COSMOS Fantasy

Basic game rules

Morten Larsen

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Contents

1 Introduction

COSMOS is a generic computer system for running play-by-(e)mail (war)games (it is an acronym for COnflict Simulation MOderation System). COSMOS Fantasy is the term for the specific flavour of COSMOS games set in fantasy worlds. Each COSMOS Fantasy scenario has its own name such as “Tahithromikon”, “Jethelbish”, “War of the Dark God” or “Throne of Cofain”.

COSMOS Fantasy exists in two versions: The “advanced” version and the “basic” version. The latter is, as the names suggest, a simpler version of the former. This does not mean that the basic game is not complex, it is merely a little less complex than the advanced game. The basic game is made simpler mainly through the omission of some rarely used (or often misunderstood) options available in the advanced game and a simpler mechanism for handling navies. It is a good idea to play the basic game before trying the advanced game, especially if you have not played too many other strategic fantasy play-by-mail games.

This rule book describes the rules for the basic game.

The aim of COSMOS is to simulate a game world. If this simulation was perfect, you would not have to read any rules at all, you could use your “common sense”. The simulation provided by the system is (alas) not perfect, so the abstractions in the game system may produce situations where your common sense does not apply. The game system is designed to allow the players to act as intuitively as possible within the framework of a computer moderated play by mail game, but there are limits. This is one reason you have to read these rules. The other (and most important) reason is to understand how you specify what you want to do in the game and how to interpret the reports you get from the system.

1.1 About these rules

This rule book contains no lists of unit types, items, nations, *et cetera*. The game-specific rules can be found in the scenario description of the game and in the unit type tables for the scenario and/or will be issued to players as the game progresses in the form of “blurbs”. A “blurb” is a description of some specific thing found in the game such as a specific unit type or a specific location. As the game progresses and you find out more and more about the game world you will get “blurbs” with your turn reports describing the things you discover.

As the COSMOS system allows for considerable detail and complexity in the simulation, these rules are necessarily very detailed. However, they are organised so that on a first reading, the reader may skip sections that cover special rules and technical details. Sections marked with an asterisk (*) contain special rules that are not necessary to understand the basic mechanics of the game. You can safely skip these sections on a first reading.

The description of the orders you can use in the game are scattered in many different places in this document. To find the description of a specific order you can look it up under its name in the index at the end of the rule book. You can also look in the index under “orders, descriptions of” to see an alphabetical list of all the orders described in the rule book.

1.2 How does COSMOS play-by-email/web work?

Here follows a fairly detailed description on how to play COSMOS games, for the benefit of readers unfamiliar with the concept of play-by-(e)mail/web.

The game is run by a game-master (GM) who uses the COSMOS system to manage a game world.

At the start of the game, after all players have chosen nations, you will receive a set-up report (report for “turn zero” of the game), including a map of the little of the world you can see. The report is much like all other turn reports you receive, except that there is no event report and the “blurbs” section of the report is larger than usual, giving you information on all the special rules on your nation, your units and their powers. What you do then should be essentially what you do in every turn of the game, as detailed below:

1: Examine your status.
Look at your map, map notes, status report, event report and “blurbs”.
The map and map notes tell you what you can see.
The status report describes the state of your nation including units, items, locations, resources and your policies towards other

nations. From the status report you will be able to see how many resources you produce and use and what your current pool is. This is very important, you don't want your units to dissolve due to lack of food or your castles to fall into disrepair. The status report will also tell you how many orders you can give your nation and its units next turn.
The event report tells you what happened during the last turn. This is very detailed and may take some time to read if you have a lot of units doing different things.
The "blurbs" (if any) gives you detailed information on new items and unit types you have come to know of or posses. If, for example, you just found a "Lamp of Aladdin" you will receive instructions on how to use it to summon a Genie and on what Genies can do.

2: Decide what you want to do.
You might need more resources and thus want to conquer some land. You might have the resources but need a greater army. You might be searching for some specific item or location. You might be waging a war on some other nation. Or you might be doing all this (and more) at once. You must decide what to do with the units and resources you have. Remember that you can only give a limited number of orders, so you may have to concentrate you efforts in some areas at the expense of some other areas. Generally, you should try to maximise your chances of survival and your point score (and how you do that depends on your nation).

3: Negotiate with other players.
You may need to coordinate your actions with your allies. You may want to threaten an enemy to keep his troops out of your lands. You may want to trade resources with other players. COSMOS provides a messaging system to communicate with other players through the game, but that is useful mainly for "in character" diplomatic broadcasts and you will have to do any serious negotiations outside the game (usually by email).

4: Write your orders.
Hopefully these rules document the order syntax and the most common orders in sufficient detail for you to write a set of orders. Rules "blurbs" received with the reports from earlier turns will describe any special orders available to your nation or your units.
Usually you will be writing your orders directly in the order entry interface on the game website, but some players prefer to write their orders in a text editor while offline and then copy and paste them into the order entry form to submit them. The order entry page can generate a template for you, showing the units and locations capable of receiving orders, including some basic information such as their position, any pending orders from last turn and the composition of forces.

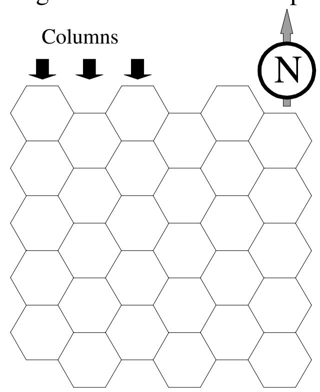
5: Submit your orders.
The orders will be checked for syntactic errors (and some common mistakes) when you submit them. The order entry page will display your checked orders and report any errors detected, as well as the state of your position after the orders have been given, showing which units and locations have orders for the upcoming turn. Then you may revise your orders and submit the revised version, inspect the result and sumbit again and so on until you are satisfied.

6: Wait for your next set of reports.
Cross your fingers that your plans work out and wait for your next set of reports!

1.3 Players and nations

A player is someone who participates in the game. In the game world, the player controls a nation (or "position"). When, in these rules, something is said to belong to a player, it really means that it belongs to the nation controlled by that player. When e.g. a player is said to have a policy towards another it is of course the nation of the player which has that policy towards the nation controlled by the other player.

Figure 1: A schematic map.



2 The game world

The game world consists of many components. The first of these is the "land" or "space" in which the game takes place, the physical boundaries of the game universe. As the game universe is essentially two-dimensional (and may be graphically represented as a 2D map), it is called the *map*. The map is divided into hexagons, see section 2.1 for more information on the map.

On the map are various locations such as cities and castles. These can contain other locations (such as a temple within a city), units, items *et cetera*. Locations are described in section 2.2.

The basic playing pieces of the game world are called units. Most units are able to receive and execute orders and the units are thus the basic tools the players have for getting everything done. Usually units will be things like armies or heroes and other characters. Units are described in section 2.3.

All other unique objects in the game world are items. Items are such things as swords, magic lamps, *et cetera*. They are described in section 2.4.

Each map hexagon, location, unit or item has a unique ID number which is used when referring to it. Typically all hexagons have ID numbers less than 1000, all locations and items have ID numbers between 1500 and 2999 and all units have ID numbers from 3000 and up.

2.1 The map

The map defines the physical limits of the game world. The map is divided into hexagons. In these rules a hexagon is called a hex for short (one hex, more hexes). Each hex has a unique number that is used whenever a reference to a hex is needed (such as when the exact position of something must be specified).

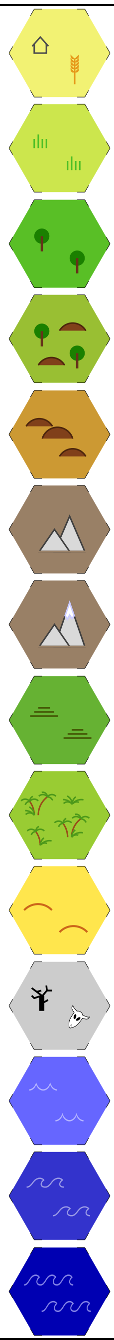
The COSMOS map is rectangular. It consists of a number of columns of hexes, where every column contains the same number of hexes. The direction from the bottom of a column towards the top is north and the other directions of the compass are defined in the usual way. See figure 1.

A hex has a *terrain* that determines the type of the hex. A terrain may be something like "woods", "mountains", "ocean" et cetera. The terrain of a hex affects movement, combat, visibility, and resource production. See figure 2 for a map key.

A hex may be owned by a nation. That nation receives the production from the hex and gets reports on (most of) what goes on in and around the hex.

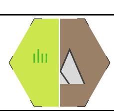
Figure 2: Map key for COSMOS Fantasy (basic games).

Basic terrain



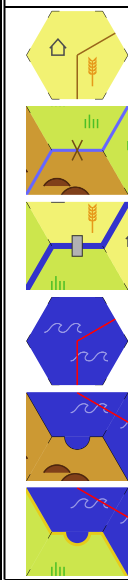
	Farmlands.
	Plains.
	Woods.
	Wooded hills.
	Hills.
	Mountains.
	High mountains.
	Swamp.
	Jungle.
	Desert.
	Wastelands.
	Lake.
	Coastal ocean.
	Deep ocean.

Illusions



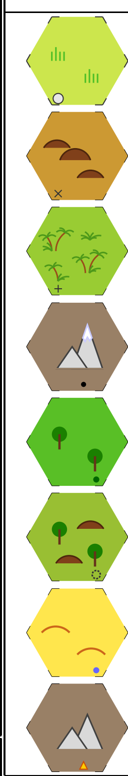
	Illuion of mountains in plains hex.

Terrain features



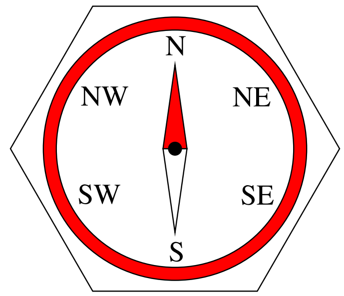
	Road (in farmlands).
	Small river, with ford.
	Large river, with bridge.
	Sea Lane (in coastal ocean).
	Coastline with bay and sea lane.
	Coastline with beaches, bay and sea lane.

Locations etc.



	City (in plains).
	Castle or other fortification (in hills).
	Special structure or building (in jungle).
	Cave or mine (in high mountains).
	Holy grove (in woods).
	Stone circle (in wooded hills).
	Oasis (in desert).
	Volcano (in mountains).

Figure 3: The COSMOS compass.



2.1.1 Directions

There are six main directions on the map, corresponding to the hexagonal grid. Each direction has a one- or two-letter abbreviation that can be used when specifying how units should move. The directions are North (N), Northeast (NE), Southeast (SE), South (S), Southwest (SW) and Northwest (NW). See figure 3.

2.1.2 Vertical positions *

A complete position in the map also includes vertical position (height/depth). There is three vertical positions: surface, over and under. "Surface" position is the normal position of units and features. "Over" position is for the purpose of calculating distances one *half* hex over "surface" position while "under" is one *half* hex under it. The notation for vertical position is as follows: Before the hex number of the position, there is an "o" (letter O) if the vertical position is "over" or a "u" if the vertical position is "under"; if there is no letter "o" or "u" before the hex number, the position is a surface position.

Examples:

o125 is over hex 125.
u125 is under hex 125.
125 is at the surface position of hex 125.

Vertical position affects terrain. The basic terrain of a hex is the terrain at the surface position. In a hex with basic terrain "woods" or "mountains" the terrain at the "over" position would be "air" while the terrain at the "under" position would be "underground". The terrain "under" a "lake" hex is "lake bottom" while the terrain "over" a "lake" hex is "air" (in fact the terrain at the "over" position of almost any terrain in a fantasy world is "air", the one notable exception being hexes with "elemental" terrains such as "elemental fire").

A unit will in general be destroyed if it falls or sinks from one vertical position to another, i.e. from "over" to "surface" (which is common when a dragon drops you from great height) or from "surface" to "under" (which is common when you suddenly find yourself in the ocean without a boat).

Most units are only able to travel on the surface of the game world and thus the vertical positions are only used by special (flying or burrowing) units.

Remember to take vertical position into account when calculating distances moved, the range of spells or viewing ranges. For the purpose of determining ranges just add one hex to the horizontal distance between two positions if one is at the surface and the other is not. For a move between the surface position of a hex and a non-surface position in the same hex, the distance is 0.5 hex and thus the time it takes is only half the time it takes to move a hex horizontally (rounded up). For a move between a surface position in one hex and a non-surface position in an adjacent hex the distance moved is 1.118 hex and the time it takes is thus the time for a horizontal move multiplied by this factor (rounded up).

2.1.3 Features

There are two kinds of features that may be on the map: terrain features and locations. Locations are marked by icons near the bottom of the hex. They are described in more detail in section 2.2 below.

Terrain features are features like rivers and roads, and unlike locations they are marked on the map at their actual position within the hex.

Rivers run along hex sides and impede movement between hexes (across river hex sides).

Bridges and fords cross rivers at some hex sides. As in real life it is easier to cross a river at a bridge than where the river runs deep.

Roads run between hex centres. Movement between two positions connected by road is in the special “road” terrain which for most units mean that they can move quicker than in the surrounding terrain.

Bays and are located at hex sides and indicate where units may embark on ships or disembark and land.

Beaches are mainly for decoration although some nations employing shallow-bottom boats may be able to embark and disembark over beach hex sides.

Some terrain features boost the resource production of the hex.

2.2 Locations

Locations like cities and castles are identified by unique ID numbers. They occupy some position (a hex or another location) which is known as the “outside” position of that location. The “inside” position is of course inside the location and it may have a different terrain than the outside position. The distance between the inside and outside positions is zero, so movement between the two takes no time.

Various attributes of locations are:

ID number - This identifies the location both as a position for movement and for other purposes.

Name - The name of the location such as “Castle Arrgh”, “Crypt of the Knight” *et cetera*. The name is not alway unique and can therefore not be used to identify the location, for example there could be several locations named “Volcano”.

Owner - This specifies which nation owns the location and thus receives any production, pays any upkeep, and receives any victory points. A location need not have an owner.

Production and upkeep - The location may produce resources for its owner and/or may require upkeep (resources to be paid each turn).

Resource cost - The original resource cost for creating the location and/or the resource cost for expanding it, if it can be expanded.

Interior size - This limits the combined size of the items/units/locations that may be in the location. For large locations this may be “infinite”.

Interior terrain - The terrain inside the location. This determines which units may enter the location (not everyone can enter a volcano...) and sometimes what they may do there. Some locations have no special interior terrain stated in their descriptions. Such locations have the same terrain as the terrain they are located in, e.g. a stone circle located in woods has interior terrain “woods” while a stone circle located in hills has interior terrain “hills”.

Influence on control - Many locations influence attempts to control their position (i.e. they prevent enemies from gaining control of the hex or location they occupy). See section 14.1.

Some locations have the following additional attributes:

Size/strength increments - Mostly relevant for cities, this is how large (in terms of population) or strong the location is. Resource production and upkeep are proportional to the number of size/strength increments, as are victory points awarded for owning cities. Lack of resources for the upkeep of a location may reduce its size/strength while special actions may increase its size/strength at a certain resource cost per increment.

Fortifications - Castles and some cities have walls to aid their defence. Fortifications are described in section 16.

2.3 Units

Units usually represent living beings and are the entities that do most things in the game. A unit owned by a nation receives instructions from whoever controls that nation. All units obey their instructions if it is at all possible.

A unit always has a *type*. Typical unit types are “Light infantry”, “Knight”, “Wizard” or even “Cattle”. Each unit type is characterised by a number of things such as how many individuals there are in the unit (there might be 50 men in a typical “Light infantry” unit but there is only one knight in a “Knight” unit), which terrains it may move in and how fast, which attack capabilities and defences it has (see section 15.5), what the upkeep of the unit is, *et cetera*. The type of a unit also determines which kind of things it can do (the Light Infantry cannot summon demons, for example).

The attributes of most unit types are listed in the *unit type tables* of the scenario. Information about non-standard unit types and about the powers of e.g. leader unit types are automatically issued to you whenever your nation first acquires a unit of that type, or first acquires the ability to create or recruit units of that type. For many unit types this will be at the start of the game. Some times you may during the game encounter units which can be bribed, hired or magically charmed to join you and then the you will receive the corresponding unit type blurbs.

A unit may be different from other units of its type. There are obvious differences like the ID number of the unit or the number of individuals in the unit. Some units also have unique names, i.e. a unit of type “Knight” may be called “The Black Knight” or “Sir Aloqaine” if it is special in some way or the player owning it has decided to name it. A unit may also acquire special abilities during the game.

In the reports generated by COSMOS a unit is identified by its ID number followed by one or two letters identifying its owner (each nation has a unique letter code) if it has any, its name, and possibly its type if this is not obvious from its name:

3192(OQ) Sir Aloqaine (Knight)
3193(OQ) The Black Knight
4319(EK) Light infantry
5013(FH) Temple Guards (Light Infantry)

2.3.1 Summary of unit type attributes

The following is a summary of the most important unit type attributes:

Class - The class of a unit determines the type of individuals that are in the unit. The class of unit type “Knight” would be “Human” while the unit type “Warhorse” has class “Animal”. Other unit classes may be “Elves”, “Demons” *et cetera*.

Number of individuals - The number of individuals in a standard unit. If this is more than 1, the unit is a “mass unit” (otherwise it is an “individual unit”). This makes a difference in many aspects of the game (combat is one example). It is possible for a “mass” unit to have only one individual, this does not make it an “individual” unit, merely a very small mass unit. If a mass unit can be created/recruited in variable sizes it has a minimum and a maximum allowed number of individuals.

Wound points - The number of wounds an individual of the unit may take before being destroyed. Wound points are abbreviated “w.p.” in game reports.

Individual size - The size of each individual in the unit. This is given in abstract units of measurement like all other sizes in COSMOS. A human is size 4, a dwarf size 2 and a horse size 8, for example. The size of a unit affects many things in the game, among these how much room it takes up in locations with limited space and how many (and how large) individuals may attack it at a time.

Weight - The weight of each individual in the unit, in abstract weight units. The weight is important if incapacitated members of the unit have to be carried around.

Carrying capacity - The maximum weight that each individual of the unit may carry.

Regeneration - How fast a unit regenerates wounds it has suffered.

Awareness - How good the unit is at spotting things. A standard unit has awareness rating 100, higher is better and lower is worse.

Terrain familiarity -How familiar a unit is with different terrains. A dwarf might be familiar with mountains but no so familiar with swamp. Familiarity with the terrain determines how well a unit performs in that terrain when fighting, searching or the like. It also affects initiative (see section 4.2).

Move costs - How fast a unit moves in different terrains. This is given as a movement cost hex, i.e. how long it takes a unit of the given type to move a full hex in the given terrain (unencumbered). If a unit has no move cost for a terrain it cannot enter or move through that terrain. For rivers, fords and bridges the move cost is the time which must be added to the normal move cost when crossing a hex side with such features.

Cost - How many resources (see section 6) it would normally cost to create a standard size unit of the given type. The cost given in the unit type "blurb" is the one applying to most players, but it may actually cost more for a given player to create or recruit the unit, or in rare circumstances it may cost less.

Upkeep - This is the resource cost each game turn for a standard size unit. If the upkeep cannot be met, the unit will be dissolved.

Influence of control - Most mass units and a few very special individual units influence attempts to control their position (i.e. they prevent enemies from gaining control of the hex or location they occupy). See section 14.1.

Combat rating - This is discussed later under combat, see section 15.5.2. Players only know the "overall combat rating" of the different unit types, not their exact combat abilities.

2.3.2 Effective presence *

In some aspects of the game the *effective presence* of a unit is used. This is a number that expresses how much the unit can influence its surroundings.

The basic effective presence of a mass unit is computed as follows: The number of individuals currently in the unit is divided by the number of individuals in a standard unit of its size. The basic effective presence an individual unit is one (although most individuals have no effective presence after the modifications below).

The basic effective presence is multiplied by the unit's current *combat efficiency factor* (see section 15.3) which is a number between 0 and 1, usually expressed as a percentage. The resulting number is then modified by the following cumulative special modifiers:

1. Units which do not "influence control" have no effective presence. This means most individual units have no effective presence.
2. The effective presence is halved for a unit which has any of the tactics "flee", "avoid" or "defend" (see section 15.6) or which has no attacks its tactics allow it to use.
3. The effective presence is halved for a unit which is either "stupid" or "mindless".
4. The effective presence is halved for a hidden unit (see section 18.2).

Example:
A Light Infantry unit (standard size: 50 individuals) of 60 individuals with a combat efficiency factor of 75% and the tactics "attack" has an effective presence of 0.9 (60/50 times 0.75).

2.3.3 Major characters *

Major characters are individuals who fate has given a special role in shaping the events of their world. In game terms, units representing special individuals such as nobles, heroes or mages and having the ability to go *questing* (see section 20) are known as *major characters*. Most scenarios impose a *major character limit* on each nation: this is the maximum number of major characters that the nation may have at any one time, reflecting how good it is at attracting extraordinary individuals.

A recruit order (or any of its variants) which would bring the number of major characters above the limit for the nation will fail. Note that the major character limit is checked when a recruit order is commenced and when it is finished, so while it is possible to start multiple simultaneous recruit orders for major characters beyond the limit, the major character limit will be enforced when the orders finish and thus some of the recruit orders will fail (and resources used will be lost).

Fate also protects major characters from being slain by those of lesser importance except through carelessness. A major character unit not in quest mode who is attacked by anyone or anything except another major character (e.g. by a mass unit or a strike spell) can in a single attack not take damage exceeding half the full wound points of the unit. This means that with a conservative *fleewhen* level of more than half its full wound points (see section 9) a major character unit cannot be killed except by another major character or while questing.

2.4 Items

Items represent objects which are movable. Unlike units, they may not "do things". Unlike locations, they may be moved around. Items may bestow special advantages or disadvantages on units holding them, e.g. a magic sword may boost the attacks of a knight.

All items have a unique ID number and a name. In reports they (and also locations) look like this:

Magic Sword [1234(OQ)]
Excalibur [1342(EK)] (Magic Sword)
Altar [1145]

i.e. the name of the item followed by the ID number and the initials of the nation that owns the item (if any), and possibly followed by the type of the item if it is not obvious from its name.

Items may have some of the same attributes that locations have (see section 2.2) except the interior terrain and interior size. In addition to this, items also have size and weight, just like units.

Players will receive rules "blurbs" on the items they control or may create.

3 Orders

Players specify what their nations and units should do by giving them orders. Some orders govern the general actions of the nation and are not given to any unit in particular (in section 5 it is described exactly what a nation is in this game). These orders are called *nation orders*. Examples of nation orders are orders that specify policies towards other nations or orders to build new castles. Most orders are given to specific units, and these are called *unit orders*. Examples of unit orders are movement orders, magical spells, recruitment of new units and change of tactics. Some types of locations such as cities and castles may also be given orders, such orders are called *location orders*. Examples of location orders are orders to improve or repair fortifications.

3.1 Order syntax

The general format of a single order is:

name *arguments*

where name is the name of the order, i.e. "move", "tactics" *et cetera*, and the *arguments* specify exactly where to move to, what tactics to use, *et cetera*. The order name and any arguments must be on the same line and you can only write one order per line.

Example:

```
move 125 124 123
```

This order specifies that the unit should move from where it is to hex 125, then on to hex 124 and hex 123.

Another example of an order may be

```
flee
```

which tells a unit to immediately flee. As this is enough information for the unit to act on, there is no need for any arguments. Still another example may be

```
tactics attack
```

which specifies new tactics for a force. An example of an order that has more than one type of argument is:

```
policy 12 enemy
```

The first argument is the nation number (12 in this case) and the second is the new policy towards that nation. Note that the two arguments are separated by a space. You can also use commas to separate arguments.

It is important always to give the arguments in the right order as specified in the order description.

A few orders can take other orders as arguments. As you can only write one order per line, a special syntax is used to indicate that some orders belong together as arguments to a preceding order. Here is an example:

```
recruit 1
  orders:
    move 125
    join 3120
  .
```

This tells the unit to recruit a new unit of type 1 and to give the new unit orders to move to hex 125 and join the force of the unit 3120. Orders are marked as belonging as an argument to the preceding order by writing the special keyword "`orders`" followed by a colon ":" on a line by itself immediately after the first, "outer" order and a period (dot) "." on a line by itself after the last, "inner" order. It is usually a good idea to indent nested orders like in the example above, this makes the orders easier to read. However, email players should note that the system does not care about indentation, it only looks for the "`orders:`" keyword and the period.

It is possible to have several levels of nested orders such as

```
repeat 3
  orders:
    recruit 1
      orders:
        move 125
        join 3120
      .
  .
```

which tells the unit to repeat the recruit order from before three times.

How do you specify which units or locations should receive which orders? Simply by writing the ID number of the unit on a line by itself before its orders:

```
3102:
move 125 124 123
search 4
tactics flee
```

These lines gives three orders to unit 3102. If you give the same unit or location orders twice in a turn (by mistake), the second set of orders will simply be appended to the first. If the unit or location already has pending orders from the previous turn, new orders will simply be appended to them. If you want to remove pending orders you must use the *clear* or *break* orders described in section 21.2.

You write your nation orders before any orders to units or locations. Thus a small but complete set of orders might look like the set shown in figure 4.

Some arguments are optional and have a default value supplied; you may write an asterisk "*" in place of such an argument if you want to use the default value. If the argument would be the last one on the order line you may simply omit it rather than write an asterisk. As an example, consider the "recruit" order which takes three arguments: a unit type number, a number of individuals to recruit and a set of orders to be given to the new unit. The last two arguments are optional and in the examples above the number of individuals was omitted (each unit type has a default number of individuals). The order could have been written as follows:

```
recruit 1 *
  orders:
    move 125
    join 3120
  .
```

But as the asterisk is the last argument on the order line it can be omitted and it was in the first version above. Another example:

```
donate * 3104
```

which donates all resources the unit possesses to unit 3104. Here the asterisk is necessary as the omitted argument (the amounts and resources to donate) is not the last on the line.

Units described as "stupid" (such as animals) can only receive and execute certain (administrative) orders. The only orders a stupid unit may execute are the following: "mytactics", "join", "myname", "myalias", "clear", "break" and "insert".

Figure 4: An example of a complete set of orders. A header line specifying your nation number is optional but recommended.

```
nation 1:

policy 12 enemy
policy 10 ally

3102:
recruit 3 100
  orders:
    join 3102
  .
move 125 124
search

3115:
tactics attack
move 124

3203:
move 47 48 74 99 1216

1216:
improve strength 3
improve rating 1
```

3.2 Administration points

Most of the orders you give will be given to your leaders or other characters, but it is possible to give orders to any type of unit. Each unit has an *order allowance*, a maximum number of "free" orders you can give it each turn (including orders given as arguments to other orders). Any orders given to a unit beyond its order allowance must be "bought" with *administration points*. All rulers, military leaders, spell casters, heroes and knights have an order allowance (from 2 to 7), as do scouts. Mass units in general do *not* have an order allowance, so what you can do with your armies depends on the number and quality of your leaders and beyond that on how many administration points you have.

Note that only units which exist at the beginning of the turn have an order allowance, units created during a turn cannot "use" their order allowance until the next turn. This does not mean that units cannot receive and execute orders the same turn they are created, it merely means that orders given as argument to the *recruit* order to be passed on to the new unit count towards the order allowance of the recruiting unit, *not* towards the order allowance of the not yet created unit.

Nations do not have an order allowance, nor do locations, so any orders you give to your nation or your locations will cost administration points.

The number of administration points you have is known as the *administration limit* of your nation. The administration limit reflects the current administrative power of the nation, i.e. the efforts of all the scribes, wardens and other minions of the governing power. Each administration point "buys" one order, thus a nation with 15 administration points may issue a maximum of 15 orders per turn in addition to the orders which fall within the order allowances of its units. Administration points are not saved from turn to turn if you do not use them.

The administration limit of a nation is calculated as follows: Most nations have some basic administration points (this ensures that you can always issue some orders). Add two administration points for each hex in which the nation has a functioning castle (see section 13.2). To this is added some points for each non-questing, non-fleeing "ruler type" unit the nation can muster, typically 3-4 administration points for each (see section 5.5 about rulers). Finally there may be special units, locations or items which add to the administration limit.

Some special orders do not count towards the order allowance of units or the administration limit of the nation. An example is such an order as “name” which has no real effect in the game except providing atmosphere. If an order does not count towards order allowances and the administration limit it will be mentioned in the order description.

The order in which you write your orders for your units is important if you have miscalculated how many administration points you use. If you run out of administration points any excess orders will be ignored.

Example:
The Great Kingdom has a basic 5 administration points each turn plus 4 points for each non-questing, non-fleeing Noble it controls. One turn, the Kingdom has three nobles and two hexes containing castles for a total administration limit of 21 ($5+3\times4+2\times2$). The nobles each have an order allowance of 6 orders and furthermore the nation controls two Generals each with an allowance of 4 and three Captains each with an allowance of 2. So if all the characters use their entire allowance and the 21 administration points are fully utilised, the player controlling the Great Kingdom can give a total of 53 orders that turn ($3\times6+2\times4+3\times2+21$).

---

4 Sequence of play

A COSMOS game is divided into game turns. Each turn all players may give orders for their nations and the locations and units under their control. The orders of the players are fed to the system and a turn is run. The players then receive reports describing the events of the turn and can issue orders for the next turn based on these reports.

The turn is divided into five main parts:

1. Units, locations and nations receive new orders (possibly modifying pending orders from last turn, but usually just adding to them).
2. Nation orders (such as policy changes) are executed.
3. All the events of the turn take place, including actions of units and locations, and battles.
4. Things that happen "at the end of the turn" happen.
5. Siege status for locations is updated (see section 17.1).
6. Resources are produced and upkeep is paid. The consequences of unsupported units, items or locations are resolved.

To allow events and actions to be semi-simultaneous and to allow units to perform multiple actions during a turn, part 3 (the event part) of each turn is subdivided into a number of *phases* (typically 24). A phase is a small unit of time (the time scale depends on the scenario). During each phase, the following occurs:

- Unit morale is updated (it is halved and any leadership bonus is added, see section 9.2).
- Siege status for locations is updated (see section 17.1).
- All locations and units execute one phase of actions.
- Battles occur where enemy units are within zero distance of each other.

"One phase of actions" is either one phase worth of specified orders or one phase worth of waiting. Units and locations are allowed to perform their actions in order priority and initiative order (see section 4.2). It is possible that the actions of a unit can trigger an event which another unit is waiting for (using one of the special orders described in section 21.3) and if that "triggered" unit is the faster of the two (i.e. it has higher priority orders or better initiative) it will get to do its actions before the first unit gets to finish any remaining actions that phase. Note however that a waiting unit triggered into activity by an action which has taken more than zero time will *not* get to do any actions until the *next* phase because waiting for the triggering action has used up the phase (i.e. the trigger happens at the very end of the phase when it is too late to do anything).

4.1 Execution of orders for units and locations

Locations and units execute their orders in the action phases. The orders of a particular entity are always executed in the sequence they were given, but different entities will execute their orders in parallel (at least in principle).

Each order takes a number of phases (sometimes zero), so a unit may start an order in one phase and finish it in a later phase. Orders may carry over from one turn to the next in this way, i.e. after the last phase of one turn follows the first phase of the next turn. Orders given to the unit or location in the next turn are simply appended to any orders from this turn it has not yet executed. In the status report, you can see which orders each of your units and locations still have left to execute. Orders which are partly executed are marked with the word "begun" and the number of phases it will take before the next part of the order has been completed (in rare cases this may be zero phases which means that the order will complete in phase one but take no time, leaving the rest of phase 1 to do other orders).

Example:

```
orders: recruit 15
          orders:
            join 3101
          . (begun-10)
        move 123
```

This indicates that the recruit order will finish in another 10 phases and then the execution of the move order can start in phase 11.

NOTE: An order is only considered "begun" when it is listed as such. Some orders execute in multiple steps which take one or more phases each and for each step the order is split in two by "breaking off" the first step as a separate one-step order and modifying the original order to only contain the remaining steps. The *search* and *wait* orders are examples of such orders, so e.g. a "`search 5`" becomes a "`search 1`", which is immediately executed, followed by a "`search 4`" which is executed the following phase (where it will be split once more). Even though the order *as originally written* has been begun, the broken-off part containing steps to be executed later is *not* considered begun and will not be listed as such (it can be important whether an order is begun when clearing or modifying orders, see section 21.2).

Example:
The most important example of a step-wise order is the *move* order. Consider the order

```
move 123 124 125
```

which tells a unit to move first to hex 123 and then to hexes 124 and 125. When a move order is executed the first position in the list of positions is removed from the original order and placed in a separate move order, so the order above is expanded to

```
move 123
move 124 125
```

and the fist of the two move orders is then begun and the unit starts moving towards hex 123. Say this happened near the end of the turn and the first move is not finished when the turn ends. Then the pending orders may be listed as follows in the status report:

```
Orders:  move 123 (begun-2)
        move 124 125
```

and thus it is possible to use a *clear* order (section 21.2) to remove the non-begun part of the original move order while retaining the part which is already begun.

When a unit finishes executing an order that took any time it has used the phase and cannot continue executing orders, even if its following orders are orders that take no time. On the other hand a unit may execute any number of orders that take no time before starting an order taking time.

Example:
A "search 1" order takes one phase to execute while a "tactics" order (used to change tactics) takes no time. So assume that a unit has the orders

```
search 1
tactics defend
```

then the search order uses the first phase of the unit's time and the tactics order will not be executed until the beginning of the second phase. If on the other hand the orders are

```
tactics defend
search 1
```

then the tactics order will be executed in the beginning of the first phase and as that takes no time the search order will then also be executed in the first phase. The difference here is thus which tactics the unit will have in any battle occurring at the end of the first phase.

As mentioned above the move order is transformed into several one-step move orders as it is executed. Some steps in the move order take time (those steps moving a hex on the map, see section 11.2) while some take no time (moving into and out of locations, see section 11.3). Any number of steps taking no time can be executed at the start of an action phase without using the phase, but when a step takes time, any steps following it will always be pushed to the phase after it completes, regardless of whether they take time or not.

Example:
The location 1501 is positioned in hex 124. A unit at 125 (a hex next to hex 124) has the orders

```
move 124 1501
```

which works just like

```
move 124
move 1501
```

The move from 125 to 124 takes some time, say two phases. After the second phase the unit will be located at 124, outside 1501. Even though the move from 124 to 1501 takes no time the unit has already used its phase and will not move into 1501 until the beginning of the next phase. As this takes no time the unit may then immediately go on to execute any orders following the *move* order. If on the other hand the unit is moving out of 1501 and has the order

```
move 124 125
```

then the move from 124 to 125 will be begun immediately in the same phase the unit moves out of 1501 as the move from 1501 to 124 takes no time. So, assuming the unit starts to move in the very beginning of the turn, the move from 125 to 1501 will complete in phase 3 while a move the other way from 1501 to 125 would complete in phase 2! However, any order following the move order would be started in phase 3 regardless of which way the unit moves.

4.2 Order priority and initiative *

The sequence in which units and locations are allowed to act in each phase is determined first by the *order priority* of the order they are about to execute and, when order priority is tied, by *initiative*.

Order priority is a measure of how "fast" the action involved in executing the order is. The hierarchy of order priorities has been designed to give the simulation more realism but also to solve certain timing issues and to make timing of events more predictable to the players (e.g. "will my control succeed if an enemy force is about to enter the hex in the same phase the control is supposed to finish?").

Order priority is as follows, from fastest to slowest (orders of priority 1 or 3 to 6 are *meta orders*, see section 4.3):

1. *time*, *signal*, *waitonesig*, *waitallsig*, *waitforone* and *waitforall*.

2. *move*, *farmove*, *sneak*, and *farsneak*, if **delayed** from the previous phase and therefore both **already begun** and **taking no time**. Movement orders may be delayed due to blocking (see section 11.7) or due to an impending battle (see section 11.6).
3. *repeat* and *order*.
4. *join*.
5. *autotake*, *tactics*, *mytactics*, *fleewhen*, *retreatwhen*, *retreatspot*, *questing*, *leave*, *disband* (and synonyms), *merge*, *name*, *myname*, *alias* and *myalias*.
6. *form* and *include*.
7. *take*, *drop*, *give*, *store*, *unstore*, *collect*, *discard*, *donate*, *hide* and *unhide*.
8. *move*, *farmove*, *sneak* and *farsneak*, if **taking no time** and **not delayed** from the previous phase (a move into or out of a location).
9. All orders not mentioned specificly elsewhere in this list.
10. *control*.
11. *move*, *farmove*, *sneak* and *farsneak*, if **taking at least one phase** (a move from hex to hex); *embark*.
12. *disembark*.
13. Strike spells.
14. *wait*.

To answer the worried player's timing question about *move* and *control* we can see from the list above that *control* is executed before a *move* into a hex and therefore the *control* will always succeed if it finishes the same phase an enemy force moves into the hex.

When two units or locations are about to execute an order of the same order priority, the "fastest" unit or location acts first, the "slowest" acts last, as determined by the initiative order.

Locations are always considered faster than units, so they generally act first. Other than that, the initiative order for locations is totally random.

The initiative order for units is based on a number of things, including (in order of decreasing importance) familiarity with the terrain, move cost, wound status, luck and morale.

4.3 Meta orders *

The fast and mostly purely administrative orders of order priority 1 and 3 to 6 (see the list in section 4.2) are designated as *meta orders*. Newly recruited units get to execute meta orders immediately when they are created, see section 7.1.

4.4 Execution of orders for nations

Nations execute their orders at the beginning of the turn. Orders given to nations are different from those given to units and location in that they start something (that may then take some time) but the execution of the order itself takes no time. An example is an order to start building a castle. This work takes some time, but as the order itself takes no time, it may be immediately followed by another order to build another castle (or launch some warships, or whatever) and then this work is started and goes on in parallel with the work started by the first order. The people of a nation can do many thing simultaneously, but a single unit can do only one thing at a time.

5 Nations

Each player in the game controls a nation. There will usually also be some nations controlled by the computer (non-player nations).

Nations can own hexes, locations, units, items and resources (see section 6 for information about resources).

Each nation has a unique name, a unique short letter code derived from the name and a unique number. When you need to identify a nation in an order (such as in an order to change your policy towards that nation), you must use the number or the unique short code. The short code is also used to by the system indicate ownership in a compact way. When a feature, unit or item is mentioned in the turn reports, the owner is indicated by the code, for example:

3945(OQ) Knight of Grom drops Magic Sword [1234(OQ)]

where the letter code "OQ" identifies both the knight and the sword as belonging to the Order of Quama. On the maps you receive, the ownership of each hex will be indicated by the letter code of the nation owning it, if any.

5.1 Factions

In some scenarios, each nation belongs to a faction, while in others, factions are not used at all. A nation cannot change factions during a game, the assignment of factions is based on the "background story" of the game world. The factions limit the policies that nations may have towards each other (see section 5.4.1). Factions are also used in the calculation of the point score of each nation (see section 5.3).

5.2 Home

Each nation has a "home" which is either a hex or a location. For some nations the home is the nation capital while for other, less centralised nations it is just a rally point. The home is important when units flee (see section 9) and there may be actions that a nation (or the units of the nation) can only perform in the home location or hex. It is generally a good idea not to lose one's home.

Some nations may move their home during the game while other nations are stuck with the home they start with. There may be restrictions on how the home can be moved and there may be a resource cost to be paid. A kingdom may for example be able to move its capital to another city but it will cost it a lot of gold to do so. A nation's home is moved by using the *home* nation order:

home *location-or-hex-number*
This order immediately changes the home of the nation to the given hex or location, which must belong to the nation. If there are individual units fleeing towards the nation home (see section 9) when it is changed, the time it takes before the units return is prolonged by 4 phases for each hex of distance between the new and the old home. The *home* order is a "free" order, costing no administration points (see section 3.2).

5.3 Victory points *

The object of a COSMOS Fantasy game is to get as many victory points as possible. The scenario description and/or the "blurb" describing your nation will detail how you earn victory points.

A nation receives bonus points if it is in the faction that has the highest or (in the case of more than two factions) second highest victory point average (based on player nations only). It is also possible for a faction to get bonus points by achieving special goals specified in the scenario description.

The current victory point score for a nation is computed at the end of each turn. This is the number of points the nation would have if the game ended that turn. This may go either up or down from turn to turn depending on how the nation and its faction are doing. Each nation starts with zero victory points. If things go badly, you may end up with negative points!

The victory point score of the nation is in the status report. The score is divided into basic score and faction bonus, for example:

POINTS: 132 plus faction bonus 10: 142

for a nation that has 132 basic points and is in a faction which gives its nations 10 bonus points.

5.4 Policies

The relations between nations are governed by their policies. There are three possible policies: *allied*, *neutral* and *enemy*.

The policy of nation A towards nation B need not be the same as nation B's policy towards nation A. You never know the policies of other nations towards your nation, you only know your policies towards them. A sure way to find out whether another player has declared you enemy is to see if his or her units will attack your units. It may not be so easy to determine whether a nation is neutral or allied towards you, but there are ways to tell... If your units are attacked or if someone tries to take over your hexes or features, the aggressor is automatically declared enemy. All other policy changes have to be specifically ordered.

The policies affect many aspects of the game. The most important is how units react to each other. Units will attempt to attack enemy units and/or expect to be attacked by them. Enemy units will block your movement while allied units will try to prevent you from being blocked (see section 11.7).

Another important effect of policies is that nations may only attempt to gain control of enemy (or un-owned) territory.

The *policy* order is used to change your policy towards another nation:

policy *nation policy*
This order changes the policy of your nation towards one other nation. The possible policies are: **"ally**", **"neutral"** and **"enemy**". A policy change is instantly effective.

Example:
```
policy RW ally
```
This declares the nation abbreviated RW an ally of your nation.

5.4.1 Faction restrictions on policies *

Factions have policies towards each other that restrict the policies of the nations in the factions. If nation A belongs to a faction that is allied to nation B's faction, nation A cannot declare nation B enemy. If nation A's faction has declared B's faction enemies, nation A cannot declare itself allied to B. Unlike nation policies, faction policies are always symmetric (i.e. the policy of faction C towards faction D is the same as D's towards C).

Usually a faction will be allied with itself, preventing nations in the same faction from declaring each other enemies.

Faction policies normally cannot be changed during the game.

5.5 Rulers and heirs

A nation usually has a ruler. The ruler is a specific unit and is marked by an asterisk in reports:

3445(Sn*) King Forked-Tongue (Snakeman Lord)

A nation is not eliminated from the game if the nation loses its ruler. There are, however, at least two disadvantages for a nation that does not have a ruler:

1) The ruler no longer contributes to the administration point total of the nation.

2) There may be special tasks that only the ruler can perform (i.e. orders that may only be executed by the ruler).

A ruler of a nation is always of a specific unit type, depending on the nation. Thus a ruler of the elves would always be an "Elven Lord" while the ruler of a human kingdom might have to be a "Noble". If a nation has more than one unit of the appropriate type, the ruler can be replaced if eliminated. Usually one of the other appropriate units will be a declared *heir*. If the ruler is eliminated, the heir immediately becomes the new ruler. If there is no declared heir (such as when both the ruler and the declared heir are eliminated during the same turn), the unit of the appropriate type which has the lowest ID number (belonging to the nation of course) automatically becomes the new ruler.

A unit of the owning nation's "ruler type" that is not the ruler of the nation is marked in the reports by a plus:

3312(EK+) Prince Charming (Noble)

This means that all players can see who your potential rulers are!

You cannot voluntarily change the ruler of your nation but you can change the declared heir by using the "heir" order:

heir *number-of-new-heir*
This is a nation order specifying the new heir for the nation. It is a "free" order, costing no administration points (see section 3.2). The heir must be of the appropriate unit type.

6 Resources

Resources are things such as gold, iron or wood which a nation may posses, including abstract resources like manpower. Resources are used to pay for the upkeep of units, items and locations owned by the nation and to create new units, items and locations. It may also require resources to perform certain actions. An example could be bribing a unit of another player, an action that obviously requires gold.

Note that resources needed to carry out an order are generally used *when execution of the order is first begun* and will generally be lost if the order is interrupted (with the *recruit* order being one notable exception where certain resources *will* be recovered, see section 7.1). Certain orders use resources incrementally, which is described in the blurbs for these orders, but if nothing else is mentioned, *all* needed resources are used when order execution commences.

Resources can be either at a specific location, in the possession of a specific unit or in the (disembodied) stores of the nation, the *resource pool*. When resources are used they are always taken from the closest source. A unit will use first its personal resources, then those of other members of its force (so resources carried by a unit are available to other units in its force), then the resources at its location and finally the resources in its nation resource pool. This applies both when executing orders requiring resources and when the upkeep of the unit must be paid.

Note that a unit can only use the resources of its immediate position (hex or location), e.g. a unit in a city can only use the resources of the city, not the resources in the hex outside (but the *city* could use those). Furthermore, a unit can only use the resources at its position if the hex or location is either owned by its nation or not owned by any nation.

Resources in the nation resource pool are available where they are needed, even outside the territory controlled by that nation. Most resources are produced directly into and drawn from the nation resource pool. Some resources exist exclusively in the nation resource pool and some exist exclusively in local stores.

When a location is under siege (see section 17) it cannot use resources from the hex or location it is located in. If it has been under siege since the beginning of a turn it cannot use resources from the nation resource pool, except mana. Likewise, units and locations inside the sieged location cannot draw other resources than mana from their nation stores.

Magically created units (i.e. units which are *animated* or *conjured*, **not** merely magically *summoned*) which have a mana upkeep or special abilities requiring mana may draw the mana they need directly from the personal mana of their creator. Mana will first be drawn from the usual sources but if there is not enough, mana will be drawn from the creator. It does not matter where the creator is, there is a direct link to his or her creations through which mana can be transferred.

The most important resources are:

Gold. This is the money of the game world. Used for almost everything non-magical. Comes mainly from taxes, cities and mines.

Food. What you feed your city population and your units.

Population. This is actually “men”, “elves”, “dwarves” or the like, depending on your nation. They pay taxes, work to provide manpower and can muster soldiers.

Manpower. What you get when you order (part of) your population to work as villeins. Used for construction of roads, castles *et cetera* and to produce resources in mines. For some nations it is also required for producing arms.

Mounts/livestock. This may be “horses”, “wolves”, “elephants” or whatever is appropriate for your nation. Used for special troop types.

Wood. Used mainly for ships, some structures and to burn when forging iron.

Iron. Raw iron, produced in certain terrains. What gets converted into arms.

Arms. What you use to equip your troops.

Mana. This comes in several flavours such as “holy mana”, “nature mana” and “enchantment mana”. It represents magical energy and is used to cast magical spells or create magical troop types.

Resources which may exist locally have size and mass like units and items:

Gold has no significant size but weighs 1 for every 100 units of gold.
Each unit of food weighs 1 and has a size of 1.
Each unit of wood weighs 5 and has a size of 5.
Each unit of iron weighs 5 and has a size of 2.
Each unit of arms weighs 1 and has a size of 1.
Mana is not tangible and therefore has no size or weight.

Players may trade resources with each other by transporting them between their territories (this requires units to carry them, see section 6.7). This is of course only possible for resources that can be taken out of the nation stores and carried around. Players may also trade resources with the *transfer* order, see section 6.7.

6.1 The resource report

In each turn report you will find a section dedicated to an overview of your resources. It consists of a table containing one line per resource relevant to you. For a standard human nation it could look as follows:

Resource	Pool	Distr.	Prod.	Used	Lost	Upk.	Poten.
gold	103	0	521	582	0	382	521
food	2392	0	2233	1635	598	1635	2233
wood	3900	0	940	200	740	0	940
iron	200	0	200	200	0	0	200
horses	145	0	85	50	60	0	85
men	1370	0	248	50	248	0	248
manpower	548	0	548	0	548	0	548
arms	450	0	200	150	0	0	200
holy mana	0	45	15	0	0	0	15

The first column contains the names of the resources. The second column, “Pool”, shows the current contents of the nation resource pool. The third column, “Distr.”, shows the total of all resources locally stored (distributed). In the example above, only the holy mana is locally stored (it is the personal mana of a priest). Under each hex, location and unit in your status report you will find how many locally stored resources it contains or has, the resource table only shows the totals.

The next three columns, “Prod.”, “Used” and “Lost”, summarise the resource transactions which took place in the turn (in your set-up report it will be a forecast of the resource transactions of your first turn provided you do not do anything). The “Prod.” column shows how much was produced of each resource, the “Used” column how much was used (including upkeep) and the “Lost” column how much was lost (most often due to decay of perishable resources, see section 6.5). In the example above you can see e.g. how 200 wood and 200 iron were used to produce 200 arms.

The seventh column, “Upk.”, details how many resources are required each turn for upkeep of units, cities, castles *et cetera*. In the example above the food which has been used has gone exclusively towards upkeep (the “Used” column is equal to the “Upk.” column) while 382 gold has been used for upkeep and 200 gold for something else.

The rightmost column, “Poten.”, is a forecast of the *potential production* next turn. For resources which have a complex production mechanism (such as gold, manpower and arms) this estimate can be slightly off. In any case your actual production may be lower than the forecast due to e.g. the activities of your enemies or a decrease in population, or it may be higher e.g. if you take some more land next turn or your population increases.

6.2 Resource production *

Resources are produced at the end of each turn. Most produced resources go directly to the nation resource pool, the mana produced by units being the only exception. Upkeep for units *et cetera* is paid after resource production, so you can use the turn’s production to pay upkeep.

There are two kinds of production: *base* production and *special* production. The base production from hexes depend on their terrain and any terrain features present. Some locations, items and units also have a base production (as stated in their "blurbs"), some have special resource production and some (e.g. cities) have both.

The base production of hexes, locations and items depends on the production efficiency of the nation for that particular resource. A nation which has a production efficiency of 150% for gold receives 3 times more gold from its hexes than one which has only 50% efficiency, but special gold income from other sources (such as cities, mines and taxes) is not affected. A nation may have 0% production efficiency for some resources which means that its hexes and location cannot produce those resources at all.

Production efficiency does not influence the resource production of units, a unit produces the same resources no matter which nation it belongs to. However, the base production of a unit is modified by its current *combat efficiency factor* (see section 15.3) and while a unit is fleeing home or retreating it will not produce anything at all.

Example: Assume a hills hex has a base production of 25 gold, 150 food, 50 wood, 150 iron, 10 men, 3 elves and 5 dwarves. A dwarven nation which has production efficiency factors of 175% for gold, 100% for food, 125% for iron, 100% for wood and 100% for dwarves would each turn get 43.75 gold, 150 food, 187.5 iron, 50 wood and 5 dwarves from the hex. The wood elves who have production factors 100% for food, 20% for wood and 100% for elves would get 150 food, 10 wood and 3 elves from the hex each turn. So neither nation gets any men and only the dwarves mine for the gold and iron.

The base production takes place during the whole turn but the resources do not become available before the end of the turn. A hex you just acquired will only produce resources for your nation in the part of the turn you actually owned it. It is possible for one hex to produce resources to different owners in the same turn.

Castles in a hex boost the base production for some resources, see section 13.2.

6.3 Preventing production *

When sufficiently many or large enemy units are present in a location or hex at the beginning of a phase it will not produce resources in that phase. In order for production to be halted in a hex or location the enemy units present must have a total combined *effective presence* of at least *one* (see section 2.3.2).

If a location is under *siege* (see section 17), base production is halted for the sieged location and any locations within it for the duration of the siege. Special production such as the mana produced by a temple, the gold produced by the trade in a city or the resources produced by a mine is only affected if the location is under siege at the end of the turn.

6.4 Upkeep *

At the end of each turn, after resources have been produced, upkeep must be paid for units, locations and ships, in that order. Upkeep is paid first for the unit closest to the home of the nation, then for the second closest *et cetera* until the upkeep of the unit furthest from home is paid. If multiple units are equally distant from the nation's home, their upkeep is paid in ID number order, lowest ID number first. Locations are maintained after the same principle: Closest to home first and lowest ID number first in case of equal distance. The navy upkeep is paid last of all, transports before warships (see section 12).

If there are not sufficient resources to pay the entire upkeep of a unit or location, none of its upkeep is paid (as there is no beneficial effect of paying a partial upkeep the resources might as well be used for something else).

If the upkeep of a unit cannot be met it will be dissolved. The owning nation will not regain any of the resources used to create the unit.

If the food upkeep of a city is not met it will decrease one size increment. A size one city will be destroyed.

If the upkeep of fortifications is not paid, the walls will be damaged as many points as their strength rating (reducing their effective fortification rating by one, see section 16).

Ships which cannot be maintained will be lost.

6.5 Resource decay *

Some resources are perishable and decay when not used. This happens just before resource production.

- Manpower decays 100% (i.e. manpower is never stored between turns).

- Gold, iron and arms do not decay and can be stored indefinitely.

- Mana normally does not decay but there may be a limit on how much mana a nation can store (and any excess mana is thus lost).

- Stores of food and wood are reduced by a certain percentage. With a constant net production these resources will (if they are not used) attain an equilibrium level where the production is equal to the decay. The equilibrium level can be computed by dividing the production by the decay rate. Note that not only the nation stores of food and wood will decay, local stores of food and wood being transported are equally affected.

  The decay rates for the perishable resources are:

food:	25% per turn, equilibrium 4 times production
wood:	20% per turn, equilibrium 5 times production

- The pool of available mounts (livestock) are also reduced by a certain percentage but unlike the normal perishable resources the amount that decays is based on the *total number* of mounts owned by the nation, including the mounts used in the nation's military units (see the rules for *population* below for a more detailed description of the mechanism). This means that with a constant production of mounts the total available to the nation will attain an equilibrium level where the production is equal to the decay and no more mounts will become available for creation of mounted units until either some mounted units are lost or the production of mounts increases. The equilibrium level can be computed by dividing the production by the decay rate.

  The decay rates for the different types of mounts are:

horses:	50% per turn, equilibrium 2 times production
wolves:	50% per turn, equilibrium 2 times production
elephants:	20% per turn, equilibrium 5 times production
dzareks:	20% per turn, equilibrium 5 times production

- Population decays using the same mechanism as mounts so the amount that decays is based on the *total population:* the sum of the nation's population pool and the population in the nation's units. The total population cost of all units of the nation is added to the nation's population pool and then the decay is computed by multiplying this total with the relevant decay rate listed below. The resulting number is subtracted from the population pool and, if this is not sufficient, from the turn's production (the pool and production can never drop below zero though). Units are not affected directly by decay, their population cost is just used in the calculations. The equilibrium level attained when the population production is equal to the decay is thus the equilibrium for the total population, i.e. the maximum total number of population in the nation's resource pool *and* in the nation's units.

The decay rates for population are:

men (humans):	10% per turn, equilibrium level 10 times production
elves:	3% per turn, equilibrium level 33.33 times production
dwarves:	5% per turn, equilibrium level 20 times production
gnomes:	7% per turn, equilibrium level 14.29 times production
trolls:	7% per turn, equilibrium level 14.29 times production
goblins:	15% per turn, equilibrium level 6.67 times production
snakemen:	10% per turn, equilibrium level 10 times production

---

Example: The Great Empire has a population production of 250 men (humans) each turn. The decay rate for men is 10%. The maximum population of the Great Empire is thus 250 divided by 0.10, or 2500. Some of these 2500 men can be recruited into the army by creating units with a population "cost" (all regular mass units have a population cost).
The Great Empire also has a production of 200 horses per turn. The decay rate for horses is 50% so the maximum number of horses the nation can have is 400 (200 divided by 0.5). So the Great Empire is limited to at most 400 cavalry until its production of horses increases.

As population is recruited into units the population pool (and thereby the tax base) will decrease and the upkeep of the army increase. When units are eliminated in combat the total population is suddenly less that the equilibrium level and the population pool will then slowly grow until the total population reaches equilibrium again.

If the production of population increases (as more territory is controlled) the population pool will slowly increase until the total population reaches its new equilibrium level. The reverse will happen if the production decreases (as territory is lost): the population pool will slowly decrease until the total population is again at equilibrium.

6.6 The standard economy *

Most nations have an economy based on the "standard economy" model described in the following. Some nations produce mana on top of that, but mana production is so varied that no general description can be given. Production details for your nation are listed in the description of your nation that you get with your setup (the turn reports for turn 0).

6.6.1 Taxes *

The population in the nation's pool is taxed for gold. The amount of gold acquired from taxation is computed by multiplying the *tax base* by the *tax efficiency factor*. Each of these will be described below.

The *tax base* is based on the size and type of the nation's population pool (population in units does not pay taxes). Each point of men, snakemen, gnomes, dwarves and elves count as one point of population for tax purposes. Each *two* points of goblins count as one point. Trolls do not count at all (they do not pay taxes).

The tax base is multiplied by you nation's *tax efficiency factor*. This is a value representing the wealth of your population and the efficiency of your tax collectors and it ranges from 5% to 50%. The resulting number is the amount of gold collected per turn.

Example: A (poor) human nation has a population pool of 2500 men and a tax efficiency factor of 13%. The nation collects 325 gold per turn in taxes (2500 multiplied by 0.13).

6.6.2 Manpower production *

Manpower is produced by your population working in villeinage. The mechanism is much the same as for taxes: a *villeinage base* is computed and multiplied with the nation's *villeinage efficiency factor* and the result is the amount of manpower produced. Note that manpower produced in one turn must be used the next turn or be lost.

The *villeinage base* is computed as follows: Each point of men, snakemen, dwarves, elves and goblins count as one population point, each point of trolls count as two population points and each two points of gnomes count as one population point.

The population point total is multiplied by the nation's *villeinage efficiency factor* (representing the willingness of the population to work for the nation and ranging from 10% to 100%) to get the amount of manpower produced each turn.

Example: The human nation from the example in section 6.6.1 above has a villeinage efficiency factor of 36%. The manpower produced per turn is 900 (2500 multiplied by 0.36).

6.6.3 City trade income *

Most nations also tax the trade in their cities. Each city or town has a *trade rating* which together with its size and the nation *trade income factor* determines the size of the special gold income the nation receives from the city.

The base trade rating of a city is an indication of the amount of trade which takes place there and depends on where it is situated. It is a fixed number ranging typically from 5 to 10. To this is added half the current fortification rating of the city walls (see section 16), rounded down (a safe city generates more trade). The result is the city's current trade rating.

The current trade rating is multiplied by the current size of the city (see section 13.1) to get the base amount of gold which could be collected. This is finally multiplied by the trade income factor of the nation. This is some percentage (typically 100%) which reflects the trading talents of the nation's subjects, the quality and popularity of their goods as well as how successfully the nation taxes trade.

A city which is occupied by enemy troops of at least effective presence 1 at the end of the turn, which enemy troops are attempting to control at the end of the turn, or which has been under siege for the entire turn will *not* generate any trade income.

Example: The fair city of Ogellion is the pride of the great elven kingdom and the centre of much trade with far-off lands. Its base trade rating is 10 and its strong rating 4 walls adds 2 to this for a total of 12. The current size of Ogellion is 10 and thus the trade income from the city at a trade income factor of 100% would be 120 gold per turn. The elves, however, are famed for their fine and exotic goods and the products of their craftsmen is much sought by those who can afford it, so their trade income factor is 200%. This translates into 240 gold earned from the trade in Ogellion every turn. If the dreaded trolls should conquer the city the low value of their crude goods will mean that much less gold changes hands in Ogellion and the 50% trade income factor of the troll nation reflects this. The trolls would only get 60 gold per turn from the city.

6.6.4 Mines *

Some nations have special gold or iron mines (these are locations and can be taken by other nations during the course of the game). A mine converts manpower to gold or iron, usually at the rate of three manpower to one gold or one manpower to one iron. This is done before the main production of the turn and uses manpower generated the previous turn. Each mine has a maximum production and can at most utilise the corresponding amount of manpower. If there is not enough manpower the mine will only produce gold or iron corresponding to the available manpower.

If a nation has several mines, manpower will be spent first in special mines (mines producing something not gold or iron), then in gold mines and finally in iron mines. When a nation has multiple mines of the same type, manpower will be spent in the mines in order of increasing ID number.

It is possible to specify a limit for how much manpower should be spent in a given mine. This is done by letting the mine execute the “limit” order:

limit *amount*
This order sets the maximum amount of manpower to be used by the mine each turn. A negative number means “no limit”.

6.6.5 Arms production *

Arms are automatically produced at the end of each turn, just before resource stores decay. For most nations, one point of wood and one point of iron gets converted to one point of arms. The amount of arms produced usually depends only on the amount of raw materials available. It is however possible to limit the arms production by using the “limitarms” order:

limitarms *amount*
This nation order sets the maximum amount of arms to be produced by the nation each turn. A negative number means “no limit”.

6.7 Orders for manipulating resources *

The orders described in this section are really only needed when you wish to transfer resources to another nation. For your own use you will almost always keep resources in the nation resource pool where they are available to all your units.

Resource lists in orders should be written as one or more pairs of *type*:*amount*, where type is a resource name and amount is the amount of that resource to store/unstore/whatever. The resource pairs should be separated by spaces.

Example:

```
store gold:100 iron:50
```

means “store 100 gold and 50 units of iron”.

For all the orders in this section you can specify an amount of -1 to mean “all of this resource”.

Example:

```
store food:-1 iron:50
```

means “store all food and 50 units of iron”.

---

transfer *resource-list player-number*
This order is used to transfer resources directly from your nation resource pool to the nation resource pool of another player The resources you transfer are deducted from your resource pool at the very beginning of the turn and are added to the resource pool of the receiving nation in the beginning of the *last phase* of the turn (so the other player can use the resources at the end of the turn, for example for upkeep). Not all the resources you transfer will make it into the other player’s pool, some are lost in transport. The percentage which makes it depends on the resource:

80% of the gold, iron and arms,
64% of the wood and
60% of the food transferred will actually reach the other player.

Only gold, iron, arms, wood and food may be transferred.

Using the *transfer* order is the easiest but also most expensive way to transfer resources to another player. On top of the loss of resources there is a *transport cost* in gold which must also be paid. The transport cost depends on the *weight* of the resources transferred (the original amount, not the reduced amount) and on the *distance* between the sender and the receiver. See section 6 for the weight of the various resources. The distance is computed as the shortest distance in hexes between a hex owned by the sender and a hex owned by the receiver (counting the hex of the sender but not the hex of the receiver). The weight is rounded up to the nearest 1000 units. The cost for every 1000 weight units is then a basic 5 gold plus 3 gold per hex of distance. The minimum transport cost for a transfer order is however 10 gold.

Example 1:

```
transfer gold:100 wood:300 Dw
```

This will remove 100 gold and 300 wood from your resource pool at the beginning of the turn and will add 80 gold and 192 wood to the resource pool of the nation abbreviated “Dw” in the last phase of the turn (you could have used the nation number instead of the abbreviation if you wished). The weight of the transferred resources is 1501 units and thus the transport cost will be 10 gold plus 6 gold per hex of distance to the “Dw” nation.

Example 2:
The Elves of Windwood wish to transfer 500 units of wood to the Dwarves. In order for the dwarves to actually receive 500 units of wood the elves must send 782 units (64% of 782 is 500). Each unit of wood weighs 5 weight units, so the mass that has to be transported is 3910, rounded to 4000. The distance between the two nations happens to be 9 hexes, so 32 gold must be paid for each 1000 weight units for a total cost of 128 gold. If the dwarves wanted to cover this they would have to transfer 160 gold to the elves and pay 32 gold for that transfer, for a total cost to the dwarves of 192 gold.

To make the computation of transport cost somewhat easier, your turn report will each turn list the transport cost per 1000 weight units from your nation to each of your allies.

store *resource-list*
This order is used to store resources carried by a force and/or present in the location of the force in your nation resource pool. The force must be in a hex owned by you, although it may be inside a location in the hex, even if the location is not owned by you. The following resources can be stored: gold, food, wood, iron and arms. Only 90% of the resources actually reach your nation resource pool, the remaining 10% are lost. A store order takes 1 phase to complete, or no time if there are no resources to store. Resources from the position of the force can only be stored if you own the hex or location, or it has no owner at all.

Example:

```
store gold:100 wood:300
```

This will remove 100 gold and 300 wood carried by the force and/or at the location of the force and add 90 gold and 270 wood to the nation resource pool.

---

unstore *resource-list*
The unstore order lets a unit draw resources from its nation’s resource pool. The unit must be in a hex owned by its nation, although it may be inside some location in the hex, even if the location is owned by some other nation. Gold, food, wood, iron and arms can be transferred to a unit in this way. An unstore takes 1 phase. A force can unstore resources even beyond its carrying capacity (but then it cannot move, of course).

collect *resource-list*
The collect order lets a force take resources stored at its location. Only gold, food, wood, iron and arms may be collected. A collect order takes no time to execute. Like with the unstore order it is possible for a force to collect resources exceeding its carrying capacity.

discard *resource-list*
The discard order lets a force discard resources carried. The resources will be stored at the location of the force. This order takes no time to complete.

donate *resource-list number-of-receiving-unit*
The donate order lets a force donate resources carried to another, non-enemy force at the same position. This does not take any time for either force.

7 Recruiting, merging, disbanding and taking over units

This section describes how to recruit (create) new units, how to merge multiple (mass) units of the same type, how to disband units when they are no longer needed and how to take over units owned by other nations.

7.1 Recruiting units

Most units are created by other units by using the *recruit* order or one of its synonym orders:

recruit *unit-type number-of-individuals orders*
This is the basic order used by a unit to create new units (it may be called *summon*, *animate* or something similar, but it is the same order and in fact the different names can freely be interchanged).

Recruitment may usually only be done in certain terrains and sometimes even only in certain locations. If the recruiting unit is in a location which is in the right terrain this is good enough, provided that the location is not under siege (i.e. recruitment is possible if the recruiting unit can freely move out into the required terrain). The reverse is *not* true: A recruiting unit which is *outside* a location of the required terrain (e.g. just outside a city for a recruitment which requires city terrain) the recruitment will *not* succeed, even if the unit in theory could move freely in and out of the location.

The new unit is created at the position of the unit executing the order and will of course belong to the same nation. When the unit is created it will be given an ID number that the creating player will not know in advance (see section 21.6 for how to overcome this). To allow the new unit to be given some orders in the same turn it is created you may give a list of orders as an argument to the recruit order (with the usual restrictions if the unit to be created is “stupid”). The new unit will execute purely administrative orders which take no time (*meta orders*, see section 4.3) such as “join”, “tactics”, “myname” and “myalias” immediately when it is created. Execution of the rest of the orders will be started in the following phase.

For mass units of types that can be created with variable size the number of individuals to recruit can be specified (see below). It must be in the interval allowed for that type of unit (as stated in the unit type “blurb”) and if it is omitted a unit of standard size for that type is created.

The creation cost of the unit is paid *when the recruit order is commenced* and is only partially recovered if the order should be interrupted. Recovered resources are: 100% of the used men, elves, dwarves, gnomes, trolls, goblins or snakemen, and 80% of the used mounts – nothing else (i.e. no gold, arms or mana is recovered).

Examples:

Create a unit of type 17 with 30 individuals:
```
recruit 17 30
```

Create a unit of 100 Heavy Infantry, changing its tactics and joining it to a force right after it has been created:
```
recruit "Heavy Infantry" 100
  orders:
    mytactics defend
    join 3101
  .
```

Usually you will write the name of the unit type to be recruited in your recruit orders (enclosed in double or single quotes), but it is possible to write the unit class number instead if you dislike too much typing and are familiar with the numbers.

Mass units of most types can be created with a varying number of individuals. For example human infantry units can be created at any size between 20 and 200 individuals, the standard unit size being 50 individuals. The cost of recruiting a new unit is proportional to how many individuals are recruited, fractions are *rounded up*.

Example:
A standard size (50 individuals) Medium Infantry unit costs 15 gold, 50 men and 50 arms to create. A Medium Infantry unit with 75 individuals would cost 23 gold, 75 men and 75 arms.

If the resources available are insufficient for recruiting the number of individuals specified but could pay for fewer individuals (not less than the minimum unit size), then the recruit order will create a unit with as many individuals as can be afforded. If there are not enough resources available even for a minimum unit then the recruit order will fail (and take no time and use no resources).

The time a recruitment takes usually depends on the number of individuals recruited. In the "blurb" for a unit type which can recruit, the time needed will be stated as a *base time* and a *variable time*. The time used for a recruit order is computed by taking the base time and then adding the variable time multiplied by the size of the new unit relative to the standard size, rounding fractions up.

Example:
A Captain is recruiting a Medium Infantry unit with 75 individuals. In the "blurb" describing captains it is stated that recruitment of Medium Infantry takes 8 phases for a standard size unit, of which 4 phases are the base time and 4 phases are the variable time. The standard size Medium Infantry unit is 50 individuals. The time required to recruit a unit of 75 individuals is thus 10 phases (4+4×75/50).

7.2 Merging units

It is more efficient (uses less time) to recruit a large unit than several smaller units. For that reason it is not possible to split a large unit into smaller ones once it has been recruited. It *is* however possible to merge units of the same type into fewer, larger units (or simply to transfer individuals between them). This is done by using the *merge* order:

merge *list-of-unit-numbers*
This order can be given either as a nation order or as a unit order. If given as a nation order, a list of at least two unit numbers must be given as an argument. If given as a unit order, the argument can be omitted or be a list containing one or more unit numbers. The first unit in the list (if any) is the unit to receive individuals from other units. The following units are those which individuals are to be transferred from. If they are omitted it means that individuals are to be transferred from the unit executing the order. If no list of units is given at all then individuals are transferred into the unit executing the order from all other units in its force which are of its type. As many individuals are transferred as are needed to bring the target unit to its maximum allowed size (or as many as are available, whichever is less). When individuals are transferred from a unit with wounded individuals the less wounded will be transferred first and the most wounded last. Units to be merged must be at the same position. A merge order does not take any time to execute.

Examples:

```
merge
```
This transfers individuals into the unit executing the order (and which must thus be a force leader) from other units in its force and of its type.

```
merge 4312
```
This transfers all the individuals of the unit executing the order into unit 4312 (if it can contain that many), merging the two units.

```
merge 4312 4313 4314
```
This transfers as many individuals as possible from units 4313 and 4314 into unit 4312, possibly merging all three units. This could be given either as a nation order or as a unit order. The unit executing the order need not be one of the units in the list, nor does it even have to be at the same position as the units in the list.

If all individuals are transferred out of a unit it will cease to exist; otherwise the number of individuals which remain in the unit must be at least equal to the minimum unit of its type. If the number of individuals to be transferred is less than the number in the unit but large enough to bring the unit under its minimum size then the number required for the minimum size is held in the unit and only the excess transferred. The only way that a mass unit can be reduced to less than its minimum size is through losses incurred in combat.

7.3 Disbanding units

If a unit is no longer needed (or if its upkeep is too expensive) it can be disbanded, *but only if it is in a hex owned by its nation* (it may be inside some location, it need not be positioned directly in the hex). If you need to dissolve a unit which is not in one of your own hexes then you can use the *flee* order instead (see section 9), however this will mean recovering less of the unit's cost than if it could have been disbanded. The *disband* order can be given either as a unit order or a nation order:

disband *list-of-units*
This order disbands (or dissolves) units. This takes no time. Some of the resource cost of the unit will be recovered: 100% of the cost in population and 80% of the cost in other resources, except gold and mana which are not recovered at all. Units you have bribed or hired only have a gold cost for your nation and disbanding them will thus not give you any resources.

7.4 Taking over units owned by others *

Some special units have the power to take units from other nations, either by bribing them or by using magical powers. When a unit for the first time sees a unit of a type it can bribe or charm then the “blurb” for that type of unit will become available to the player so that he or she can decide whether it is worth to acquire such units (and what the cost will be).

7.4.1 Charming or dominating units *

Some units may be able to magically charm or dominate units of certain types. The following orders are used for that:

charm *list-of-unit-numbers*
dominate *list-of-unit-numbers*
A *charm* or *dominate* order makes the listed units change owner to the nation of the unit executing the order. This can be done regardless of which nation the target units belong to. Charmed (or dominated) units are generally just a little less effective than normal units. They can be ordered around as other units and their upkeep must be paid by their new owner. Charmed or dominated units will revert to their original owner if their mana upkeep is not paid. The resource cost of the *charm* or *dominate* order is normally just the cost of the units charmed or dominated, as listed in their unit type “blurbs”.

7.4.2 Bribing units *

Most leaders can bribe enemy units of most normal troop types. The “bribe” order is used for this:

bribe *effect amount list-of-unit-numbers*
This order lets certain units bribe units of other nations (the bribed units must belong to some nation or be rebels). The result depends on how much gold is offered and on what the specified intended effect is. The *effect* argument should be one of the following:

defect: Make the bribed units change owner to that of the bribing unit. The cost is 2.5 to 6 times the sum of the original gold cost and the current gold upkeep of the units. If there is one or more mass units not being bribed present at the location of a bribed unit owned by the same nation then the price for bribing the unit is doubled.

desert: Make the bribed units desert (dissolve). The cost is 1.5 to 4 times the sum of the original gold cost and the current gold upkeep of the units.

flee: Change the tactics of the bribed units to "flee" (see section 15.6). The tactics may later be changed back by the owning player but in any battle that takes place in the same phase as the bribe the tactics of the bribed units is guaranteed to be "flee". The cost is 1 to 3 times the sum of the original gold cost and the current gold upkeep of the units.

defend: Change the tactics of the bribed units to "defend" (see section 15.6). The tactics may later be changed back by the owning player but in any battle which takes place in the same phase as the bribe the tactics of the bribed units are guaranteed to be "defend". The cost is 0.5 to 2 times the sum of the original gold cost and the current gold upkeep of the units.

The amount written in the order is the amount of gold you offer. The actual amount required depends on the intended effect of the bribe (see above) and on the current morale (see section 9.2) of the units to be bribed. For each point of morale above zero the required amount is increased by 2% while it is reduced by 1% for each point of negative morale. For the bribe to succeed the amount offered must be at least equal to a random threshold amount between the minimum and maximum possible for the given desired effect.

Example:
A unit of 100 heavy infantry is being bribed to desert. The gold cost for 100 heavy infantry is 60 and the upkeep is 30 for at total base gold cost of 90. The current morale of the infantry units is 20, adding 40% to the cost of bribing it so the base cost is 126 gold. The desired effect of the bribe is to get the unit to "desert" which costs 1.5 to 4 times the base cost for a range of 189-504 gold that must be paid by the bribing unit. A random number equally distributed between 189 and 504 (both numbers inclusive) is generated and if the amount offered is at least equal to this number then the bribe succeeds. So to have a 75% chance of success the bribing unit must offer 425 gold.

If the amount offered is less than that required to bribe all the listed units then the bribe will fail and half of the offered gold will be lost. Depending on the bribed units' morale this gold will either disappear from the game or be added to the nation gold pool of the bribed units.

All units specified in the bribe order (and which exist and are within range and are legal targets) will be bribed together, so either the bribe will fail for all the specified units or it will succeed for all of them. The units need not belong to the same nation.

7.4.3 Hiring units *

Some units such as mercenaries may offer themselves for hire. Almost all characters can accept such an offer on behalf of their nation:

hire *list-of-unit-numbers*
This order lets a unit hire some units that are for hire (these units and the price they ask will be listed in your event report when they are available, and you will also get the "blurbs" for their unit types if you do not have them already). The hiring character and the hired units must be able to see each other. Hiring units take one phase.

8 Forces

To reduce the number of orders needed to control large armies of many units, units may be combined in forces. In a force, all units must belong to the same player and all units must be at the same position (exception: a unit riding another unit will usually be in the same force as that unit, even though its position is *on* the unit it rides).

A force always has a *force leader*. The force leader is the unit that receives all orders to the force. A force leader need not be a character, it may be any type of unit.

When the force leader executes a move order, the entire force will move, *et cetera*. Many orders affect entire forces in this way. The leader of a force may also execute orders that do not involve the rest of the force (a wizard leading an army may cast spells, for example). While a force leader executes an order that does not involve the rest of the force, the other units in the force will do nothing.

Only the force leader may receive orders. *If any other unit in the force receives orders, it immediately breaks from the force.* This means that when you issue orders to a unit which is part of a force you do not need to use the "leave" order (see below), the unit will automatically leave its force.

If a unit joins a force or is included in a force it will discard any remaining orders when it joins.

If the force leader is eliminated, another unit of the force is assigned as leader. This unit will take over any unfinished orders of the original leader (this may not always make sense, for example when a knight takes over a spell caster's orders).

The weight of items, resources and wounded members of units is usually shared between the units in a force (a few special units will not share what they carry or carry any shared weight). When a unit is eliminated any items and resources it carries will go to another member of its force (except for mana, which is lost).

8.1 Orders dealing with forces

join *unit-number-of-leader*
This tells a force to join another force. Any of the two forces may consist of only one unit. The two forces joined must be at the same position and may not be moving. It takes no time to join two forces.

Example:
Very often the *join* order is given as part of the *recruit* order which creates a new unit; the new unit is told to join the force of its creator (possibly after first adjusting the default tactics the unit is created with):

```
3101:
recruit 2 100
  orders:
    mytactics defend
    join 3101
  .
```

---

leave
leave *list-of-unit-numbers*
This order, which must be given to a force leader, has two forms. The first form, without any arguments, breaks up the force (the leader leaves everybody behind). The second makes only the units listed leave the force (or makes the force leave them, depending on you point of view). This order takes no time.

form *list-of-unit-numbers*
This order lets a unit form a new force with itself as force leader. All the units must be at the same position. The units break from any force(s) they may already be in and the new force leader unit first breaks up any force it already has. *All* units to

be included in the new force, except the force leader, must be specified, even if some of them are already together in a force. Forming a new force takes no time.

include *list-of-unit-numbers*
This is similar to the form order except that the force leader does not break up its existing force first (and thus a *form* order has the same effect as a *leave* order with no arguments followed by an *include* order). You must specify *all* the units to be included, even when including another force.

8.2 Getting it right *

When forming forces with the *join*, *form* and *include* orders you must remember that the units to be joined in a force must be at the exact same position. It is easy to forget that some units are inside the castle, some are in the hex outside the castle and some are in the city next to the castle, and as a result have an important leader running through enemy territory with only a fraction of the forces he intended to bring. To make things a little easier to manage it is possible to specify a the number of a unit you own as a last "position" in the list of positions in the *move* order as described in section 11.5. This means "move next to the specified unit". After the move order has completed, the moving unit will be at a position where it can join the force of the unit specified in the move order.

In addition to getting the positions right it can also be difficult to get the timing right. For this reason it is always safest and indeed sometimes necessary to use the *waitforone* or *waitforall* orders described in section 21.3.

Examples:

Unit 3101 in hex 122 must wait for units 3112 and 3114 to join its force before it moves on to hex 123. The "joined" special argument for the *waitforall* order is tailor made for this:

```
3101:
   waitforall joined 3112 3114
   move 123 ...

3112:
   move ...  122 3101
   join 3101

3114:
   move ...  122 3101
   join 3101
```

If 3101 wanted to *form* a force with the two units rather than waiting for them to join, the orders would look like this (saving one administration point):

```
3101:
   waitforall force 3112 3114
   form 3112 3114
   move 123 ...

3112:
   move ...  122 3101

3114:
   move ...  122 3101
```

Note that the "joined" in the *waitforall* order was replaced by a "force" (see section 21.3).

---

9 Fleeing and morale

A unit may flee either because it is attacked and has the "flee" tactics (see section 15.6) or if its morale is brought sufficiently low. The effects of fleeing are these:

If the unit is an individual unit, it will return to the "home" (see section 5.2) of the player it belongs to. The unit is not actually moved across the map but is assumed to find its way home somehow. The time it takes for the unit to get home is equal to four phases for each hex of distance it has to flee (there are special rules for units fleeing from within zero distance of their home, see section 9.1 below). If the home of the nation is moved while the unit is fleeing the time it takes is increased by four phases for each hex of distance between the new home and the old home. When this time has passed, the unit will (re-)materialise in the home of the player, if the player still owns that hex or location. If the player no longer owns the home and the home is a location, the unit will return to the first location or hex outside the home still owned by the player (i.e. it will work its way outwards from the "home" until it finds a place owned by its nation). If there is no such hex or location, the unit will be destroyed (so if you lose your home, don't choose tactics "flee" for your individual units).

If the unit is a mass unit it will be dissolved when it flees. However, the owning player will get a part of the resource value (original cost) of the unit. How large a part depends on the distance to the home of the player (whether the player still controls the home or not); the longer the distance, the less the player gets. This simulates that the unit breaks up and each individual tries to make for home, but some are lost on the way. At zero distance (units at home fleeing) the resources recovered are 100% of the population (men, elves, dwarves *et cetera*) and 80% of the mounts. Other resources (gold, arms, mana, wood, iron *et cetera*) are not recovered at all. Units you have bribed or hired only have a gold cost for your nation, so nothing is recovered if they flee.

Individual units that flee will discard any orders they have. They will also drop any resources carried (except mana) and any non-personal items (it will be stated in the item description if an item is *not* dropped by a fleeing unit).

Mass units that flee will drop all resources and items as they are dissolved.

It is possible to *order* your units to flee (this may be a way to get some important individual out of a tight spot or to dissolve a mass unit you cannot afford). It is also possible to specify for an individual unit (i.e. a non-mass unit) that it should flee when it has a certain number of wound points or less.

flee
This order tells a unit (and its entire force) to "flee" immediately. Remember that fleeing units may drop things they carry *and* that they forget any orders they might have after the *flee* order.

fleewhen *number-of-wound-points*
fleewhen *number-of-wound-points list-of-units*
This order sets the *"fleewhen" condition* for one or more units (not mass units). In the first form it sets the "fleewhen" condition for the unit executing the order. In the second form, with a list of units given, it sets the "fleewhen" condition for the specified units. When a list of units is given the order can be used as a nation order to change the "fleewhen" condition of any non-mass units belonging to the nation and not currently fleeing (or otherwise "off the board"). If used as a unit order, any units listed must be in the force of the unit executing it. The "fleewhen" condition tells an individual to flee when at the specified number of wound points or less. The "fleewhen" condition is removed when it is triggered and the unit flees, so you have to specify a new "fleewhen" condition for the unit when it returns home. The tactics of the unit are set to "flee" when it returns to its home after a "fleewhen" was triggered. This means that even if no new "fleewhen" is specified the unit will flee if attacked. To remove a fleewhen condition use this order with zero as the first order argument.

A good "fleewhen" wound level to choose is probably around 50% of the maximum wound level of the unit. Too small a margin and you risk the unit is killed by a single lucky attack. Too close to the current wound point total and you risk that a weak strike spell sends your unit fleeing (see section 19.1).

gohome
This is not an order that can be given to a unit by any normal means. It is a special "order" that the system automatically gives to an individual unit when it flees, i.e. it is the order that brings the unit back to its home. From the "begun" after the gohome order you can see when the unit will come home. The gohome order cannot be cleared or broken.

9.1 Individuals fleeing from their home *

There are special rules for individual units which flee from within zero distance of their home. The intended effect of the special rules is to allow players time to react to a successful attack against their home.

An individual unit which flees from a position at zero distance from its home will *not* return to its home in zero phases. The time which will pass before such a unit returns depends on whether the unit flees in the first phase of the turn or in a later phase:

- If the unit flees in the first phase of a turn it will return home just before battles in the last phase of the same turn. It will return with tactics "avoid" (see section 15.6). This means that if there are enemies present at its home in the last phase of the turn they will get to attack the unit while it is unable to flee.
- If the unit flees in any phase except the first phase of the turn it will return to its home just before battles in the first phase of the *next* turn. It will have tactics "flee" when it returns home. This means that it will flee again if attacked.

The result is that when some enemy successfully attacks your home and make your leaders flee they will return in the first phase of the next turn, giving you a chance to move your home (if you can) and thus get your leaders out. If you do not move your home and the enemy has not departed your leaders will be attacked and flee in phase one and therefore return again in the last phase of the turn, this time unable to flee. This means you have the one turn to try to drive the enemy away from your home in order to keep your leaders alive. It also means the enemy has to keep a presence at your home for one full turn in order to eliminate your leaders.

Note: With the *fleewhen* order it is actually possible to keep your leaders alive for two turns. Just give them tactics "flee" *and* "fleewhen" conditions which makes them flee well before they are eliminated (e.g. at 50% wound points). When the enemy first attacks your home and defeats your garrison your leaders will flee because of their "flee" tactics and (unless it happened in the very first phase of a turn) they will return on the first phase of the next turn. Here they will again flee because of their tactics but now they will return at the end of the turn with tactics "avoid". In the subsequent battle they will flee because of their "fleewhen" conditions and return in the first phase of the next turn, now with "flee" tactics again but without a "fleewhen" condition. Finally they will flee one last time in the first phase and return in the last phase, at which time they will be killed in battle unless you in the meantime have somehow managed to liberate your home.

9.2 Morale *

A unit's morale is a measure of how close the unit is to breaking ("giving up"). It also affects a unit's performance in combat and how hard it is for enemies to bribe the unit. Normally morale is a number between -100 and +100 with 0 being "standard" morale. When the morale of a unit drops below -100 the individuals of the unit will flee in panic. Morale may be adjusted for leadership or special bonuses to a positive number, the maximum is +100.

At the beginning of each phase, the morale of each unit is halved (whether it is positive or negative). Then it may be adjusted upwards for leadership and other bonus effects. If you know something of mathematics you will realize that if in each phase the morale is halved and then a number x is added, the morale will converge to two times x. So if a unit receives a 15 point leadership bonus each phase it will have morale +30 after a few phases.

Apart from leadership bonus (described in section 9.2.2 below) all units get a 10 point morale bonus each phase they occupy a location or hex owned by their nation, 15 points if they are in the nation's home. This means that troops in their own country usually will have a morale of +20 or +30 even without leadership bonuses. "Mindless" and "stupid" units are an exception from this rule - they do not care where they are and thus they get no bonus for being in an owned hex or location.

9.2.1 Battle morale *

During battles units have a special battle morale. When a battle starts the battle morale of all units is set equal to their normal morale. During the battle segments the battle morale of a unit may be decreased due to losses sustained or due to special effects such as fear auras, and if the battle morale drops below -100 the unit will flee. At the end of each battle segment the battle morale of each unit still in the battle is averaged with its pre-battle morale and the resulting number becomes the new battle morale for the unit. After a battle the (non-battle) morale of a surviving unit is set equal to its battle morale after the last battle segment.

Being damaged in combat reduces the morale of most units ("mindless" and units "immune to fear" being an exception). This reduction is -2 points per percent of the wound points lost for normal units (calculated relative to the remaining wound points just before the attack), -4 points per percent wound points lost for "cowardly" units and -1 point per percent wound points lost for "brave" units.

Some units (such as heroes) have a positive effect on the battle morale of units on their side, typically increasing the battle morale of mass units by 15 to 20 points at the end of each battle segment just before the battle morale is averaged with the pre-battle morale (see section 15.7.2). Such effects are described in the rules "blurbs" for the relevant unit types.

The battle morale of a unit directly affects its combat performance. The overall combat rating of a unit in melee is increased with about 0.375% per point of positive morale and decreased by about 0.375% per point of negative morale. The missile attack strength is similarly adjusted up and down with 0.125% per point of morale.

9.2.2 Leadership bonus *

Certain unit types (leaders) give a morale *leadership bonus* to units in any force they lead. This bonus is added to the unit morale at the beginning of each phase as detailed in section 9.2 above. Most leaders can only lead units of types that are familiar to them; it will be stated in the description "blurb" of a leader type which unit types it can lead.

A leader is limited in how many troops can be led in two ways: The maximum number of *units* that can be led and the maximum number of *individuals* that can be lead. Any units in excess of these limits will not receive a leadership bonus. The units to receive the leadership bonus are chosen in sequence from the top of the list of units in the force as it appears in the status report. When a *form* order is used to create a force, the sequence of unit numbers in the list of units to be included determines their position in the force list and thus how high their priority is for receiving leadership bonus. Units which *join* a force or are *included* are always appended at the bottom of the list.

Some leaders can have *subordinate leaders* in their force to help them lead more units and/or individuals. A subordinate leader counts as one unit towards the number of units the overall leader may lead but does not count as an individual. Each subordinate leader can lead the same unit types and as many units and individuals as when a leader of a separate force. It is always the leadership bonus of the overall leader which is applied, not the leadership bonus of each subordinate leader (which is usually lower). It is perfectly possible for a leader through his subordinates to lead units of types he could not normally lead as well as more units and individuals than he could lead alone.

When leadership bonus is to be applied, the overall leader will prefer to lead through his subordinates, so first each subordinate leader (going from the top of the force to the bottom) is assigned units to lead, each leader starting with the units just below him in the force list and wrapping around to the top if necessary. When all subordinate leaders have had units assigned, the overall leader will select units to lead directly among those which are not led by his subordinates, if he can lead more units than he has subordinates.

Example:
The General 3203 is leading a force that looks as follows (to the right of each unit is listed which leader gets to lead it):

3203 General: 8 w.p./100%	
3209 Mercenary Captain: 8 w.p./100%	
3213 Medium Infantry: 200/100%/100%	(M.Capt. 3209)
3216 Light Cavalry: 50/100%/100%	(Capt. 3208)
3212 Medium Infantry: 150/100%/100%	(M.Capt. 3209)
3208 Captain: 8 w.p./100%	
3210 Light Infantry: 150/100%/100%	(Capt. 3208)
3211 Light Infantry: 50/100%/100%	(M. Capt. 3209)
3214 Medium Infantry: 200/100%/100%	(Capt. 3808)
3215 Light Cavalry: 100/100%/100%	(Gen. 3203)

This is resolved as follows: Both the Mercenary Captain and the Captain are valid subordinate leaders for the General. First the units to be led by the Mercenary Captain are assigned, starting at 3213. The Mercenary Captain can lead up to 4 units of a combined size no greater than 400 individuals and he can lead any of the infantry units but not the cavalry. 3213 is the first unit selected for him, 3216 would be invalid and is skipped, 3212 is the next unit selected, 3210 is too large (he already leads 350 out of 400 individuals) but 3211 is just right. Then units are selected for the Captain, who can also lead 4 units and 400 individuals but can lead any of the units in the force. Starting at 3210 and going down, first 3210 and then 3214 are selected (3211 already has a leader), 3215 is too large (again 350 out of 400 are already lead) but wrapping around the top we find 3216. The General himself can lead 4 units of a combined size not greater than 800 individuals. The two subordinate leaders each count as a unit so the General could directly lead up to 2 units of together 800 individuals. The only remaining unit is 3215, so the General will have to settle for that. All mass units in the force now receive a +25 morale bonus from the General each turn so with the aid of his two subordinates the General manages to lead 7 units rather than only 4 (and 900 individuals rather than the normal maximum of 800).

10 Making and manipulating items

Items can be found during the course of the game or they can be made by certain units. They can be picked up, given away and dropped by units. The following orders deal with items:

make *item-type-number*
This order is used by a unit to create an item. The created item will be held by the creating unit. The resource cost must be paid when the make order is commenced and the resources are lost if the order is interrupted. The time it takes varies.

take *list-of-item-numbers*
This order tells a unit to take (i.e. pick up and carry) some item(s). The items must be at the same position as the unit. The ownership of the items immediately changes to that of the unit taking them. The unit will take whatever item(s) are at its position if the list of items is omitted. Taking something takes no time. It is possible for a unit to take items that will bring the total weight of all items held above the carrying capacity of its force (see section 11.1.1) if the items taken are explicitly listed in the take order, but if the take order is given without arguments the unit will not pick up items which are too heavy. A force burdened with more that it can carry is unable to move.

autotake on
autotake off
autotake on *list-of-units*
autotake off *list-of-units*
The first two forms of this order sets the unit executing it (but not the members of its force if they later break up) in "auto-take mode" (or switches the mode off). The third and fourth forms switches auto-take mode on or off for the specified units. With a specified list of units the order can be used as a nation order to change auto-take mode for any units belonging to the nation or as a unit order to change auto-take mode for some of the units in the force of the unit executing the order. A unit in auto-take mode will automatically attempt to take any items present at its position *at the start of the phase*, if it is not currently doing anything that cannot be interrupted. Auto-take mode is temporarily switched off when the unit joins a force (except if it is the force leader, i.e. only a force leader or a single unit may pick something up). Auto-take mode should be switched off when trying to drop something... It is off when a unit is first created.

drop *list-of-item-numbers*
A unit given this order or any member(s) of its force will drop the specified items at its position. The item(s) immediately change owner to that of the position, unless the position has no owner in which case the items are still nominally owned by the player who dropped them. If no items are specified, all items carried by the unit and its force will be dropped. It takes no time to drop items.

give *unit-number list-of-item-numbers*
This tells a unit or any member(s) of its force to give the specified item(s) to another unit (possibly owned by another player) which must be at the same position as itself. The receiving unit may be in the same force as the giver. This order takes no time.

11 Movement

Movement of units is an essential part of the game. The *move* order is used to tell a unit or force to move to some other place:

move *list-of-positions*
This tells the unit (or force) to move from its current position along the path specified in the list of positions. All positions in the list will be visited in the order specified. The maximum distance from the starting position of the unit or force to the first position in the list and from one position in the list to the next is two hexes. This is to ensure that you do not inadvertently send your units halfway across the map because you mistype a digit in a hex number. Unfortunately the system does not check the validity of move order paths when you submit your orders by email; the check is not performed until the turn is run and the unit is about to move and as a result move orders may fail if you forget an intermediary position in the list of positions.

farmove *list-of-positions*
This is exactly like the move order, except there is no restrictions on the distance between positions. This is for those players who do not mind risking their units wandering off because of a typo if it will save them some typing, and for those who always have their move orders fail because they forget an intermediary position in the path. Note, however, that if you specify a hex outside the part of the map you have explored, the route to the target hex may not be optimal because your force can only plan its route based on the terrain known to it. Note also that when embarked on ships and moving along sea lanes (see section 12), "no distance restrictions" applies only as far as you have already explored; into unexplored territory you have to write out the movement path hex by hex just like for the regular *move* order (this may be the safest option even for land movement).

The various aspects of movement are described in the following sections.

11.1 Move cost

A moving unit is assigned a basic move cost based on the terrain it moves through. This move cost is multiplied by the distance moved (in hexes) to compute the time the move takes. Moving across rivers takes extra time for most units.

Encumbrance may add to the move cost (see section 11.1.1) and some special effects like illusions may increase the move cost (severely if the moving unit is not immune to illusion, see section 19.2).

A force will move at the rate of its slowest member.

11.1.1 Encumbrance *

A unit may carry up to its carrying capacity of other units, items or resources and still be able to move. Some units are not slowed by the weight they carry as long as it is less than or equal to their carrying capacity, but most units move slower if they carry a great weight. The move cost is adjusted as follows:

- If the weight carried is less than or equal to one fourth of the carrying capacity of the moving unit, the move cost is normal.
- If the weight carried is less than or equal to one half of the carrying capacity of the moving unit, the move cost is multiplied by 1.25.
- If the weight carried is less than the carrying capacity of the moving unit, the move cost is multiplied by 1.5.
- If the weight carried is equal to the carrying capacity of the moving unit, the move cost is doubled.
- If the weight carried exceeds the carrying capacity of the moving unit, the unit cannot move.

The carrying capacity of wounded individuals is reduced. Lightly wounded individuals can carry 70% of their normal capacity, heavily wounded individuals can carry 30% and incapacitated individuals cannot carry anything at all (but have to be carried by others).

Forces of units usually share their load. Units in a force automatically select the optimal distribution of weight between them with respect to getting the minimum move cost for the terrain they move in.

11.2 Movement on the map

The most basic type of movement is movement between hexes. A unit (or force) may move from its hex to any adjacent hex, subject to terrain restrictions. The number of phases it takes for a force to move from one hex to another is the average of the move costs of the two hexes for the moving force, rounded up, plus any extra phases for crossing a river.

Example: An infantry force with move cost 6 in plains and 7 in woods moves from a woods hex to a plains hex. This will take it 7 phases (the average cost is 6.5, rounded up to 7). Had there been a small river separating the two hexes (and no bridge or ford) it would take the force an extra 4 phases to move, i.e. 11 phases in all.

Any missing hexes between the positions given in the *move* or *farmove* order will automatically be inserted by the system:

```
move 125 123
```

will be expanded by the system by inserting 124 between the two positions (if this is the path between them which has the lowest move cost, see below).

A force will always choose the shortest (in move cost) path between two positions specified in the move or farmove order. In case of several possible paths it will take the most familiar (in terms of terrain familiarity). In case of ties it decides at random which of the shortest paths to take.

If you do not want the force to take the shortest path it is usually sufficient to insert all the hexes of the path you want the unit to take. In very rare cases however the shortest path between two adjacent hexes is not the direct path and as a result the force may take a detour you do not want it to take. An example: You want a force to cross a river over a hex side next to a hex side with a bridge rather than use the bridge (because an enemy army is waiting across the bridge). It may be the case that the shortest path (in time) across the river is to move across at the bridge even though this means moving an extra hex on the other side. In such a case it is possible to specify that the force should move *directly* to the position specified rather than look for a shorter path. This is done by writing a “`d`“ after the position in the path in the move order.

Example:

```
move 124 123d
```

Move directly from hex 124 to hex 123.

11.2.1 Specifying relative movement positions

It is possible to specify movement directions rather than absolute hex numbers. The six directions are (see figure 3) north (N), northeast (NE), southeast (SE), south (S), southwest (SW) and northwest (NW) and any of these one- or two-letter codes may be specified instead of a hex position in a movement order.

Example:

```
3102:
move ne ne n ne
```

would move unit 3102 two hexes northeast, one hex north and then another hex northeast.

Relative positions are especially useful in connection with repeat orders:

```
3102:
repeat 4
  orders:
    move ne
    search
  .
```

You must use caution when specifying relative positions while moving to and from non-surface positions (see section 2.1.2). The relative position “sw” *always* means the *surface* position southwest of the current position, even if the current position is *not* a surface position. If a flying force wishes to move to the “over” position southwest of its current position the movement order must specify the relative position “osw”. It is possible to move from a surface position to the “over” position immediately above by specifying the relative position “oh” (the “h” stands for “here”) and similarly to specify “uh” to move straight down to an “under” position and just “h” to move straight up or down to the surface.

11.2.2 Movement along terrain features *

Any force moving between two positions fully or partly connected by road will pay whichever move cost is lowest: that of the road or that of the surrounding terrain. All units in a force move together, it is not possible for some of the units to use the road while some do not. If a road only goes half way from a hex to the next (i.e. it only goes to the edge of one hex) then the road can of course only be used in that hex.

Like roads, bridges and fords are used automatically when needed, i.e. if the cost of using the bridge or ford is lower than the cost of crossing the river.

Sea lanes are “roads on water” and can be used by units at sea, see section 12.

11.3 Entering and leaving locations

Entering a location is done simply by moving to the exact position the location occupies and then specifying the location ID number as the next position, for example:

```
move 123 1455
```

If 123 is not the exact position of 1455 (because 1455 was really in 124 for example) the position list is automatically expanded to include the exact position (124 in this case).

A unit can only move into a location it can see.

To move out of a location simply write the position to move out to. The moving unit will exit the location at the location’s position.

Movement into and out of locations takes no time.

Special rule: Flying units may move directly from an “over” vertical position and into a surface location or *vice versa* without passing through the terrain the location occupies, if the location is open like e.g. a city or castle (but not a building or a cave). The same is true for units burrowing into a location from an “under” vertical position (see section 2.1.2 on vertical positions).

11.4 Connections *

Positions may be connected directly to other positions by some special connection, for example a tunnel between two caves. Such a connection makes it possible to move directly between the two positions (or in one direction if the connection is one-way, which is possible).

Connections that you know about are listed in your map notes.

A connection has a length and a terrain, used to compute the movement cost. If a unit cannot normally move through the terrain of the connection it can of course not use the connection.

11.5 Specifying a unit as a position to move to *

It is possible to specify a unit number as a position to move to in the *move* or *farmove* orders. The unit specified must belong to your nation. When the move is to be executed, the unit number will be replaced with the current position of the unit. This is useful mainly for moving a unit to the exact same position as some other unit it should either join or include in its force, see section 8.2.

Example:
```
move 3101
join 3101
```
Move to the position of 3101 in order to join its force.

11.6 Delayed movement due to impending battles *

Whenever a force is just about to actually move to a new position (i.e. when a move is completed) the move is delayed if (it looks like) the force will be involved in a battle at the end of the phase. Usually this means the force will indeed be in a battle at the end of the phase, but in rare cases involving enemy units disappearing before battle (dissolving or teleporting) or having their tactics changed between the delayed move and the end of the phase, a delayed force may actually not become involved in a battle after all.

As the force has actually spent the full time required to complete its move when it was delayed, the move order will not take any time to complete on the following phase and therefore it will be able to continue with other orders afterwards just as if it had actually moved the phase it was supposed to (of course it the delayed move was to or from a location it was not supposed to take any time anyway and therefore a full phase *has* been lost). Moreover, delayed moves are executed very near the beginning of the phase (see section 4.2) before new enemy units have a chance to arrive and even before units already present get a chance to change their tactics. This means that the only ways the same move can be delayed more than one phase is either if faster enemy units which were also themselves delayed the previous phase move to a position where they can now battle the delayed force or if tactics of the delayed force or present enemy units are changed by a nation order (which is possible in phase 1 and thus can further delay a move already delayed in the last phase of the previous turn).

11.7 Blocking *

Moving units may be blocked by enemy units. This may happen in three cases:

1. When units attempt to move between two positions and there are enemy units at their position who have just moved in the opposite direction (see section 11.7.2).
2. When units attempt to enter a location from the outside (see section 11.7.3).
3. When units attempt to leave a location and there are enemy units outside trying to enter it and currently being blocked (see section 11.7.4).

Movement to or from “over” or “under” vertical positions (see section 2.1.2) can never be blocked, nor can movement along connections (see section 11.4).

Only units which have tactics other than “flee” and “avoid” (see section 15.6) and with either melee or missile attack capability may attempt to block a moving force. And of course only if they can see at least one member of the force.

Blocking is automatic whenever the conditions for a block are satisfied (see the sections below). Blocking takes no time and need not be specified as an action (nor can units be instructed not to block, except by changing their tactics to something which does not allow them to block). Blocking does not interrupt or delay orders being executed by the blocking unit(s).

A blocked move order is not discarded. The moving force will repeatedly try to move as ordered until either the conditions for a block are no longer satisfied or the move order is explicitly cancelled using the *break* or *clear* order (see section 21.2). A blocked move order counts as a “delayed” move order and therefore a has very fast order priority (see section 4.2).

11.7.1 Blocking size *

The success of a blocking attempt depends on the *blocking size* of the units involved. The blocking size of a unit is equal to the number of individuals in it (see section 2.3.1 - note that the size of the individuals does not matter) multiplied by the unit's combat efficiency factor (see section 15.3) and adjusted as follows:

- Hasted units count double.
- Stupid or disabled units, units with tactics “flee” or “avoid”, or units without any attack capability at all do not count.
- Mindless or dominated units count only half.
- Units with only missile attack capability or in a hex position (not in a location) while having tactics “defend” count only half.
- Units which cost more than one population per individual to recruit have their blocking size multiplied by the number of population per individual (all such units are special mounted units which have more than one rider per mount, e.g. Elephant Riders).
- Hidden units have double blocking size if they are undetected by the force trying to move. They are however immediately un-hidden if participating in a block.

11.7.2 Blocking units moving in the opposite direction *

If enemy units coming from the direction a force is moving arrive at the position of your force before it completes its move, your move may be blocked. This means that two moving forces cannot pass each other without the one moving first getting the chance to block the other.

Only enemy units and units of the nation owning the hex or location the moving force is in will attempt to block; the latter only if they are not allied to the moving force.

To successfully block the moving force, the blocking units must have a combined blocking size at least equal to half the combined blocking size of the force if the move is between two hexes or out of a location; for moves *into* a location the required blocking size is described in section 11.7.3 below.

11.7.3 Blocking an attempt to move into a location *

Units inside a location may try to block a force attempting to move in from outside. They can only do so if the location is not allied to or owned by the nation of the moving force and is not enemy towards themselves. If the block is successful the force will be stopped just outside the location.

Only units enemy to the moving force or belonging to the nation owning the location will attempt to block (if not allied to the moving force).

In order for the block to succeed the blocking size of the blocking units multiplied by the *blocking factor* of the location must at least be equal to the blocking size of the moving force. The blocking factor of a location is simply how many individuals each member of its garrison can normally block. Units allied to the moving force (including units owned by the same nation) which are *inside* the location subtract their blocking size from the combined blocking size of the units attempting to block, before it is multiplied by the blocking factor of the location.

A location has a blocking factor of 4 unless otherwise stated in its blurb. Locations with fortifications have their blocking factor increased however, see section 16.

11.7.4 Blocking an attempt to exit a location *

A force trying to move out of a location may be blocked by enemy units outside who are themselves currently blocked trying to move *into* the location. Thus it is possible that two enemy forces attempting to move past each other into and out of the same location will block each other indefinitely (until one or both move orders are broken off by the players or until a battle removes or reduces one of the forces allowing the other to complete its move).

To successfully block, the blocking units must have a combined blocking size at least equal to half the combined blocking size of the moving force.

12 Ships *

Most units are unable to move into ocean hexes without being carried by ships. Individual ships are not represented in the game, but the capacity of a nation to move and fight at sea is represented as two numbers: the number of *warships* owned and the number of *transports* owned. At the end of each turn you will have to pay an upkeep for your ships, exactly how much depends on your nation. If you fail to pay your navy upkeep you will lose those ships you cannot pay for.

When a force is to be transported at sea it must move to a hex at the coast where it may *embark* onto the ships of the nation's navy. Most nations may only embark from hexes containing a bay or a large river flowing into the ocean, but a few nations may embark from any coastal hex containing either a bay or a beach or from a coastal hex adjacent to a small river. When the force embarks it will be moved into the ocean hex adjacent to the bay (or beach) it embarked from, or in the case of rivers: to the ocean hex the river flows into.

While embarked a force is only able to move along the marked *sea lanes*, it cannot move into ocean hexes where no sea lanes run. The move cost for movement along sea lanes depends on your nation. If you use the *farmove* or *farsneak* orders to move an embarked force, you should be aware that you can only specify "far" target hexes which your nation has seen sea lanes running into (i.e. which are on you map from the previous turn). This means you can *farmove* to any sea lane hexes on your map but where you map does not extend you can only *farmove* to neighbouring hexes along sea lanes. So sea lane movement outside the area you have already explored must be specified hex by hex, even for a *farmove* order.

When the force wishes to move ashore it must *disembark* into a coastal hex at a bay or at the mouth of a large river (or at a beach or mouth of a small river, i.e. anywhere you could embark you can also disembark).

The *embark* and *disembark* orders are used for embarking and disembarking:

embark *hex-number*
This order is used by a force which wants to embark. You must specify the number of the ocean hex the force is embarking into. Embarkation takes a number of phases depending on your nation, generally 6. Until the order is complete the force will remain in the coastal hex it is embarking from and may be involved in any battles there. The transportation capacity (see below) needed to transport the force is assigned when the *embark* order is commenced. If the force is inside a location in the hex to be embarked from it will automatically move out into the hex itself before beginning embarkation.

disembark *hex-number*
This order is used when a force at sea wishes to come ashore. You must specify the coastal hex to disembark into. Disembarkation takes a number of phases depending on your nation, generally 6. Until the order is complete the force will remain at sea and may become involved in any sea battles in its hex. The transportation capacity (see below) needed to transport the force is freed when the order completes and the force is moved ashore.

12.1 Transportation capacity *

Your nation has a limited *transportation capacity* at sea depending on the number of ships you own. The transportation capacity of each warship is 250 and the transportation capacity of each transport is 500. You can never have units embark on ships if their embarkation would cause the total combined size of all your embarked units to exceed your transportation capacity.

The loss of ships in sea battles may bring your transportation capacity below that required for your units currently at sea. This has no effect, except that when some of your units disembark they may not be able to embark again because of insufficient transportation capacity.

Your transportation capacity may be split any way between embarked forces. Even if you have just a single ship its capacity may be split between forces at widely different positions at sea.

12.2 Combat at sea *

When enemy forces meet at sea they will do battle just as if they met on land (see section 15.7). The main difference is that units do not have all their normal attack capabilities while embarked on ships, instead they have a melee attack strength depending solely on the number of warships "with" their force. Your warships are assumed to be spread between your forces at sea proportionally to the amount of transport capacity allocated to each force (i.e. the combined size of its units), so the more units embarked the weaker the melee strength of each. There is however an upper limit on how many warships which can be assigned to a force (and thus lost if the force is eliminated): The maximum number of warships with a force is equal to the transport capacity used by the force divided by 125 (fractions are kept, so it is possible for a small force to have e.g. 0.2 warship). Note that as melee attack strength while embarked is proportional to "warships per individual" the melee attack strength of each individual in a unit will be proportional to the individual's size (as more warship is assigned to transporting a large individual than to transporting a small individual). This means that e.g. a mounted human will have three times the melee attack strength of a non-mounted human. This may seem counter-intuitive as the mounted man will obviously be unable to use his mount in a battle at sea, but it makes sense if you remember that the melee combat strength of embarked units represents the strength of the warships of the nation, not the strength of the units themselves.

Units with missile attack capability retain it while embarked but in sea battles they only get one chance of using their missiles before melee commences.

Units retain their normal defence strength (armour, thick skin, whatever) while at sea so while e.g. Light Infantry and Heavy Infantry will have the same melee attack strength at sea the Heavy Infantry will last a lot longer.

All in all the total combat performance of an embarked force is a mixture of the naval strength of the nation and the strength of the embarked units themselves. This reflects that while ships may ram enemy ships or the crew fire catapults at the enemy the troops on board will also get to fight when it comes down to actually boarding the enemy.

When your units embarked on ships lose individuals in battle it is possible you will lose some of your warships and transports. The more transport capability which is "freed" by losses in battles, the more ships will you lose. On average you will lose warships proportional to how many were assigned to the reduced or eliminated units and transports proportional to the freed capacity not accounted for by the loss of warships. Only actual kills count as losses, units which flee are assumed to have ships to carry them.

Example: A force consisting of a single size 4 scout is involved in a battle at sea. Assuming the nation has plenty of warships and not so many forces currently embarked, the upper limit on the number of warships assigned comes into play and the scout has 4/125 = 0.032 warships to back him up. If the scout is eliminated there is a 3.2% chance his nation loses a warship. If the scout flees the battle there is no chance of any warships being lost at all.

It is possible that units embarked on ships may encounter and battle enemy units which have an inherent or magical ability to travel on the ocean and thus do not need ships and do not count as embarked units. In this case you cannot use the usual overall combat ratings described in section 15.5.2 to compare the strength of the two forces as one force has a melee attack strength which is totally different from its usual melee attack strength. There is no easy way to adjust for this fact but as a rule of thumb, with half the maximum number of warships assigned to an embarked force, human-sized units will be about their normal strength (a little weaker than normal if heavy and a little stronger than normal if light) while mounted units will be about 1.5 times their normal strength.

12.3 Building and scuttling ships *

New ships can be built by use of the *launch* nation order and ships you no longer wish to maintain can be removed with the *scuttle* order:

launch *ship-type number*
This order allows your nation to create new ships. You specify the type of ships to be built (*warships* or *transports*) and the number of ships to build. The time it takes and the resource cost depends on your nation.

scuttle *ship-type number*
This order is used to remove ships. The effect is immediate. Most nations will regain some of the resources used for building the ships (even though the name of the order is *scuttle* the ships are taken out of service in a more ordered manner than scuttling...). You cannot scuttle ships if this would bring your transport capability below the current total size of your embarked units.

13 Locations revisited

Locations can be given and execute orders just like units. There are some orders of a general nature that all locations can execute. These are the *clear*, *break*, *insert* and *embed* orders of section 21.2, the various synchronisation orders of section 21.3, the *order* order of section 21.4, the *repeat* order of section 21.5 and the naming orders of section 21.1. Other than that some locations can execute orders specific to their type or even unique for one location.

Most locations will exist at the start of the game, but some nations and special units can create new locations by using the *build* order:

build *location-type-number*
build *location-type-number position-to-build-in*
This order can be either a unit order (e.g. engineers can build forts) or a nation order (building e.g. castles or temples). The second form of the order is used with nations, the first with units (they can only build things where they are). The creation cost must be paid when building is commenced.

13.1 Cities and towns

Cities and towns are to many nations the most important types of location. Many units can only be recruited in them and they also produce population and generate trade which is translated into gold income. On top of this they are usually worth some victory points.

A city or town may be expanded up to a certain maximum size. If its upkeep (in food) cannot be paid it will decrease in size. Production and upkeep are proportional to its size, as is the cost of its walls (if any). The *expand* order is used to expand a city or town:

expand *number-of-increments*
This order expands the city or town the specified number of size increments. This takes 8 phases per size increment. On top of the cost for expanding the city or town itself, the cost for expanding its walls (if any) must also be paid, see section 16.1. The *expand* order can only be executed by a city when there are no enemy units which can influence control at its position or inside it *and* if it is located in a controlled hex.

If a the food upkeep of a city cannot be met it will decrease one size, except if the cause of the lack of food is a siege and the city is only size one (in which case nothing happens). If a city is reduced to size zero it will turn into *ruins*, another type of location, and it can then never be re-built as a city.

13.2 Castles

Castles serve partly as strongholds which your armies may defend and partly as centres of administration. The presence of a castle allows for better control with the local population and therefore means you get a higher resource production from hexes containing one.

The improvement, maintenance and combat effects of fortifications is described in section 16. As described there, any castle will have a current effective fortification rating which is a measure of how strong the castle is. For the purpose of the special bonuses detailed below only the strongest, non-sieged castle present in a hex and belonging to the same nation as the hex is counted. The castle need not be located directly in the hex, it may be inside a city.

If a hex contains a castle of at least rating one the owning nation receives the following bonuses:

- The nation has two extra administration points each turn (see section 3.2).
- The base production of food, wood and mounts of that hex is increased by one third.

If a hex contains a castle of at least rating four the owning nation receives the following additional bonus:

- The base production of population and iron of that hex is increased by one third.

14 Gaining control of hexes and locations

The “control” order is used for gaining ownership of hexes and of locations which influence control. To gain control of a hex or location a unit capable of executing a control order must move to the specified hex/location and then successfully execute the order. A unit at a non-surface position (see section 2.1.2) cannot attempt to control its hex.

Locations which do not influence control (see section 2.2) cannot be explicitely controlled with a control order but will automatically become controlled by the owner of their position (see section 14.3). Enemy locations which influence control and which are inside the location or hex to be controlled will obstruct a control attempt, as will some types of enemy units (see section 14.1).

Only (individual) units of certain types can execute a control order (this will be stated in their descriptions), but other units may be able to help, actually most often helping units are *required* for a control. It is stated in the blurb of any leader unit type capable on control which unit types may help and whether helping units are required or optional.

It will help reducing the time needed to gain control if neighbouring hexes or locations directly in the hex or location to be controlled are already owned. Actually some minor leader types may *only* control hexes or locations which have neighbours that their nation already owns. If owned neighbours are a requirement for controlling a location it is enough to own its hex or one of the neighbouring hexes, to own one of the locations which it is considered to be “inside” (if any), or to own an interior location influencing control.

Example: A General who can control only hexes or locations with owned neighbours attempts to control a castle inside a city. To be allowed the control, either the city, the hex or one of the neighbouring hexes must be owned. It would not be sufficient to own another location (e.g. a fort) located outside the city in the same hex. If he attempts to control the city, it is both required and sufficient that his nation owns the castle. Had there been no castle, his nation must either own the hex, another location directly in the hex (e.g. a fort), or a neighbouring hex. If he attempts to control the hex itself, it is both required and sufficient that his nation owns the city.

If the hex or location to be controlled is already owned by some other nation, that ownership must first be *neutralised*. The control time for taking over such a location or hex is 1.5 that needed to take over the same location or hex if it was not owned by any player. Some units (typically minor leaders) cannot neutralise control at all but can only gain control of neutral territory. You can only neutralise control of nations that are your enemies.

The control order can be specified with or without an argument:

control
control *number-of-tries*
This order is used to attempt to control the current position of a force. Used without arguments it tells the force to attempt a control once or twice depending on the situation: If the force has just moved to its present position *in the same phase* and the control order is prevented by enemy units or because some other force is doing a control in the same place then the force waits one phase and attempts again[1]. If a number is given as an argument then this is the number of times to attempt the order before the control is aborted. The force will wait one phase between each attempt. If you specify the value -1 then the force will repeat its attempt to control until it succeeds or until some “permanent” condition makes the control order invalid. The number 0 has the same meaning as not specifying any argument.

Example:
Assume the castle 1854 is located inside the city 1933 which lies in the hex 123. A player wanting to take the hex would first need to take the castle and then the city before the hex itself could be controlled.

The orders below are a complicated but not uncommon sequence where an army led by a character capable of control moves up to the city, storms its walls, moves into the city, storms the walls of the castle, drops off a few units because the castle is too small to contain the entire army, moves into the castle, takes control of it, moves back into the city, includes the dropped off units into the army again, controls the city, moves out into the hex itself and finally controls that:

[1] This is a sensible default behaviour for the control order. If the force has just moved to its present location in the same phase it has not had a chance to eliminate the enemies there in a battle (as battles are fought at the end of each phase), and thus it makes sense to try again in the next phase when there has been a chance to fight.

```
move 123
storm
move 1933
storm
leave 3113 3115
move 1854
control -1
move 1933
include 3113 3115
control -1
move 123
control -1
```

Note that these orders do not leave a garrison in the city or castle which would usually be a wise thing to do.

The time a control order takes depends on the move cost for the controlling unit in the terrain of the location or hex to be controlled. If other units are helping it also depends on their move costs (not adjusted for encumbrance). If the controlling unit or any helping units are reduced in combat efficiency due to wounds then the time required will increase. The more units that are helping and the more neighbouring hexes that are already owned, the quicker is it to finish the control order. It is somewhat complicated to compute the exact time a control order will take, see section 14.2 for how to do it. Often a control order can take several turns to complete, especially in terrain which has a high move cost for the controlling unit.

14.1 Obstructing control

A control order will be obstructed by the presence of enemy units and/or locations directly in the hex or location being controlled.

Most mass units and a few special individual units will obstruct control, this is stated in their descriptions (they "influence control"). For enemy units to be able to obstruct control they must be at the surface position (if in a hex) and their combined *effective presence* must be at least one fourth of the combined effective presence of the controlling force and any allied units at its position, where the presence of allied units (and owned units not in the controlling force) count only half (see section 2.3.2).

Some locations (such as cities and fortifications) also obstruct control. Only locations which are in their descriptions stated to "influence control" will obstruct control.

When a control order is obstructed, those units and/or locations which obstructed it and which the force that attempted the control can see will be listed in the event report of the player owning the force. It is however possible that a control order is obstructed by something that the force (and therefore the player) cannot see, in which case the player will merely be told that the order was obstructed.

14.2 How to compute the exact time required for a control *

The time required for a control is split into two components: The *base time* and the *shared time*. The base time reflects the work that must be done by the controlling unit itself, the shared time the work that can be shared with its helpers. Both times depend on the move cost of the controlling unit in the terrain being controlled and are stated in the "blurb" for the unit's type.

The base time is divided by the current combat efficiency of the controlling unit. The resulting value is the *modified base time*.

The shared time is divided by the *effective number of helpers* (see below) to obtain *the modified shared time*.

The modified base time and the modified shared time are added together to produce the *total time* required to take or control of a hex. If a location is being controlled and it has an interior size of less than 10000 then the total time is the time for a hex multiplied by the interior size and divided by 10000. A location of interior size 10000 or greater takes just as long to control as a hex. If control has to be neutralised (i.e. the location or hex is being taken from an enemy) the total time is multiplied by 1.5. The resulting *adjusted total time* is rounded up to a whole number of phases.

The *effective number of helpers* is computed as follows:

The controlling unit counts as one helper itself, multiplied by its current combat effectiveness (so if that is 70% then the unit counts as 0.7).

Each unit in the force of a type which is listed as a valid helping unit type for the controlling unit counts as the *move cost for the controlling unit in the current terrain divided by the move cost for the helping unit* (so fast units count more than slow units), modified by multiplying with the current combat efficiency factor of the helping unit and, if it is a mass unit, with its current size relative to a standard unit of its size.

If a hex is being controlled then each neighbouring hex already owned counts as two helpers.

If it is a location that is being controlled and its position is already owned then this counts as two helpers.

Every location already owned by the controlling nation, which influences control and is located directly in the hex or location being controlled *or*, in the case where a location is being controlled is located at exactly the same position as that location, counts as two helpers. If its interior size is less than 10000 it only counts as two helpers multiplied by the interior size and divided by 10000.

Example:
A Noble, 3101, at full combat effectiveness and with move cost 4 for plains is trying to control a plains hex. In the "blurb" describing a Noble it is stated that his base control time is 4 times his move cost for the hex and the shared time is 12 times his move cost for the hex. For a plains hex this gives 16 and 48 phases respectively.

As his combat effectiveness is 100% the modified base control time is 16 phases.

In his force are the following units which can help with the control:

3110 Heavy Infantry (75/100%/100%)
3111 Heavy Infantry (68/63%/42%)
3120 Light Cavalry (50/100%/100%)

Heavy Infantry has move rate 7 in plains and the standard unit size is 50 individuals, Light Cavalry has move rate 4 in plains and the standard unit size is 25 individuals. The numbers listed after each unit are its current number of individuals, its wound status (not used in these computations) and its current combat efficiency factor (see section 15.3).

Each unit's contribution to the effective number of helpers is as follows:

3101: 1.00
3110: 0.86 (4/7 times 75/50 times 100/100)
3111: 0.33 (4/7 times 68/50 times 42/100)
3120: 2.00 (4/4 times 50/25 times 100/100)
total: 4.19

The modified shared time is thus 11.46 (48/4.19) and the total required time is 27.46, which is rounded up to 28 phases.

Now assume that the nation of the noble already owns two neighbouring hexes plus a fort (interior size 2000) inside the hex. This adds 4.4 to the effective number of helpers (4 from the hexes, 0.4 from the fort) and thereby brings the modified shared time down to 5.59 phases and the total time required (rounded up) to 22 phases.

Assume instead that the Noble is only at 30% combat efficiency. This brings the modified base time to 53.33 phases (16 times 100/30) and reduces his contribution to the effective number of helpers to 0.3, thereby increasing the modified shared time to 13.75 (48/3.49) and the total required time to 67.08, rounded up to 68 phases!

14.3 Automatic control *

A location or immobile item which does not influence control will automatically change ownership at the end of a phase where its position is owned by some enemy or if the location/item does not have an owner and its position does. The ownership of the location or item will then change to that of the position. Units or locations which influence control and are inside a location prevent it from changing ownership except to their own nation.

Units and locations of non-player nations may attempt to control the location they occupy, if they can influence control. If at the end of a phase a location contains units or locations which belong to non-player nations, they will attempt to neutralise control if they are enemies of the current owner. If there are units or locations present which are allied to or owned by the current owner, they will prevent this. Otherwise control is neutralised. If at the end of a phase a location with no owner contains units or locations which all belong to the same non-player nation then they will gain control of the location. This will not happen if control was automatically neutralised in the same phase; first control is neutralised at the end of one phase and then the owner is changed at the end of the next.

15 Battles

At the end of every action phase, battles will take place where enemy units are within zero distance (and can see each other and have appropriate tactics).

The combat system simulates attacks by each individual in a unit but only reports the total wounds inflicted by each unit in each attack (you would not want to read about the 50 attacks from a unit of 50 individuals). A large battle involving many units can still generate quite a long and repetitive battle report however, so email players have the option of having the detailed battle report omitted and only getting the end-battle summary.

There are two basic types of attacks: Missile and melee attacks. In order to make a melee attack a unit has to advance to the same position as an enemy unit on the battlefield (see section 15.7). Missile attacks can be made by defending units against units advancing on their positions. Missile attacks can in general not be made against units involved in melee or units "in defensive positions".

The attack and defence values may be modified by the relative positions of the units. If they are on different sides of a castle wall for example, the unit on the inside clearly has an advantage. The attack and defence values of a unit also depend on the terrain the attack takes place in (mounted knights are not 100% efficient if they cannot use their horses, such as in the swamp or on the walls of a castle).

The event report states how much damage is inflicted by each attack. If it states "marginal damage" it means that the unit was damaged a little but not enough to inflict a wound. Marginal damage accumulates until it is sufficient to be counted as a wound.

15.1 Striking back

A unit attacked in melee will strike back against its attacker, unless one of the following cases apply:

- The unit is disabled (by some special power).
- The unit did not expect combat in this battle segment (this happens only if it could see no known enemies at all in the start of the battle segment, something which rarely occurs except when questing characters are ambushed in some lair they entered).
- The unit has already used all its attacks in this battle segment.
- The unit had tactics *flee* (the only case in which a unit of tactics *flee* will not flee before rather than after being attacked is if there are allied units with tactics different from flee "in front" of it but these units were unable to contain the enemy because of the size of the enemy forces).

The return attack must be a melee attack, regardless of the tactics of the unit. The unit will spend some (possibly all) of its attacks for the current segment.

15.2 Critical hits

Whenever an attack is made there is a small chance that the it will be a *critical hit*. If the attacks is a unit representing an individual and defender is another individual, the chance of a critical hit is 1%, while if the defender is a mass unit the chance is 2%. Similarly, when a member of a mass unit attacks another member of a mass unit, there is a 1% chance of a critical hit, while a mass unit attacking an individual will never score a critical hit. The effect of a critical hit is to increase the strength of the attack and hence the maximum damage done by a factor 8. It is possible to do very little damage with a critical hit because it is only the maximum damage which is increased (i.e. there are more faces on the virtual die that is rolled but there is still a chance of rolling a one).

If an area attack is a critical hit, only one of the creatures affected will be hit with the increased attack strength. Similarly, only the first attack in a multiple attack routine may be a critical hit.

15.3 Wounds

Each individual in a unit has a certain number of wound points. The performance of a unit in many areas (including combat) depends on how wounded its individuals are. An individual can have either *light wounds* or *heavy wounds*, or be *incapacitated*. These wound "levels" correspond to a certain number of wound points, depending on the type of unit. Individuals with light wounds are at 70% combat efficiency, individuals with heavy wounds are at 30% combat efficiency and incapacitated individuals are at 0% combat efficiency. The average combat efficiency of the individuals in a unit is known as the *combat efficiency factor* of the unit. The combat efficiency factor is used when calculating how many attacks the unit may make per battle segment but is also used a lot of places outside combat to reflect the general efficiency of the unit. It is for example used when calculating the time required for the execution of a control order (see section 14.2), when calculating how much a unit may carry (see section 11.1.1), when determining initiative (see section 4.2), when calculating the resource production of a unit (see section 6.2) and when computing the effective presence of a unit (see section 2.3.2).

In turn reports the number of individuals in a unit and their combined strength is reported at the start and end of a battle plus in the map notes. The strength is reported as two percentages: The number of wound points and the combat efficiency factor, both relative to a unit of completely unwounded individuals.

Example:

3232(OQ) Heavy Infantry (17/65%/50%)

This heavy infantry unit has 17 individuals, the sum of their wound points is at 65% of their maximal (unwounded) sum and their combat efficiency is at 50%, meaning they get 50% of their normal number of attacks (rounded up): 9 attacks in this case.

For an individual unit the number of individuals is always one and so just the number of wound points and the combat efficiency are listed:

3208(OQ) Knight (6 w.p./100%)

A detailed report of the wound status of each of your units is given in your status report so you can see exactly how many individuals are wounded and how badly they are wounded.

15.3.1 Recovery of wounds *

Most individuals will over time automatically recover lost wound points. The speed of recovery differs from unit type to unit type. The automatic recovery takes place to some degree no matter what a unit is doing; a unit may recover wounds even if it participates in battles each phase. If the unit does absolutely nothing in a phase, the rate of recovery is double the normal rate. If the unit was engaged in combat, the rate is half the normal rate.

There are also magical means to recover wounds faster than the normal rate.

Note that the wound recovery rate stated for a unit type is the *average* recovery rate. If the rate is 1 w.p. per 24 phases it means that the average time before a wounded individual recovers 1 w.p. is 24 phases, but in reality the recovery time is random. Another way to look at the rate of recovery is to say that it indicates the probability that a wounded individual recovers 1 w.p. in a given phase, independently of how long the individual has been wounded and how many phases have passed since the last recovery of a wound point. So with a recovery rate of 1 w.p. per 24 phases a wounded individual has 1/24 chance of recovering a w.p. every phase. The individual may be lucky and recover 3 w.p. in 3 phases or may be unlucky and not recover a single w.p. in 48 phases or more.

15.4 Restrictions on combat *

There is a limit on how many and how large units may attack a unit in melee combat during a battle segment.

Basically, a mass unit can be attacked by individuals from other units of up to twice its size. This may be adjusted as follows:

If the defending unit has tactics which means it stays in place (tactics “defend”, “avoid” or “flee”), this “target size” is only 80% of normal. If the defending unit has the special attack form “formation”, the target size is 75% of normal. These adjustments are cumulative.

Example:
A unit of human light infantry has 50 members each of size 4. It has the special attack form “formation”. If it has chosen tactics “defend”, it may be attacked by units of a combined size no larger than $2\times50\times4\times80\%\times75\% = 240$.

Attacking mass units which have the special combat ability “formation” have their effective size reduced by 25%.

Example: The light infantry unit from the previous example has an effective size of $50\times4\times75\% = 150$ when attacking.

Individual units may be attacked by units of a size totalling up to 3 times its own size. This is never adjusted for tactics or special attack forms.

Example: A human knight of size 4 may be attacked by other units of a total size of 12.

These mechanisms mean that it is an advantage to have small powerful individuals in your units. A lot of small beings may gang up on few larger beings, but large beings cannot gang up on their smaller foes.

Units which are attacked in melee by sufficiently many or large enemies so that they may not be attacked due to the size restriction rules above are said to be *fully engaged* in melee. When all enemy units at melee range are fully engaged, your remaining units cannot attack anyone in melee (because there are no targets). In this case your idle units may move to other locations on the battlefield to attack opponents there.

Units at a given position must be attacked *in melee* in order depending on their tactics (see section 15.6): Units with tactics *charge* must be fully engaged before units with tactics *attack* or *defend* may be attacked in melee, these units must be fully engaged before any units with tactics *avoid* can be attacked, and these must be fully engaged before units with tactics *flee* can be attacked. These restrictions do not apply to missile attacks.

Mass units are because of their large number of individuals usually much stronger than individual units and can easily overcome them in combat. However, to allow individuals to be protected by their armies the following rule applies:

No mass unit may attack an individual unit before all mass units at its position and of more aggressive tactics have been fully engaged. Individual units are thus the last units to be engaged in large battles involving mass units (unless they voluntarily attack). Individual units are not restricted in this way, thus a Knight may attack the Necromancer while his mass unit followers must engage the hordes of Zombies first. However, if the Necromancer by himself attacks a mass unit in melee (if he has tactics allowing this) then that mass unit is allowed a return attack against him as detailed in section 15.1.

Note that major characters are further protected, see section 2.3.3.

Armed units are assumed to defend unarmed units, so no unit can attack an unarmed unit (a unit with no attack value) unless all armed enemies at its position have been fully engaged.

15.4.1 Excess attacks *

It is the individuals of a unit that attack, not the unit as a whole. This is important when applying the size restrictions mentioned above. Assume, for example, that the light infantry unit would like to attack the knight. They cannot all attack the knight, but 4 individuals can (he may be attacked by size 12 and they are each an effective size 3 as they have the special attack form “formation”). The four individuals will then attack the knight, and the remaining 46 will look around after someone else to attack. In this way, a mass unit with many individuals may attack several small units during the same segment.

If a unit may be attacked at all, one individual of any size may attack. An example: A unit of 5 giants (each size 10) attacks the knight from before. After the first giant has attacked, there is only room for a size 2 individual to attack the knight. However, because of this rule, another giant gets to attack the knight. There is then no more room to attack the knight and the other 3 giants must look for another opponent. This rule also means that a dragon of size 50 could attack the knight.

15.5 Attack capabilities *

In addition to normal attacks some units may have special attack forms such as poison, fire, cold *et cetera*. Units of different types may be affected more or less by the different attack forms. The zombies might not be affected by mind attacks, the knight's armour might not protect him very well against fire or cold, *et cetera*. If a unit type is especially vulnerable to some attack form, it might be mentioned in the description of it, but then again, it might not... Most of the time you will have to rely on general knowledge of the game background ("...just wait 'till my fire-spewing dragon meets that water elemental...") and find out the rest the hard way ("...oops, so the poison stings of my giant scorpions did not affect his demons, but their fire attack really seems effective against the scorpions...").

Some units have area attacks. This means they can affect multiple individuals in a mass unit with one attack. An area attack affects a given size (and here it is no longer an advantage to be in formation) so that the number of individuals affected depends on their size. A dragon will do a lot more total damage when flaming 30 dwarves than when flaming just one knight. If a unit has area attacks it will be mentioned in the unit type "blurb".

Missile attacks can have ranges from 1 to 3. This is, roughly speaking, the number of missile attacks the unit gets at the start of the battle when the two armies are closing (see the more detailed explanation in section 15.7). Terrain may limit missile attack range; specifically *missile attacks are limited to range one in woods, wooded hills and jungle*.

A unit will always choose the attack that seems most likely to be effective against a given opponent (Knight: "Hmm, a Yeti. I think I will use my flame-tongue sword today. Squire! Hand me sword #7...").

It is not possible for an attack to miss an opponent but the attack can be so weak that the opponent takes no (significant) damage. Some very special units may be totally immune to damage by normal attacks and thus can only be damaged by other special units.

15.5.1 Special combat abilities *

There are several special combat abilities which units can have:

charge: The unit may "charge" where the terrain allows it, see section 15.6.2.

cancel charge: It is impossible to charge the unit, see section 15.6.2.

formation: The individuals of the unit fight effectively in formation, see section 15.4.

brave: The morale of brave units is affected less by losses incurred in combat than the morale on non-brave units, see section 9.2.1.

cowardly: The opposite of brave, the units are more severely affected by losses, see section 9.2.1.

15.5.2 Combat ratings *

As mentioned in section 2.3.1, the exact attack capabilities of units will be unknown to the players. The players only knows the overall *combat rating* of each unit type (found in the unit type tables of the scenario or in the unit type blurbs), this being the relative strength of the unit compared to the *standard unit*, which is human medium infantry. The combat rating is computed in the following way:

Each type of unit in the game world is matched against all other types. Mass unit types are all set to the same number of individuals, so their combat ratings are comparable *between individuals*, not between standard size units. For each unit type pair, the maximum damage for the best possible attack capability (under neutral conditions) of each unit against this particular opponent is computed. For each unit type, all damage it could do and all damage the other unit types could do to it are totalled, weighted for how common units of that type are in the game world. These totals are compared to the totals of the standard unit to obtain the relative combat ratings, adjusting for the number of wound points an individual of the unit has and how many wounds are required to reduce its effectiveness (see section 15.3). The overall combat rating is given as an index with 10 being equal to the standard unit and higher numbers meaning better expected performance. To compare armies you can try to compare their total combat ratings, but remember that a lot of other factors (terrain, morale and fortifications just to mention the most important) are involved.

Remember that the combat ratings are used only for describing the units, not in actual combat resolution where a more detailed and complex (but hidden) mechanism is involved.

15.5.3 Adjustments of combat performance *

Many factors influence the performance of units in combat. The most important are listed in the following, with approximate figures for how great their effect is. These figures have to be approximate as the combat algorithm is non-linear but for ease of interpretation the effect on the performance is given as an adjustment factor, in percent.

morale: Each point of positive morale (see section 9.2) increases melee performance with approximately 0.375% while each point of negative morale adjusts it downwards with approximately the same amount. Missile attacks are adjusted 0.125% up or down by morale.

terrain: The direct effect of terrain on melee combat performance is listed for each unit type in the unit type blurb. Terrain familiarity however also plays a minor role: unfamiliar terrain makes a unit up to 10-15% more vulnerable to enemy attacks while familiar terrain can make a unit about 10% less vulnerable.

charge: A charging unit has a bonus of about 20% on its initial attack if the target is not in defensive position (units with tactics "defend" which have not used missile attacks as the charging unit approached will usually be in defensive positions). A non-charging unit attacking a charging unit has a penalty of about 10% (see section 15.6.2).

15.6 Tactics

In battles the behaviour of each unit is determined by its *tactics*.

To fully understand the interplay between the different tactics it is necessary to be familiar with how battles are resolved (see section 15.7) but this should not be necessary to get the basic understanding needed to choose the right tactics for your units under most circumstances.

The tactics of a unit are changed with the "tactics" order:

tactics *tactics*
tactics *tactics list-of-unit-numbers*
This order changes the tactics of one or more units. In the first form, which is a unit order, all mass units in the force have their tactics set as specified while the tactics of any individuals in the force will be unchanged (exception: if the force is in *questing mode* (see section 20) all its units, including individuals, will have their tactics changed). In the second form, which can be used as either a unit order or a nation order, tactics are changed only for the specified units (which may be either mass units or individuals). If the second form is used by a unit, all the units specified must be in its force. If the order is used as a nation order, the units need not be in the same force but they must of course belong to the nation.

The distinction between mass units and individuals in the *tactics* order is made to prevent the tactics of leaders being accidentally changed (and thus leaders unintentionally being put at risk in battles). However, it also prevents the tactics of a scout or other individual being set immediately when it is recruited by putting a *tactics* order in the recruit order. For this special purpose, there is a *mytactics* order:

mytactics *tactics*
This order changes the tactics of just the unit executing it. It is a "free" order not counting towards the order allowance of the unit nor costing any administration points (see section 3.2).

The possible tactics are:

charge: Units with *charge* tactics will charge if they can (see section 15.6.2), otherwise they will advance on the enemy as per *attack* below. Units in walled locations will sortie if they have *charge* tactics (see section 15.6.1). Units with tactics *charge* are considered to be in front of units with less aggressive tactics and therefore must be attacked in melee and fully engaged before other units on their side at the same battlefield position may be attacked (see section 15.4). They also get to attack in melee (and thus choose opponents) before other units.

attack: Units with *attack* tactics will advance towards the enemy and engage them in melee. They do not charge even if able to. *Attack* is the default for most units when they are created.

defend: Units with *defend* tactics do not move on the battlefield. They shoot at enemy units which come within range of their missile attacks (if they have any) and attack any enemies who close to melee range. Tactics *defend* is not a viable choice for leaders who should only be involved in the battle if there is absolutely no way around it, leaders should have tactics *avoid* or *flee*.

avoid: Units with *avoid* tactics stay in the back and try to avoid all combat, attacking only with missile attacks.

flee: Units with *flee* tactics act as per *avoid* above, except they flee if actually attacked or if it looks like there are enemies who will engage them in melee and no friendly units to prevent it (i.e. no friendly units with tactics different from *flee* at the same battlefield position as the unit or between the unit and all enemies). Tactics *flee* is the default for leaders.

Examples:
Set the tactics of all mass units in the force to "attack":
```
tactics attack
```
Set the tactics of 3211 and 3112 to "charge":
```
tactics charge 3211 3212
```

15.6.1 Walled locations; storms and sorties

A *walled location* is any kind of location offering units inside it some form of protection against attacks from units outside, *whether the location actually has walls or not*. If a location offers protection to units even without the fortifications described in section 16 it will be stated in the blurb describing it.

Units will not automatically attack enemies inside a walled location as this could be pure suicide. You must specifically order your units to *storm* in order to get them to attack units in walled locations at their position.

You use the *storm* order for this:

storm
The force spends a phase preparing to storm enemy locations at its position. At the end of the phase, those units of the force which have tactics "attack" or "charge" will attack enemy units in walled locations. The force will not move into the location(s) stormed even if all enemy units are successfully eliminated, the effect of the order is just to *attack* the enemy units.

Example:
Usually you intend to move into and even gain control of a location after storming it and thus a typical order sequence for attacking and attempting to control the walled location 1933 in hex 123 would be:

```
3101:
move 123
storm
move 1933
control -1
```

Units which storm a location are subject to an extra missile attack at point blank range from defenders with missile attack capability (regardless of tactics).

Some units (e.g. mounted units) are penalised when fighting over walls, even if on the inside. For such units it can be a good idea to make a *sortie*. Units with tactics "charge" will automatically make sorties from a walled location in the very beginning of any battle.

During battles a unit may engage other units that are at most one location removed from their position: Units may attack units inside locations located at their position but may not attack units further in. Units in a location may sortie into the hex or location immediately outside but may not venture further out. And units which sortie from a location may not engage units inside other locations at the position they sortie to, nor may they attack or be attacked by units outside the location they sortie into. Assume for example a hex containing a city which contains a castle. Units in the hex may attack other units in the hex and units in the city. Units in the city may attack other units in the city, may storm the castle or may sortie into the hex. Units in the castle may attack other units in the castle or may sortie into the city.

15.6.2 Charging *

Some units have the special combat ability "charge". Units of these types can charge if they have the tactics "charge" *and* if they are in a terrain for which their move cost is no greater than 6 and where their terrain combat modifier is no less than 75%. A charge has three effects:

1. A charging unit gets to move twice as fast as a non-charging unit during battles and may either move two times or both move and attack in melee in the same segment (see section 15.7.2).
2. A charging unit gets a 20% bonus (does 20% more damage) on its first melee attack after a charge. The bonus is cancelled against units in "defensive positions" (see section 15.7.2) as well as units who "cancel charge attacks" (see section 15.5.1).
3. A non-charging unit attacking a charging unit in melee (or defending against a charging unit) attacks at only about 90% efficiency.

New units which can charge will usually by default have tactics "charge" while most other unit have tactics "attack".

15.7 Resolution of battles *

To understand what happens during battles it is necessary to understand the structure of the battlefield as well as what happens during each battle segment.

15.7.1 The battlefield *

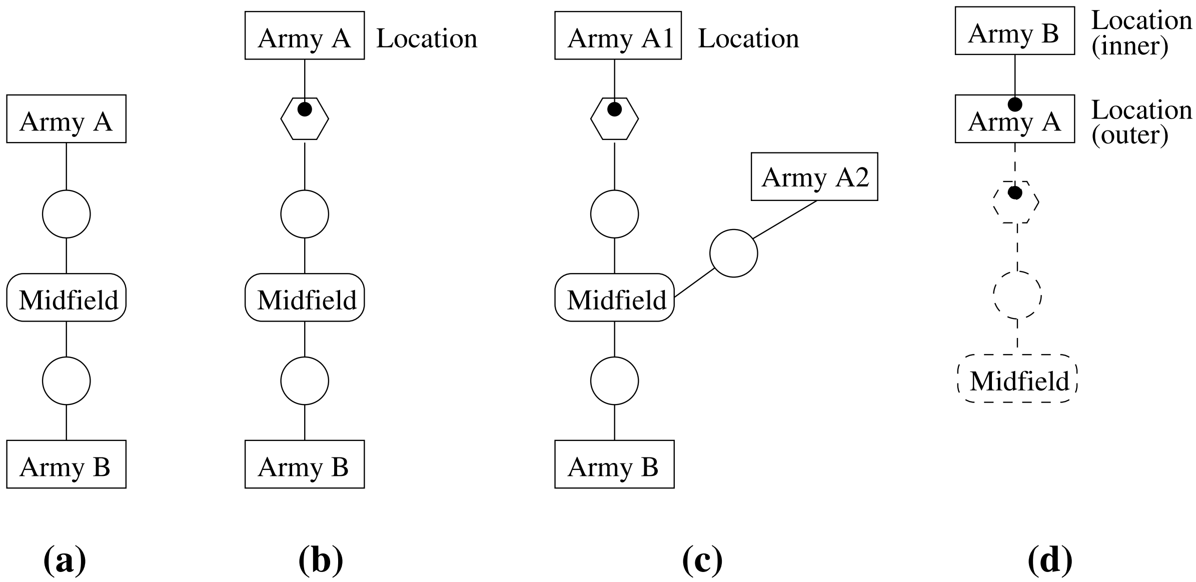
All battles are fought on a battlefield. Battles take place on another scale in time and space than the "main action" of the game and therefore while the units that participate in a battle must be within zero distance of each other on the game map they will for the purpose of battles move around between different positions on a battlefield in order to engage each other.

The basic battlefield consists of a *midfield* position, a *back* or *initial* position for each opposing army and one intermediary position between each back position and the midfield, see figure 5 drawing (a). To engage another army in melee at its initial position an army will have to advance four steps. If opposing armies advance they will meet at the midfield after two steps. This simple battlefield is the result when two armies meet in the same hex.

Locations are added to the basic battlefield each at its own position two steps removed from the midfield, see figure 5 drawing (b). Armies inside a location may be attacked by units advancing to this position (illustrated by a hexagon in the drawing) and if units inside the location sortie they do so to this position. Note that if the same player has armies both inside and outside the location they will start at widely different positions, the army outside being equally long from the army inside as any enemy army outside is (see figure 5 drawing (c)).

Inside a location there is only one battlefield position so enemy armies in the same location will start at the same position and immediately be in melee range (and missile range). Other locations inside a location will be positioned where armies

Figure 5: Four simple battlefields. Starting positions for armies are drawn as boxes, intermediary positions as circles, locations' positions as hexagons and the midfield position as a box with rounded corners. (a): Two opposing armies in the same hex. (b): One army in a location and one in the hex outside. (c): Two armies outside and one in a location. (d): One army in a location and one in a location inside the first location.



inside the location start, and these armies will thus immediately be able to attack into those locations. It is possible for a battle only to involve armies inside one location or some nested locations. In this case the outer (hex) battlefield is not used at all, cf. figure 5 drawing (d).

All distances on battlefields are measured in *steps*, one step being the distance between one position on the battlefield and adjacent (non-location) positions. The distance between the inside and outside of a location is zero even though it does count as a step for units to move out of (or into) a location. Melee attacks are only possible between units at zero distance from each other and thus units must either be at the same position on the battlefield or be inside and immediately outside the same location. Missile attacks are possible against units no further away than the number of steps corresponding to the unit's missile range, e.g. a unit with missile range two can shoot at enemies at zero (melee) range, units one step removed or units two steps removed.

15.7.2 The battle segment *

A battle is divided into *battle segments*, each segment representing a short amount of time. A battle will last for as many segments as are required before the battle is resolved, i.e. until no more units wish to or can attack other units.

In each full battle segment the following events occur, in the following order:

1. Morale is adjusted downwards for special effects such as fear auras.
2. Units with tactics "flee" will flee if there are enemy units closer to them than any friendly units with tactics different from "flee".
3. Units within melee range and capable of melee attacks may attack each other in melee.
4. Units which may *charge* and have not already attacked in melee in this segment may now charge one step towards the enemy.

5. Units capable of missile attacks, with tactics “defend”, “avoid” or “flee”, which have enemies within missile range and which did not already melee may now use their missile attacks. Enemy units involved in melee may not be attacked, nor may enemies in “defensive positions”.

6. Units which charged in this segment or which charged at the end of the previous segment and have done nothing yet this segment may now make a melee attack, if there are enemy units at melee range.

7. Units with tactics “attack” (or witch tactics “charge” but unable to charge) may now advance one step towards the enemy if they have not done anything earlier in the segment.

8. Units which may *charge* and have not attacked in the current segment may now charge one step towards the enemy (again).

9. Units which have done nothing during the segment and that can see enemy units that may attack them either with missile attacks or a charge may now enter *defensive positions* (take cover). Units in defensive positions may not be the target of missile attacks and they cancel the 20% bonus that charging units normally get on their first melee attack.

10. Morale is adjusted upwards for any heroes present or other morale-boosting effects.

11. Each unit’s morale is averaged with its pre-battle morale.

In battles where enemy units with missile capability start within missile range of each other (this will be because they are at sea or inside the same location) there will be an initial *missile only* battle segment where only steps 1, 2, 5, 10 and 11 above are performed and where even units with tactics “attack” or “charge” get to use missiles during step 5. In battles at sea or wherer all combatants are in the same location, tactics “defend” and “attack” are equivalent as no units need to move.

16 Fortifications *

Cities and towns and a few other location types may build walls to aid in their defence. Castles are fortifications which also serve as administrative centres. Forts are pure fortifications.

All fortifications are characterised by a *fortification rating* (sometimes called the *wall rating*) and a *fortification strength* (sometimes called the *wall strength*). The rating can be thought of as the height of the walls and the strength as the thickness of the walls.

Fortifications can be damaged in various ways, this generally reduces their effectiveness. Damage is measured in *damage points*. The *effective rating* of a fortification is computed by dividing the current damage point total by the fortification strength, rounding down and then subtracting the resulting number from the fortification rating. The effective rating can never be less than zero though.

Any location with a non-zero effective fortification rating becomes a *walled location*, with the effects on battle described in section 15.6.1, i.e. it forces units outside to *storm* the location to attack the units inside, giving inside units with missile capability one extra missile attack at point blank range while the attackers scale the walls. Furthermore, a non-zero effective fortification rating reduces the strength of attacks into the location and increases the vulnerability of units outside the location when they attack units inside in melee (this is in addition to the penalty that some units, e.g. cavalry, have when fighting over walls, see section 15.6.1). The exact effect depends on the type of fortification. *Specialised fortifications* are locations such as castles and forts designed with defence as their main purpose. *Other fortified locations* such as cities are not quite as effective even given the same fortification rating. The table below gives the reduction of the overall combat value of the attacker as a function of fortification rating:

	Reduction in attacker combat value						
Fortification rating	**1**	**2**	**3**	**4**	**5**	**6**	**7+**
Specialised fortifications	38.5%	61.0%	78.0%	87.5%	94.5%	97.5%	100%
Other locations	30.0%	54.0%	67.0%	78.0%	87.5%	94.5%	100%

So for example units attacking into a fortification rating 4 castle are at only 12.5% of their normal efficiency, and it is totally impossible to attack units in a fortification with fortification rating 7 or greater.

Note that fortifications usually only protect against units attacking at ground level. Any unit with a non-zero terrain combat rating for "air" is considered able to fly in combat and can therefore fly over walls. The combat efficiency of such units is therefore *not* affected by the fortification rating of regular fortified locations.

Fortifications also increase the *blocking factor* of a location which is how many individuals trying to enter that a single individual inside can block (see section 11.7). The normal blocking factor of an unfortified location is 4. A *specialised fortification* with a non-zero effective fortification rating has a blocking factor of 10 unless otherwise specified in its blurb. Other fortified locations (such as cities) with a non-zero effective fortification rating have a blocking factor equal to 5 plus their current effective fortification rating, although never higher than 10.

The status of all fortifications that your nation can see are listed in the map notes of the turn report. The status of your own fortifications are also listed in your status report.

16.1 Costs of fortifications *

The cost of building and expanding fortifications is proportional to the *volume* of walls built or added. The total volume of a wall is found by multiplying its rating (height) by its strength (thickness) and its *length*. The length of a city wall is equal to the current size (in size increments) of the city. The length of the wall of a castle or fort is 5. For normal fortifications the cost per volume is 2 manpower and 1 gold, for special or magical fortifications the cost is stated in their "blurb".

When a city is expanded its walls must be expanded to contain it. The cost of this is added to the regular cost of expanding the city. The extra cost is simply the cost of the added volume of wall: 2 manpower and 1 gold, multiplied by the rating, the strength and the number of added size increments. None of these resources are recovered if the city should decrease in size.

Example: A size 6 city has a wall of rating 2 and strength 7. The total volume of the wall is thus 84 (6 times 2 times 7) and the total cost of the wall so far has been 168 manpower and 84 gold. The nation owning the city decides to expand it by two size increments. On top of the normal cost for expanding the city an additional cost of 56 manpower and 28 gold must be paid for expanding the fortifications (the wall length is increased by 2 and thus the volume is increased by 28).

When a fortified location improves its fortification rating or strength the cost is simply equal to the cost of the added volume. Thus for every point of rating improvement the cost is proportional to the strength multiplied by the length and for every point of strength improvement the cost is proportional to the rating multiplied by the length.

Example: A castle (wall length 5) has a fortification rating of 3 and a fortification strength of 10. The nation owning it decides to improve the fortification rating to 4. In order to do this the fortification strength must first be increased to 12 (see section 16.2). Increasing the strength by 2 increases the volume by 30 (2 times the rating 3 times the length 5) and thus costs 60 manpower and 30 gold. Increasing the rating by 1 now increases the volume by 60 (1 times the strength 12 times the length 5) and thus costs 120 manpower and 60 gold. The total cost for the improvement is thus 180 manpower and 90 gold.

At the end of each turn fortifications must be maintained. The cost of maintaining a location's fortification (its *fortification upkeep*) is proportional to the rating and the length of the walls but independent of the strength of the walls. For normal fortifications the fortification upkeep is 1 gold multiplied by the rating and length of the walls.

Examples: A size 6 city with wall rating 2 pays 12 gold per turn to maintain its walls. A castle with fortification rating 4 pays 20 gold per turn to maintain its fortifications.

If the fortification upkeep cannot be met then the fortifications are damaged. The damage incurred is equal to the strength of the fortification and thus reduces its effective rating by one.

16.2 Improving and removing fortifications *

Fortifications are improved with the *improve* location order:

improve *what-to-improve amount*
The location improves either its fortification rating or its fortification strength by the specified amount. The first argument must be either "rating" or "strength". If no amount is specified then the greatest improvement that the location can afford and may do is performed. Improving wall *strength* takes 2 phases per point of improvement for most nations. Improving wall *rating* takes 6 phases per point of improvement, multiplied by the new rating (if the rating is improved several steps then the time it takes to complete each step is only multiplied by the rating of that step, not by the rating of the final step). The *improve* order can only be executed by a location when there are no enemy units which can influence control at its position or inside it.

Fortification strength can be increased without limit. Fortification rating can be increased up to a certain maximum depending on your nation and/or the location. For most nations the maximum wall rating for cities is 4 and the maximum fortification rating for castles is 6. Forts (temporary fortifications usually built by engineer units) have a maximum fortification rating of 3.

Special rule: The maximum rating of fortifications in swamp terrain is 2.

The fortification rating is also limited by the fortification strength: you need walls of a certain thickness to build them to a certain height. The fortification rating cannot be improved beyond the fortification strength divided by 3, rounded down. If for some reason the strength of a fortification drops below its current rating times 3 then the rating is adjusted accordingly.

Fortifications are removed with the *remove* location order:

remove *what-to-remove amount*
The location removes as much of its fortification rating or fortification strength as specified. The first argument must be either "rating" or "strength". If no amount is specified all rating or strength will be removed. No resources are recovered when tearing down fortifications, but on the other hand it does not cost anything to do it either. Removing wall strength or rating takes 2 phases per point removed for most nations. The *remove* order can only be executed by a location when there are no enemy units which can influence control at its position or inside it.

16.3 Damage and repair *

Some units (typically engineers) can damage enemy fortifications. This is done in the regular action phases, not in battles. Damage is, as mentioned above, measured in *damage points*. Fortifications can never accumulate more damage points than their strength points multiplied by their rating plus one.

damage *target-number number-of-phases*
This order can be executed by any force containing units capable of damaging fortifications, even when the force leader is *not* such a unit. The first argument of the order is the number of the location to be damaged, the second is the number of phases to use. If the second argument is omitted then the force will continue to damage the location until no more damage can be inflicted.

Each unit type capable of damaging fortifications will have an efficiency measured in *siege engines*, even though the unit type may not actually be using siege engines to damage fortifications. The efficiency for a given unit is multiplied by the current combat efficiency of the unit, and if it is a mass unit also by its current size relative to the standard size of units of its type. Each siege engine has 25% chance of inflicting one point of damage each phase.

At the end of the turn, fortifications which are so damaged that their effective rating is zero will decrease one in actual rating. In this event, the current damage is reduced by the fortification strength (the damaged part of the wall crumbled away). If a castle or a fort ever has zero fortification rating (actual rating, not effective) at the end of a turn then it is destroyed. Other types of locations which reach zero fortification rating and at the same time has fortification damage equal to or greater than the wall strength lose their fortifications, but may usually build new ones.

Damaged fortifications may be repaired by a location using the *repair* order:

repair *what-to-repair amount*
This order lets a location repair damage to its fortifications. The first argument must be the type of damage to repair, either "damage" for normal damage or "sapping" for sapping damage (see section 16.3.1). The second argument is the amount to be repaired. If this is zero or omitted then all damage will be repaired, or as much damage as the location can afford to repair, whichever is less. For most nations fortification repairs take one phase and cost 1 gold and 2 manpower per point repaired. The *repair* order can only be executed by a location when there are no enemy units which can influence control at its position or inside it.

16.3.1 Sapping fortifications *

There is an alternative to attacking fortifications with siege engines and attempting to damage the walls directly. Some units may *sap* enemy fortifications: dig tunnels under the enemy walls in an attempt to undermine them and cause a collapse. The exact effect of sapping is not known by either party until suddenly a collapse occurs or until the hidden sapping damage is fully repaired. The following order is used for sapping:

sap *target-number number-of-phases*
This order is similar to the *damage* order except that instead of regular damage, hidden *sapping damage* is inflicted. The *sap* order can only be executed if there are no armed enemy units present at the position of the force.

The effect of sapping depends on the *stability* of the fortification being sapped. The stability is defined as the fortification strength divided by the fortification rating and is thus at least 3. If the effect of sapping a stability 4 fortification is set to 100% (see below) then the effect against a stability 3 fortification is approximately 120% while against a stability 5 fortification it is about 85%, and it decreases further for higher stability fortifications.

The sapping efficiency of a unit type is for ease of comparison given as the number of siege engines that would in average and over time cause the same damage with the *damage* order as the *sap* order would cause a stability 4 fortification.

Sapping damage is converted to regular damage when collapses occur. The chance of a collapse occurring in any given phase is higher the more sapping damage has been done relative to the fortification strength. The effect is highly variable, a collapse may convert part or all of the sapping damage do regular damage and the conversion factor is random (but averages to one for a stability 4 fortification).

Sapping damage is repaired like normal damage with the *repair* order, at the same cost per point repaired.

17 Sieges *

There is no special order used for laying siege to a location. Instead what you do is just move a large army to the position just outside the location you want to siege. The location is under siege if the combined *effective presence* of all units attempting to siege is more than the combined effective presence of any units opposing a siege and present *outside* the location. Units *inside* the location cannot oppose the siege.

Units outside a location will attempt to siege if either

1. the location is owned by an enemy and there are no friendly (allied or own) units inside it who would suffer from the siege, or
2. the location is owned by an ally or the unit's own nation and someone is in the process of taking over control, *and* there are no friendly units inside who would suffer from a siege.

Units outside a location will actively oppose a siege if either

1. there are friendly units inside it who would suffer from a siege, or
2. the location is owned by an ally or the unit's own nation and no-one is in the process of taking over control.

Units outside a location will neither attempt or oppose a siege if they are neutral towards the owner of the location and there are no friendly units inside it who would suffer from a siege.

17.1 Effects of sieges *

A siege has the following immediate effects:

1. The production of the location and any locations within it is halted.
2. The morale of units inside is decreased by 10 at the beginning of each phase of the siege (after the normal halving of the morale, at the same time leadership bonuses are applied).
3. While the location is under siege it cannot use resources present locally at its position (in the hex or location where it is placed).

Is a siege has been uninterrupted since the beginning of the turn it has the following additional effects:

1. Units and locations inside the sieged location cannot draw or unstore resources from their nation resource pool, except mana. This means that they can only use those resources which are already locally present. Likewise they are unable to store other resources than mana in the nation resource pool. Thus if a location is under siege for an entire turn the non-mana upkeep of the units and locations inside as well as its own upkeep have to be paid exclusively from the resources present locally.
2. A city under siege for an entire turn receives no trade income.

Note that siege status of locations (i.e. whether locations are under siege or not) is determined at the start of every phase *before* any orders are executed. This means that if you attempt to break a siege by moving sufficient units out of the location under siege, the siege will not be lifted until the beginning of the *next* phase (if the units survive waiting outside the location for an entire phase). Siege status is also updated at the very end of the turn after any events which happen "at the end of the turn" but before resource production and upkeep (see section 4). This means you can lift a siege in the last phase of a turn and get trade income and have access to the nation pool for upkeep that same turn.

If the upkeep of *units* cannot be met because of a siege but could otherwise be paid it does not immediately have the usual consequences dissolving the units. In the *first turn* the upkeep of a unit cannot be paid because of a siege but where the resources are available in the nation pool, the resources are drawn from the pool anyway (put aside for when the siege is lifted) and the unit survives but is *weakened*. A weakened unit will be reduced to half normal combat strength during the entire next turn. If the upkeep of the unit is not paid at the end of the turn in which it is weakened the unit will be dissolved as usual.

The upkeep of *fortifications* is also given special treatment during a siege. If the upkeep cannot be met but the resources for it are available in the nation resource pool then the upkeep will be paid from the pool and the fortifications remain intact (they are kept in repair by drawing on labour and parts which have to be paid after the siege is lifted).

A city which is not supplied with food because of a siege will be reduced in size as usual when its food upkeep cannot be met. However, a city of size 1 will *not* be reduced in size (and thus will not be destroyed) if it lacks food because of a siege (no food from the nation food pool will be used either - essentially a size 1 city under siege has no food upkeep if it does not have locally stored food to support itself). Note that a size 1 city lacking food for any other reason than a siege *will* be destroyed.

No other type of upkeep is given special treatment in a siege, so any upkeep which cannot be met and does not fall under any of the cases mentioned above will have the usual unfortunate consequences.

Example:
The army of the Eastern Kingdom arrive at an enemy fortified city halfway through a turn and stops outside to lay siege to it. For the remainder of that turn, the city will be unable to use any resources stored in its hex (probably none anyway) and its production (of population) is halted. At the same time all units inside begin to suffer from a lower morale (after a few phases they are at -20 in morale relative to their normal level). At the end of the turn upkeeps are paid normally and the city generates the usual trade income.

From the very beginning of the next turn the city is cut off from the resource pool of the nation. It has no resources stored locally and no units capable of magic, so no new units can be recruited for its defence. At the end of the turn, the city cannot be supplied with food and thus it is reduced in size by one size increment. All units inside which require an upkeep are weakened and would fight at only half strength if the Eastern Kingdom decided to storm the city next turn (or if they decided to try their luck outside the city).

After one more turn the city is reduced one more size increment and all defending units requiring an upkeep are dissolved (they surrender).

Next turn, having waited over two turns outside the city, the army of the Eastern Kingdom can march in and encounter at most a few leaders who did not require an upkeep. The fortifications of the city will be intact but the city itself has been reduced in size by two increments. So by taking the city by siege rather than storm the Eastern Kingdom avoided a fight at the cost of getting the city two turns later and somewhat smaller. The Kingdom could have stormed the city after only one full turn of the siege and encountered only half the original opposition, getting the city one turn earlier and only losing one increment of city size.

Note that once the enemy has arrived at a location it is too late to attempt to unstore resources from the nation resource pool as the location will be under siege from the very beginning of the turn where you would try to access the nation resource pool. If you want to keep resources in a location to withstand a siege you must therefore unstore them at the very latest in the same turn the enemy army arrives. This means you must either predict where the enemy will go or you must keep resources locally in all your locations at all times.

18 What you see and know

Where your units can move and who they may fight is determined by what they can see. This is determined by the following:

Distance. The further away something is, the harder is it to see it. How far a unit can see depends on the *viewing range* from the terrain it is in and of the terrain whatever it is trying to spot is in: It cannot see anything which is further away than the greater of the two viewing ranges. From the "over" vertical position (i.e. for flying units) the viewing range is 3 hexes. From high mountains and mountains it is 2 hexes and from most other terrain 1 hex. In caves the viewing range is zero.

Awareness. How far a unit can see depends on its awareness.

Terrain. Some terrain is hard to spot something in. Some terrain makes it difficult for the units in it to get a proper view of anything. Apart from the viewing range limitations detailed above there are modifications on the difficulty of spotting things depending both of the terrain of the viewer and on the terrain the viewer is trying to see into (this may be the same of course). Generally, the denser the growth or the more hills or mountains, the harder is the terrain to spot something in. And the denser the growth or the more flat or boggy, the harder is the terrain to spot something from.

Blocked line of sight. There are some locations which units cannot see into or out of.

What it is. Some locations / items / units are easier to see than others. This depends on things like their size and how well they blend into their surroundings.

The situation. A unit involved in combat concentrates its attention on that. A unit which has spent the last 5 phases searching notices a lot more than before its search.

A unit may only attack foes it can see, it may only move into locations it can see, and it can only pick up items it can see.

Units of the same nation are assumed to be able to communicate. So if one unit of your nation discovers a location, all other units will be told it is there (and may thus move into it). Once a location is on your map notes, all your units know it. Units or items your units spot will also be known to your other units, but only so long they remain stationary and do not hide.

Hexes and some locations (such as cities) are assumed to be populated and thus they can report to the nation. This means that the hexes and cities you control can "see".

All the things that your units, hexes and locations see during a turn are detailed in the event report. The map shows all the hexes and features you (or rather: your units *et cetera*) have seen so far during the game. Your map may not correctly reflect the current state of the world, if for example the terrain of some hex has changed since you last saw it, you will not discover it until you see the hex again. In the map notes, the positions of all the units you have seen during the turn are indicated, at the place you saw them last (the phase is indicated if you cannot see them at the end of the turn). Sometimes it will also be listed what a unit was/is doing, such as if it is moving.

The map notes are actually your most complete picture of the current state of the game (although the status report is more detailed than the map notes when it comes to your own units, locations *et cetera*). One particular aspect of the map notes which is very important is the way *indentation* is used to show how units and locations are inside other locations. Each unit, location or item will in general have one or at most a few lines of text in the map notes. Locations, items and units at a given position are listed sorted by their unit number; first locations and items and then units. If a location has units or other locations inside it these will be listed immediately under the location, indented by a few spaces. So the indentation reveals which units are inside a city and which are outside.

Example:
This is an example of how a hex and its contents may be listed in the map notes:

```
Hex 123: farmlands (GE)
  Sergilia [1826(GE)]: size 6 of 12
     interior terrain: city
     city trade rating: 10
     city walls: rating:2  strength:7
    Sergilia Keep [1867(GE)]
       interior terrain: structure
       fortification rating:4  strength:14
      3101(GE*) King Eduardo (Noble): 8 w.p./100%
      3105(GE) High Priest: 10 w.p./100%
      3108(GE) Captain: 8 w.p./100%
      3110(GE) Medium Infantry: 75/100%/100%
    3111(GE) Heavy Infantry: 75/100%/100%
  3117(GE) Medium Cavalry: 50/100%/100%
```

The indentation tells you that in the hex 123 is the city Sergilia and inside that city is a keep, in which are the king, a priest, a captain and a unit of medium infantry. Outside the keep but inside the city is a unit of heavy infantry, and outside the city in the hex itself is a unit of medium cavalry.

You will always know the exact state and position of your own units, hexes and locations, this will be stated in your status report.

18.1 Searching

There are orders allowing units to search in order to increase their awareness:

search *phases*
This tells a force to spend a number of phases searching its current position. The longer time spent, the bigger the chance of finding anything previously hidden to them (actually no chance is involved, searching merely increases the awareness of all units in the force). The force may also find something new at adjacent positions, but the search is most efficient at the exact position of the force. A force gains nothing from searching in the same spot for more than 10 phases.

find *id-number*
find *id-number phases*
This order makes a force search its current position for a specific item, unit or location. The ID number of the object searched for must be given. This works like a regular search except that it is three times as efficient as the *search* order at finding the desired object but only half as efficient at finding other objects. The order has two forms. The first form makes the unit search until the desired object is found, so it had better be there! The second form sets an upper limit on how many phases the unit should spend searching.

18.2 Hiding and sneaking

It is possible for units to try to make themselves harder to detect by *hiding* in place or *sneaking* from one place to another. How successfully a unit can hide depends on the terrain (and the familiarity of the unit with that terrain) and on the *hide factor* of the unit. A "typical" unit in "typical" terrain will be able to make itself twice as hard to detect by hiding.

All hidden units in a force executing a *move*, *farmove* or *control* order will immediately and automatically become unhidden as these orders require activity which cannot be done in hiding (the *sneak* and *farsneak* orders described below allow units to move while hidden). There may be other orders not described in these rules which do not allow either the force leader or the members of the force executing them to remain in hiding, and if so this will be stated in the blurbs describing the orders. Note that units which become unhidden by executing an order do *not* automatically hide again when they are finished.

In battles, hidden units generally have to unhide if they are attacked or themselves attack. Such units *will* automatically hide again once the battle is over.

Note that hidden units joining or being included in a force remain hidden, even if the force leader is not hidden, and similarly unhidden units remain unhidden even when joining the force of a hidden leader (and the leader is not unhidden). So it is possible for a force to consist of some hidden and some unhidden units.

Hidden units have their effective presence (see section 2.3.2) halved.

The following orders are used to hide and unhide units:

hide
This order makes all the units of a force hidden. This takes no time.

unhide
This order makes all the units of a force unhidden. This takes no time.

Regular movement will unhide units as outlined above. But it is possible for units to try to make themselves harder to detect even while moving by using the orders *sneak* and *farsneak*:

sneak *list-of-positions*
farsneak *list-of-positions*
These orders move a force of hidden units and correspond to the regular *move* and *farmove* orders of section .11. The move cost of all units are doubled while sneaking. If any units of a force about to execute a *sneak* or *farsneak* order are not already hidden they will immediately and automatically become so. When the order finishes, all units will remain hidden (as if the force had executed a *hide*) until unhidden by an *unhide* order or some other activity.

19 Magic *

There are so many different forms of magic in the game that it is outside the scope of these rules to give all the details. The "blurbs" on the individual unit types describe which spells if any the unit can cast, how long it takes to cast it and how much mana it costs. You will also receive "blurbs" on the spells themselves, detailing their effects and how to write the orders.

There are two kinds of magic which deserve special mention because their presence in the game have important strategic implications: Strike spells and illusions.

19.1 Strike spells *

Strike spells are spells which can be used to attack whole armies at a distance. Most spell casters can target armies from up to two or three hexes away while some can strike from much greater distances. The effect is to attack *every individual in every unit* at a given position. The power of the attack varies with the spell and with the mana spent and the damage done may be anywhere from 0-1 wounds per individual for weak strikes against heavy units to 0-8 wounds per individual for strong strikes against light units. A couple of strong strikes timed to happen in the same phase can all but wipe out even the greatest armies.

19.1.1 How to use strike spells effectively *

Strike spells affect all units at the target position. This means that you want to target large armies rather than small armies. It also means that you should take care not to hit your own units or those of your allies.

Strike spells alone usually cannot accomplish much (except for very strong strikes against very weak units). They are best used in combination with an attack by your armies: First use a strike to weaken the enemy and then have your armies move in immediately after to finish the job. Timing is very important here, ideally you want your armies to arrive just one phase later than the strike to allow minimum time for the enemy's recovery. You certainly do not want your army to arrive too early and be hit by the strike (or be defeated by the full strength enemy army). If you arrive too late many of the wounds you inflicted with the strike may be healed and the enemy leaders have had ample time to work on the morale of their troops.

Unless you attack a stationary army such as the garrison of a city you wish to take it may be hard to actually hit anything. With strike spells there are two ways to specify the target position: either as a normal position (e.g. hex 125) or as a unit (e.g. unit 3101), the latter meaning "the position where this unit is". If you just write a normal position the only requirement is that it is within range. If you write a unit, the unit must be within range (both when the caster starts the spell and when the strike goes off) *and* the caster must be able to *see* the unit (it is not sufficient that some other of your units can see it). This requirement severely limits the range of the spell when targeting units as you cannot expect the spell caster to be able to see units which are more than one hex away, depending on terrain of course.

The difficulties with striking moving targets mean that often you want to do a strike spell as the very first thing of a turn because at that time you know the positions of the enemy units (they are listed in the "map notes" section of your last turn report). This of course requires that you happen to have a spell caster within range and that the spell does not take too long to activate, for just a few phases into the turn the enemy may have moved and your expensive strikes will hit empty air.

When you spot a large enemy army moving towards you and it is too uncertain (or impossible) to try to hit it with strikes at the beginning of the turn you can do something else: You can let your spell caster wait until it sees the enemy army and then cast the strike spell specifying a unit in the army as the target. You should select a large and prominent mass unit as your target and not a leader who is probably much harder to spot. Then use the "waitforone" order of section 21.3 to have the spell caster wait until he can see the target (and the target is within range). Note however that if the spell takes a long time to activate and the approaching army is moving fast it may actually be able to reach your units before the spell goes off and you may fry both your own units and the enemy (this may not be so bad if you are inside a location which offers some protection).

Example: Assume that you have spotted an army containing the unit 3114 (100 Heavy Infantry) and it looks like it is heading towards the city where your mage is located. Your mage happens to have a "firestrike" spell which takes 4 phases to activate and has a maximum range of 2 hexes. To have a fair chance of striking the enemy army before it reaches the city you can give your mage the following orders:

```
waitforone 1 3114
firestrike 3114 5
```

(where the "5" in the firestrike order is the power of the strike). This set of orders means that your mage waits until 3114 is within 1 hex (*and* he can see the unit) and then starts to cast his spell with 3114 as the target (thereby hitting all units which happen to be at the same position as 3114 when the spell goes off).

19.1.2 How to avoid enemy strikes *

Now that you know how to effectively use your strikes it is only fair to tell the other player how to avoid them...

1: Get some magical protection.
There are magical spells which offer either partial or full protection against strikes. They have limited duration or cost mana to maintain so you cannot use them always, but be certain to protect your largest armies if you are up against a nation you know has strike spells. There may also be items or special units which offer protection against strikes for any units at their position. So put your priest with the army guarding your capital and let your campaigning general carry the "Holy Lightning Rod".

2: Move and attack in one turn.
Try to keep your army out of range of the enemy until the last possible moment. If you want to attack into enemy lands you should try to reach your target in one of the last phases of the turn and start the turn with your army as far away as possible, minimising the chance that the enemy has any spell casters within strike range (or indeed can spot your army at all).

3: Break started move orders.
If your large and important army ends a turn in the middle of performing a move it will appear in the map notes of all who see it as "moving towards X (arrives phase Y)", where X is the next position it will move to and Y is the phase it will arrive there (you can check this in your own map notes). If an enemy spell caster is within strike range of the army but unable to target specific units then the enemy player will have to strike either the position your army is moving from or the one it is moving towards, depending on whether his strike is fast enough to go before phase Y or not. If you suspect that a strike will be hitting the position the army is moving towards you can use the "break" order to break your move and then either move by another path or just delay the move a little.

19.2 Illusions *

Illusions cover a whole hex with a mirage of some specific terrain usually different from what is really there. You may or may not be aware of these illusions. If you own the hex yourself, you will know that the illusion is there and what the real terrain is. If you do not own the hex, what you know depends on who (i.e. which of your units) have seen the hex.

Some units are immune to illusions and thus see both the illusionary terrain and the real terrain. If you have any such immune units who have seen the illusion, you will know it is there (and what it hides). If the hex has only been seen by your "standard" units, you will only know the illusionary terrain and may not guess that there is an illusion at all (but there are ways to tell, as outlined below).

An illusion affects all units in the covered hex, even the units of the player who controls the hex and/or the player who has made the illusion (often this will be the same player).

Movement is slowed or may even become impossible. For a force moving through illusion the following two move costs are found:

1. The highest move cost among all the units for the real terrain. If some unit cannot move in the real terrain at all, the force cannot move (regardless of any illusions).

2. The largest move cost among all non-immune units for the illusionary terrain. If some non-immune unit cannot move in the illusionary terrain at all (such as a Knight in Lake), it is assigned a move cost of 48 phases per hex.

Depending on the presence of immune and non-immune units in the force, the move cost of the force is then computed as follows:

- If all units in the force are immune to illusion, the move cost is that of the real terrain plus 10% (the units have to concentrate to avoid being affected by the illusion).
- If at least one but not all units in the force is immune to illusions, the move cost is either that of the real terrain or the average of the two move costs, whichever is the higher, plus 25%.
- If none of the units in the force are immune to illusions, the move cost is the largest of the two costs found, plus 50%.

Examples: A knight which has move cost 6 for Plains and 14 for Mountains moves through a Plains hex with illusion of Mountains. The cost is then the higher of the two (14) with 50% added: 21. If the Knight had an immune wizard to guide him (in the same force) and assuming that the Knight is the slower of the two in both terrains, the cost would be the average of 6 and 14 plus 25%: 12.5. If the illusion was of an Ocean where the Knight cannot normally move, the cost would be $48 \times 1.5 = 72$ if the Knight was alone and $(48+6)/2 \times 1.25 = 33.75$ with the Wizard. Three turns of 24 phases just to move one hex in the worst case!

Things are harder to see in a hex with an illusion. This applies to all units, but mostly to non-immune units of course.

A unit can never enter a hex where it will be destroyed by the real terrain. Thus if your units seems to "bounce off" a certain hex it may be because the hex is covered by an illusion and the real terrain is something they cannot enter.

There are spells which remove illusions but these are usually very expensive and far from all nations posses them. There are also various "true sight" spells which will reveal an illusion for what it is and tell you the real terrain but will not otherwise help you against it.

20 Questing *

The main focus of the game is on military action but there is opportunity for players to play an exploration/adventure-style "game within the game".

A player may designate that some of his or her units should leave the "main" game and enter into a separate *questing mode* in which they cannot influence or even observe the military side of the game but instead interact with locations, units and items which are invisible to units in the normal *military mode*. Such *questing* units may be able to find items or information which may help the military position of the nation or which may be worth victory points to the nation.

20.1 Questing units *

A unit may change from military to questing mode or vice-versa in any hex belonging to its nation and any location belonging to its nation or an allied nation, except in mines and forts (which only "exist" in military mode). This is done by use of the *questing* order:

questing on
questing off
This order changes the mode of the unit that executes it. The argument should be "on" to change from military to questing mode and "off" to change from questing mode to military mode.

When a unit changes *to* questing mode any members of its force which cannot go questing will be removed from the force first. When a unit changes *from* questing mode all other units in its force will change with it. In both cases anything carried by the unit(s) will also change mode.

Units in questing mode can only be seen by other units in questing mode. Hexes and locations have no awareness of units in questing mode so it is possible for questing units to e.g. enter your cities without you knowing it.

Hexes and all normal locations except mines and forts can be seen by units in either mode (mines and forts can only be seen in military mode). There are special locations which can only be seen by units in questing mode, such as lairs of monsters, temples, shops *et cetera*.

Items may exist either in questing mode, where only questing units may see them, or in military mode, where only military mode units (and hexes and locations) may see them. Items change mode when the units holding them change mode.

The net result of these rules are that while units in questing mode exist in the same world as military units they have a separate, parallel existence where they can only interact with other units in questing mode. This makes them excellent scouts for mapping terrain and cities but unusable for finding enemy troops. If you really want to prevent enemy units mapping your territory in this way, you will have to have a "questing mode police" consisting of some questing mode units patrolling your own territory, but usually this is not worth the effort as most players can use cheap scouts or magical spells to map your territory anyway.

An enemy lord can "hide" in questing mode and become invisible to the military units which are about to conquer his capital. To hunt down such a lord in his own territory you must use both questing mode units and military mode units.

On your map notes it will be stated which of the units listed are in questing mode.

20.1.1 Which units can go questing? *

Not all units can go questing. Only certain types of individuals can enter questing mode (lords, heroes, knights, spell casters and the like), these are known as *major characters*. It is specified in the unit type blurb if a unit can enter questing mode. If it is not explicitly mentioned then the unit *cannot* go questing.

Note that you may encounter non-player units in questing mode which are not of a type which may normally go questing. E.g. it is possible to encounter a band of five Goblins even though Goblins are a mass unit and hence cannot normally enter questing mode.

20.2 Miscellaneous effects of going questing *

Units in questing mode cannot block or be blocked, nor can they help allied units against units blocking them.

Units in questing mode do not contribute to the base administration points of the nation (which lords normally do). They do, however, retain their ability to receive "free orders" themselves (if they have that ability). So when a lord goes questing his nation might lose e.g. 4 base administration points he normally contributes, but the lord himself will as always be able to receive some orders not counting against the administration limit.

20.3 Orders not available in questing mode *

There are some orders which are "military" in nature and therefore not available to units in questing mode. These include:

1. All forms of the *recruit* order (*summon*, *animate* or whatever) unless it creates a unit which can go questing. In this case the new unit will be created in questing mode.
2. The *embark* and *disembark* orders.
3. The *control* order.
4. Strike spells (such as *lightning* and *firestrike*) and ward spells (such as *strikeward).*
5. Spells affecting the production of hexes or locations (e.g. *blight* and *blessing*), spells affecting unit morale in a whole hex or location (e.g. *darknight* and *holylight*) and spells affecting fortifications (e.g. *crumble*).

20.4 Travel routes *

Units in questing mode may move around using the *move* and *farmove* orders like other units. They cannot, however, *embark* and travel by sea lanes, as ships are purely "military". So a unit in questing mode must use some other means of transportation to cross the ocean. Apart from that you may not care to meet all the wandering monsters hungry for adventurer meat when you just want to move your characters to the next city to get some further clues to help you in your questing. To address these needs units in questing mode may move between locations and a few other special destinations along *travel routes*.

Whenever your questing units visit a location for the first time the travel routes which originate at that location will appear in your map notes for the remainder of the game. For each route will be listed its destination, the time it takes to travel there using the route and the price you must pay to use the route (if not free).

Example:
Smallport [1234(OQ)]
Travel routes:
Caravan to Redtown [1378], 28 phases
Ferry to Southshore [1433], 12 phases, 5 gold per individual
Hired boat to Mysterious Island hex 245, 20 phases, 25 gold

To use a travel route you just move to the location where it originates and use the *travel* order:

travel *number-of-destination*
The destination number is the location or hex number as it appears in the list of travel routes. The specified price must be paid, multiplied by the number of individuals in the travelling force if so stated for the used route. The force will be taken off the map and will appear at its destination when it has used the time needed for the route. The time used does not depend on the encumbrance or wound status of the travelling units, in fact it is possible to travel even with a force which cannot move in the normal way. As travel is "off map" there will be no encounters on the way and the travelling force will not see anything of the terrain it supposedly travels through. The *travel* order cannot be cleared or broken once begun.

20.5 The retreat option *

A unit in questing mode has the option of specifying a *retreat spot*. This is some place the unit will retreat to if it fares badly in combat. The *retreatspot* order is used to specify a retreat spot and the *retreatwhen* order is used to specify when to retreat:

retreatspot
retreatspot *list-of-units*
The first form of this order designates that the unit's current position should be made its retreat spot. When a list of units is given, their retreat spot set to their current position provided they are members of the same force as the unit executing the order. If a unit has no designated retreat spot it will not retreat.

retreatwhen *level*
retreatwhen *level list-of-units*
This order is similar to the *fleewhen* order (see section 9) except that it can only be used by units in questing mode and cannot be given as a nation order. It specifies a wound point level at which the unit will retreat to a safer place, the *retreat spot*. When the unit takes a wound point loss and reaches the specified level or less it will retreat. If a level of zero is specified, the unit will never retreat. Once a unit retreats, its *retreatwhen* order has been triggered and you will need to give it a new *retreatwhen* order to have it retreat again. When both a *retreatwhen* condition and a *fleewhen* condition are triggered at the same time, the fleewhen condition takes precedence and the unit flees to its home.

A unit will not retreat if

1. it has no designated retreat spot,
2. it has no designated retreat level,
3. it is already at its retreat spot or
4. it may no longer move to the terrain in its retreat spot (this could happen if it e.g. was flying when it specified its retreat spot but its fly spell has now expired).

A retreating unit is, like a fleeing unit, not at any specific position and thus cannot be attacked while moving to its retreat spot. The time it takes the unit to reach the retreat spot is equal to four phases per hex of distance retreated, though minimum two phases. The unit arrives at the spot at the end of the action phase, just before battles. When a unit retreats it discards any orders it may have. It may be given new orders while retreating and it will start executing these in the phase after its arrival at the retreat spot.

The tactics of a retreating unit are set to "avoid".

When a unit flees to its home or leaves questing mode it forgets its retreat spot and retreat level.

There is no retreat equivalent to the tactics "flee", and there is no way to voluntarily retreat.

A retreating unit will be listed in the status report as executing the *retreat* order:

retreat *position*
This order cannot be given to a unit by any normal means. It specifies that the unit is retreating to the indicated position and that it will arrive there after the number of phases specified after "begun".

20.6 Questing and fleeing *

When a unit in questing mode flees to its home it will still be in questing mode when it arrives. However, the unit will have forgotten its retreat spot and retreat level, if any.

21 Special orders *

This section contains descriptions of all the orders which did not really fit anywhere else.

21.1 Naming units, items and locations *

Players can rename units, items and locations they own. All units may be renamed but only items and locations which are not unique (do not have their own rules “blurb”) may be renamed. This means that you can rename a generic “Fort” or “Oasis” but cannot rename “The Tower of Wisdom” or cities and towns named at the start of the game.

Names given by players may not contain any characters that are not either letters, numerical digits, spaces or one of the special characters “-“ (dash) and “’” (apostrophe), and they must be between 2 and 32 characters long. Numbers are only allowed in names if they are at most three digits long and are immediately followed by a letter. So “101st Lancers” is a valid name while “Regiment 3” is not. A unit name may not contain the name of a unit type different from the unit’s actual type as this can be misleading to other players.

There are two orders used for naming, both are “free” orders and do not count against order allowances nor cost any administration points to issue (they are just there for atmosphere):

name *id-number new-name*
This order names the specified unit, item or location. It can be given either as a nation order, a unit order or a location order.

myname *new-name*
This order is a location or unit order and gives the location or unit the new name. Note that even though the *myname* order is only for atmosphere a unit will break from its force if it receives it, just like it would for any “real” order. Use the “name” order (as a nation order) to name units you wish to remain in their forces.

21.2 Clearing and modifying pending orders *

As mentioned in section 4.1 the orders given to a unit or location in a given turn are normally appended to the pending orders it may already have, i.e. orders given in previous turns but not yet executed. Some times you may want to remove pending orders when giving new ones. There are two special orders for this purpose: “break” and “clear”. Unlike other orders they are not executed during the normal sequence of the game but are instead executed immediately when they are appended to the list of orders of the unit or location which receives them.

break
break *number-of-last*
The break order tells the unit to forget orders preceding the break order in its order list, including the one that is currently begun, if any. In its first form (no arguments) it clears all orders from the beginning of the order list to the break order. A single number can be given as an argument to specify the number of the last order to remove. This is counted from the beginning of the order list if the number is positive and counted backwards from the break order if it is negative.

Note that resources paid for an order are in almost all cases fully expended when the order is begun and *are not recovered* if the order is broken off!

clear
clear *number-of-first number-of-last*
The clear order works like the break order except that in its first form (no arguments) it does not interrupt and remove the first order if that order is “begun” (see section 4.1), and except that in its second form (with arguments) it can be used to remove any sub-list of orders preceding it in the order list. The first argument is the number of the first order to be removed, counted from the beginning of the list if it is positive and counted backwards from the clear order if it is negative. If it is zero or omitted it means remove from the first order if it is not “begun” and from the second order otherwise. The second argument is the last order to be removed, specified in the same fashion except that zero (or an omitted second argument) has the same meaning as -1, i.e. it refers to the last order before the clear order.

Examples:
Assuming that the clear order is given as the very first new order to a unit already having some orders (as will usually be the case),

```
clear -3 -1
```

means clear the last three of the old orders,

```
clear 2
```

means clear all old orders except the first and,

```
clear * 2
```

means clear the first two of the old orders, except do not clear the first if it is already begun.

It is also possible to insert new orders at the beginning or middle of the list of old pending orders. The *insert* order is used for this:

insert *insertion-point orders*
The *orders* given as argument to the insert order are inserted in the list of pending orders after the order identified by the *insertion point*, which is a number. The number given should be zero to insert the orders at the very beginning of the order list, positive to identify an order counting from the beginning of the list of pending orders and negative to identify an order counting backwards from the insert order. Note that orders cannot be inserted before an order which is "begun" (see section 4.1).

Examples:
Assuming that the insert order is given as the very first new order to a unit already having some orders (as will usually be the case),

```
insert -2
  orders:
    move 123
  .
```

means insert the move order before the last of the old orders,

```
insert 0
  orders:
    move 123
  .
```

means insert the move order before all old orders, and

```
insert 1
  orders:
    move 123
  .
```

means insert the order after the first of the old orders.

Finally, it is possible to modify lists of orders given as arguments to old orders (including adding a list of orders to a pending order which has an empty order argument). This is very useful e.g. for adding orders to a *recruit* order already begun. The *embed* order is used for this:

embed *number-of-order orders*
The *orders* given as argument to the embed order are appended to the list of orders given as an argument to the pending order

identified by the given *number-of-order* argument. Orders are counted from the beginning of the list of pending orders if a positive number is given and backwards from the *embed* order if a negative number is given. The order identified must be one of the orders accepting a list of orders as an argument (it will typically be a *recruit* or a *repeat* order).

Examples:
Assuming that the embed order is given as the very first new order to a unit already having some orders (as will often be the case),

```
embed -1
  orders:
    join 3101
  .
```

means append the join order to the list of embedded orders of the last pending order, and

```
embed 3
  orders:
    clear
    move 123
  .
```

means append the clear and move orders to the orders given as argument to the third pending order (the clear order will then erase any previously embedded orders leaving the move order as the only embedded order).

As a final example, assume that your unit 3101 has the following pending orders:

```
Orders: recruit 3 100 (begun-2)
        recruit 124
          orders:
            move 123 124
            search
          .
```

There are no orders embedded in the first recruit order but you want to give the new unit orders to change tactics and join 3101. You also want to change the orders embedded in the second recruit order by inserting a *mytactics* and a *fleewhen* order (the unit is a scout and you do not want it to flee at the sight of other scouts). To accomplish this you give 3101 the following set of orders:

```
3101:
embed 1
  orders:
    mytactics defend
    join 3101
  .
embed 2
  orders:
    insert 1
      orders:
        mytactics defend
        fleewhen 3
      .
  .
```

After this, 3101 will have the following orders (the first recruit order still begun and still scheduled to finish in phase 2):

```
recruit 3 100
  orders:
    mytactics defend
    join 3101
  .
recruit 124
  orders:
    mytactics defend
    fleewhen 3
    move 123 124
    search
  .
```

21.3 Timing and coordinating actions *

There are a number of orders available for timing events and for coordinating actions between units. Some examples of the need for such orders were given in section 8.2.

wait *number-of-phases*
This tells a unit to do nothing for the number of phases specified.

time *turn phase*
This is like the wait order but specifies the turn and phase in which the unit should go on to execute the next order.

waitonesig *list-of-id-numbers*
waitallsig *list-of-id-numbers*
signal *list-of-id-numbers*
These three orders are for synchronising the orders of units and locations. The *waitonesig* and *waitallsig* order tells a unit or location to wait for one or more signals from some other unit(s) or location(s) before continuing with its next orders.
A unit or location executing a *waitonesig* will perform a wait until it has received a signal from (at least) *one* of the units or locations in the list.
A unit or location executing a *waitallsig* will wait until it has received signals from *all* locations in the list and *all* units in the list which are not "known dead units". A unit number designates a "known dead unit" if it is inside the unit number slot of your nation or one of your allies, is below or equal to the number of the last recruited unit from the slot and does not identify an existing unit.
The *signal* order sends a signal to each of the specified units and locations.

waitforone *distance list-of-id-numbers*
This order tells a unit to wait until it can see one of the items/units/locations/hexes in the specified list, within the given distance in hexes (counting vertical position, see section 2.1.2). Rather than a number of hexes you can specify one of the special keywords below which have meanings useful for coordinating certain types of actions:

exact: The expected unit, item or location seen must be at the exact same position as the waiting unit or location itself (as opposed to a distance of zero where it can be inside or outside a location). This can never become true if a hex is specified.

outside: The expected unit/item/location/hex is "outside" the waiting unit/location in the sense that the waiting unit/location is inside (or held by) the expected unit/item/location/hex, or inside something inside it. It can be useful if a unit is waiting to be picked up by someone.

inside: The expected unit/item/location is inside (or held by) the waiting unit/location, or inside something inside it. This is useful when a unit waits until it is given some item. It can never become true if a hex is specified.

adjacent: The expected unit/item/location and the waiting unit/location are at zero distance and none of the conditions "inside" or "outside" above are met (i.e. the waiting unit/location is "next to" the unit/item/location it is waiting for but not necessarily at the exact same position).

joined: The expected unit is in the same force as the waiting unit. This is useful when a force leader is waiting for other units to join the force. This can of course only become true if a unit is specified.

force: The expected force/item/location is at exactly the same position as the waiting force/location. The difference between this and "exact" is that for units it is their *force position* that counts and not their real position (these are different for a unit on a special mount (the rules for special mounts will be made available in a blurb if you should acquire one)). Thus this is useful when a force is waiting for another force to move to a position where the two can be joined. It is also useful when waiting for some unit to give an item to or donate some resources to. This can never become true if a hex is specified.

waitforall *distance list-of-id-numbers*
This order is similar to waitforone, except that *all* the specified units/items/locations/hexes simultaneously must be either within the specified distance or be a "known dead unit" (see the description of the *waitallsig* order above).

21.4 Passing orders to others *

The order described here can be used if you expect to receive some unit from some other nation (or hire or bribe it) and wish to give it some orders in the turn in which you acquire it. It is, however, more often used for moving some units together in a force and then giving the individual members different tasks once they reach their destination.

order *number-of-unit-or-location list-of-orders*
This lets one unit or location give another unit or location of the same nation some orders, to be executed after any orders it might already have. The two must be able to see each other. If the ordered unit is in some force and is not the force leader, it will break from that force. The usual restriction that stupid units can only be given certain orders applies also to orders passed with this order. It takes no time to execute the order.

21.5 Repeating orders *

The *repeat* order can be used for saving administration points and order writing:

repeat *number-of-times list-of-orders*
This order tells a unit (or force) to repeat the given orders the specified number of times. If the first argument is zero or omitted, the orders will be repeated indefinitely. This is useful for setting up patrols *et cetera*. If the embedded orders take no time to execute and the number of repetitions is not limited (i.e. the first argument was zero or omitted) then a one phase wait will be inserted between each execution of the embedded orders.

21.6 Aliases *

Sometimes you need to use the unit ID of an as yet not created unit in an order, e.g. to form a force with it. It is generally impossible to predict the ID numbers of the units you recruit when you have several recruiters finishing simultaneously. To overcome this problem, you can use an *alias* IDs in place of regular IDs in any order needing ID numbers and then have aliases assigned to your units as they are created.

The simplest way to explain this is by an example:

```
3101:
  recruit "Heavy Infantry"
    orders:
     myalias $guards
    .
  recruit "Crossbowmen"
    orders:
     myalias $xbows
    .
  form $guards $xbows
```

In the orders above, the unit 3101 recruits two units and then forms a force with them. At the time of order writing, the ID numbers of the two units is unknown. Instead of guessing an ID number, the player uses the aliases “guards” and “xbows” (written `$guards` and `$xbows`) to refer to the two units in the *form* order. The player then gives a *myalias* order as the first order to to each of the two units, making the aliases “guards” and “xbows” to refer to them (when the *myalias* orders are executed). When the *form* is executed, the aliases will be replaced by the ID numbers they refer to, i.e. the ID numbers of the two new units.

An alias must be preceded by the dollar character “$”. Aliases may be at most 50 characters long and may contain only letters “a”-”z” (either upper or lower case), digits “0”-”9” and the dash “-”, underscore “_” and period “.” characters (aliases ending with a period have special meaning, see section 21.6.1).

In very rare cases you may want to refer to an alias defined by one of your allies. You must then add the player number and a slash “/” immediately after the dollar sign and before the alias name itself, e.g. “`$4/guards`” for the alias “guards” defined by player 4. You can only refer to aliases of *allied* nations this way.

Aliases in an order are replaced with the ID they refer to when execution of the order is first begun. Once aliases have been replaced in an order the IDs in the order are fixed; subsequent changes of the aliases will have no effect on that order. If an alias has not been defined at the time an order it appears in is executed, the alias will be replaced with a “zero” ID (as if an asterisk had been used in place of that argument).

The same unit may have several aliases.

The order *myalias* is used to create an aliase for the unit (or location) executing it:

myalias *alias*
This makes the *alias* specified refer to the ID of the unit or location that executes the order. If the given *alias* already referred to another ID it is simply changed to refer to the new ID. The order may be used by any kind of location or unit, including stupid units. The order is a free order, costing no administration points to use.

Aliases need not be defined to refer only to newly created units or locations you own. You can use the *alias* order to define new aliases to refer to *any* ID:

alias *ID alias*
This makes the *alias* specified refer to the *ID* specified. If the given *alias* already referred to another ID it is simply changed to refer to the new ID. If a dash “-” is given as ID, the alias is deleted. The order is a free nation order, costing no administration points to use.

Example:
To be able to use the alias “king” for the unit 3100, the player of nation 1 must give the following order:

```
nation 1:
  alias 3100 $king
```

The alias can then in the future be used to identify the unit and may from the next turn onwards even be used to identify the unit when giving it orders, e.g.:

```
$king:
  move 123 124
  storm
```

21.6.1 Counting aliases *

In conjunction with a *recruit* order inside a *repeat* order it can be useful to assign different aliases to the different units created. However, since the units are recruited with the same order they will also all receive the same *myalias* order, meaning that if a standard alias is used, the alias will end up referring to the ID of only one of the units (the last one recruited). To overcome this problem, a *counting alias* should be used.

Example:
In the orders below, the noble 3101 recruits three units of heavy infantry, two of which should afterwards be included in his force before he moves on and a third which should stay behind.

```
3101:
  repeat 3
    orders:
     recruit ‘‘Heavy Infantry’’ 100
       orders:
        myalias $troop.
       .
    .
  include $troop1 $troop2
  farmove 125
```

Notice the use of `$troop.` in the *myalias* order. This alias ends in a period, identifying it as a *counting alias*. Counting aliases are treated specially by the *myalias* and *alias* orders: The trailing period is replaced by a running number which is incremented by one for each new alias defined from the same counting alias. In the example above, the first heavy infantry unit to execute its *myalias* order will get the alias “troop1”, the next “troop2” and the third “troop3”. The first two of these are used in the *include* order.

A counting alias itself will refer to the last alias generated from it. E.g. after the orders above, the alias “troop.” will refer to `$troop3`. If the counting alias itself is ever used in an order which is not either *myalias* or *alias* it will be replaced by the alias it refers to (the last generated from it), which again will be replaced by whatever ID that refers to. To “reset” a counting alias (and make it start over from 1 if used again), delete it with the *alias* order like this:

```
alias - $troop.
```

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