0 *A.D. is* **A**ctually **B**efore **C**hrist
`https://github.com/0abc/0abc-a23.git`

A modification of *0 A.D. Empires Ascendant*
version 0.0.23 *Alpha XXIII: Ken Wood*

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`https://wildfiregames.com/forum/index.php?/topic/22779-0abc-mod/`

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Contents

1 Introduction

0abc is an acronym for "0 A.D. is Actually Before Christ". This mod tweaks, rebalances, and improves upon what already exists in the game. Amongst other things, it contains a moderate bonus attack counter and penalty system, more experience promotion ranks (0–12), and a new resource (silver).

0abc serves as a showcase for what 0 A.D. easily could be at the moment, as a playground for me experimenting with modifying the game to get used to the code structure, and as a platform for including my own opinions and views to have the game the way I like it. Being a test mod of an alpha-stage game, it is inherently imperfect, unfinished, and restricted by my limited programming skills and the files available in 0 A.D.'s latest stable release.

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1.1 Instructions

- Use `git clone https://github.com/0abc/0abc-a23.git` to get the repository directly or download it as a zip via `https://github.com/0abc/0abc-a22/archive/master.zip`

- Place it in your `/0ad/mods/` folder:

  GNU/Linux (e.g. Fedora) typically: `~/.local/share/0ad/mods/`

  Macintosh/Apple OS X typically: `~/Library/Application\Support/0ad/mods/`

  Microsoft Windows typically: `~\Documents\My Games\0ad\mods\`

- Launch 0 A.D., click "Settings" and "Mod Selection"

- Select `0abc`, click "Enable" and "Save Configuration"

- Add, remove, or move up or down any other mods, click "Save Configuration" and "Start Mods"

- Click "Learn To Play" and "Structure Tree" to see the mod(s) implemented.

2 Units

2.1 Population costs

- 0: fauna, catafalques, ships

- 1: infantry, women, healers, traders

- 2: camelry, cavalry

- 3: worker elephants

- 4: bigae, battering rams, bolt shooters, stone throwers

- 5: –

- 6: quadrigae, war elephants, siege towers

2.2 Counters

unit	new penalties	new bonuses	restricted
war dogs	–	–	Ships, Siege, Stru
infantry archers	0.5× vs Elephantry	–	–
infantry axe throwers	–	–	–
infantry crossbowmen	0.75× vs Elephantry	–	–
infantry longbowmen	0.5× vs Elephantry	–	–
infantry javelinists	–	–	–
infantry lead slingers	–	–	–
infantry stone slingers	–	–	–
infantry axemen	–	–	–
infantry hoplites	–	–	–
infantry longswordsmen	–	–	–
infantry macemen	–	–	–
infantry pikemen	–	–	–
infantry sabremen	–	–	–
infantry spearmen	–	–	–
infantry swordsmen	–	–	–
camel archers	0.5× vs Elephantry	–	–
camel javelinists	–	–	–
camel spearmen	0.5× vs Elephantry	–	–
cavalry archers	0.5× vs Elephantry	–	–
cavalry crossbowmen	0.75× vs Elephantry	–	–
cavalry javelinists	–	–	–
cavalry axemen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry lancers	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry macemen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry sabremen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry spearmen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
cavalry swordsmen	0.75× vs Camelry, 0.75× vs Chariotry, 0.5× vs Elephantry	–	–
biga archers	0.5× vs Elephantry	–	Ships, Siege, Stru
biga javelinists	–	–	Ships, Siege, Stru
quadriga archers	0.5× vs Elephantry	–	Ships, Siege, Stru
war elephants	–	–	–
bolt shooter	–	–	–
stone thrower	–	2.0× vs Ships	–
battering ram	–	2.0× vs Defensive	Organic
siege tower	–	–	–

2.3 Infantry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
infantry archer	1 (1)	30, 30, 0, 0, 0; 60 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	11.0 (9.9)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	0, 0, 5, 0 (0, 0, 6, −)	1000 (1000)	60 (72)	
infantry axe thrower	1 (1)	30, 30, 0, 0, 0; 40 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	11.0 (12.6)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	2, 6, 0, 0 (0, 0, 16, −)	1000 (1250)	15 (24)	
infantry crossbowman	1 (1)	30, 30, 0, 0, 0; 50 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	11.0 (9.9)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	0, 0, 5, 0 (0, 0, 6, −)	1000 (1000)	60 (72)	
infantry javelinist	1 (1)	30, 30, 0, 0, 0; 45 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	11.0 (12.6)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	0, 0, 12, 0 (0, 0, 16, −)	1000 (1250)	30 (24)	
infantry lead slinger	1 (1)	30, 30, 0, 0, 0; 75 (−, 50, 20, 0, 30; 10)	60/− (100/100)	75 (80)	11.0 (10.8)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	0, 0, 4, 0 (1, 0, 9.5, −)	1000 (1250)	75 (48)	
infantry longbowman	1 (1)	30, 30, 0, 0, 0; 55 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	11.0 (9.9)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	0, 0, 5, 0 (0, 0, 6, −)	1000 (1000)	60 (72)	
infantry stone slinger	1 (1)	30, 30, 0, 0, 10; 70 (−, 50, 20, 0, 30; 10)	60/− (100/100)	75 (80)	11.0 (10.8)	60 (50)	2, 2, 2, 2 (10, 1, 1, −)	6, 0, 0, 0 (1, 0, 9.5, −)	1000 (1250)	45 (48)	
infantry axeman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 40, 10, 0; 10)	60/− (100/100)	75 (80)	10.0 (9.45)	90 (100)	4, 4, 4, 4 (15, 5, 5, −)	2, 4, 0, 0 (0, 5.5, 0, −)	1000 (750)	3 (3.5)	
infantry hoplite	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	10.0 (8.55)	90 (100)	3, 5, 4, 4 (15, 5, 5, −)	0, 1, 0, 5 (0, 3.0, 2.5, −)	1000 (1000)	3 (4.5)	
infantry longswordsman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 40, 10, 0; 10)	60/− (100/100)	75 (80)	10.0 (9.45)	90 (100)	3, 5, 3, 5 (15, 5, 5, −)	0, 4, 0, 2 (0, 5.5, 0, −)	1000 (750)	3 (3.5)	
infantry maceman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 40, 10, 0; 10)	60/− (100/100)	75 (80)	10.0 (9.45)	90 (100)	4, 3, 4, 5 (15, 5, 5, −)	6, 0, 0, 0 (0, 5.5, 0, −)	1000 (750)	3 (3.5)	
infantry pikeman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	10.0 (7.2)	90 (100)	5, 3, 5, 3 (15, 10, 10, −)	0, 0, 3, 3 (0, 1.0, 3.0, −)	1000 (2000)	6 (7.0)	
infantry sabreman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 40, 10, 0; 10)	60/− (100/100)	75 (80)	10.0 (9.45)	90 (100)	5, 4, 4, 3 (15, 5, 5, −)	0, 6, 0, 0 (0, 5.5, 0, −)	1000 (750)	3 (3.5)	
infantry spearman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 50, 0, 0; 10)	60/− (100/100)	75 (80)	10.0 (8.55)	90 (100)	3, 5, 4, 4 (15, 5, 5, −)	0, 0, 0, 6 (0, 3.0, 2.5, −)	1000 (1000)	3 (4.5)	
infantry swordsman	1 (1)	30, 30, 0, 0, 0; 30 (−, 50, 40, 10, 0; 10)	60/− (100/100)	75 (80)	10.0 (9.45)	90 (100)	4, 4, 4, 4 (15, 5, 5, −)	0, 3, 0, 3 (0, 5.5, 0, −)	1000 (750)	3 (3.5)	

2.4 Camelry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
camel archer	2 (1)	50, 75, 0, 0, 0; 75 (−, 100, 50, 0, 0; 15)	90/− (130/150)	85 (92)	18.0 (17.55)	110 (100)	1, 1, 1, 1 (15, 3, 1, −)	0, 0, 6, 0 (0, 0, 7, −)	1000 (1000)	68 (72)	
camel javelinist	2 (1)	50, 75, 0, 0, 0; 60 (−, 100, 50, 0, 0; 15)	90/− (130/150)	85 (92)	18.0 (17.55)	110 (100)	1, 1, 1, 1 (15, 3, 1, −)	0, 0, 15, 0 (0, 0, 18, −)	1000 (1250)	34 (28)	
camel spearman	2 (1)	50, 75, 0, 0, 0; 45 (−, 100, 50, 0, 0; 15)	90/− (130/150)	85 (92)	18.0 (19.305)	135 (160)	2, 2, 2, 2 (15, 4, 3, −)	0, 0, 0, 8 (0, 6, 5, −)	1000 (2000)	3 (4.5)	

2.5 Cavalry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
cavalry archer	2 (1)	60, 90, 0, 0, 0; 90 (−, 100, 50, 0, 0; 15)	120/− (130/150)	80 (92)	15.0 (17.55)	120 (100)	1, 1, 1, 1 (15, 3, 1, −)	0, 0, 6, 0 (0, 0, 7, −)	1000 (1000)	64 (72)	
cavalry crossbowman	2 (1)	60, 90, 0, 0, 0; 80 (−, 100, 50, 0, 0; 15)	120/− (130/150)	80 (92)	15.0 (17.55)	120 (100)	1, 1, 1, 1 (15, 3, 1, −)	0, 0, 9, 0 (0, 0, 7, −)	1000 (1000)	48 (72)	
cavalry javelinist	2 (1)	60, 90, 0, 0, 0; 75 (−, 100, 50, 0, 0; 15)	120/− (130/150)	80 (92)	15.0 (17.55)	120 (100)	1, 1, 1, 1 (15, 3, 1, −)	0, 0, 15, 0 (0, 0, 18, −)	1000 (1250)	32 (28)	
cavalry axeman	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 30, 20, 0; 15)	120/− (130/150)	80 (92)	15.0 (21.06)	150 (160)	3, 3, 3, 3 (15, 4, 2, −)	2, 6, 0, 0 (0, 6.5, 0, −)	1000 (750)	3 (3.5)	
cavalry lancer	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 50, 0, 0; 15)	120/− (130/150)	80 (92)	15.0 (19.305)	150 (160)	3, 3, 3, 3 (15, 4, 3, −)	1, 0, 0, 8 (0, 6, 5, −)	1000 (2000)	3 (4.5)	
cavalry maceman	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 30, 20, 0; 15)	120/− (130/150)	80 (92)	15.0 (21.06)	150 (160)	3, 3, 3, 3 (15, 4, 2, −)	7, 0, 0, 0 (0, 6.5, 0, −)	1000 (750)	3 (3.5)	
cavalry sabreman	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 30, 20, 0; 15)	120/− (130/150)	80 (92)	15.0 (21.06)	150 (160)	3, 3, 3, 3 (15, 4, 2, −)	0, 8, 0, 0 (0, 6.5, 0, −)	1000 (750)	3 (3.5)	
cavalry spearman	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 50, 0, 0; 15)	120/− (130/150)	80 (92)	15.0 (19.305)	150 (160)	3, 3, 3, 3 (15, 4, 3, −)	0, 0, 0, 9 (0, 6, 5, −)	1000 (2000)	3 (4.5)	
cavalry swordsman	2 (1)	60, 90, 0, 0, 0; 60 (−, 100, 30, 20, 0; 15)	120/− (130/150)	80 (92)	15.0 (21.06)	150 (160)	3, 3, 3, 3 (15, 4, 2, −)	0, 6, 0, 2 (0, 6.5, 0, −)	1000 (750)	3 (3.5)	

2.6 Chariotry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
biga archer	4 (1)	120, 180, 0, 0, 0; 75 (−, 250, 100, 100, 0; 30)	180/− (150/−)	85 (96)	16.0 (20.25)	240 (240)	5, 5, 5, 5 (20, 7, 5, −)	0, 0, 7, 0 (0, 0, 14, −)	1000 (1000)	72 (76)	arrow count: 1–2 (−)
biga javelinist	4 (1)	120, 180, 0, 0, 0; 75 (−, 250, 100, 100, 0; 30)	180/− (150/−)	85 (96)	16.0 (20.25)	240 (240)	5, 5, 5, 5 (20, 7, 5, −)	0, 0, 21, 0 (0, 0, 36, −)	1000 (1250)	36 (32)	arrow count: 1–2 (−)
quadriga archer	6 (1)	180, 300, 0, 0, 0; 75 (−, 250, 100, 100, 0; 30)	240/− (150/−)	85 (96)	17.0 (20.25)	360 (240)	6, 6, 6, 6 (20, 7, 5, −)	0, 0, 8, 0 (0, 0, 14, −)	1000 (1000)	72 (76)	arrow count: 1–2 (−)

2.7 Elephantry

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
war elephant	6 (3)	300, 300, 0, 0, 0; 90 (–, 250, 0, 250, 0; 30)	360/– (150/–)	90 (100)	12.0 (8.45)	600 (750)	20, 5, 15, 10 (25, 10, 10, –)	60, 0, 0, 0 (150, 20, 0, –)	1000 (1500)	6 (8)	

2.8 Dogs

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
war dog	0 (0)	0, 30, 0, 0, 0; 15 (–, 100, 0, 0, 0; 15)	15/– (100/100)	30 (30)	14.0 (14.40)	30 (90)	1, 1, 2, 1 (1, 1, 2, –)	0, 0, 6, 0 (0, 7, 2, –)	1000 (1000)	2 (3)	

2.9 Support

class	pop. size	training costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
woman (female citizen)	1 (1)	30, 30, 0, 0, 0; 60 (–, 50, 0, 0, 0; 8)	–/– (10/–)	60 (32)	9.0 (9.0)	45 (25)	1, 1, 1, 1 (1, 1, 1, –)	5, 0, 0, 0 (0, 2, 0, –)	1000 (1000)	15 (3)	build rate: – (1.0)
slave	1 (0)	50, 0, 0, 0, 0; 60 (–, 0, 0, 50, 0; 20)	–/– (10/–)	60 (12)	9.0 (9.0)	45 (100)	1, 1, 1, 1 (1, 1, 1, –)	– (–)	– (–)	– (–)	build rate: 0.5 (0.5)
healer	1 (1)	50, 30, 0, 0, 0; 60 (–, 250, 0, 0, 0; 8)	–/– (10/150)	60 (30)	9.0 (9.0)	75 (85)	1, 1, 1, 1 (1, 1, 1, –)	heal 1 HP (heal 5 HP)	500 (2000)	12 (12)	
trader	1 (1)	0, 50, 50, 50, 0; 60 (–, 100, 0, 80, 0; 15)	–/– (10/–)	60 (60)	9.0 (9.0)	100 (100)	1, 1, 1, 1 (1, 1, 1, –)	– (–)	– (–)	– (–)	trade gain: 0.75 (0.75)
worker elephant	3 (1)	0, 150, 0, 0, 0; 60 (–, 150, 0, 0, 0; 20)	–/– (50/–)	60 (50)	5.4 (5.4)	450 (300)	9, 3, 7, 5 (10, 5, 8, –)	– (–)	– (–)	– (–)	build rate: 2.0 (2.0)

2.10 Siege weapons

class	pop. size	construction costs (s, f, w, m, s; time)	exp. loot/up	vision range packed/unpacked	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
bolt shooter	4 (2)	0, 100, 150, 150, 0; 80 (–, 0, 250, 250, 0; 20)	–/– (200/–)	50/100 (120)	8.0 (8.1)	200 (200)	5, 1, 50, 2 (5, 1, 50, –)	0, 0, 100, 50 (25, 0, 150, –)	5000 (4000)	15–90 (26–80)	un/pack (ms): 9000 (10000) l. splash: – (5c+0h+75p)
stone thrower	4 (2)	0, 100, 200, 100, 0; 100 (–, 0, 400, 0, 250; 25)	–/– (300/–)	50/100 (120)	7.0 (7.2)	250 (250)	5, 1, 50, 2 (5, 1, 50, –)	100, 0, 0, 0 (100, 0, 10, –)	5000 (5000)	30–90 (26–80)	un/pack (ms): 12000 (10000) c. splash: – (35c+0h+15p)
battering ram	4 (3)	0, 100, 300, 100, 0; 40 (–, 0, 350, 200, 0; 30)	–/– (60/–)	40 (80)	6.0 (8.1)	400 (400)	5, 1, 50, 2 (5, 1, 50, –)	40, 0, 0, 0 (150, 0, 0, –)	1000 (1500)	6.5 (6.5)	garrison capacity: 8 (10)
siege tower	6 (3)	0, 200, 500, 300, 0; 180 (–, 0, 500, 300, 0; 60)	–/– (60/–)	100 (80)	4.0 (6.3)	750 (500)	5, 1, 50, 2 (5, 1, 50, –)	2, 0, 6, 0 (2.5, 0, 12, –)	1000 (2000)	10–60+10 (10–55+10)	garrison capacity: 20 (20) arrow count: 2–12 (0–10)

2.11 Ships

class	pop. size	construction costs (s, f, w, m, s; time)	exp. loot/up	vision range	walk speed	health	armour (c, h, p, t)	damage (c, h, p, t)	rate (ms)	range (m)	other stats
fishing boat	0 (1)	0, 15, 60, 0, 0; 20 (–, 0, 50, 0, 0; 20)	–/– (1/–)	75 (30)	12.0 (9.9)	150 (200)	2, 2, 4, 2 (2, 2, 5, –)	0, 0, 0, 10 (0, 10, 0, –)	1000 (1000)	5 (5)	garrison capacity: 1 (1) food capacity: 60 (40)
merchant ship	0 (1)	0, 30, 120, 60, 0; 40 (–, 0, 0, 100, 0; 20)	–/– (25/–)	90 (50)	11.0 (12.15)	600 (400)	3, 3, 6, 3 (2, 2, 5, –)	– (–)	– (–)	– (–)	garrison capacity: 15 (15) trade gain: 0.75 (0.75)
fireship	0 (1)	0, 0, 150, 0, 0; 15 (–, 0, 50, 0, 0; 30)	–/– (–/–)	60 (60)	13.0 (14.4)	450 (500)	4, 4, 8, 4 (5, 5, 10, –)	5, 5, 5, 5 (10, 10, 10, –)	100 (100)	10 (8)	regeneration: −5 (−6); death damage
barge (trireme)	0 (3)	0, 50, 250, 100, 0; 50 (–, 0, 150, 150, 0; 40)	–/– (100/–)	120 (90)	10.0 (14.58)	1800 (1600)	5, 5, 10, 5 (5, 5, 10, –)	0, 0, 5, 0 (0, 0, 35, –)	1000 (2000)	60 (55)	garrison capacity: 45 (40) arrow count: 0–20 (3–13)
huge barge (trireme)	0 (3)	0, 100, 400, 150, 0; 80 (–, 0, 150, 150, 0; 40)	–/– (100/–)	120 (90)	8.5 (14.58)	2700 (1600)	5, 5, 10, 5 (5, 5, 10, –)	0, 0, 5, 0 (0, 0, 35, –)	1000 (2000)	60 (55)	garrison capacity: 75 (40) arrow count: 0–30 (3–13)
triaconter (bireme)	0 (2)	0, 60, 60, 30, 0; 30 (–, 0, 125, 50, 0; 20)	–/– (75/–)	105 (90)	10.0 (13.95)	300 (800)	5, 5, 10, 5 (5, 5, 10, –)	0, 0, 6, 0 (0, 0, 35, –)	1000 (2000)	60 (45)	garrison capacity: 5 (20) arrow count: 1–3 (2–10)
penteconter (bireme)	0 (2)	0, 100, 100, 50, 0; 45 (–, 0, 125, 50, 0; 20)	–/– (75/–)	105 (90)	9.5 (13.95)	500 (800)	5, 5, 10, 5 (5, 5, 10, –)	0, 0, 6, 0 (0, 0, 35, –)	1000 (2000)	60 (45)	garrison capacity: 10 (20) arrow count: 1–5 (2–10)
trireme (trireme)	0 (3)	0, 300, 300, 150, 0; 60 (–, 0, 150, 150, 0; 25)	–/– (100/–)	100 (90)	8.5 (16.2)	1500 (1400)	6, 6, 12, 6 (5, 5, 10, –)	0, 0, 6, 0 (0, 0, 35, –)	1000 (2000)	60 (55)	garrison capacity: 20 (30) arrow count: 2–10 (3–13)
quadrireme (trireme)	0 (3)	0, 400, 400, 200, 0; 75 (–, 0, 150, 150, 0; 25)	–/– (100/–)	100 (90)	8.0 (16.2)	2000 (1400)	6, 6, 12, 6 (5, 5, 10, –)	0, 0, 6, 0 (0, 0, 35, –)	1000 (2000)	60 (55)	garrison capacity: 40 (30) arrow count: 4–20 (3–13)
quinquereme	0 (3)	0, 500, 500, 250, 0; 90 (–, 0, 350, 200, 350; 30)	–/– (150/–)	100 (110)	7.5 (16.2)	2500 (2000)	7, 7, 14, 7 (5, 5, 10, –)	0, 0, 6, 0 (100, 0, 10, –)	1000 (5000)	60 (10–72)	garrison capacity: 60 (50) arrow count: 6–30 (1–10)

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3 Structures

3.1 Civic

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
centre, crannog	0, 300, 300, 0, 0; 500	15	60, 60, 60, 0, 0; 250	3, 25, 35, 30	2500	20	3000	1/150/10000	100
(civil center)	(–, 0, 500, 500, 500; 500)	(20)	(–, 0, 200, 200, 200; 200)	(3, 25, 35, –)	(2500)	(20)	(3000)	(1/140/10000)	(90)
pillar	0, 0, 0, 100, 100; 100	0	0, 0, 0, 20, 20; 0	5, 25, 35, 30	–	–	1000	1/50/50000	50
(monument)	(–, 0, 0, 100, 100; 120)	(0)	(–, 0, 0, 25, 25; 0)	(3, 20, 30, –)	(–)	(–)	(1200)	(1/38/40000)	(60)
(pillar)	(–, 0, 0, 100, 100; 80)	(0)	(–, 0, 0, 25, 25; 0)	(3, 20, 30, –)	(–)	(–)	(1000)	(1/38/40000)	(40)
temple	0, 0, 100, 100, 300; 300	0	0, 0, 20, 20, 60; 0	5, 25, 35, 30	1000	20	2000	0/50/50000	50
	(–, 0, 0, 0, 300; 200)	(5)	(–, 0, 0, 50, 50; 0)	(3, 20, 30, –)	(500)	(20)	(2000)	(0/40/30000)	(40)
library	0, 0, 150, 150, 450; 400	0	0, 0, 30, 30, 90; 0	5, 25, 35, 30	1000	25	2500	0/50/50000	50
	(–, 0, 0, 200, 200; 200)	(0)	(–, 0, 0, 50, 50; 0)	(3, 20, 30, –)	(500)	(5)	(2000)	(0/50/40000)	(40)
lighthouse	0, 0, 200, 200, 600; 500	0	0, 0, 40, 40, 120; 0	5, 25, 35, 30	1000	(5)	3000	–	200
	(–, 0, 0, 200, 200; 200)	(0)	(–, 0, 0, 50, 50; 0)	(3, 20, 30, –)	(500)	(5)	(2000)	(0/0/40000)	(180)
theatre	0, 0, 300, 300, 900; 600	0	0, 0, 60, 60, 180; 0	5, 25, 35, 30	1000	(5)	4000	0/100/50000	50
	(–, 0, 0, 500, 500; 500)	(0)	(–, 0, 0, 125, 125; 0)	(3, 20, 30, –)	(500)	(5)	(2000)	(0/100/40000)	(40)
wonder	0, 0, 1000, 1000, 2000; 1200	0	400, 200, 200, 200, 200; 0	5, 25, 35, 30	3000	50	6000	1/100/65535	50
	(–, 1000, 1000, 1000, 1000; 1000)	(0)	(–, 300, 300, 300, 300; 300)	(3, 15, 25, –)	(2000)	(30)	(5000)	(1/100/65535)	(72)

3.2 Economic

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
field	0, 0, 100, 0, 0; 60	0	0, 0, 20, 0, 0; 0	5, 15, 40, 25	100	–	300	–	0
	(–, 0, 100, 0, 0; 50)	(0)	(–, 50, 0, 0, 0; 0)	(5, 15, 40, –)	(500)	(–)	(250)	(–)	(0)
corral	0, 0, 100, 0, 0; 30	0	0, 0, 20, 0, 0; 0	1, 5, 20, 10	300	3	500	–	30
	(–, 0, 100, 0, 0; 50)	(0)	(–, 25, 10, 0, 0; 0)	(1, 1, 20, –)	(500)	(–)	(500)	(0/20/30000)	(20)
storehouse	0, 0, 100, 0, 0; 40	0	0, 0, 20, 0, 0; 0	1, 5, 20, 10	300	4	700	–	30
	(–, 0, 100, 0, 0; 40)	(0)	(–, 0, 10, 0, 0; 0)	(1, 5, 20, –)	(300)	(–)	(800)	(0/20/30000)	(20)
farmstead	0, 0, 100, 0, 0; 50	0	0, 0, 20, 0, 0; 0	1, 5, 20, 10	300	5	900	–	30
	(–, 0, 100, 0, 0; 45)	(0)	(–, 100, 10, 0, 0; 0)	(1, 5, 20, –)	(300)	(–)	(900)	(0/20/30000)	(20)
small house	0, 0, 75, 0, 0; 25	5	0, 0, 15, 0, 0; 0	1, 5, 20, 10	200	3	600	–	30
	(–, 0, 75, 0, 0; 30)	(5)	(–, 0, 10, 0, 0; 0)	(3, 20, 30, –)	(300)	(3)	(800)	(0/16/65535)	(20)
big house	0, 0, 150, 0, 0; 45	10	0, 0, 30, 0, 0; 0	1, 5, 20, 10	400	6	1000	–	30
	(–, 0, 150, 0, 0; 50)	(10)	(–, 0, 20, 0, 0; 0)	(3, 20, 30, –)	(300)	(6)	(1200)	(0/20/40000)	(20)
dock	0, 0, 200, 0, 0; 150	0	0, 0, 40, 0, 0; 0	3, 20, 35, 10	500	5	1500	–	30
	(–, 0, 200, 0, 0; 150)	(5)	(–, 30, 30, 0, 0; 0)	(3, 20, 35, –)	(500)	(1)	(2500)	(–)	(40)
market	0, 0, 300, 0, 0; 120	0	0, 0, 60, 0, 0; 0	1, 5, 20, 10	500	10	1500	–	30
	(–, 0, 300, 0, 0; 150)	(0)	(–, 25, 25, 25, 25; 0)	(1, 5, 20, –)	(500)	(–)	(1500)	(0/40/30000)	(32)
rotary mill	0, 0, 200, 0, 100; 100	0	0, 0, 40, 0, 20; 0	3, 20, 30, 10	300	6	1500	–	30
	(–, 0, 200, 0, 100; 100)	(2)	(–, 50, 25, 0, 15; 0)	(3, 20, 30, –)	(500)	(–)	(2000)	(0/32/40000)	(40)

3.3 Military

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
blacksmith	0, 0, 200, 100, 0; 150	0	0, 0, 40, 20, 0; 0	3, 20, 40, 30	500	8	2000	0/40/40000	40
	(−, 0, 200, 0, 0; 200)	(0)	(−, 0, 50, 25, 0; 0)	(3, 20, 35, −)	(500)	(1)	(2000)	(0/38/30000)	(32)
embassy	0, 0, 200, 0, 0; 150	0	0, 0, 40, 0, 0; 0	3, 20, 40, 30	1000	6	2000	0/40/40000	40
	(−, 0, 100, 200, 100; 150)	(0)	(−, 0, 10, 0, 20; 0)	(3, 20, 30, −)	(500)	(6)	(2000)	(0/25/40000)	(24)
kennel	0, 50, 50, 0, 0; 50	0	0, 10, 10, 0, 0; 0	3, 20, 40, 30	250	5	500	0/20/40000	40
	(−, 0, 50, 200, 50; 50)	(0)	(−, 0, 10, 10, 0; 0)	(5, 10, 40, −)	(500)	(5)	(500)	(0/20/30000)	(40)
barracks	0, 100, 300, 0, 0; 150	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	15	2000	0/40/40000	40
	(−, 0, 300, 0, 0; 150)	(0)	(−, 0, 30, 0, 10; 0)	(3, 20, 35, −)	(500)	(10)	(2000)	(0/50/40000)	(32)
practice range	0, 100, 300, 0, 0; 150	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	10	2000	0/40/40000	40
	(−, 0, 300, 0, 0; 150)	(0)	(−, 0, 30, 0, 10; 0)	(3, 20, 35, −)	(500)	(10)	(2000)	(0/50/40000)	(32)
camel stables	0, 100, 300, 0, 0; 150	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	10	2000	0/40/40000	40
	(−, 0, 0, 0, 200; 150)	(0)	(−, 0, 30, 0, 10; 0)	(3, 20, 35, −)	(500)	(10)	(2000)	(0/50/40000)	(32)
cavalry stables	0, 100, 300, 0, 0; 150	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	10	2000	0/40/40000	40
	(−, 0, 0, 0, 200; 150)	(0)	(−, 0, 30, 0, 10; 0)	(3, 20, 35, −)	(500)	(10)	(2000)	(0/50/40000)	(32)
chariot stables	0, 100, 300, 0, 0; 200	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	5	2000	0/40/40000	40
	(−, 0, 0, 0, 200; 150)	(0)	(−, 0, 30, 0, 10; 0)	(3, 20, 35, −)	(500)	(10)	(2000)	(0/50/40000)	(32)
elephant stables	0, 100, 300, 0, 0; 250	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	5	2000	0/40/40000	40
	(−, 0, 0, 200, 200; 300)	(0)	(−, 0, 0, 50, 50; 0)	(3, 20, 35, −)	(500)	(5)	(3000)	(0/38/40000)	(40)
workshop	0, 100, 300, 0, 0; 200	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	2	2000	0/40/40000	40
	(−, 0, 300, 0, 0; 200)	(0)	(−, 0, 75, 0, 0; 0)	(3, 20, 35, −)	(500)	(2)	(2000)	(0/38/40000)	(40)
shipyard	0, 100, 300, 0, 0; 150	0	0, 20, 60, 0, 0; 0	3, 20, 40, 30	1000	5	2000	−	40
(dock)	(−, 0, 200, 0, 0; 150)	(5)	(−, 30, 30, 0, 0; 0)	(3, 20, 35, −)	(500)	(1)	(2500)	(−)	(40)
harbour	0, 100, 400, 100, 200; 500	0	0, 20, 80, 20, 40; 0	3, 20, 40, 30	2500	5	5000	1/200/25000	100
(super dock)	(−, 0, 300, 0, 200; 500)	(10)	(−, 0, 75, 50, 50; 0)	(3, 20, 35, −)	(2000)	(5)	(5000)	(1/200/25000)	(100)

3.4 Defensive

class	building costs (s, f, w, m, s; time)	pop. bonus	loot (s, f, w, m, s; exp)	armour (c, h, p, t)	capture points	garrison capacity	health	territory (root/radius/weight)	vision range
outpost	0, 0, 75, 0, 0; 30	0	0, 0, 15, 0, 0; 0	1, 5, 20, 10	500	1	750	–	80
	(–, 0, 80, 0, 0; 40)	(0)	(–, 0, 8, 0, 0; 100)	(1, 5, 20, –)	(500)	(1)	(800)	(–)	(80)
small tower	0, 50, 100, 0, 50; 90	0	0, 10, 20, 0, 0; 0	2, 20, 30, 25	500	3	1000	0/16/30000	80
(sentry tower)	(–, 0, 100, 0, 0; 40)	(0)	(–, 0, 20, 0, 0; 100)	(1, 20, 25, –)	(500)	(3)	(500)	(0/16/30000)	(80)
large tower	0, 50, 150, 0, 100; 150	0	0, 10, 30, 0, 20; 0	3, 25, 30, 30	500	5	1500	0/32/40000	80
(defense tower)	(–, 0, 100, 0, 100; 150)	(0)	(–, 0, 0, 0, 20; 100)	(3, 25, 30, –)	(500)	(5)	(1000)	(0/32/40000)	(80)
fortress	0, 200, 400, 100, 800; 600	0	0, 40, 80, 20, 160; 0	3, 25, 30, 30	4000	30	6000	1/100/40000	100
	(–, 0, 0, 0, 1000; 500)	(10)	(–, 0, 0, 0, 65; 100)	(6, 25, 40, –)	(4000)	(20)	(4200)	(0/100/40000)	(80)
palisade short	0, 0, 10, 0, 0; 5	0	0, 0, 2, 0, 0; 0	2, 4, 25, 10	500	–	400	–	10
	(–, 0, 4, 0, 0; 5)	(0)	(–, 0, 10, 0, 0; 100)	(2, 4, 25, –)	(1200)	(–)	(250)	(–)	(20)
palisade medium	0, 0, 20, 0, 0; 10	0	0, 0, 4, 0, 0; 0	2, 4, 25, 10	500	–	600	–	10
	(–, 0, 7, 0, 0; 8)	(0)	(–, 0, 10, 0, 0; 100)	(2, 4, 25, –)	(1200)	(–)	(500)	(–)	(20)
palisade long	0, 0, 30, 0, 0; 15	0	0, 0, 6, 0, 0; 0	2, 4, 25, 10	500	–	800	–	10
	(–, 0, 13, 0, 0; 11)	(0)	(–, 0, 10, 0, 0; 100)	(2, 4, 25, –)	(1200)	(–)	(750)	(–)	(20)
palisade gate	0, 0, +20, 0, 0; +5	0	0, 0, 10, 0, 0; 0	2, 4, 25, 10	500	–	1000	–	10
	(–, 0, +20, 0, 0; +5)	(0)	(–, 0, 10, 0, 0; 100)	(2, 4, 25, –)	(1200)	(–)	(637)	(–)	(20)
palisade tower	0, 0, 15, 0, 0; 12	0	0, 0, 3, 0, 0; 0	2, 4, 25, 10	500	–	500	–	10
	(–, 0, 5, 0, 0; 7)	(0)	(–, 0, 10, 0, 0; 100)	(2, 4, 25, –)	(1200)	(–)	(750)	(–)	(20)
siege wall short	0, 0, 30, 0, 0; 15	0	0, 0, 6, 0, 0; 0	5, 15, 35, 25	1000	1	1000	–	20
	(–, 0, 20, 0, 0; 15)	(0)	(–, 0, 15, 0, 0; 100)	(5, 15, 35, –)	(1200)	(–)	(750)	(–)	(20)
siege wall medium	0, 0, 60, 0, 0; 30	0	0, 0, 12, 0, 0; 0	5, 15, 35, 25	1000	3	1500	–	20
	(–, 0, 40, 0, 0; 30)	(0)	(–, 0, 15, 0, 0; 100)	(5, 15, 35, –)	(1200)	(3)	(1500)	(–)	(20)
siege wall long	0, 0, 90, 0, 0; 45	0	0, 0, 18, 0, 0; 0	5, 15, 35, 25	1000	5	2000	–	20
	(–, 0, 60, 0, 0; 45)	(0)	(–, 0, 15, 0, 0; 100)	(5, 15, 35, –)	(1200)	(5)	(2250)	(–)	(20)
siege wall gate	0, 0, +30, +30, 0; +15	0	0, 0, 24, 6, 0; 0	5, 15, 35, 25	1000	–	1700	–	20
	(–, 0, +80, 0, 0; +10)	(0)	(–, 0, 15, 0, 0; 100)	(5, 15, 35, –)	(1200)	(–)	(1912)	(–)	(20)
siege wall tower	0, 0, 120, 0, 0; 60	0	0, 0, 24, 0, 0; 0	5, 15, 35, 25	1000	2	2500	–	(60)
	(–, 0, 100, 0, 0; 80)	(0)	(–, 0, 15, 0, 0; 100)	(5, 15, 35, –)	(1200)	(2)	(3000)	(–)	(60)
city wall short	0, 0, 15, 0, 45; 30	0	0, 0, 3, 0, 9; 0	3, 25, 30, 30	1500	1	2000	0/20/65535	30
	(–, 0, 0, 0, 15; 15)	(0)	(–, 0, 0, 0, 15; 100)	(3, 25, 30, –)	(1200)	(–)	(1000)	(0/20/65535)	(20)
city wall medium	0, 0, 30, 0, 90; 45	0	0, 0, 6, 0, 18; 0	3, 25, 30, 30	1500	3	3000	0/20/65535	30
	(–, 0, 0, 0, 22; 30)	(0)	(–, 0, 0, 0, 15; 100)	(3, 25, 30, –)	(1200)	(3)	(2000)	(0/20/65535)	(20)
city wall long	0, 0, 45, 0, 135; 60	0	0, 0, 9, 0, 27; 0	3, 25, 30, 30	1500	5	4000	0/20/65535	30
	(–, 0, 0, 0, 28; 45)	(0)	(–, 0, 0, 0, 15; 100)	(3, 25, 30, –)	(1200)	(5)	(3000)	(0/20/65535)	(20)
city wall gate	0, 0, +30, +30, 0; +15	0	0, 0, 18, 6, 36; 0	3, 25, 30, 30	1500	–	3400	0/20/65535	30
	(–, 0, 0, 0, +60; +10)	(0)	(–, 0, 0, 0, 15; 100)	(3, 25, 30, –)	(1200)	(–)	(2550)	(0/20/65535)	(20)
city wall tower	0, 0, 60, 0, 180; 90	0	0, 0, 12, 0, 36; 0	3, 25, 30, 30	1500	2	5000	0/20/65535	(60)
	(–, 0, 0, 0, 90; 80)	(0)	(–, 0, 0, 0, 15; 100)	(3, 25, 30, –)	(1200)	(2)	(4000)	(0/20/65535)	(60)

4 Technologies

4.1 Civilization bonuses

All bonuses and penalties from the default distribution have been removed.

Celtic Architecture (Britons, Gauls): all structures −20% build time, −10% health; temples −50% stone cost, +100% wood cost.

Greek Architecture (Greeks, Macedonians, Seleucids): civic structures +20% health.

Egyptian Architecture (Kushites, Ptolemies): economic structures −75% wood cost, +100% build time; military structures −50% wood cost, +50% build time; fortresses +25% build time, +10% health.

Indian Architecture (Mauryas): city walls and temples 0 stone cost, +200% wood cost, −30% build time, −20% health.

Indian Training (Mauryas): elephants −20% training time.

Iberian Architecture (Iberians): centres −10% build time, −5% health; large towers +20% stone and wood costs, +10% build time, +30% health.

Persian Architecture (Persians): economic structures +20% health.

Persian Training (Persians): archers −20% training time.

Punic Architecture (Carthaginians): city walls +20% stone cost, +20% build time, +30% health; fortresses +10% stone cost, +10% build time, +20% health; markets −50% wood cost.

Punic Training (Carthaginians): traders −20% training time.

Roman Architecture (Romans): city walls +10% health; military structures −10% build time.

Roman Training (Romans): siege weapons −20% construction time.