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## THE CRISIS OF THE THIRD CENTURY AS VIEWED THROUGH THE PLANNING AND ENERGETICS OF THE AURELIAN WALL

**Abstract:** <https://camws.org/sites/default/files/meeting2020/abstracts/2201CrisisThirdCentury.pdf>

**Table 1: Volume Totals (m<sup>3</sup>)**

Volume of:	Brick	Slaked Lime	Quicklime	Tufo	Pozzolana	Travertine
<b>Foundations</b>	-	25,800	10,300	51,700	103,300	-
<b>Superstructure</b>	36,400	50,000	20,000	87,900	199,900	1,000
<b>Totals</b>	36,400	75,800	30,300	139,600	303,200	1,000

**Table 2: Production Cost Totals (p-h)**

	Brick	Slaked Lime	Quicklime	Tufo	Pozzolana	Travertine	Totals
<b>Foundations</b>	-	124,000	382,000	416,000	439,000	-	1,361,000
<b>Superstructure</b>	671,000	240,000	740,000	709,000	849,000	13,000	3,222,000
<b>Totals</b>	671,000	364,000	1,122,000	1,125,000	1,288,000	13,000	<b>4,583,000</b>

**Table 3: Total Labor Cost (p-h)**

	Foundations	Superstructure	Total
<b>Production</b>	1,361,000	3,222,000	4,583,000
<b>Transportation</b>	-	-	-
<b>Construction</b>	3,474,000	4,744,000	8,218,000
<b>Total</b>	4,835,000	7,966,000	<b>12,801,000</b>

**Table 4: Comparative Labor Costs in the Greco-Roman World**

Date	Project	Production (p-h)	Transport (p-h)	Construction (p-h)	Total
733 BCE onwards	A stone house in Syracuse	88	6	201	295
733 BCE onwards	A mud brick house in Syracuse	88	6	118	212
Within 599-552 BCE	Walls of Kamarina	402,000	29,000	801,000	1,232,000
Within 400-350 BCE	"Servian" Walls of Rome	26,062,000	7,424,000	11,917,000	45,403,000
From 212-217 CE	Baths of Caracalla	14,970,000	-	57,131,000	72,101,000
Starting 271 CE	Aurelian Wall	4,583,000	-	8,218,000	12,801,000

**Table 5: Relative Costs within each Project**

Date	Project	Production (% Total)	Transport (% Total)	Construction (% Total)
733 BCE onwards	A stone house in Syracuse	29.9%	2.2%	68.0%
733 BCE onwards	A mud brick house in Syracuse	41.5%	3.0%	55.5%
Within 599-552 BCE	Walls of Kamarina	32.6%	2.3%	65.0%
Within 400-350 BCE	"Servian" Walls of Rome	57.4%	16.4%	26.2%
From 212-217 CE	Baths of Caracalla	20.8%	-	79.2%
Starting 271 CE	Aurelian Wall	35.8%	-	64.2%

**John Malalas, Chronographia, XII**

ἦ μόνον δὲ βασιλευσεν, ἤρξατο τὰ τείχη Ἰώμης κτίζειν γενναῖα. ἦν γὰρ τῷ χρόνῳ φθαρέντα. αὐτὸς δὲ ἐφέστηκε τῷ ἔργῳ καὶ ἠνάγκαζε τὰ συνέργεια Ἰώμης ὑπουργεῖν τῷ κτίσματι, καὶ πληρώσας τὰ τείχη ἐν ὀλίγῳ πάνυ χρόνῳ, ἐποίησε θεία αὐτοῦ κέλευσιν ἵνα ἐξ ἐκείνου τοῦ χρόνου οἱ τῆς πόλεως πάσης ἐργαστηριακοὶ

**Ἀὐρηλιανοὶ χρηματίζουσιν.** τοῦ βασιλικοῦ ὀνόματος λαβόντες τὴν ἀξίαν ὑπὲρ τιμῆς καὶ κόπων

But once he had become Emperor, he began to make the walls of Rome excellent. For they were at that time ruined. But he set himself to the work and **compelled the collegia** of Rome to aid in the building, and after the walls had been completed in a very short time, he gave a sacred order that from that time on, the workmen of the whole city **bore the name Aurelian**. They received the name of the Emperor as the due for their compensation and weariness

-Richmond 1930 p. 28-9 (with personal emendations)

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