status are displayed at the bottom of the screen.

There are resistances available to chaos, disenchantment, confusion, nexus, sound, shards, light and darkness: all of these will reduce the damage and prevent side-effects other than physical damage. With these resistances, as with nether resistance, damage is a random fraction: for light and dark, it is between 4/7 and 4/12, for sound and confusion it is between 5/7 and 5/12, and for chaos, disenchantment, nexus, shards and nether it is between 6/7 and 6/12.

It should be noted that not all of these are actually vital to completing the game: indeed, of the above list, only fire, cold, acid, lightning, poison and confusion resists are regarded as truly vital, with blindness, chaos and nether the next most desirable. Some attack forms are not resistable, but thankfully these are rare: resist shards will prevent all other magical attacks which cut (namely ice bolts), and confusion resistance will prevent confusion by a water bolt or ball, but there is no resistance to the physical damage caused by these following attacks: inertia, force, gravity, plasma, time, ice, water, mana. There is no resistance to any of the side-effects of a time attack, or indeed to anything but the stunning effects of a gravity attack.

4.6 A note on speed

Monsters which do not move at normal speed generally move "slowly" (-10 to speed), "fast" (+10), "very fast" (+20) or "incredibly fast" (+30). (It will surprise nobody that Morgoth is one of the few monsters in the last category.) This is further adjusted by the fact that any non-unique monster may have a random adjustment from (-2) to (+2) to its own speed.

Generally, (+10) is exactly double normal speed, and (-10) exactly half. (+20) is about three times normal speed, but after that there is less noticeable improvement as speed goes higher - for instance, (+30) is not quite four times normal speed, and higher values than this are largely irrelevant. The player may find items which can be worn or wielded that provide speed bonuses: these may include boots of speed, rings of speed and a few very rare artifacts. Boots will provide a random 1d10 to speed: rings of speed may be bigger than that - generally the best that the player will get is two just over (+10), but individual rings of up to (+23) speed have been known.

Separate from the question of permanent speed (as determined by the player's speed items and the monster's natural speed) is that of temporary speed. The player may cast a spell of haste-self, or use a potion, staff or rod of speed or use an artifact activation to speed him temporarily: or a monster may cast a haste-self spell, or be affected by another monster "shrieking for help" or the player reading a scroll of aggravate monster. In all cases, (+10) speed is added temporarily to the affected monster or player. Using two or more sources of temporary speed is cumulative only in duration - one cannot get from normal speed to (+20) using a potion and a spell of speed. Spells of temporary slowing (including monsters breathing inertia or gravity) are handled the same way, with exactly (-10) being subtracted from the player or monster's speed temporarily, for the duration of the spell or breath's effect.

4.7 Ego weapons and armor

Some of the ego weapons that you might find in the dungeon are listed below. This will give you a small taste of the items that can be found. However if you wish to discover these items on your own, you may not wish to continue. Ego weapons are denoted by the following "names":

4.7.1 Ego Melee Weapons:

(Defender) A magical weapon that actually helps the wielder defend himself, thus increasing his/her armor class, and protecting him/her against damage from fire, cold, acid, lightning, and falls. This weapon also will increase your stealth, let you see invisible creatures, protect you from paralyzation and some slowing attacks, and help you regenerate hit points and mana faster. As a result of the regeneration ability, you will use up food somewhat faster than normal while wielding such a weapon. These powerful weapons also will sustain one stat, though this stat will vary from weapon to weapon.

(Holy Avenger) A Holy Avenger is often one of the most powerful weapons. A Holy Avenger will increase your wisdom and your armour class. This weapon will do extra damage when used against evil, demonic and undead creatures, and will also give you the ability to see invisible creatures. These weapons are basically extremely powerful versions of Blessed Blades and can be wielded by priests with no penalty. These weapons, like (Defender) weapons, also will sustain one random stat.

(Blessed) A blessed blade will increase your wisdom. If you are a priest, wielding a non-blessed sword or polearm causes a small penalty while attacking and may infuriate your god, decreasing the chances that he will accept your prayers: a blessed blade may be wielded without this penalty. Blessed blades also have one extra, random, power.

Weapon of Westernesse A Weapon of Westernesse is one of the more powerful weapons. It does extra damage against orcs, trolls, and giants, while increasing your strength, dexterity, and constitution. It also lets you see invisible creatures and protects from paralyzation and some slowing attacks. These blades were made by the Dunedain.

Weapon of Extra Attacks A weapon of extra attacks will allow the wielder to deliver extra attacks during each round.

Elemental Branded Weapons Each of the five elemental attacks has a corresponding weapon which will do treble its base damage to creatures not resistant to that element. (It should be noted that the magical damage bonus is not affected by this: a weapon of Flame '(2d6 (+5,+6))' does 6d6+6 damage per hit, not 6d6+18, against creatures which are not fire-resistant.) There are weapons of Flame, Frost, Lightning, Acid and Poison brands.

Weapons of Slaying enemies These weapons do extra damage against creatures of a vulnerable type. Weapons of Slay Evil and Slay Animal do double the base damage, while weapons of Slay Orc, Troll, Giant, Dragon, Demon and Undead do triple the base damage. As with elemental branded weapons, the magical damage bonus is not affected.

Weapons of *Slay*ing enemies These weapons, in addition to doing extra damage to your enemies, have extra powers as well. In each case, one stat is increased. Weapons of *Slay* Dragon, Demon or Undead are also more powerful against their opponents, doing five times their base damage rather than the normal three.

Shovels and Picks of Digging These powerful diggers will dig through granite as if it were mere wood, and mineral veins as if they were butter. Permanent rock is still an impassable obstacle.

4.7.2 Ego Missile Launchers and Ammo:

Launchers of Accuracy These launchers have an unnaturally high to-hit number, making them extremely accurate.

Launchers of Velocity These launchers do an unnaturally high amount of damage due to their high to-dam number.

Launchers of Extra Shots These launchers allow the wielder to shoot more times per round than normal.

Launchers of Extra Might These launchers have a higher base damage than normally made launchers of their type. For instance, a 'Long Bow of Extra Might (x3)(+X,+Y)(+1)' is really a Long Bow '(x4)(+X,+Y)' where '(+X,+Y)' is the standard to-hit and to-dam. As the damage multiplier with the bow affects **everything** the base arrow damage, the magical damage bonus on both the bow and the arrow, and any bonuses for slaying or elemental-branded arrows - this makes it a powerful weapon.

Ammo of Wounding This ammunition - whether it be pebbles, iron shots, arrows, bolts, seeker arrows or seeker bolts - has big bonuses to-hit and to-damage.

Ammo of Elemental Brands, and Ammo of Slaying enemies This works in the same way as melee weapons of the same type: double damage for slay evil and slay animal, triple damage for all other lays and for all elemental brands. Unlike melee weapons, the slays and elemental brands **do** affect the magical damage bonus for ammo.

These are the most common types of ego-weapon: note that they are not the ONLY ego-items available in the dungeon, there may be more.

Apart from these there are some very rare and well made weapons in the dungeon with not necessarily any special abilities. These include Blades of Chaos, Maces of Disruption, and Scythes of Slicing. They can also be ego weapons like the ones above. For example, a Blade of Chaos (Holy Avenger) is much more powerful than many artifact weapons!

Some pieces of armor will possess special abilities denoted by the following names:

4.7.3 Ego Armors and Shields:

of Resist Acid, Lightning, Fire or Cold A character wearing armor or a shield with one such resistance will take only 1/3 of normal damage from attacks involving the relevant element

of acid, lightning, fire or cold. Note that multiple permanent sources of resistance are NOT cumulative: wearing two is no better than wearing one. However, armor which provides resistance to acid cannot itself be damaged by acid, and this is a good reason to wear more than one such piece of armor.

of Resistance A character wearing armor with this ability will have resistance to Acid, Cold, Fire, and Lightning as explained in each part above.

Armor of Elvenkind This is the same as Resistance armor, only generally better enchanted. It will make you more stealthy. This armor also possesses an extra resistance, at random from the following list: poison, light, dark, nexus, nether, chaos, disenchantment, sound, and shards.

Robes of Permanence These robes are designed especially for wizards. Just like Elvenkind armor, they provide resistance to fire, cold, acid, and electricity and cannot be damaged by acid. They sustain all of your stats and protect you from a good deal of all experience draining. Also like Elvenkind armor, they have one random resistance.

Dragon Scale Mails These extremely rare pieces of armour come in many different colors, each protecting you against the relevant dragons. Naturally they are all resistant to acid damage. They also occasionally allow you to breathe as a dragon would. Dragon Scale Mails can also have egos as well.

4.7.4 Ego Helms:

Stat Boosting Helms There are magical helms found in the dungeon that have the ability to boost the wearer's intelligence or wisdom. In addition to boosting the relevant stat these helms will also prevent that stat from being drained.

Crown of the Magi This is the great crown of the wizards. The wearer will have an increased (and sustained) intelligence, and will also be given resistance against fire, frost, acid, and lightning. These valuable helms also have an additional random power.

Crown of Might This is the crown of the warriors. The wearer will have an increased and sustained strength, dexterity, and constitution, and will also be immune to any foe's attempt to slow or paralyze him or her.

Crown of Lordliness This is the great crown of the priests. The wearer will have an increased and sustained wisdom.

Helm/Crown of Seeing This is the great helmet or crown of the rogues. The wearer will be able to see invisible creatures, and will have an increased ability to locate traps and secret doors. It is also rumored that the wearer of such a helm will not be able to be blinded.

Helm of Infravision This helmet allows the character to see monsters even in total darkness, with the ability to see heat. Note that spellbooks are the same temperature as the surroundings, and so cannot be read unless some real light is present. (Some monsters which are invisible to normal vision can be seen under infravision.)

Helm of Light In addition to providing a permanent light source for the wearer, this helm also provides resistance against light-based attacks.

Helm/Crown of Telepathy This helm or crown grants the wearer the power of telepathy.

Helm of Regeneration This helm will help you regenerate hit points and mana more quickly than normal, allowing you to fight longer before needing to rest. You will use food faster than normal while wearing this helm because of the regenerative effects.

4.7.5 Ego Cloaks:

Cloak of Protection This finely made cloak will come with an unnaturally high enchantment and is not affected by elemental based attacks.

Cloak of Stealth This cloak will increase the wearer's stealth, making the wearer less likely to wake up sleeping monsters.

Cloak of Aman These exceptionally rare cloaks provide great stealth, have a very high enchantment, and one random resistance.

4.7.6 Ego Gloves:

Gloves of Free Action The wearer of these gloves will find himself resistant to paralyzing attacks as well as some slowing attacks. Because of the special nature of these gloves, magic users may wear these gloves without incurring a mana penalty.

Gloves of Slaying These gloves will increase the wearer's fighting ability by boosting the wearer's to-hit and to-dam values.

Gloves of Agility These gloves will increase the wearer's dexterity. Because of the special nature of these gloves, magic users may wear these gloves without incurring a mana penalty.

Gauntlets of Power These spiked gauntlets will boost the wearer's strength as well as the wearer's to-hit and to-dam numbers.

4.7.7 Ego Boots:

Boots of Slow Descent These boots protect the wearer from the effects of small falls.

Boots of Stealth These boots increase the wearer's stealth, like a Cloak of Stealth.

Boots of Free Action The wearer of these boots will find himself resistant to paralyzing attacks as well as some slowing attacks.

Boots of Speed The wearer of these boots will become unnaturally fast.

Once again, these are not necessarily the ONLY ego-items in the dungeon, only the most common.

Apart from these there are some very rare and well-made armours in the dungeon with not necessarily any special abilities. These include Shields of Deflection, Adamantite Plate Mail, Mithril Plate Mail, Mithril Chain Mail, and Elven Cloaks. The first four cannot be damaged by acid because of the quality metals they contain.

There are rumors of unique "artifact" items in the dungeon - weapons and armor of all types. Many of these are more powerful than even the greatest ego-items: some are weak and have little more than a name to recommend them.

5 Playing the Game

Most of your interaction with Angband will take the form of "commands". Every Angband command consists of an "underlying command" plus a variety of optional or required arguments, such as a repeat count, a direction, or the index of an inventory object. Commands are normally specified by typing a series of keypresses, from which the underlying command is extracted, along with any encoded arguments. You may choose how the standard "keyboard keys" are mapped to the "underlying commands" by choosing one of the two standard "keysets", the "original" keyset or the "roguelike" keyset.

The original keyset is very similar to the "underlying" command set, with a few additions (such as the ability to use the numeric "directions" to "walk" or the '5' key to "stay still"). The roguelike keyset provides similar additions, and also allows the use of the 'h'/'j'/'k'/'l'/'y'/'u'/'b'/'n' keys to "walk" (or, in combination with the shift or control keys, to run or alter), which thus requires a variety of key mappings to allow access to the underlying commands used for walking/running/altering. In particular, the "roguelike" keyset includes many more "capital" and "control" keys, as shown below.

Note that any keys that are not required for access to the underlying command set may be used by the user to extend the "keyset" which is being used, by defining new "keymaps". To avoid the use of any "keymaps", press backslash ('\') plus the "underlying command" key. You may enter "control-keys" as a caret (^) plus the key (so '^' + 'p' yields '^p').

Some commands allow an optional "repeat count", which allows you to tell the game that you wish to do the command multiple times, unless you press a key or are otherwise disturbed. To enter a "repeat count", type '0', followed by the numerical count, followed by the command. You must type 'space' before entering certain commands. Skipping the numerical count yields a count of 99. An option allows certain commands (open, disarm, alter, etc) to auto-repeat.

Some commands will prompt for extra information, such as a direction, an inventory or equipment item, a spell, a textual inscription, the symbol of a monster race, a sub-command, a verification, an amount of time, a quantity, a file name, or various other things. Normally you can hit return to choose the "default" response, or escape to cancel the command entirely.

Some commands will prompt for a spell or an inventory item. Pressing space (or '*') will give you a list of choices. Pressing '-' (minus) selects the item on the floor. Pressing a lowercase letter selects the given item. Pressing a capital letter selects the given item after verification. Pressing a numeric digit '#' selects the first item (if any) whose inscription contains '@#' or '@x#', where

'x' is the current "underlying command". You may only specify items which are "legal" for the command. Whenever an item inscription contains '!*' or '!x' (with 'x' as above) you must verify its selection.

Some commands will prompt for a direction. You may enter a "compass" direction using any of the "direction keys" shown below. Sometimes, you may specify that you wish to use the current "target", by pressing 't' or '5', or that you wish to select a new target, by pressing '*' (see "Target" below).

Original Keyset Directions

7	8	9
4		6
1	2	3

Roguelike Keyset Directions

y	k	u
h		l
b	j	n

Each of the standard keysets provides some short-cuts over the "underlying commands". For example, both keysets allow you to "walk" by simply pressing an "original" direction key (or a "roguelike" direction key if you are using the roguelike keyset), instead of using the "walk" command plus a direction. The roguelike keyset allows you to "run" or "alter" by simply holding the shift or control modifier key down while pressing a "roguelike" direction key, instead of using the "run" or "alter" command plus a direction. Both keysets allow the use of the '5' key to "stand still", which is most convenient when using the original keyset.

5.1 Original Keyset Command Summary

a	Aim a wand	A	Activate an object
b	Browse a book	B	Bash a door
c	Close a door	C	Character description
d	Drop an item	D	Disarm a trap or lock a door
e	Equipment list	E	Eat some food
f	Fire an item	F	Fuel your lantern/torch
g	Get objects on floor	G	Gain new spells/prayers
h	Fire default ammo at target	H	(unused)
i	Inventory list	I	Observe an item
j	Jam a door	J	(unused)

k	Squelch an item	K	Toggle squelch
l	Look around	L	Locate player on map
m	Cast a spell	M	Full dungeon map
n	Repeat previous command	N	(unused)
o	Open a door or chest	O	(unused)
p	Cast a spell	P	(unused)
q	Quaff a potion	Q	Quit (commit suicide)
r	Read a scroll	R	Rest for a period
s	Search for traps/doors	S	Toggle search mode
t	Take off equipment	T	Dig a tunnel
u	Use a staff	U	Use an item
v	Throw an item	V	Version info
w	Wear/wield equipment	W	Walk into a trap
x	(unused)	X	(unused)
y	(unused)	Y	(unused)
z	Zap a rod	Z	(unused)
!	Interact with system	^A	(special - debug command)
@	(unused)	^B	(unused)
#	(unused)	^C	(special - break)
\$	(unused)	^D	(unused)
%	(unused)	^E	Toggle inven/equip window
^	(special - control key)	^F	Repeat level feeling
&	(unused)	^G	Do autopickup
*	Target monster or location	^H	(unused)
(	Load screen dump	^I	(special - tab)
)	Dump screen dump	^J	(special - linefeed)
{	Inscribe an object	^K	(unused)
}	Uninscribe an object	^L	Center map
[	Display visible monster list	^M	(special - return)
]	Display visible object list	^N	(unused)
-	(unused)	^O	Show previous message
_	Enter store	^P	Show previous messages
+	Alter grid	^Q	(unused)
=	Set options	^R	Redraw the screen
;	Walk (with pickup)	^S	Save and dont quit
:	Take notes	^T	(unused)

'	Target closest monster	^U	(unused)
"	Enter a user pref command	^V	(unused)
,	Stay still (with pickup)	^W	(special - wizard mode)
<	Go up staircase	^X	Save and quit
.	Run	^Y	(unused)
>	Go down staircase	^Z	(special - borg command)
\	(special - bypass keymap)	~	Check knowledge
‘	(special - escape)	?	Help
/	Identify symbol		

5.2 Roguelike Keyset Command Summary

a	Zap a rod (Activate)	A	Activate an object
b	(walk - south west)	B	(run - south west)
c	Close a door	C	Character description
d	Drop an item	D	Disarm a trap or lock a door
e	Equipment list	E	Eat some food
f	Bash a door (force)	F	Fuel your lantern/torch
g	Get objects on floor	G	Gain new spells/prayers
h	(walk - west)	H	(run - west)
i	Inventory list	I	Observe an item
j	(walk - south)	J	(run - south)
k	(walk - north)	K	(run - north)
l	(walk - east)	L	(run - east)
m	Cast a spell	M	Full dungeon map
n	(walk - south east)	N	(run - south east)
o	Open a door or chest	O	Toggle squelch
p	Cast a spell	P	Browse a book
q	Quaff a potion	Q	Quit (commit suicide)
r	Read a scroll	R	Rest for a period
s	Search for traps/doors	S	Jam a door (Spike)
t	Fire an item	T	Take off equipment
u	(walk - north east)	U	(run - north east)
v	Throw an item	V	Version info
w	Wear/wield equipment	W	Locate player on map (Where)
x	Look around	X	Use an item
y	(walk - north west)	Y	(run - north west)

z	Aim a wand (Zap)	Z	Use a staff (Zap)
!	Interact with system	^A	(special - debug command)
@	Center map	^B	(alter - south west)
#	Toggle search mode	^C	(special - break)
\$	(unused)	^D	Squelch an item
%	(unused)	^E	Toggle inven/equip window
^	(special - control key)	^F	Repeat level feeling
&	(unused)	^G	Do autopickup
*	Target monster or location	^H	(alter - west)
(	Load screen dump	^I	(special - tab)
)	Dump screen dump	^J	alter - south)
{	Inscribe an object	^K	(alter - north)
}	Uninscribe an object	^L	(alter - east)
[	Display visible monster list	^M	(special - return)
]	Display visible object list	^N	(alter - south east)
-	Walk into a trap	^O	Show previous message
_	Enter store	^P	Show previous messages
+	Alter grid	^Q	(unused)
=	Set options	^R	Redraw the screen
;	Walk (with pickup)	^S	Save and dont quit
:	Take notes	^T	Dig a tunnel
'	Target closest monster	^U	(alter - north east)
"	Enter a user pref command	^V	Repeat previous command
,	Run	^W	(special - wizard mode)
<	Go up staircase	^X	Save and quit
.	Stay still (with pickup)	^Y	(alter - north west)
>	Go down staircase	^Z	(special - borg command)
\	(special - bypass keymap)	~	Check knowledge
‘	(special - escape)	?	Help
/	Identify symbol		
TAB	Fire default ammo at target		

5.3 Special Keys

Certain special keys may be intercepted by the operating system or the host machine, causing unexpected results. In general, these special keys are control keys, and often, you can disable their special effects.

If you are playing on a UNIX or similar system, then 'Ctrl-C' will interrupt Angband. The

second and third interrupt will induce a warning bell, and the fourth will induce both a warning bell and a special message, in the fifth will quit the game, after killing your character. Also, 'Ctrl-Z' will suspend the game, and return you to the original command shell, until you resume the game with the 'fg' command. There is now a compilation option to force the game to prevent the "double 'ctrl-z' escape death trick". The 'Ctrl-\', 'Ctrl-D' and 'Ctrl-S' keys should not be intercepted.

It is often possible to specify "control-keys" without actually pressing the control key, by typing a caret (^) followed by the key. This is useful for specifying control-key commands which might be caught by the operating system as explained above.

Pressing backslash (\) before a command will bypass all keymaps, and the next keypress will be interpreted as an "underlying command" key, unless it is a caret (^), in which case the keypress after that will be turned into a control-key and interpreted as a command in the underlying angband keyset. The backslash key is useful for creating actions which are not affected by any keymap definitions that may be in force, for example, the sequence '\ + . + 6' will always mean "run east", even if the '.' key has been mapped to a different underlying command.

The '0' and '^' and '\' keys all have special meaning when entered at the command prompt, and there is no "useful" way to specify any of them as an "underlying command", which is okay, since they would have no effect.

For many input requests or queries, the special character 'ESCAPE' will abort the command. The '[y/n]' prompts may be answered with 'y' or 'n', or 'escape'. The '-more-' message prompts may be cleared (after reading the displayed message) by pressing 'ESCAPE', 'SPACE', 'RETURN', 'LINEFEED', or by any keypress, if the 'quick_messages' option is turned on.

5.4 Command Counts

Some commands can be executed a fixed number of times by preceding them with a count. Counted commands will execute until the count expires, until you type any character, or until something significant happens, such as being attacked. Thus, a counted command doesn't work to attack another creature. While the command is being repeated, the number of times left to be repeated will flash by on the line at the bottom of the screen.

To give a count to a command, type 0, the repeat count, and then the command. If you want to give a movement command and you are using the original command set (where the movement commands are digits), press space after the count and you will be prompted for the command.

Counted commands are very useful for time consuming commands, as they automatically terminate on success, or if you are attacked. You may also terminate any counted command (or resting or running), by typing any character. This character is ignored, but it is safest to use a 'SPACE' or 'ESCAPE' which are always ignored as commands in case you type the command just after the count expires.

You can tell Angband to automatically use a repeat count of 99 with commands you normally want to repeat (open, disarm, tunnel, bash, alter, etc) by setting the 'always_repeat' option.

5.5 Selection of Objects

Many commands will also prompt for a particular object to be used. For example, the command to read a scroll will ask you which of the scrolls that you are carrying that you wish to read. In such cases, the selection is made by typing a letter of the alphabet. The prompt will indicate the possible letters, and will also allow you to type the key '*', which causes all of the available options to be described. The list of choices will also be shown in the Choice window, if you are using a windows environment and windows are turned on. Often you will be able to press '/' to select an object from your equipment instead of your inventory. Pressing 'space' once will have the same effect as '*', and the second time will cancel the command and run the 'i' or 'e' command.

The particular object may be selected by an upper case or a lower case letter. If lower case is used, the selection takes place immediately. If upper case is used, then the particular option is described, and you are given the option of confirming or retracting that choice. Upper case selection is thus safer, but requires an extra key stroke. Also see the '!*' and '!x' inscriptions, below.

For many commands, you can also use '-' to select an object on the floor where you are standing. This lets you read scrolls or quaff potions, for example, off the dungeon floor without picking them up.

If you enter a number between 0 and 9, the first item engraved with '@#' where '#' is the number you entered will be selected. See the section "Using Inscriptions" for more detail.

6 Command Descriptions

The following command descriptions are listed as the command name plus the default key to use it. For those who prefer the original "roguelike" keyset, the name and key of the roguelike command is also shown if it is different. Then comes a brief description of the command, including information about alternative methods of specifying the command in each keyset, when needed.

Some commands use the "repeat count" to automatically repeat the command several times, while others use the "repeat count" to specify a "quantity" for the command, and still others use it as an "argument" of some kind.

Most commands take no "energy" to perform, while other commands only take energy when they cause the world to change in some way. For example, attempting to read a scroll while blind does not use any energy.

The following command is very useful for beginners,

Command lists ('Enter') This brings up a little window in the middle of the screen, in which you can select what command you would like to use by browsing. If you wish to begin playing immediately, you can use this option to navigate the commands and refer to this guide when you need more details about specific commands.

6.1 Inventory Commands

Inventory list ('i') Displays a list of objects being carried but not equipped. You can carry up to 23 different items, not counting those in your equipment. Often, many identical objects can be "stacked" into a "pile" which will count as a single item. Each object has a weight, and if you carry more objects than your strength permits, you will begin to slow down. The amount of weight you can still carry without being overencumbered, or the amount of extra weight you are currently carrying is displayed at the top of the screen.

Equipment list ('e') Use this command to display a list of the objects currently being used by your character. Your character has 12 slots for equipment and 10 slots for ammunition (the quiver). Each equipment slot corresponds to a different location on the body, and each of which may contain only a single object at a time, and each of which may only contain objects of the proper "type", and which include WIELD (weapon), BOW (missile launcher), LEFT (ring), RIGHT (ring), NECK (amulet), LIGHT (light source), BODY (armor), OUTER (cloak), ARM (shield), HEAD (helmet), HANDS (gloves), FEET (boots). You must be wielding/wearing certain objects to take advantage of their special powers.

Drop an item ('d') This drops an item from your inventory or equipment onto the dungeon floor. If the floor spot you are standing on already has an object in it, Angband will attempt to drop the item onto an adjacent space. Doors and traps are considered objects for the purpose of determining if the space is occupied. This command may take a quantity, and takes some energy.

Squelch an item ('k') or Squelch an item ('^D') This squelches an item in your inventory or on the dungeon floor. If the selected pile contains multiple objects, you may specify a quantity. When squelched, the game will sometimes prompt you whether to squelch only this item or all others like it. If the second option is chosen, all similar items on the floor and in your inventory will be squelched. To view all items regardless of whether they are squelched, you can use 'K' to toggle the squelch setting on and off.

Wear/Wield equipment ('w') To wear or wield an object in your inventory, use this command. Since only one object can be in each slot at a time, if you wear or wield an item into a slot which is already occupied, the old item will be first be taken off, and may in fact be dropped if there is no room for it in your inventory. Wielding ammunition will add it to an empty slot in your quiver and prompt you to replace a type of ammunition if your quiver is already full. This command takes some energy.

Take off equipment ('t') or Take off equipment ('T') Use this command to take off a piece of equipment and return it to your inventory. Occasionally, you will run into a cursed item which cannot be removed. These items normally penalize you in some way and cannot be taken off until the curse is removed. If there is no room in your inventory for the item, your pack will overflow and you will drop the item after taking it off. You may also remove ammunition from your quiver with this command. This command takes some energy.

6.2 Movement Commands

Moving (arrow keys, number keys) or (arrow keys, number keys, 'yuhjklbn') This causes you to move one step in a given direction. If the square you wish to move into is occupied by a monster, you will attack it. If the square is occupied by a door or a trap you may attempt to open or disarm it if the appropriate option is set. Preceding this command with CTRL will cause you to attack in the appropriate direction, but will not move your character if no monster is there. These commands take some energy.

Walk ('W') The walk command lets you willingly walk into a trap or a closed door, without trying to open or disarm it. This command may take a count, requires a direction, and takes some energy.

Run (':') or Run (',') This command will move in the given direction, following any bends in the corridor, until you either have to make a "choice" between two directions or you are disturbed. You can configure what will disturb you by setting the disturbance options. You may also use shift plus the "roguelike" direction keys (roguelike keyset), or shift plus the "original" direction keys on the keypad (both keysets, some machines) to run in a direction. This command may take an argument, requires a direction, and takes some energy.

Go up staircase ('<') Climbs up an up staircase you are standing on. There is always at least one staircase going up on every level except for the town level (this doesn't mean it's easy to find). Going up a staircase will take you to a new dungeon level unless you are at 50 feet (dungeon level 1), in which case you will return to the town level. Note that whenever you leave a level (not the town), you will never find it again. This means that for all intents and purposes, any objects on that level are destroyed. This includes artifacts unless the "Create characters in preserve mode" option was set when your character was created, in which case the artifacts may show up again later. This command takes some energy.

Go down staircase ('>') Descends a down staircase you are standing on. There are always at least one staircase going down on each level, except for the town which has only one, and "quest" levels, which have none until the quest monster is killed. Going down a staircase will take you to a new dungeon level. See "Go Up Staircase" for more info. This command takes some energy.

6.3 Resting Commands

Stay still (with pickup) (':') or Stay still (with pickup) (',') Stays in the same square for one move. If you normally pick up objects you encounter, you will pick up whatever you are standing on. You may also use the '5' key (both keysets). This command may take a count, and takes some energy.

Get objects ('g') Pick up objects and gold on the floor beneath you. Picking up gold takes no time, and objects take 1/10th of a normal turn each (maximum time cost is a full turn). You may pick up objects until the floor is empty or your backpack is full.

Rest ('R') Resting is better for you than repeatedly staying still, and can be told to automatically stop after a certain amount of time, or when various conditions are met. In any case, you always wake up when anything disturbing happens, or when you press any key. To rest, enter the Rest command, followed by the number of turns you want to rest, or '*' to rest until your hitpoints and mana are restored, or '&' to rest until you are fully "healed". This command may take an argument (used for the number of turns to rest), and takes some energy.

6.4 Searching Commands

Search ('s') This command can be used to locate hidden traps and secret doors in the spaces adjacent to the player. More than a single turn of searching will be required in most cases, so it is affected by the 'always repeat' option. You should always search a chest before trying to open it, since they are generally trapped. This command can take a count, which is useful if you are fairly sure of finding something eventually, since the command stops as soon as anything is found. This command takes some energy.

Toggle search mode ('S') or Toggle search mode ('#') This command will take you into and out of search mode. When first pressed, the message "Searching" will appear at the bottom of the screen. You are now taking two turns for each command, one for the command and one turn to search. This means that you are taking twice the time to move around the dungeon, and therefore twice the food. Search mode will automatically turn off if you are disturbed. You may also turn off search mode by entering the Search Mode command again.

6.5 Alter Commands

Tunnel ('T') or Tunnel ('^T') Tunnelling or mining is a very useful art. There are many kinds of rock, with varying hardness, including permanent rock (permanent), granite (very hard), quartz veins (hard), magma veins (soft), and rubble (very soft). Quartz and Magma veins may be displayed in a special way, and may sometimes contain treasure, in which case they will be displayed in a different way. Rubble sometimes covers an object but is easy to tunnel through, even with your bare hands. Tunnelling ability increases with strength and weapon weight. This command may take a count, requires a direction, and takes some energy.

Open a door or chest ('o') To open an object such as a door or chest, you must use this command. If the object is locked, you will attempt to pick the lock based on your disarming ability. If you open a trapped chest without disarming the traps first, the trap will be set off. Some doors will be jammed shut and may have to be forced open. Opening will automatically attempt to pick any lock doors. You may need several tries to open a door or chest. This command may take a count, requires a direction, and takes some energy.

Close a door ('c') Non-intelligent and some other creatures cannot open doors, so shutting doors can be quite valuable. Furthermore, monsters cannot see you behind closed doors, so

closing doors may allow you to buy some time without being attacked. Broken doors cannot be closed. Bashing a door open may break it. This command may take a count, requires a direction, and takes some energy.

Jam a door ('j') or Spike a door ('S') Many monsters can simply open closed doors, and can eventually get through a locked door. You may therefore occasionally want to jam a door shut with iron spikes. Each spike used on the door will make it harder for a monster to bash down the door, and will make it take longer time, up to a certain limit. A door that was locked before it was jammed or spiked will be harder to bash down. Smaller monsters are less able to bash down doors. In order to use this command, you must be carrying iron spikes. This command requires a direction, and takes some energy.

Bash a door ('B') or Force a door ('f') This command allows you to bash down jammed doors. Your bashing ability increases with strength. Bashing open a door can (briefly) throw you off balance. Doors that are stuck, or which have been jammed closed with spikes can only be opened by bashing, and all closed doors can be bashed open if desired. Bashing a door open may permanently break it so that it can never be closed. This command may take a count, requires a direction, and takes some energy.

Disarm a trap or chest, or lock a door ('D') You can attempt to disarm traps on the floor or on chests. If you fail, there is a chance that you will blunder and set it off. You can only disarm a trap after you have found it (usually with the Search command). The command can also be used to lock a closed door. This will create a hindrance for monsters. Even if many monsters will be able to pick the lock or bash the door down, it will often take them some time. This command may take a count, requires a direction, and takes some energy.

Alter ('+') This special command allows the use of a single keypress to select any of the "obvious" commands above (attack, tunnel, bash, open, disarm), and, by using keymaps, to combine this keypress with directions. In general, this allows the use of the "control" key plus the appropriate "direction" key (including the roguelike direction keys in roguelike mode) as a kind of generic "alter the terrain feature of an adjacent grid" command. This command may take a count, requires a direction, and takes some energy.

6.6 Spell and Prayer Commands

Browse a book ('b') or Peruse a book ('P') Only mages, rogues, and rangers can read magic books, and only priests and paladins can read prayer books. Warriors cannot read any books. When this command is used, all of the spells or prayers contained in the selected book are displayed, along with information such as their level, the amount of mana required to cast them, and whether or not you know the spell or prayer.

Gain new spells or prayers ('G') Use this command to actually learn new spells or prayers. When you are able to learn new spells or prayers, the word "Study" will appear on the status line at the bottom of the screen. If you have a book in your possession, containing spells or prayers which you may learn, then you may choose to study that book. If you are a mage, rogue, or ranger, you may actually choose which spell to study. If you are a priest

or paladin, your gods will choose a prayer for you. There are nine books of each type, five of which are normally found only in the dungeon. This command takes some energy.

Cast a spell or pray a prayer ('m' and 'p' in both keysets) To cast a spell, you must have previously learned the spell and must have in your inventory a book from which the spell can be read. Each spell has a chance of failure which starts out fairly large but decreases as you gain levels. If you don't have enough mana to cast a spell, you will be prompted for confirmation. If you decide to go ahead, the chance of failure is greatly increased, and you may wind up paralyzed for several turns. Since you must read the spell from a book, you cannot be blind or confused while casting, and there must be some light present. This command takes some energy: the higher your level, the less it takes, but the higher the spell level, the more it takes.

6.7 Object Manipulation Commands

Eat some food ('E') You must eat regularly to prevent starvation. As you grow hungry, a message will appear at the bottom of the screen saying "Hungry". If you go hungry long enough, you will become weak, then start fainting, and eventually, you may die of starvation. You may use this command to eat food in your inventory. Note that you can sometimes find food in the dungeon, but it is not always wise to eat strange food. This command takes some energy.

Fuel your lantern/torch ('F') If you are using a lantern and have flasks of oil in your pack, then you can "refuel" them with this command. Torches and Lanterns are limited in their maximal fuel. In general, two flasks will fully fuel a lantern. This command takes some energy.

Quaff a potion ('q') Use this command to drink a potion. Potions affect the player in various ways, but the effects are not always immediately obvious. This command takes some energy.

Read a scroll ('r') Use this command to read a scroll. Scroll spells usually have an area effect, except for a few cases where they act on other objects. Reading a scroll causes the parchment to disintegrate as the scroll takes effect. Most scrolls which prompt for more information can be aborted (by pressing escape), which will stop reading the scroll before it disintegrates. This command takes some energy.

Inscribe an object ('i') This command inscribes a string on an object. The inscription is displayed inside curly braces after the object description. The inscription is limited to the particular object (or pile) and is not automatically transferred to all similar objects. Under certain circumstances, Angband will display "fake" inscriptions on certain objects ('cursed', 'tried', 'empty') when appropriate. These "fake" inscriptions remain all the time, even if the player chooses to add a "real" inscription on top of it later.

In addition, Angband will occasionally place a "real" inscription on an object for you, normally as the result of your character getting a "feeling" about the item. All characters will get "feelings" about weapons and armor after carrying them for a while.

An item labeled as '{empty}' was found to be out of charges, and an item labeled as '{tried}' is a "flavored" item which the character has used, but whose effects are unknown. Certain inscriptions have a meaning to the game, see '@#', '@x#', '!*', and '!x', in the section on inventory object election.

Uninscribe an object ('}') This command removes the inscription on an object. This command will have no effect on "fake" inscriptions added by the game itself.

Toggle squelch ('K') or Toggle squelch ('O') This command will toggle squelch settings. If on, all squelched items will be hidden from view. If off, all items will be shown regardless of their squelch setting. See the customize section for more info.

6.8 Magical Object Commands

Activate an object ('A') You have heard rumors of special weapons and armor deep in the Pits, items that can let you breathe fire like a dragon or light rooms with just a thought. Should you ever be lucky enough to find such an item, this command will let you activate its special ability. Special abilities can only be used if you are wearing or wielding the item. This command takes some energy.

Aim a wand ('a') or Zap a wand ('z') Wands must be aimed in a direction to be used. Wands are magical devices, and therefore there is a chance you will not be able to figure out how to use them if you aren't good with magical devices. They will fire a shot that affects the first object or creature encountered or fire a beam that affects anything in a given direction, depending on the wand. An obstruction such as a door or wall will generally stop the effects from traveling any farther. This command requires a direction and can use a target. This command takes some energy.

Use a staff ('u') or Zap a staff ('Z') This command will use a staff. A staff is normally very similar to a scroll, in that they normally either have an area effect or affect a specific object. Staves are magical devices, and there is a chance you will not be able to figure out how to use them. This command takes some energy.

Zap a rod ('z') or Activate a rod ('a') Rods are extremely powerful magical items, which cannot be burnt or shattered, and which can have either staff-like or wand-like effects, but unlike staves and wands, they don't have charges. Instead, they draw on the ambient magical energy to recharge themselves, and therefore can only be activated once every few turns. The recharging time varies depending on the type of rod. This command may require a direction (depending on the type of rod, and whether you are aware of its type) and can use a target. This command takes some energy.

6.9 Throwing and Missile Weapons

Fire an item ('f') or Fire an item ('t') This command will fire a will allow you to fire a missile from either your quiver or your inventory provided it is the appropriate ammunition for the current missile weapon you have equipped. You may not fire an item without a missile

weapon equipped. Fired ammunition has a chance of breaking. This command takes some energy.

Fire default ammo at nearest ('h') or ('TAB') If you have a missile weapon equipped and the appropriate ammunition in your quiver, you can use this command to fire at the nearest visible enemy. This command will cancel itself if you lack a launcher, ammunition or a visible target that is in range. The first ammunition of the correct type found in the quiver is used. This command takes some energy.

Throw an item ('v') You may throw any object carried by your character. Depending on the weight, it may travel across the room or drop down beside you. Only one object from a pile will be thrown at a time. Note that throwing an object will often cause it to break, so be careful! If you throw something at a creature, your chances of hitting it are determined by your plusses to hit, your ability at throwing, and the object's plusses to hit. Once the creature is hit, the object may or may not do any damage to it. Note that flasks of oil will do some fire damage to a monster on impact. If you are wielding a missile launcher compatible with the object you are throwing, then you automatically use the launcher to fire the missile with much higher range, accuracy, and damage, than you would get by just throwing the missile. Throw, like fire, requires a direction. Targeting mode (see the next command) can be invoked with '*' at the 'Direction?' prompt. This command takes some energy.

Targeting Mode ('*') This will allow you to aim your ranged attacks at a specific monster or grid, so that you can point directly towards that monster or grid (even if this is not a "compass" direction) when you are asked for a direction. You can set a target using this command, or you can set a new target at the "Direction?" prompt when appropriate. At the targeting prompt, you have many options. First of all, targetting mode starts targetting nearby monsters which can be reached by "projectable" spells and thrown objects. In this mode, you can press 't' (or '5' or '.') to select the current monster, pace to advance to the next monster, '-' to back up to the previous monster, direction keys to advance to a monster more or less in that direction, 'r' to "recall" the current monster, 'q' to exit targetting mode, and 'p' (or 'o') to stop targetting monsters and enter the mode for targetting a location on the floor or in a wall. Note that if there are no nearby monsters, you will automatically enter this mode. Note that hitting 'o' is just like 'p', except that the location cursor starts on the last examined monster instead of on the player. In this mode, you use the "direction" keys to move around, and the 'q' key to quit, and the 't' (or '5' or '.') key to target the cursor location. Note that targetting a location is slightly "dangerous", as the target is maintained even if you are far away. To cancel an old target, simply hit '*' and then 'ESCAPE' (or 'q'). Note that when you cast a spell or throw an object at the target location, the path chosen is the "optimal" path towards that location, which may or may not be the path you want. Sometimes, by clever choice of a location on the floor for your target, you may be able to convince a thrown object or cast spell to squeeze through a hole or corridor that is blocking direct access to a different grid. Launching a ball spell or breath weapon at a location in the middle of a group of monsters can often improve the effects of that attack, since ball attacks are not stopped by interposed monsters if the ball is launched at a target.

6.10 Looking Commands

Full screen map ('M') This command will show a map of the entire dungeon, reduced by a factor of nine, on the screen. Only the major dungeon features will be visible because of the scale, so even some important objects may not show up on the map. This is particularly useful in locating where the stairs are relative to your current position, or for identifying unexplored areas of the dungeon.

Locate player on map ('L') or Where is the player ('W') This command lets you scroll your map around, looking at all sectors of the current dungeon level, until you press escape, at which point the map will be re-centered on the player if necessary. To scroll the map around, simply press any of the "direction" keys. The top line will display the sector location, and the offset from your current sector.

Look around ('l') or Examine things ('x') This command is used to look around at nearby monsters (to determine their type and health) and objects (to determine their type). It is also used to find out if a monster is currently inside a wall, and what is under the player. When you are looking at something, you may hit space for more details, or to advance to the next interesting monster or object, or minus ('-') to go back to the previous monster or object, or a direction key to advance to the nearest interesting monster or object (if any) in that general direction, or 'r' to recall information about the current monster race, or 'q' or escape to stop looking around. You always start out looking at "yourself".

Inspect an item ('I') This command lets you inspect an item. This will tell you things about the special powers of the object, as well as attack information for weapons. It will also tell you what resistances or abilities you have noticed for the item and if you have not yet completely identified all properties.

List visible monsters ('l') This command lists all monsters that are visible to you, telling you how many there are of each kind. It also tells you whether they are asleep, and where they are (relative to you).

List visible items ('j') This command lists all items that are visible to you, telling you how of each there are and where they are on the level relative to your current location.

6.11 Message Commands

Repeat level feeling ('^F') Repeats the feeling about the monsters in the dungeon level that you got when you first entered the level. If you have explored enough of the level, you will also get a feeling about how good the treasures are.

View previous messages ('^P') This command shows you all the recent messages. You can scroll through them, or exit with ESCAPE.

Take notes (':') This command allows you to take notes, which will then appear in your message list and your character history (prefixed with "Note:").

6.12 Game Status Commands

Character Description ('C') Brings up a full description of your character, including your kill levels, your current and potential stats, and various other information. From this screen, you can change your name or use the file character description command to save your character status to a file. That command saves additional information, including your background, your inventory, and the contents of your house.

Check knowledge ('~') This command allows you to ask about the knowledge possessed by your character. Currently, this includes being able to list all known "artifacts", "uniques", and "objects". Normally, once an artifact is "generated", and "lost", it can never again be found, and will become "known" to the player. With "preserve" mode, an artifact can never be "lost" until it is "known" to the player. In either case, any "known" artifacts not in the possession of the player will never again be "generated". The "uniques" are special "unique" monsters which can only be killed once per game. Certain "objects" come in "flavors", and you must determine the effect of each "flavor" once for each such type of object, and this command will allow you to display all "known" flavors. Inscribing items in this list will cause you to similarly inscribe all similar items you find from this point on.

6.13 Saving and Exiting Commands

Save and Quit ('Ctrl-X') To save your game so that you can return to it later, use this command. Save files will also be generated (hopefully) if the game crashes due to a system error. After you die, you can use your savefile to play again with the same options and such.

Save ('Ctrl-S') This command saves the game but doesn't exit Angband. Use this frequently if you are paranoid about having your computer crash (or your power go out) while you are playing.

Quit (commit suicide) ('Q') Kills your character and exits Angband. You will be prompted to make sure you really want to do this, and then asked to verify that choice. Note that dead characters are dead forever.

6.14 User Pref File Commands

Interact with options ('=') Allow you to interact with options. Note that using the "cheat" options may mark your savefile as unsuitable for the high score list. The "window" options allow you to specify what should be drawn in any of the special sub-windows (not available on all platforms). See the help files 'customize.txt' and 'options.txt' for more info. You can also interact with keymaps under this menu.

Interact with keymaps - option submenu Allow you to interact with keymaps. You may load or save keymaps from user pref files, or define keymaps. You must define a "current action", shown at the bottom of the screen, before you attempt to use any of the "create macro" commands, which use that "current action" as their action.

Interact with visuals - option submenu Allow you to interact with visuals. You may load or save visuals from user pref files, or modify the attr/char mappings for the monsters, objects, and terrain features. You must use the "redraw" command ('^R') to redraw the map after changing attr/char mappings. NOTE: It is generally easier to modify visuals via the "knowledge" menus.

Interact with colors - option submenu Allow the user to interact with colors. This command only works on some systems. NOTE: It is commonly used to brighten the 'Light Dark' color (eg. Cave Spiders) on displays with bad alpha settings.

6.15 Help Commands

Help ('?') Brings up the Angband on-line help system. Note that the help files are just text files in a particular format, and that other help files may be available on the Net. In particular, there are a variety of spoiler files which do not come with the standard distribution. Check the place you got Angband from or ask on the angband forums angband.oook.cz about them.

Identify Symbol ('/') Use this command to find out what a character stands for. For instance, by pressing './', you can find out that the '.' symbol stands for a floor spot. When used with a symbol that represents creatures, the this command will tell you only what class of creature the symbol stands for, not give you specific information about a creature you can see. To get that, use the Look command.

There are three special symbols you can use with the Identify Symbol command to access specific parts of your monster memory. Typing 'Ctrl-A' when asked for a symbol will recall details about all monsters, typing 'Ctrl-U' will recall details about all unique monsters, and typing 'Ctrl-N' will recall details about all non-unique monsters.

If the character stands for a creature, you are asked if you want to recall details. If you answer yes, information about the creatures you have encountered with that symbol is shown in the Recall window if available, or on the screen if not. You can also answer 'k' to see the list sorted by number of kills, or 'p' to see the list sorted by dungeon level the monster is normally found on. Pressing 'ESCAPE' at any point will exit this command.

Game Version ('V') This command will tell you what version of Angband you are using. For more information, see the 'version.txt' help file.

6.16 Extra Commands

Toggle Choice Window ('^E') Toggles the display in any sub-windows (if available) which are displaying your inventory or equipment.

Redraw Screen ('^R') This command adapts to various changes in global options, and redraws all of the windows. It is normally only necessary in abnormal situations, such as after changing the visual attr/char mappings, or enabling "graphics" mode.

Load screen dump (left-paren) This command loads a "snap-shot" of the current screen from the file 'dump.txt', and displays it on the screen.

Save screen dump (')') This command dumps a "snap-shot" of the current screen to the file 'dump.txt', including encoded color information. The command has three variants:

- text, a simple ascii dump of the screen concatenated with a dump of the color attributes. It may be viewed in color with the '(' command.
- html, suitable for viewing in a web browser.
- forum embedded html for vBulletin, suitable for pasting in web forums like <http://angband.oook.cz/forums>.

6.17 Special Keys

Certain special keys may be intercepted by the operating system or the host machine, causing unexpected results. In general, these special keys are control keys, and often, you can disable their special effects.

If you are playing on a UNIX or similar system, then Ctrl-C will interrupt Angband. The second and third interrupt will induce a warning bell, and the fourth will induce both a warning bell and a special message, in the fifth will quit the game, after killing your character. Also, 'Ctrl-Z' will suspend the game, and return you to the original command shell, until you resume the game with the 'fg' command. There is now a compilation option to force the game to prevent the "double 'ctrl-z' escape death trick". The 'Ctrl-\', 'Ctrl-D' and 'Ctrl-S' keys should not be intercepted.

It is often possible to specify "control-keys" without actually pressing the control key, by typing a caret (^) followed by the key. This is useful for specifying control-key commands which might be caught by the operating system as explained above.

Pressing backslash (\) before a command will bypass all keymaps, and the next keypress will be interpreted as an "underlying command" key, unless it is a caret (^), in which case the keypress after that will be turned into a control-key and interpreted as a command in the underlying angband keyset. For example, the sequence '\ + . + 6' will always mean "run east", even if the '.' key has been mapped to a different underlying command.

The 'O' and '^' and '\' keys all have special meaning when entered at the command prompt, and there is no "useful" way to specify any of them as an "underlying command", which is okay, since they would have no effect.

For many input requests or queries, the special character ESCAPE will abort the command. The '[y/n]' prompts may be answered with 'y' or 'n', or 'ESCAPE'. The '-more-' message prompts may be cleared (after reading the displayed message) by pressing 'ESCAPE', 'SPACE', 'RETURN', 'LINEFEED', or by any keypress, if the "quick_messages" option is turned on.

6.18 Command Counts

Some commands can be executed a fixed number of times by preceding them with a count. Counted commands will execute until the count expires, until you type any character, or until

something significant happens, such as being attacked. Thus, a counted command doesn't work to attack another creature. While the command is being repeated, the number of times left to be repeated will flash by on the line at the bottom of the screen.

To give a count to a command, type '0', the repeat count, and then the command. If you want to give a movement command and you are using the original command set (where the movement commands are digits), press space after the count and you will be prompted for the command.

Counted commands are very useful for time consuming commands, as they automatically terminate on success, or if you are attacked. You may also terminate any counted command (or resting or running), by typing any character. This character is ignored, but it is safest to use a 'SPACE' or 'ESCAPE' which are always ignored as commands in case you type the command just after the count expires.

7 Option Descriptions

Options are accessible through the '=' command, which provides an interface to the various sets of options available to the player.

In the descriptions below, each option is listed as the textual summary which is shown on the "options" screen, plus the internal name of the option in brackets, followed by a textual description of the option.

Note that the internal name of the option can be used in user pref files to force the option to a given setting, see "customize.txt" for more info.

Various concepts are mentioned in the descriptions below, including "disturb", (cancel any running, resting, or repeated commands, which are in progress), "flush" (forget any keypresses waiting in the keypress queue), "fresh" (dump any pending output to the screen), and "sub-windows" (see below).

7.1 User Interface Options

Rogue-like commands '[rogue_like_commands]' Selects the "roguelike" command set (see "command.txt" for info).

Use old target by default '[use_old_target]' Forces all commands which normally ask for a "direction" to use the current "target" if there is one. Use of this option can be dangerous if you target locations on the ground, unless you clear them when done.

Automatically clear -more- prompts '[auto_more]' The game does not wait for a keypress when it comes to a '-more-' prompt, but carries on going.

Always pickup items '[pickup_always]' Automatically picks up items when you walk upon them, provided it is safe to do so.

Always pickup items matching inventory '[pickup_inven]' Like pickup_always, but picks up an item only if it is a copy of an item that you already have in your inventory.

Notify on object recharge '[notify_recharge]' This causes the game to print a message when any rechargeable object (i.e. a rod or activatable weapon or armour item) finishes recharging. It is the equivalent of inscribing '{!!}' on all such items.

Show flavors in object descriptions '[show_flavors]' Display "flavors" (color or variety) in object descriptions, even for objects whose type is known. This does not affect objects in stores.

Center map continuously '[center_player]' The map always centres on the player with this option on. With it off, it is divided into 25 sections, with coordinates (0,0) to (4,4), and will show one section at a time - the display will "flip" to the next section when the player nears the edge.

Disturb whenever viewable monster moves '[disturb_near]' Disturb the player when any viewable monster moves, whenever any monster becomes viewable for the first time, and also whenever any viewable monster becomes no longer viewable. This option ignores the existence of "telepathy" for the purpose of determining whether a monster is "viewable".

Show damage player deals to monsters '[show_damage]' Shows the damage that the player deals to monsters for melee and ranged combat in the messages.

Highlight target with cursor '[show_target]' Highlights the current targeted monster with a cursor. Useful when combined with "use old target by default"

Use special colors for torch-lit grids '[view_yellow_light]' This option causes special colors to be used for "torch-lit" grids. Turning this option off will slightly improve game speed.

Animate multi-coloured monsters and items '[animate_flicker]' Certain powerful monsters and items will shimmer in real time, i.e. between keypresses.

Player color indicates low hit points '[hp_changes_color]' This option makes the player '@' turn various shades of colour from white to red, depending on percentage of HP remaining.

Show unique monsters in a special colour '[purple_uniques]' All "unique" monsters will be shown in a light purple colour, which is not used for any "normal" monsters - so you can tell at a glance that they are unique. If you like the idea but don't like the colour, you can edit it via the "interact with colors" option.

Show walls as solid blocks '[solid_walls]' Walls are solid blocks instead of # for granite and % for veins. Veins are coloured darker than granite for differentiation purposes.

Show walls with shaded backgrounds '[hybrid_walls]' Walls appear as # and % symbols overlaid on a gray background block. This overrides '[solid_walls]'.

Allow mouse clicks to move the player '[mouse_movement]' Clicking on the main window will be interpreted as a move command to that spot.

Use sound '[use_sound]' Turns on sound effects, if your system supports them.

7.2 Birth options

Randomize the artifacts (except a very few) '[birth_randarts]' A different set of artifacts will be created, in place of the standard ones. This is intended primarily for people who have played enough to know what most of the standard artifacts do and want some variety. The number, findability and power of random artifacts will all match the standard set - approximately.

Use previous set of randarts '[birth_keep_randarts]' Does what it says on the tin. Note that this option must be set at the END of the game, from the death menu. Once you have restarted the game, it is too late to set it (but you can still un-set it if you change your mind). Note that switching to non-random artifacts will wipe randarts, regardless of this option.

Monsters learn from their mistakes '[birth_ai_learn]' Allow monsters to learn what spell attacks you are resistant to, and to use this information to choose the best attacks. This option makes the game very difficult and is not recommended.

Force player descent '[birth_force_descend]' Upwards staircases do not work. All downward staircases, including the one in town, transport the character one level below the previous maximum depth. Recalling from the dungeon works and brings the character to the town. However, recalling from town brings the character one level below the previous maximum depth. The character cannot recall from quest levels until the quest is complete, however you will be warned before descending into a quest level. Any status effects that sometimes teleports the character up and sometimes teleports them down will always choose down. When combined with the option for word of recall scrolls to have no effect, this recreates the previous "ironman" option.

Word of Recall has no effect '[birth_no_recall]' Word of Recall scrolls have no effect. When combined with the option to force player descent, this recreates the previous "ironman" option.

Halve view and spell distances '[birth_small_range]' Distance of seeing, casting spells, shooting and so on are all halved. This is useful for playing with large tiles, or on small devices.

Restrict the creation of artifacts '[birth_no_artifacts]' No artifacts will be created. Ever. Just *how* masochistic are you?

Don't stack objects on the floor '[birth_no_stacking]' Items dropped on the floor will spread out instead of stacking. Normal items will disappear if there is no empty grid within a radius of three squares.

Lose artifacts when leaving level '[birth_no_preserve]' Normally if you leave a level with an unidentified artifact on it you may still find it later. With this option on, if you leave a level with an artifact on it's gone for the rest of the game whether you knew it was there or not. Note that this option has no effect on artifacts which you have already identified (i.e. picked up) - these will always be permanently lost if you leave a level without taking them with you.

Don't generate connected stairs '[birth_no_stairs]' Normally, if you go down stairs, you start the new level on an up staircase, and vice versa (if you go up stairs, you start the next level on a down staircase). With this option on, you will never start on a staircase - but other staircases up and down elsewhere on the level will still be generated.

Don't show level feelings '[birth_no_feelings]' The "quality" of a level is never revealed, no matter how long you spend on the level.

Increase gold drops but disable selling '[birth_no_selling]' Shopkeepers will never pay you for items you sell, though they will still identify unknown items for you, and will still sell you their wares. To balance out income in the game, gold found in the dungeon will be increased if this option is on.

Start with a kit of useful gear '[birth_start_kit]' Start with items, a useful option for new players, or ones that wish to descend immediately into the dungeon. If turned off, the character will start with additional gold with which to purchase starting gear.

7.3 Cheating options

Peek into monster creation '[cheat_hear]' Cheaters never win. But they can peek at monster creation.

Peek into dungeon creation '[cheat_room]' Cheaters never win. But they can peek at room creation.

Peek into something else '[cheat_xtra]' Cheaters never win. But they can see debugging messages.

Know complete monster info '[cheat_know]' Cheaters never win. But they can know all about monsters.

Allow player to avoid death '[cheat_live]' Cheaters never win. But they can cheat death.

7.4 Window flags

Some platforms support "sub-windows", which are windows which can be used to display useful information generally available through other means. The best thing about these windows is that they are updated automatically (usually) to reflect the current state of the world. The "window options" can be used to specify what should be displayed in each window. The possible choices should be pretty obvious.

Display inven/equip Display the player inventory (and sometimes the equipment).

Display equip/inven Display the player equipment (and sometimes the inventory).

Display player (basic) Display a brief description of the character, including a breakdown of the current player "skills" (including attacks/shots per round).

Display player (extra) Display a special description of the character, including some of the "flags" which pertain to a character, broken down by equipment item.

Display player (compact) Display a brief description of the character, including a breakdown of the contributions of each equipment item to various resistances and stats.

Display map view Display the area around the player or around the target while targetting. This allows using graphical tiles in their original size.

Display messages Display the most recently generated "messages".

Display overhead view Display an overhead view of the entire dungeon level.

Display monster recall Display a description of the most monster which has been most recently attacked, targetted, or examined in some way.

Display object recall Display a description of the most recently selected object. Currently this only affects spellbooks and prayerbooks. This window flag may be usefully combined with others, such as "monster recall".

Display monster list Display a list of monsters you know about and their distance from you.

Display status ???

Display item list Display a list of items you know about and their distance from you.

Display borg messages This window flag is currently used only by the Borg.

Display borg status This window flag is currently used only by the Borg.

7.5 Left Over Information

The 'hitpoint_warn' value, if non-zero, is the percentage of maximal hitpoints at which the player is warned that he may die. It is also used as the cut-off for using the color red to display both hitpoints and mana.

The 'delay_factor' value, if non-zero, will slow down the visual effects used for missile, bolt, beam, and ball attacks. The actual time delay is equal to 'delay_factor' squared, in milliseconds.

8 Customising the game

Angband supports multiple customizations. These can vary from alternative methods for selecting objects, keymaps for different commands, changing the visuals (using graphical tiles), creating subwindows, and saving customizations for use on future characters.

8.1 Squelch settings

Angband allows you to ignore specific items that you don't want to see anymore. These items are 'squelched' and any similar items are hidden from view. There are several ways to squelch an item. The easiest way is to choose the 's' option when destroying an object. Whenever you destroy an object you are forced to confirm the destruction. One of the options is 's'. If you use this option, the object is dropped and then hidden from view.

Weapons and armor have quality squelch options. These allow you to specify what types of weapons and armor you are no longer interested in seeing. There is a quality setting for each weapon and armor type. Squelching weapons and armor by destroying the object will prompt you with a question about whether you wish to squelch all of that type of armor with a certain quality setting. These quality settings are described below:

bad The weapon/armor has negative AC, to-hit or to-dam.

average The weapon/armor has no pluses no minuses. It is non-magical.

good The weapon/armor has positive AC, to-hit or to-dam. However it does not have any special abilities, brands, slays, stat-boosts, resistances

excellent, with no high resists Weapons will have some slays. Armor will have resistances, but these are limited to rfire, rcold, racid and relec.

excellent but not splendid Weapons and armor may have high resists but they do not have any stat boosts or brands.

splendid Squelching all splendid items only leaves artifacts unsquelched.

8.2 Using Inscriptions

Inscriptions are notes you can mark on objects using the '{' command. You can use this to give the game commands about the object, which are listed below. You can also set up the game to automatically inscribe certain items whenever you find them, using the object knowledge screens, accessed using '~'.

Inscribing an item with '!!': This will alert you when the item has finished recharging.

Inscribing an item with '=g': This marks an item as 'always pick up'. This is sometimes useful for picking up ammunition after a shootout.

Inscribing an item with '! followed by a command letter or '*': This means "ask me before using this item". '!w' means 'ask me before wielding', '!d' means 'ask me before dropping', and so on. If you inscribe an item with '!*' then the game will confirm any use of an item.

Say you inscribed your potion of Speed with '!q'. This would prompt you when you try to drink it to see if you really mean to. Multiple '!q' inscriptions will prompt multiple times.

Similarly, using !v!k!d makes it very hard for you to accidentally throw, ignore or put down the item it is inscribed on.

Some adventurers use this for Scrolls of Word of Recall so they don't accidentally return to the dungeon too soon.

Inscribing an item with '@', followed by a command letter, followed by 0-9: Normally when you select an item from your inventory you must enter the letter that corresponds to the item. Since the order of your inventory changes as items get added and removed, this can get annoying. You can instead assign certain items numbers when using a command so that wherever they are in your backpack, you can use the same keypresses. If you have multiple items inscribed with the same thing, the game will use the first one.

For example, if you inscribe a staff of Cure Light Wounds with '@u1', you can refer to it by pressing 1 when 'u'sing it. You could also inscribe a wand of Wonder with '@a1', and when using 'a', 1 would select that wand.

Spellcasters should inscribe their books, so that if they lose them they do not cast the wrong spell. If you are mage and the beginner's spellbook is the first in your inventory, casting 'maa' will cast magic missile. But if you lose your spellbook, casting 'maa' will cast the first spell in whatever new book is in the top of your inventory. This can be a waste in the best case scenario and exceedingly dangerous in the worst! By inscribing your spellbooks with '@m1', '@m2', etc., if you lose your first spellbook and attempt to cast magic missile by using 'm1a', you cannot accidentally select the wrong spellbook.

Inscribing an item with '^', followed by a command letter: When you wear an item inscribed with '^', the game prompts you before doing that action. You might inscribe '^>' on an item if you want to be reminded to take it off before going down stairs. If the item is in your backpack then the game won't prompt you.

Like with '!', you can use '*' for the command letter if you want to game to prompt you every turn whatever you're doing. This can get very annoying!

8.3 User Pref Files

Angband allows you to change various aspects of the game to suit your tastes. You may define keymaps (changing the way Angband maps your keypresses to underlying commands), modify the visuals (allowing you to change the appearance of monsters, objects, or terrain features), change the colors (allowing you to make a given color brighter, darker, or even completely different), or set options (turning them off or on).

Angband stores your preferences in files called "user pref files", which contain comments and "user pref commands", which are simple strings describing one aspect of the system about which the user has a preference. There are many ways to load a user pref file, and in fact, some of these files are automatically loaded for you by the game. All of the files are kept in the "lib/user/" directory, though you may have to use one of the command line arguments to redirect this directory, especially on multiuser systems. You may also enter single user pref commands directly, using the special "Enter a user pref command" command, activated by "double quote". You may have to use the "redraw" command ('^R') after changing certain of the aspects of the game, to allow Angband to adapt to your changes.

When the game starts up, after you have loaded an old character, or created a new character, some user pref files are loaded automatically. First, the "pref.prf" file is loaded. This file contains some user pref commands which will work on all platforms. Then one of 'font-xxx.prf' (for normal usage) or 'graf-xxx.prf' (for bitmap usage) is loaded. These files contain attr/char changes to allow the monsters, objects, and/or terrain features to look "better" on your system. Then the 'pref-xxx.prf' file is loaded. This file contains pre-defined system specific stuff (keymaps, color definitions, etc). Then, the 'user-xxx.prf' file is loaded. This file contains user-defined system specific stuff. The 'user-xxx.prf' file is used as the "default" user pref file in many places. The 'xxx' is the "system suffix" for your system, taken from the 'main-xxx.c' file which was used to generate your executable. Finally, the 'Race.prf', 'Class.prf', and 'Name.prf' files are loaded, where 'Race', 'Class', and 'Name' are replaced by the actual race, class, and name of the current character.

Several options menu items allow you to load existing user pref files, create new user pref files, append information to existing user pref files, and/or interact with various of the user preferences.

8.4 Subwindows

In addition to the main window, you can create additional window displays that have other secondary information on them. You can access the subwindow menu by using '=' then 'w'. You can select what windows to display. You may then need to make the window visible using the "window" pull down menu from the menu bar. There are a variety of subwindow choices and you should experiment to see which ones are the most useful for you.

8.5 User Pref Files (Keymaps)

The "Interact with keymaps" menu allows you to set up keymaps. Keymaps map a single keypress to a series of keypresses. For example you might map the key F1 to "maa" (the keypresses to cast "Magic Missile" as a spellcaster). This can speed up access to commonly-used features.

Keymaps have two parts: the trigger key and the action. These are written where possible just as ordinary characters. However, if modifier keys (shift, control, etc.) are used then they are encoded as special characters within curly braces {}.

Possible modifiers are:

```
K = Keypad (for numbers)
M = Meta (Cmd-key on OS X, alt on most other platforms)
^ = Control
S = Shift
```

If the only modifier is the control key, the curly braces {} aren't included. For example:

```
{^S}& = Control-Shift-S
^D    = Control-D
```

Special keys, like F1, F2, or Tab, are all written within square brackets []. For example:

```
^[F1]      = Control-F1
{^S}[Tab]  = Control-Shift-Tab
```

Special keys include [Escape].

The game will run keymaps in whatever keyset you use (original or roguelike). So if you write keymaps for roguelike keys and switch to original keys, they may not work as you expect! Keymap actions aren't recursive either, so if you had a keymap whose trigger was F1, including F1 inside the action wouldn't run the keymap action again.

When you're running a keymap, you might want to automatically skip any -more- prompts. To do this, include whatever commands you want to skip -more- prompts during with '()'.

Keymaps are written in pref files as:

```
A:<action>
C:<T>:<trigger>
```

The action must always come first, <T> means 'keyset Type', which is either 0 for the original keyset or 1 for the roguelike keyset. For example:

```
A:maa
C:0:[F1]
```

Angband uses a few built-in keymaps. These are for the movement keys (they are mapped to ';' plus the number, e.g. '5' -> ';5'), amongst others. You can see the full list in pref.prf but they shouldn't impact on you in any way.

To avoid triggering a keymap, you can use the backslash ('\') command.

8.6 User Pref Files (Visuals)

You can use the "Interact with visuals" menu to change various visual information, currently including the choice of what attr/char values are used to represent various monsters, objects, or terrain features. Note that in combination appropriate support in 'main-xxx.c', and with the use of the "use_graphics" flag, you may be able to specify that "graphic bitmaps" should be used instead of normal "colored characters" for various things.

When interactively modifying the attr/char values for monsters, objects, or terrain features, pressing 'n' or 'N' will change which entry you are changing, pressing 'a' or 'A' will rotate through the available attr values, and pressing 'c' or 'C' will rotate through the available char values. Note that attr/char values with the "high bit" set may induce the display of special "graphic" pictures if the "use_graphics" flag is set, and your system supports the "use_graphics" flag.

Note that this menu can be abused in various ways, and if you must do so, remember that you are only cheating yourself.

Keymaps can be specified in user pref files as lines of the form 'R:<N>:<A>/<C>' or 'K:<N>:<A>/<C>' or 'F:<N>:<A>/<C>' or 'U:<N>:<A>/<C>'.

8.7 User Pref Files (Colors)

The "Interact with colors" menu allows you to change the actual internal values used to display various colors. This command may or may not have any effect on your machine. Advanced machines may allow you to change the actual RGB values used to represent each of the 16 colors used by Angband, and perhaps even allow you to define new colors which are not currently used by Angband.

Colors can be specified in user pref files as lines of the form 'V:<N>:<V>:<R>:<G>:'.

8.8 User Pref Files (Options)

The "Interact with options" command allows you to turn options on or off. You may turn options off or on using the user pref commands of the form 'X:<option>' or 'Y:<option>' respectively.

9 Debug Command Descriptions

9.1 Item Creation

Create an object ('c') Provides a menu to let you create any object, and drops it on the floor.

Create an artifact ('C') Prompts you for the name of an artifact, then drops that artifact nearby. You must give the name exactly as in 'artifact.txt'. You may optionally give a command-count, in which case this command drops the artifact with that number nearby instead of prompting you for a name.

Create a good object ('g') Creates a good object and places it nearby. If you provide a command-count, creates that many good items.

Create a very good object ('v') Creates a very good ("excellent") object and places it nearby. If you provide a command-count, creates that many very good items.

Play with an object ('o') Lets you modify an object by randomly rerolling it as a normal, good, or excellent object, or lets you modify it directly, tweaking the pval and combat values.

Test kind ('V') Requires a command-count. For the tval given by command-count, creates one object of each sval and drops it nearby.

9.2 Detection / Information

Detect all ('d') Detects all traps, doors, stairs, treasure, and monsters nearby.

Identify ('i') Fully identifies an object.

Magic Mapping ('m') Maps the nearby dungeon.

Self-knowledge ('k') Grants you self-knowledge, as the potion of the same name.

Learn about objects ('l') Requires a command-count. Makes you "aware" of all items with level less than or equal to the command-count.

Monster recall ('r') Gives you full monster recall on all monsters or on a chosen monster.

Wipe recall ('W') Resets monster recall on all monsters or on a chosen monster.

Unhide monsters ('u') Reveals all monsters whose distance to the character is at most 255. If given a command-count, uses that distance instead of 255.

Wizard-light the level ('w') Lights the entire level, as the Potion of Enlightenment.

Create spoilers ('') Lets you create a spoiler file for objects or monsters.

9.3 Teleportation

Teleport level ('j') Allows you to teleport to any dungeon level instantly.

Phase Door ('p') Teleports you up to 10 spaces away.

Teleport ('t') Teleports you up to 100 spaces away.

Teleport to target ('b') Teleports you to the last space you targeted (or close to it, if the space is occupied).

9.4 Character Improvement

Cure all maladies ('a') Removes all curses, restores all stats, xp, hp, and sp, cures all bad effects, and satisfies your hunger.

Advance the character ('A') Advances your character to level 50, maxes all stats, and gives you a million gold.

Edit character ('e') Lets you specify your base stats, xp, and gold.

Increase experience ('x') Doubles your current experience and adds 1. If given a command-count, increases your experience by that much instead.

Rerate hitpoints ('h') Rerates your hitpoints.

9.5 Monsters

Summon monster ('n') Prompts you for the name of a monster, then summons that monster nearby. You must give the name exactly as in 'monster.txt'. You may optionally give a command-count, in which case this command summons the monster with that number nearby instead of prompting you for a name.

Summon random monster ('s') Summons a random monster next to you. If given a command-count, summons that many monsters instead.

Zap monsters ('z') Deletes all monsters in sight. If given a command-count, deletes all monsters whose distance to the character is at most the command-count instead.

9.6 Miscellaneous

Create a trap ('T') Creates a random trap on your square.

Quit without saving ('X') Quits the game without saving (prompts first).

9.7 Undocumented

Query the dungeon ('q') ???

Collect stats ('f') ???

Ben hack ('_') ???

10 Version Information

The current version is 3.4. Detailed information about this version and previous versions can be found at <http://rephial.org>. Also additional information can be found at the angband forums (<http://angband.oook.cz>) or the newsgroup (rec.games.roguelike.angband).

This file was last updated for Angband 3.1.2 and remains here mainly for historical purposes.

Angband has an incredibly complex history, and is the result of a lot of work by a lot of people, all of whom have contributed their time and energy for free, being rewarded only by the pleasure of keeping alive one of the best freeware games available anywhere.

The version control files, if they existed, would span more than ten years time, and more than six different primary developers. Without such files, we must rely on simpler methods, such as change logs, source file diffs, and word of mouth. Some of this information is summarised in this file.

Please be sure to read the copyright information contained in the file 'copying.txt'.

10.1 Brief Version History

First came "VMS Moria", by Robert Alan Koeneke (1985).

Then came "Umorea" (Unix Moria), by James E. Wilson (1989).

Details about the history of the various flavors of "Moria", the direct ancestor to Angband, can be found elsewhere, and a note from Robert Alan Koeneke is included in this file. Note that "Moria" has been ported to a variety of platforms, and has its own newsgroup, and its own fans.

In 1990, Alex Cutler and Andy Astrand, with the help of other students at the University of Warwick, created Angband 1.0, based on the existing code for Umorea 5.2.1. They wanted to expand the game, keeping or even strengthening the grounding in Tolkien lore, while adding more monsters and items, including unique monsters and artifact items, plus activation, pseudo-sensing, level feelings, and special dungeon rooms.

Over time, Sean Marsh, Geoff Hill, Charles Teague, and others, worked on the source, releasing a copy known as "Angband 2.4.frog_knows" at some point, which ran only on Unix systems, but which was ported by various people to various other systems. One of the most significant ports was the "PC Angband 1.4" port, for old DOS machines, which added color and various other significant changes, only some of which ever made it back into the official source.

Then Charles Swiger (cs4w+@andrew.cmu.edu) took over, sometime in late 1993, cleaning up the code, fixing a lot of bugs, and bringing together various patches from various people, resulting in several versions of Angband, starting with Angband 2.5.1 (?), and leading up to the release of Angband 2.6.1 (and Angband 2.6.2) in late 1994. Some of the changes during this period were based on suggestions from the "net", and from various related games, including "UMoria 5.5", "PC Angband 1.4", and "FAngband".

Angband 2.6.1 was primarily targetted towards Unix/NeXT machines, and it required the use of the low level "curses" commands for all screen manipulation and keypress interaction. Each release had to be ported from scratch to any new platforms, normally by creating visual display code that acted as a "curses" emulator. One such port was "Macintosh Angband 2.6.1", by Keith Randall, which added support for color, and which formed the basis for the first release of Angband 2.7.0.

During the last half of 1994, Ben Harrison had been playing with the Angband source, primarily to investigate the possibility of making some kind of automatic player for Angband, like the old "rogue-o-matic" program for the game "Rogue". The difficulty of compiling a version for the Macintosh, and the complexity of the code, prevented this, and so Ben began cleaning up the code in various ways for his personal use.

In late 1994, Charles Swiger announced that he was starting a real job and would no longer be able to be the Angband maintainer. This induced some amount of uproar in the Angband community (as represented by the Angband newsgroup), with various people attempting to form "committees" to take over the maintenance of Angband. Since committees have never given us anything but trouble (think "COBOL"), there was very little resistance when, on the first day of 1995, Ben made his code available, calling it "Angband 2.7.0", and by default, taking over as the new maintainer of Angband.

Angband 2.7.0 was a very clean (but very buggy) rewrite that, among other things, allowed extremely simple porting to multiple platforms, starting with Unix and Macintosh, and by the time most of the bugs were cleaned up, in Angband 2.7.2, including X11, and various IBM machines. Angband 2.7.4 was released to the "ftp.cis.ksu.edu" site, and quickly gained acceptance, perhaps helped by the OS2 and Windows and Amiga and Linux ports. Angband 2.7.5 and 2.7.6 added important capabilities such as macros and user pref files, and continued to clean up the source. Angband 2.7.8 was released to the major ftp archives as the first "stable" version in a year or so, with new "help files" and "spoiler files" for the "online help", plus a variety of minor tweaks and some new features.

After Angband 2.7.8 was released, Ben created a web site to keep track of all the changes made in each version (though a few may have been missed), and acquired the use of a new development ftp server to supplement the official "mirror" server. This web site is now permanently located at the Official Angband Home Page (<http://www.thangorodrim.net/>). Unfortunately, the next six versions were numbered Angband 2.7.9v1 to Angband 2.7.9v6, but really each were rather major updates. Angband 2.8.0 and 2.8.1 were released using a more normal version scheme.

Angband 2.8.2 and 2.8.3 add a few random features, clean up some code, and provide graphics support and such for a few more platforms.

After the release of Angband 2.8.3 Ben's free time was more and more occupied by his work. He released a beta version of Angband 2.8.5, introducing many new features, but couldn't give as much attention to maintaining the game as he wanted to. Meanwhile, an "unofficial" version by Robert Ruehlmann, incorporating three popular patches (the "Easy Patch" by Tim Baker, for opening doors and disarming traps without specifying the direction: Greg Wooledge's "Random Artifacts" patch: and Keldon Jones's "Optional Monster AI Improvement"), named "2.8.3h", was gaining popularity.

So in March 2000, Robert Ruehlmann offered to take over Angband and started to fix the remaining bugs in the Angband 2.8.5 beta. The resulting version was to be released as Angband 2.9.0. Further bugfixes and a couple of new features - including many in the realms of user-customizability, with greater control over ego-items, player races and classes, monsters, items and artifacts - have led to the current version.

And with the greater amount of user-customizability that is now possible, it was inevitable that SOMEBODY would eventually go and actually do something with it. Jonathan Ellis started customizing the user-editable text files in the 'edit' directory for his own personal use - originally, only by fixing bugs and inconsistencies (less powerful monsters being worth more experience per kill than more powerful ones, dragons doing a decent amount of damage in melee, monsters with two claws and one mouth getting one claw and three bite attacks, and so on).

At first, this was all that could really be done with it: adding new monsters and items was impossible, as the limits were fixed. And so only three new monsters made an appearance, each of them replacing an existing monster in the order: and one new artifact - "The Palantir of Westernesse". Gameplay balance could be tweaked somewhat, by changing the level, power and rarity of certain items and monsters: and some changes were made, mostly with the attempt to reduce the notorious "triple whammy" effect of needing poison, confusion and nether resistance (or over 550 hps, if without nether resistance) all at once, straight after passing 2000', forcing excessive scumming before this depth or risking unavoidable instant death: and then having nothing left to do but dive straight to 4000' and scum for speed items, missing out on some of the most interesting depths of the dungeon. This problem, at least, could be addressed, but actual new things were less easy to add...

That all changed with Angband 2.9.1, which for the first time moved the limits themselves to a separate user-editable file, and allowed more monsters and items to be created without removing the old ones. At the same time, a patch by Matthias Kurzke was incorporated which allowed the creation of new ego-items. Various new powers, for the player and monsters, were added to the game - but no items or monsters yet had these powers (resist fear, poison brand, lose charisma, summon greater demons, and so on): indeed, arguably it could be said that the game had not even adjusted properly to Ben Harrison's fractional speed system (Angband 2.7.0) or the addition of the other attack forms such as shards, sound, chaos, nexus and so on (even before Ben.)

The Official Angband Home Page (<http://rephial.org/>) serves not only as the most up to date description of Angband, but also lists changes made between versions, and changes planned for upcoming versions, and lists various email addresses and web sites related to Angband.

10.2 Some of the changes between Angband 2.6.1 and 3.0.6

It is very hard to pin down, along the way from 2.6.2 to 3.0.6, exactly what changes were made, and exactly when they were made. Most releases involved so many changes from the previous release as to make "diff files" not very useful, since often the diff files are as long as the code itself. Most of the changes, with the notable exception of the creation of some of the new 'main-xxx.c' files for the various new platforms, and a few other minor exceptions generally noted directly in comments in the source, were written by Ben or Robert, either spontaneously, or, more commonly, as the result of a suggestion or comment by an Angband player.

The most important modification was a massive "code level cleanup" for 2.7.x, largely completed in 2.7.8, that made all other modifications much simpler and safer. This cleanup was so massive that in many places the code is no longer recognizable, for example, via "diff -r", often because it was rewritten from scratch.

The second most important modification was the design of a generic 'z-term.c' package, which allows Angband to be ported to a new machine with as few as 50 lines of code. Angband 2.9.3 thus runs without modification on many machines, including Macintosh, PowerMac, Unix/X11, Unix/Curses, Amiga, Windows, OS2-386, DOS-386, and even DOS-286.

It would be difficult to list all of the changes between Angband 2.6.1 and 3.0.6, because many of them were made in passing during the massive code level cleanup. Many of the changes are invisible to the user, but still provide increased simplicity and efficiency, and decreased code size, or make other more visible changes possible. For example, the new 'project()' code that handles all bolts, beams, and balls, the new 'update_view()' code that simplifies line of sight computation, or the new 'generate()' code that builds new levels in the dungeon. Many changes have been made to increase efficiency, including the new 'process_monsters()' and 'update_monsters()' functions, and the new 'objdes()' and 'light_spot()' routines. The generic 'z-term.c' package yielded efficient screen updates, and enabled the efficient use of color.

The most visible (to ordinary players) changes that happened as a result of Ben Harrison's maintainership were:

- a far greater degree of user-customizability as shown by the 'info.txt' files
- the "fractional" speed system, with +10 in the new scheme equalling +1 in old money
- object stacking, the ability to have more than one object in a square: first tried in 2.7.9, completed in 2.8.2.

It should also be pointed out at this point that the far cleaner nature of Ben's code as compared to previous versions has given many other people the opportunity to base code for their own Angband variants on it. And so a plethora of new variants have appeared, many of them far more different from Angband now than Angband ever was from Moria, and yet still based on Ben's coding ideals for Angband.

For Angband 2.9.0, the first few new visible features were a random artifact generator (originally developed from a variant by Greg Woledge), an option to improve monster AI (believed to have originally started out life in a patch written by Keldon Jones), and a patch to allow easier handling of opening and closing doors and disarming traps (by Tim Baker). For Angband 2.9.1

has also come such things as the ability to increase the size of the editable textfiles and thus the number of monsters, artifacts, items, ego-items and vaults in the game (many new vaults were written by Chris Weisiger, some by others, and the number of vaults in the game at this time was doubled), and much greater customizability of ego-items has become possible thanks to a patch written by Matthias Kurzke. It is also now possible to add new character races to the game, and to edit the shopkeepers with respect to their greed, tolerance of haggling and reactions to the character based on his race. Angband 2.9.2 adds support for poison branded weapons to the game. Angband 2.9.3 made the character class itself customizable to an extent.

10.3 A Posting from the Original Author

From: koeneke@ionet.net (Robert Alan Koeneke)

Newsgroups: rec.games.roguelike.angband,rec.games.roguelike.moria

Subject: Early history of Moria

Date: Wed, 21 Feb 1996 04:20:51 GMT

I had some email show up asking about the origin of Moria, and its relation to Rogue. So I thought I would just post some text on the early days of Moria.

First of all, yes, I really am the Robert Koeneke who wrote the first Moria. I had a lot of mail accusing me of pulling their leg and such. I just recently connected to Internet (yes, I work for a company in the dark ages where Internet is concerned) and was real surprised to find Moria in the news groups... Angband was an even bigger surprise, since I have never seen it. I probably spoke to its originator though... I have given permission to lots of people through the years to enhance, modify, or whatever as long as they freely distributed the results. I have always been a proponent of sharing games, not selling them.

Anyway...

Around 1980 or 81 I was enrolled in engineering courses at the University of Oklahoma. The engineering lab ran on a PDP 1170 under an early version of UNIX. I was always good at computers, so it was natural for me to get to know the system administrators. They invited me one night to stay and play some games, an early startrek game, The Colossal Cave Adventure (later just 'Adventure'), and late one night, a new dungeon game called 'Rogue'.

So yes, I was exposed to Rogue before Moria was even a gleam in my eye. In fact, Rogue was directly responsible for millions of hours of play time wasted on Moria and its descendents...

Soon after playing Rogue (and man, was I HOOKED), I got a job in a different department as a student assistant in computers. I worked on one of the early VAX 11/780's running VMS, and no games were available for it at that time. The engineering lab got a real geek of an administrator who thought the only purpose of a computer was WORK! Imagine... Soooo, no more games, and no more rogue!

This was intolerable! So I decided to write my own rogue game, Moria Beta 1.0. I had three languages available on my VMS system. Fortran IV, PASCAL V1.?, and

BASIC. Since most of the game was string manipulation, I wrote the first attempt at Moria in VMS BASIC, and it looked a LOT like Rogue, at least what I could remember of it. Then I began getting ideas of how to improve it, how it should work differently, and I pretty much didn't touch it for about a year.

Around 1983, two things happened that caused Moria to be born in its recognizable form. I was engaged to be married, and the only cure for THAT is to work so hard you can't think about it; and I was enrolled for fall to take an operating systems class in PASCAL.

So, I investigated the new version of VMS PASCAL and found out it had a new feature. Variable length strings! Wow...

That summer I finished Moria 1.0 in VMS PASCAL. I learned more about data structures, optimization, and just plain programming that summer than in all of my years in school. I soon drew a crowd of devoted Moria players... All at OU.

I asked Jimmey Todd, a good friend of mine, to write a better character generator for the game, and so the skills and history were born. Jimmey helped out on many of the functions in the game as well. This would have been about Moria 2.0

In the following two years, I listened a lot to my players and kept making enhancements to the game to fix problems, to challenge them, and to keep them going. If anyone managed to win, I immediately found out how, and 'enhanced' the game to make it harder. I once vowed it was 'unbeatable', and a week later a friend of mine beat it! His character, 'Iggy', was placed into the game as 'The Evil Iggy', and immortalized... And of course, I went in and plugged up the trick he used to win...

Around 1985 I started sending out source to other universities. Just before a OU / Texas football clash, I was asked to send a copy to the University of Texas... I couldn't resist... I modified it so that the beggar on the town level was 'An OU football fan' and they moved at maximum rate. They also multiplied at maximum rate... So the first step you took and woke one up, it crossed the floor increasing to hundreds of them and pounded you into oblivion... I soon received a call and provided instructions on how to 'de-enhance' the game!

Around 1986 - 87 I released Moria 4.7, my last official release. I was working on a Moria 5.0 when I left OU to go to work for American Airlines (and yes, I still work there). Moria 5.0 was a complete rewrite, and contained many neat enhancements, features, you name it. It had water, streams, lakes, pools, with water monsters. It had 'mysterious orbs' which could be carried like torches for light but also gave off magical aura's (like protection from fire, or aggravate monster...). It had new weapons and treasures... I left it with the student assistants at OU to be finished, but I guess it soon died on the vine. As far as I know, that source was lost...

I gave permission to anyone who asked to work on the game. Several people asked if they could convert it to 'C', and I said fine as long as a complete credit history was maintained, and that it could NEVER be sold, only given. So I guess one or more of them succeeded in their efforts to rewrite it in 'C'.

I have since received thousands of letters from all over the world from players telling about their exploits, and from administrators cursing the day I was born... I received mail from behind the iron curtain (while it was still standing) talking about the game on VAX's (which supposedly couldn't be there due to export laws). I used to have a map with pins for every letter I received, but I gave up on that!

I am very happy to learn my creation keeps on going... I plan to download it and Angband and play them... Maybe something has been added that will surprise me! That would be nice... I never got to play Moria and be surprised...

Robert Alan Koenke
koenke@ionet.net

10.4 Previous Versions (outdated)

10.4.1 VMS Moria Version 4.8

Version 0.1	03/25/83
Version 1.0	05/01/84
Version 2.0	07/10/84
Version 3.0	11/20/84
Version 4.0	01/20/85

Modules:

V1.0	Dungeon Generator	RAK
	Character Generator	RAK & JWT
	Moria Module	RAK
	Miscellaneous	RAK & JWT
V2.0	Town Level & Misc	RAK
V3.0	Internal Help & Misc	RAK
V4.0	Source Release Version	RAK

Robert Alan Koenke	Jimmey Wayne Todd Jr.
Student/University of Oklahoma	Student/University of Oklahoma

10.4.2 Umoria Version 5.2 (formerly UNIX Moria)

Version 4.83	5/14/87
--------------	---------

Version 4.85	10/26/87
Version 4.87	5/27/88
Version 5.0	11/2/89
Version 5.2	5/9/90

James E. Wilson, U.C. Berkeley wilson@ernie.Berkeley.EDU ...!ucbvax!ucbernie!wilson

Other contributors:

D. G. Kneller	MSDOS Moria port
Christopher J. Stuart	recall, options, inventory, and running code
Curtis McCauley	Macintosh Moria port
Stephen A. Jacobs	Atari ST Moria port
William Setzer	object naming code
David J. Grabiner	numerous bug reports, and consistency checking
Dan Bernstein	UNIX hangup signal fix, many bug fixes
and many others...	

Copyright (c) 1989 James E. Wilson, Robert A. Koenke

This software may be copied and distributed for educational, research, and not for profit purposes provided that this copyright and statement are included in all such copies.

10.4.3 Early Angband credits

Version 2.0 Alex Cutler, Andy Astrand, Sean Marsh, Geoff Hill, Charles Teague.

Version 2.4 05/09/1993

Version 2.5 12/05/1993 Charles Swiger

Version 2.6 09/04/1994 Charles Swiger

Version 2.7 01/01/1995 Ben Harrison

Version 2.8 01/01/1997 Ben Harrison

Version 2.9 04/10/2000 Robert Ruehlmann

10.5 Contributors (incomplete)

Peter Berger, "Prfnoff", Arcum Dagsson, Ed Cogburn, Matthias Kurzke, Ben Harrison, Steven Fuerst, Julian Lighton, Andrew Hill, Werner Baer, Tom Morton, "Cyrice the Mad", Chris Kern, Tim Baker, Jurriaan Kalkman, Alexander Wilkins, Mauro Scarpa, John I'anson-Holton, "facade",

Dennis van Es, Kenneth A. Strom, Wei-Hwa Huang, Nikodemus, Timo Pietilä, Greg Woledge, Keldon Jones, Shayne Steele, Dr. Andrew White, Musus Umbra, Jonathan Ellis

11 Credits

If your name should be included in this file and it's not, please email us so we can fix it. :)

11.1 This version

- Erik Osheim (d_m)
- Robert Au (myshkin)
- Chris Carr (magnate)
- Andi Sidwell (takkaria)
- Aaron Bader (fizzix)
- Brett Reid (blubaron)
- Peter Denison (noz)
- Elly Jones
- Bardur Arantsson
- Ben Semmler
- Brett Reid
- Gabe Cunningham
- Han Boetes
- Janeene Beeforth
- Nick McConnell
- "Seeks"
- PowerWorm

11.2 Previous maintainers

Angband 3.0.8 - 3.5.0: Andi Sidwell <andi at takkaria.org>

Angband 2.9.0 - 3.0.6: Robert Ruehlmann <rr9 at thangorodrim.net>

Angband 2.7.0 - 2.8.5: Ben Harrison <benh at phial.com>

Angband 2.0 - 2.4 - 2.6.1: Alex Cutler, Andy Astrand, Sean Marsh, Geoff Hill, Charles Teague, Charles Swiger

Based on Moria, Copyright © 1985 Robert Alan Koeneke and Umoria, Copyright © 1989 James E. Wilson

11.3 Contributors

Many thanks go to the following people who have contributed patches, bugfixes, and other stuff for Angband:

Peter Berger, Andrew Hill, Werner Baer, Tom Morton, "Cyric the Mad", Chris Kern, Jurriaan Kalkman, Alexander Wilkins, Mauro Scarpa, "facade", Dennis van Es, Kenneth A. Strom, Wei-Hwa Huang, Nikodemus, Timo Pietila, Shayne Steele, Dr. Andrew White, Greg Flint, Christopher Jeris, Ian Parkhouse, "Warhammer", Scott Holder, Brent Ross, Kazuo Ito, Willem Siemelink, "Luthien", David J. Grabiner, Ilya Bely, "chungkuo", Kieron Dunbar, George W. Harris, Joseph Oberlander, Paul Moore, Andreas Tophinke, Leon Marrick, Peter J. Rowe, Wim Benthem, Jaroslav Sladek, Keith Perkins, Hugo Kornelis, Pete Mack, Marco K, Frank Palazzolo, Christer Nyfalt, Andrew Doull, Kenneth Boyd, Iain McFall, Christophe Cavalaria, Brendon Oliver, "Zaxx", "theninja", "Twilight Forest", "jbu", "AnonymousHero", Stefan O'Rear, "SilverD", Ed Graham, Tobias Franke, "rhinocerosaurus", "Bron", "Mangojuice", Chris Robertson, Joe Buck, "tigen", "Big Al", Paul Blay, J. D. White, Rowan Beentje, "pelpel", Shanoah Alkire, Alexander Philips, "mikon", "Antoine", "Irashtar", "roustk", Diego Gonzalez, Takeshi Mogami, Julian Lighton, Aram Harrow, William Tanksley, Chris Ang, Dean Anderson, Daniel Nash, David Blackston, Heino Vander Sanden, Mark Kvale, Sheldon Simms, Topi Ylinen, "Gileba", Jeff Greene, Joshua Middendorf, Tom Demuyt, Alexander Ulyanov, Alexander Malmberg, Chris R. Martin, Chris Herborth, Craig Oliver, "DarkGod", David Boeren, David DeLaney, David Kahane, Dennis Payne, Desvignes Sebastien, Ekkehard Kraemer, Eugene Hung, HansJoachim Baader, Heiko Herold, John Rauser, Jonathan Sari, Joseph William Dixon, Joseph Hall, John M. Kewley, Ken Wigle, Keith H. Randall, Kevin Bracey, Mike Marcelais, Maarten Hazewinkel, Peter Ammon, Peter Seebach, Randy Hutson, Scott Egashira, Skirmantas Kligys, Steve Linberg, Silas Dunsmore, Tom Harris, Ron Anderson, Ross E. Becker, Denis Eropkin, Torbjorn Lindgren, Lars Haugseth, Jon Taylor, Roland Jay Roberts, "Sergey", "cb", Michael Pope, "hmj", Colin Spry, Ed Cogburn, "Yendor", Thomas Dedorson, "Ewert", Rooslan S. Khayrov, Thapper, "Max Stats", "SSK", "ChodTheWacko", "Zaxx", Jonas Lith, Jens Schou, "Lebannen", Daniel Santos, Edd Barrett (vext01), mtadd, Peter Denison (noz), Kiyoshi Aman (Aerdan), David Barr (david3x3x3), Chris Weisiger (Derakon), Buzzkill, Scott Michael, LastQuestion, danial.santos, LuthienCeleste, shadowsun

Raymond "Shockbolt" Gaustadnes The Shockbolt tiles.

Greg Woledge <greg at woledge.org> Basic autoconf support, the original random artifact generator, and various ideas for rebalancing the game including the new list of magic spells

Tim Baker <dbaker at direct.ca> Made the "easy patch" and organized the patches for the Angband 2.8.5 beta

Eytan Zweig <eytanzw at yahoo.com> Many bug reports and patches

Jonathan Ellis <jonathan at franz-liszt.freeseerve.co.uk> Updated edit and help files; added tons of new monsters, artifacts, vaults, objects, as well as a new player race, and rebalanced many things

John l'anson-Holton <jianson at milbank.com> Many bugfixes and patches

Steven Fuerst <sfuerst at physics.usyd.edu.au> Improved X11, XAW, and GTK code

"Bablos" <angband at blueyonder.co.uk> Updated Amiga code

Matthias Kurzke <mawende at gmx.net> Ego-item patch and various code changes for the JLE patch

Keldon Jones <keldon at umr.edu> Improved Monster AI

Adam Bolt 16x16 tiles

Arcum Dagsson Configurable artifact activations

"Prfnoff" Customizable player races, player history, shop owners, ...

Mark Howson Improvements to the Amiga code

Musus Umbra Improvements to the Acorn RISC OS code

Hallvard B. Furuseth Many improvements to the autoconf support, code-cleanups, and tons of bugfixes

Kusunose Toru Various bugfixes

Eddie Grove Bugfixes, patches and radical ideas too numerous to count (but in particular for ID-by-use).

Nomad 8x16 tiles, loads of new room templates

The UPX team (Markus Oberhumer and Laszlo Molnar) The UPX packer for executables <http://upx.tsx.org/> is used to reduce the size of the Windows and DOS binaries.

qwerty LaTeX-based help file generation

Federico Poloni (fph) Manual and documentation updates, formatting in reStructuredText

Peter Ammon (ridiculous_fish) Rewritten OSX main-cocoa interface

William Moore (MarbleDice) Bitflag code and numerous other improvements and fixes during 3.1.x

Antony Sidwell (ajps) Default point-based stat allocations, and numerous UI improvements, original core-UI split code

"PowerWyrms" Numerous bug fixes and code improvements