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The Movable Stage in Hellenistic Greek Theatres

New Documentation from Messene and Comparisons with Sparta and Megalopolis

Introduction

The present paper reports new survey results of the scenery storage room and stone lines in the Messene theatre and proposes a new reconstruction of the wheeled wooden stage construction as compared with other related examples from Sparta and Megalopolis.

Previous theatre scholars have accepted the point of view that the room modifying the *parodos* in the Hellenistic Greek theatre and the inner stone lines are related to some kind of theatrical device. The stone lines have been explained in connection with the *scaena ductilis* (a painted stage or a set of painted stage panels) appearing in ancient literature or the *pêgma* (movable background scenery)[1]. In this circumstance, excavations in 2007 in Messene revealed a room surrounded by walls and three grooved stone lines on the east *parodos* of the theatre[2]. Similar remains were found more than a hundred years ago in the theatres in Sparta and Megalopolis.

Previous studies have generally settled on the idea that the converted room on the *parodos* is a scenery storage room (*skanotheke*). However, the function of the stone lines has been a subject of controversy: some theorize that the stone lines serve as tracks for running a wheeled wooden stage construction, and others theorize that they are an installation for wooden background scenery panels[3]. No other remains related to those of Messene, Sparta, and Megalopolis are known, so the function of these stone lines must be inferred, to the extent possible, by comparing these three geographically close examples. However, it remains difficult to confirm whether the arguments in previous studies accurately reflect the condition of the ruins. This paper carefully examines the state of the three sites and their existing interpretations according to previous research, discusses these interpretations by comparing the sites, and proposes the appropriate reconstruction of the Messene theatre.

Theatre at Messene

The excavation of the Messene theatre carried out in 2007–2008 revealed three stone lines from the east *parodos*, which had been converted into a large

I would like to thank
Prof. Dr. V. M. Strocka for his careful reading of the manuscript.

1 *Scaena ductilis* is translated as either »painted stage building« or »series of painted scenery panels« with differing interpretations in meaning. Beachman 1995, 160–183; Waywell – Wilkes 1999, 449. 452.

2 Refer to the following article for the excavation report on the *parodos* stone lines and scenery storage room in the Messene theatre: Themelis 2009, 61–69 pls. 44–51.

3 Dinsmoor 1950, 307 f.; Buckler 1986.

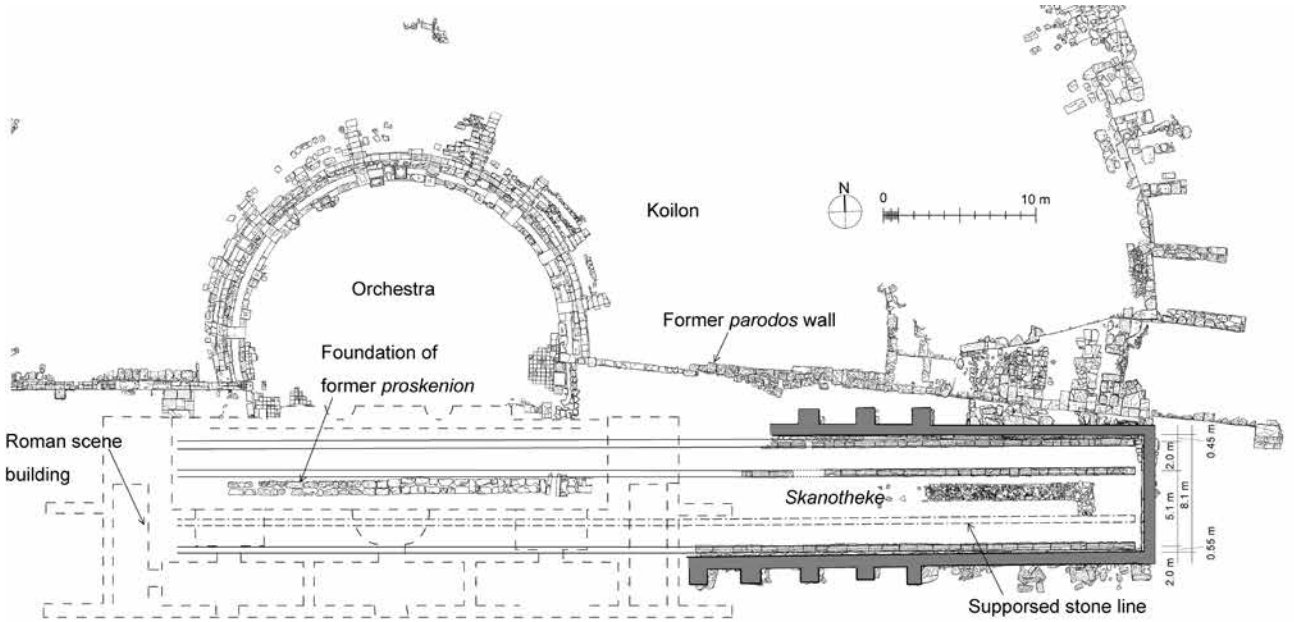

Fig. 1 Messene, plan of *skanotheke* of the theatre (scale 1 : 500)

room (Figs. 1. 2)[4]. Although no roof tiles stamped with *skanotheke* were reported, the excavator Themelis assessed that the east *parodos* room was for scenery storage[5]. The state of the remains of the scenery storage room was revealed in detail by field surveys performed by this author and the Architectural Team of Kumamoto University from 2008 to 2012[6]. The storage room has a 30.7 m inner length and 8.13 m inner width. The room's existing north face is 0.6 m thick with a 4.65 m height at its highest point. The east wall is highest at the northeast corner and is approx. 0.7 m thick at the top section. Except for the east end, only the foundation of the south wall remains. The buttresses are spaced approx. 3.2 m apart on the north and south walls. This spacing suggests that the scenery storage room was a self-supporting structure. This is similar to the storage rooms in Sparta and Megalopolis.

Inside the storage shed, three parallel grooved stone lines are level with the ground, and all have U-shaped channels on the top surface. The grooves on the front (north side) and middle stone lines are 1.98 m apart center-to-center, while the center groove and rear (south side) stone lines are 5.13 m apart center-to-center. There is a space of 0.55 m from the groove of the front stone line to the north wall, and 0.45 m from the groove of the rear stone line to the south wall. The grooved stone lines are made of limestone with lengths in the range of 0.9–1.2 m and a mean width of approx. 43 cm. Based on the reused blocks of the Roman scene building foundation, the stone block thickness is estimated to be approx. 24–25 cm thick, although measurements of the stone block thickness were not possible because the blocks were returned and backfilled after excavation. The grooves have shallow curved cross sections 9–12 cm wide and 3.8–5.4 cm deep. The differences in level in the east-west direction

4 The excavation reports of the Messene theatre: Themelis 1986; Themelis 1987; Themelis 1988; Themelis 1989; Themelis 1996; Themelis 1997; Themelis 1998; Themelis 1999; Themelis 2000; Themelis 2001; Themelis 2002; Themelis 2003; Themelis 2004; Themelis 2005; Themelis 2006; Themelis 2007; Themelis 2008; Themelis 2009; Themelis 2010a; Themelis 2010b; Themelis 2015.

5 Themelis 2009, 65 fig. 3.

6 The survey report on the Messene theatre conducted by the author and a research team on behalf of Kumamoto University refers to the following: Iwata et al. 2012; Yoshitake 2013a; Yoshitake 2013b.

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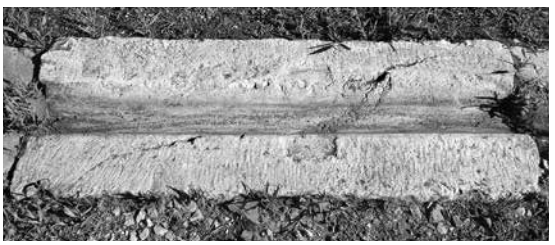

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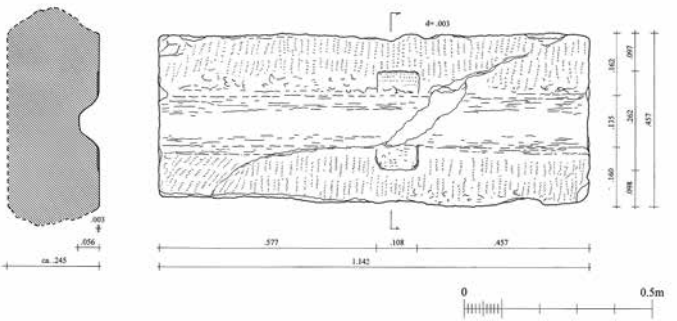

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Messene, *Skanotheke* of the theatre

Fig. 2 *Skanotheke* of east *parodos*

Figs. 3. 4 Detail of the central grooved stone line of the *skanotheke* (Fig. 4 scale 1 : 20)

of the three stone lines are ±4 mm for the front, ±2 mm for the middle, and ±1 mm for the southern stone line, and so show that the stone lines are almost completely level. Although none of these grooved blocks remain under the stage of the currently existing Roman period stage building (second half of 1st cent. A.D.), some of the blocks are reused in the platform of the *scaenae frons*. Only rubble stones can be seen under the grooved blocks, with the foundation that was observed in Sparta[7]. An interesting feature to note is that, although neighbouring blocks were not fixed together by iron clamps and the edges of the U-shaped channel are missing and rounded out, much wear is observed in the channel (Figs. 3. 4). Even chisel finishing remains on the top surface of the block and channel surface. Moreover, shallow-square dents can be observed on both sides of the channel of every block in the middle stone line only.

7 Themelis 2009, 63 pls. 44 α; 45 α.

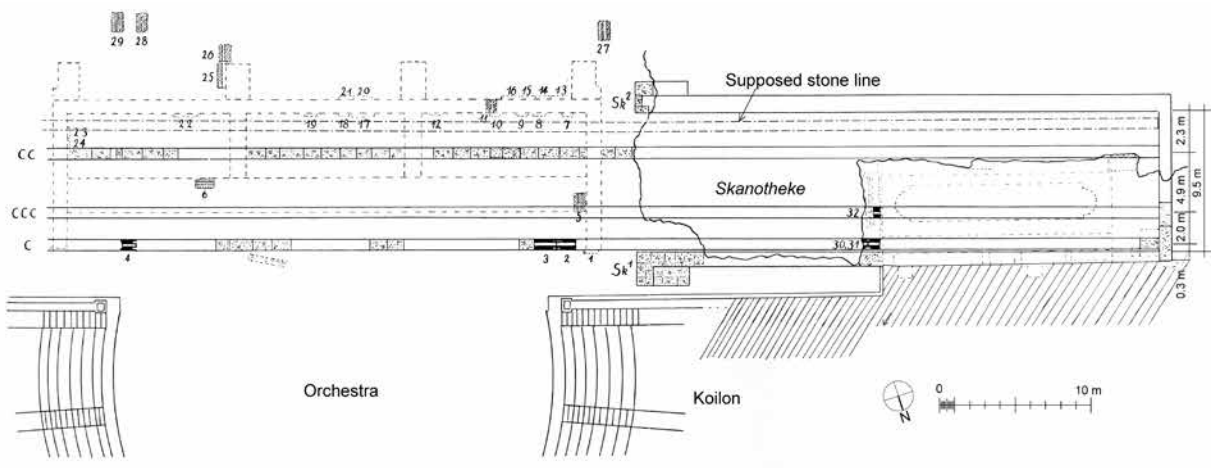


Fig. 5 Sparta, plan of the *skanotheke* of the theatre (scale 1 : 500)

Unlike Megalopolis, there are many common features in number and construction between the stone lines in Messene and Sparta. For this reason, Themelis believed that Bulle's wheeled stage theory could also be applied to Messene[8]. However, a major difference exists between the stone lines in Sparta and those in Messene. A comparison of the plans of both site shows that the third stone line from the *proskenion* in Sparta (CC–CC) is approx. 2.5 m away from the scenery storage room wall (Fig. 5), while the third stone line in Messene (southern stone line) is set along the wall of the scenery storage room (Fig. 1). Because it is clear that both stone lines in the theatres in Sparta and Messene have not completely retained the state when they were first constructed, sorting through the facts between the two sites in a complementary manner can provide insight for future hypotheses. That is, it may be hypothesized that there is an additional stone line in both theatres, although no remains are currently left, and the *proskenion* and *skene* each had wheeled stage devices supported by two wheels on a single shaft (supposed stone line: dash-dot line in Figs. 1 and 5).

Based on this hypothesis, the location of the currently non-existent stone line can be estimated. In Sparta, the scenery storage room is approx. 9.5 m wide and the first stone line from the front (C–C) is 0.3 m away from the north wall of the shed. If the fourth stone line is supposed to be located similarly along the wall on the south side, then the third stone line (CC–CC) and proposed fourth stone line should be approx. 2.0 m apart (Fig. 5). The fact that the interval between the newly estimated third and fourth (CC–CC) stone lines is the same as the interval between the first (C–C) and second (CCC–CCC) stone lines, at approx. 2.0 m, suggests the following: the interval is not coincidental, and the *proskenion* and *skene* were each provided with ›wheel tracks‹ having a standardized width of 2.0 m. Similarly, in Messene, since the interval between the first and second stone lines is approx. 2.0 m, another stone line with the same interval can be supposed to be on the north side of the third (southern stone line; Fig. 1). In this manner, it can be inferred that two stage devices corresponding to the *proskenion* and *skene* may have existed not only in Sparta but also in Messene, and each were driven by two wheels on a single shaft approx. 2 m wide. A two-wheeled uniaxial vehicle was a commonly used technology at the time, and in light of the fact that the tracks in the boat trackway of Isthmus near Corinth are 1.5 m wide, a vehicle width of approx. 2.0 m is of ordinary size and therefore entirely plausible[9].

8 Themelis 2005, 67 fig. 4; Themelis 2010, 23 fig. 18; Themelis 2015, 207 fig. 4.
9 White 1984, 127–140.

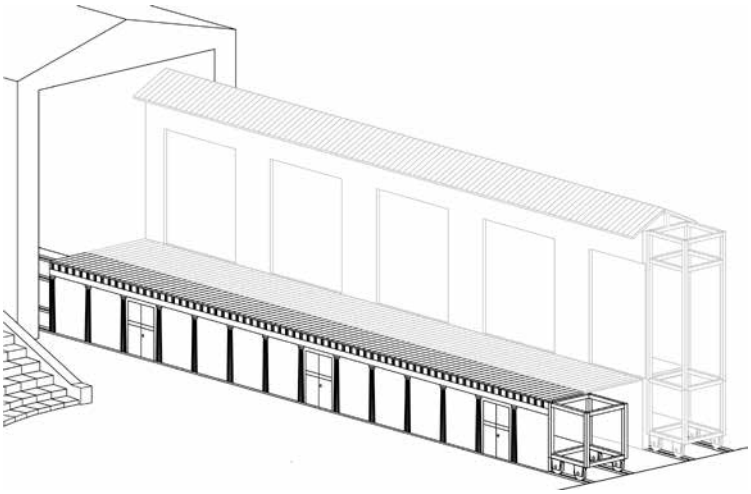


Fig. 6 Messene, reconstruction of the wheeled wooden *skene* of the theatre. The wooden stage building (front) is drawn by solid lines, and the hypothetical scene building (back) by gray lines (drawing by K. Oyama)

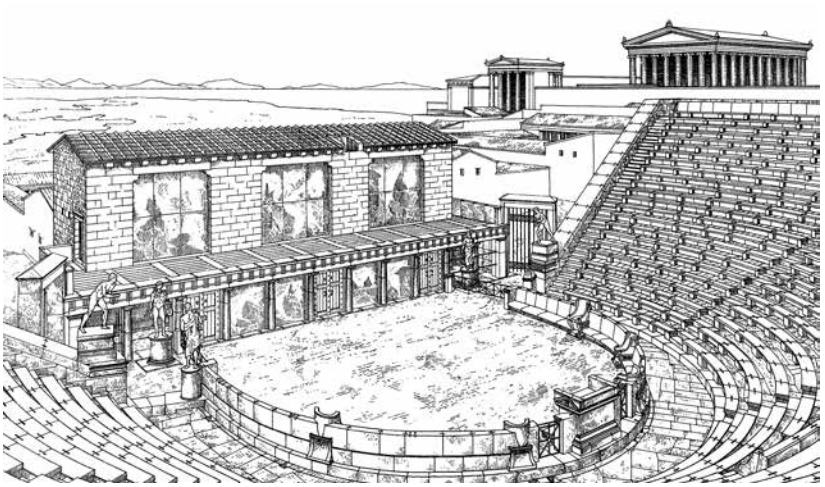


Fig. 7 Priene, reconstruction of the *skene* of the theatre (drawing by A. von Gerkan)

Based on the new assumption that there were four stone lines, a reconstruction drawing of the wheeled wooden stage construction in Messene is shown (Fig. 6). The length of the wooden *proskenion* and *skene* is 30.7 m, which is the same as that of the extant scenery storage room. The principal dimensions of the wooden *proskenion* are based on the stone *proskenion* of the Ekklesiasterion (or small theatre) in the Asklepieion complex, which is thought to be from roughly the same period (early 2nd cent. B.C.). Because the *proskenion* of the Ekklesiasterion in Messene had attached Doric half columns approx. 2.3 m high, the height of the *proskenion* is estimated to be approx. 2.8 m[10]. Accordingly, the wooden *proskenion* was assigned the same dimensions. The *proskenion* has a total of three doors, on the front, left, and right sides, and the entire length is partitioned into 15 spans, with 1 span = 1 column spacing at approx. 2.1 m center-to-center.

The height of the wooden *skene* is 8.5 m, in accordance with Bulle's theory, because the highest point of the wall of the scenery storage room remaining in the Messene theatre is 4.65 m, and no holes are present for beams at the wall surface or upper part of the stone wall. The shape of the wooden *skene* borrowed from the estimated *skene* reconstruction drawing of the theatre at Priene (1st half of the 3rd cent. B.C.), which is the most well-preserved stone *skene* of the era (Fig. 7)[11]. Roof tiles are a drawback because they add

10 Birtachas 2008, pls. 30–32. 73 A.
11 von Gerkan 1921, pl. 35.

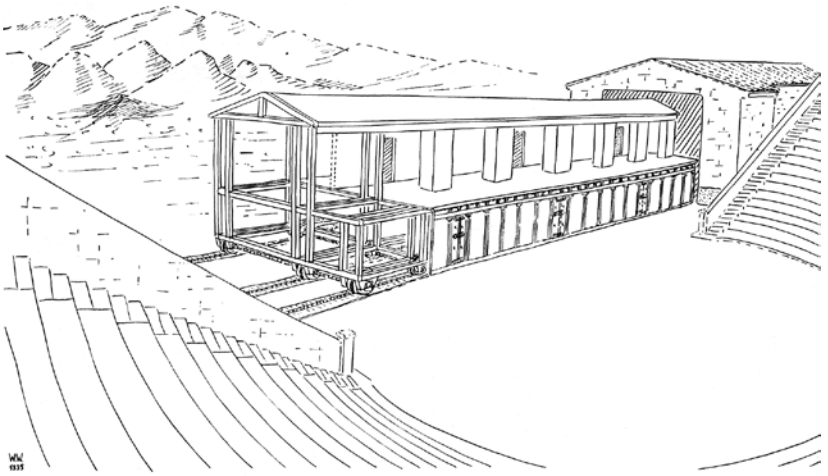


Fig. 8 Sparta, reconstruction of the wheeled wooden *skene* of the theatre (drawing by Weyhe for H. Bulle)

unnecessary load during movement, so the roof is possibly made of wooden boards[12]. Bulle's reconstruction in Sparta had protrusions from tubular wheels for insertion into the groove of the stone line (Fig. 8). The protrusions would cause friction and make motion difficult, even if sturdy. Hence, we followed the reconstruction drawing of the cargo deck for boats in the Isthmus near Corinth and equipped the contraption with a two-wheeled shaft, with wheels approx. 60 cm in diameter and 10 cm wide to run along the grooved tracks of the stone lines. It is likely that the wooden *proskenion* and *skene* were sectioned at intervals of suitable sizes and weights for easier transport. Therefore, we inferred that the *proskenion* and *skene* were each prepared as independent wooden stage constructions, and the *logeion* between the *proskenion* and *skene* was spanned by floorboards on the stage only at certain times. In this way, a gap of approx. 3 m between the wooden *proskenion* and *skene* would allow for the entrance of people and domestic animals when the wooden stage needed to be moved into the scenery storage room.

If the use of tuff in stone line 2 in Megalopolis and the conglomerate in the stone lines in Sparta was intended to increase the durability of the tracks, then it would indeed be strange that limestone was used in Messene (Tab. 1). Since Mount Ithome was the acropolis as well as a producer of limestone, buildings in Messene are known to have used its limestone, and conglomerate stones were completely unknown[13]. Building materials in Hellenistic architecture were generally sourced locally[14], and it was only in the second half of the first century at the earliest that sourcing expensive stone blocks from remote areas, as practiced in ancient Rome, was conducted in mainland Greece[15]. Although the sources of the tuff in Megalopolis and the conglomerate in Sparta are still unclear, it is believed that they likely came from the outskirts of the city. Thus, the reason limestone was used for the stone lines in Messene is not directly related to durability, but rather, its use is simply the result of not being able to source suitable construction materials locally.

The grooved blocks in Sparta were bound to each other by iron clamps, while no traces of clamps were found in Messene (Tab. 1). Considering that fixing stone blocks with iron clamps or dowels is a common method of construction in ancient Greece[16], this absence of clamps in the stone lines in Messene cannot be overlooked. This absence presumably relates to the weight of the wooden movable stage. However, marks of long-term use through surface

12 Roof tiles discovered in the east *parodos* might have been probably belong to the roof of the storage building.
13 Frank 2007, 164–170.
14 Lauter 1987, 48–53.
15 The basalt shaft used in the *scaenae frons* (2nd half of the 1st cent. A.D.) of the Messene theatre was speculated to have come from Egypt, since mainland Greece does not produce basalt.
16 Dinsmoor 1950, 174–175.

City	Messene	Sparta	Megalopolis
Plan of *skanotheke* (on inside)	8.13 m × 30.7 m	9.5 m × 34 m	8.33 m × 34.70 m
Number of remaining stone lines (with groove)	3 lines (3)	3 lines (2)	2 lines (1)
Section of groove	U-shape	U-shape	V-shape
Material of stone line	Limestone	Conglomerate	Tuff
Lack of groove edge	Y	Y	NA
Wear of groove	Y	Y	NA
Foundation of stone line	Y (rubble stones)	Y (limestones)	NA
Estimated theatrical device	Uniaxial wheeled wooden stage and scene building	Uniaxial wheeled wooden stage and scene building	Painted panels
Date of use	Approx. the 1st cent. B.C.(?)	30 B.C. – A.D. 70	Approx. the end of the 3rd cent. B.C. (until 222 B.C.)

Tab. 1 Comparison of three *skanothekes*

wear of the grooves can be observed in Messene (Figs. 3. 4), as previously stated. This fact strongly indicate that wheeled stage devices may in all probability have actually been used in Messene.

Theatre at Sparta

The excavation of the Spartan theatre starting from 1910 through the 1920s produced numerous roof tiles marked with *skanotheke* around the west *parodos*[17]. Although only the foundation of the walls of the scenery storage room remains, the room's ground plan (approx. 9 m inner width × 34 m inner length) was generally defined by the British team of investigators (Fig. 5). Three grooved stone lines were confirmed at the stage and west *parodos*: stone lines C–C at the front; CCC–CCC at the middle; and CC–CC at the back. The overall length of the three stone lines was estimated to be approx. 68 m, which is roughly twice the length of the stage building during the Roman period (approx. 34 m). The center-to-center spacing of the grooves is approx. 2.0 m between C–C and CCC–CCC and 6.9 m between C–C and CC–CC. Moreover, the distance from the north wall of the scenery storage room to the groove of front stone line C–C is approx. 0.3 m. Of the three stone lines, only the front C–C and middle CCC–CCC have grooves. For the rear stone line CC–CC, only the poros foundation remained without the topmost surface of the stone line.

The grooved stone blocks were made from conglomerate stones 60 cm wide and 0.96–1.67 m long, and showed traces of being fixed to neighbouring stone blocks with pi-shaped iron clamps. The grooves are U-shaped with depths of about half of the width. The stone blocks are 26–31 cm thick

17 Tillyard 1906/1907, 191–196; Woodward 1928/1930, 226–231.

with grooves 14 cm wide and 6.5 cm deep at the front stone line C–C, and 47–50 cm thick with grooves 18 cm wide and 7 cm deep at the middle stone line CCC–CCC. The blocks at the middle stone line CCC–CCC are slightly larger than those at the front stone line C–C. There were no grooved blocks in the rear stone line CC–CC, and only 0.5 m thick limestone foundation blocks remained[18]. At the field survey conducted by the author in 2013, the surfaces of the grooved stone lines were worn such that the edges of the U-shaped grooves were rounded (Fig. 9)[19].

Although Woodward, the early excavator of the site, initially believed that the grooved stone lines were drainage gutters, Dörpfeld pointed out that they may have been connected to the painted stage scenery (*scaena ductilis*)[20]. In 1928, Bulle expanded on Dörpfeld's idea, and asserted that each of the three stone lines in Sparta corresponded to the *proskenion* wall (C–C) of the wooden stage building and the front (CCC–CCC) and rear walls (CC–CC) of the *skene*, and Bulle presented a reconstruction drawing of the wheeled wooden stage (Fig. 8)[21]. According to Bulle, the use of thick blocks at the middle (CCC–CCC) and rear (CC–CC) stone lines agrees with the proposal of a wheeled wooden stage with a heavier structure at the rear. Since ungrooved conglomerate blocks were found at the rear stone line (CC–CC), he believed that only the rear track used drum-shaped wheels without protrusions[22]. In 1986, Buckler pointed out that Bulle's theory did not agree with Woodward's excavation results[23], although this was contradicted by the excavation conducted by Waywell in 1992–1998[24]. The latest results from Sparta generally correspond to the three stone lines recently discovered in Messene. Waywell's excavation revealed three new stone lines from under the pool (Nymphaeum) in the west *parodos*. All of the stone lines were confirmed to be in their original positions (*in situ*) and on top of a step of poros stone foundation[25]. Based on these findings, Waywell again supported the wheeled wooden stage theory, and estimated the stage building to be 34 m long, at least 6.5 m wide, and, in agreement with Bulle, 9 m high (Fig. 8)[26].

The issue then is whether Bulle's wheeled wooden stage could actually move. Waywell asserted that this is quite possible, and cited as a similar example the boat trackway (*diolkos*) across the Isthmus near Corinth[27]. The Isthmus trackway is a stone paved road made to transport boats over the land that runs between the Saronic Gulf and Gulf of Corinth, which did not have a canal at the time[28]. The trackway had two tracks 22 cm wide, 8–10 cm deep, and approx. 1.5 m apart. It is believed that boats were mounted on a wheeled carriage for passage across this roadway in times of emergency such as war or bad

Fig. 9 Sparta, grooved stone of the theatre at Sparta. Stone 1 (front) and stone 2 (back) of CC

18 Waywell – Wilkes 1999, 449. Note that Bulle's actual measurement of the grooved blocks made from conglomerate stone were 0.58–0.745 m wide and 1.25–1.59 m long, Bulle 1937, 6 f.

19 Note that among all the grooved blocks, only those found inside the scenery storage room in the west *parodos* remain *in situ*.

20 Woodward 1925/1926, 148 n. 1.

21 Bulle 1928, 108–110.

22 Bulle 1937, 18–23. Weyhe, who made the reconstruction drawing of the theatre in Sparta under Bulle's direction, added rimmed wheels at the stone line on the south side (CC–CC), i. e., the rear wall position of the stage building.

23 Buckler 1986, 433–436.

24 If, as reported by Woodward, the poros stone foundation at the eastern end of the front stone line (C–C) is original and *in situ*, then the groove at the stone line (C–C) would lean at least 50 cm in the east-west direction. Hence, Bulle's proposed wheeled wooden stage could not move. (Buckler 1986, 436.) However, excavations carried out by Waywell et al. in 1992–1998 established that Woodward's report was incorrect to begin with, and that the poros stone foundation at the eastern end of the front stone line (C–C) was not original or *in situ*. (Waywell – Wilkes 1999, 442 n. 21; 450.) The surface of the grooved block (no. 4 of Fig. 5) on the eastern side of stone line (C–C) had a mere 14 mm difference in level with those of similarly grooved blocks at the west end, located approx. 48 m away.

25 Waywell – Wilkes 1999, 444.

26 Waywell 2002, 250 f.

27 Waywell 2002, 250 n. 30.

28 Werner 1997, figs. 11–15.

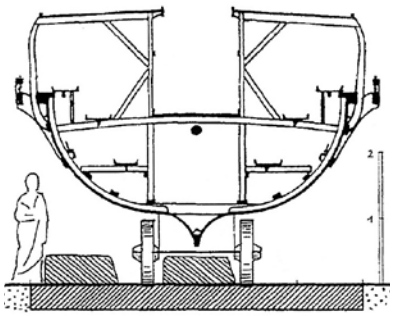


Fig. 10 Isthmus near Corinth, hypothetical reconstruction of a boat running on the *diolkos* (reconstructed by W. Werner)

weather (Fig. 10). Loaded Greek triremes were said to weigh approx. 27 tons; oarsmen disembarked from the vessel and presumably pulled the ship with the help of domestic animals[29].

By assuming that the material used for the wheeled wooden stage was cypress (0.38 kg/cm^3 specific weight), which was commonly used at the time, with a square shape of approx. 15 cm (about 1/2 foot) on each side, Bulle's wooden stage building can be calculated to have weighed 7.1 tons, with approx. a 290 kg load on each wheel. Since the excavations confirmed that the grooved stone lines in Sparta had foundations, weighty stage devices such as those in Bulle's theory can presumably be supported. However, there is still some speculation left on how the construction was moved. Although oxen pulled heavy loads in ancient Greece, they are not suitable for pushing loads[30]. Even if an ox could horizontally move a 500 kg cargo loaded on a wooden carriage of the time, the 7.1 ton wooden stage would need at least 15 oxen.

The biggest question, however, is whether a three-wheeled carriage on a single shaft is generally possible from the viewpoint of engineering knowledge. As far as the author knows, three-wheeled contraptions on a single shaft were not generally used at the time and are still not used in modern times. The cargo deck used in the trackway in the Isthmus near Corinth had two wheels on a shaft and was therefore effective. However, the wheeled wooden stage may have been made of a different kind of structure, as is discussed in the section on Messene.

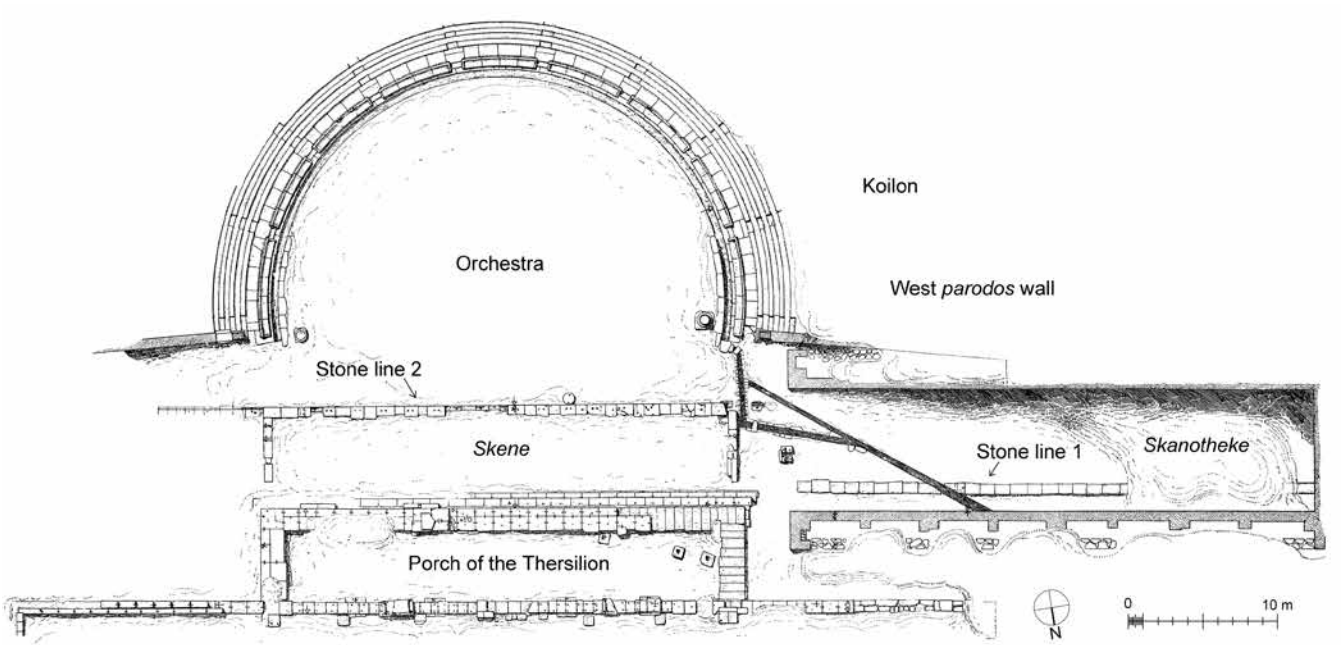
Although questions such as this still remain for Bulle's theory, there seems to be no doubt that a wheeled wooden stage was actually used for some time. The surface of the stone lines show wear from long-term use, with no traces of construction such as chiseled holes. Moreover, the stone blocks fixed together by clamps imply that they supported a heavy stage building. Waywell's interpretation of the well-pithos discovered on the corner of the scenery storage room as a container for wheel lubricant also supports the existence of a wheeled wooded stage[31].

Theatre at Megalopolis

The initial excavation of the Megalopolis theatre was carried out from 1890 to 1891[32]. In contrast to a typical theatre, there was a large hypostyle assembly hall (Thersilion) at the back of the theatre stage. The Thersilion left no space for the actor's greenroom and storage area for stage props that are generally found in theatres (Fig. 11). Thus, when a long room surrounded on three sides by walls and with the orchestra side open was discovered at the west *parodos* excavations, excavators believed that this was the storage space for the *skene*[33]. Moreover, the room in the west *parodos* and its surrounding area yielded countless roof tiles with the characters *skanotheke*, leading excavators to identify this room as a scenery storage room[34]. The scenery storage room in Megalopolis is of roughly the same scale as those discovered later in Sparta and Messene, with all of them having buttresses on the walls.

Although most of the scenery storage room was dug out during the excavations of the time, the floor surface of the *parodos* was still unobservable as of 2014[35]. Based on the plan, the length of the scenery storage room (8.33 m inner width × 34.70 m inner length) corresponds roughly to the length of the lowest platform level of the *proskenion* (34.25 m) in later periods (Fig. 11). Stone lines (stone line 1), which is made of poros stone, remain on the

29 Verdelis 1956; Verdelis 1958.
30 White 1984, 130.
31 The 87 cm diameter earthenware well-pithos was found at the northwest corner of the storage room between stone lines C–C and CCC–CCC. The top of the vessel is roughly the same level as the top surface of the stone lines. The vessel was assumed to be used for pouring lubricating oil on the stone grooves, since such earthenware were used for transporting olive oil at the time (Waywell – Wilkes 1999, 447–448 pl. 59 a).
32 Gardner – Loring 1892, 23–50. 69–100.
33 Gardner – Loring 1892, 45 f.
34 Gardner – Loring 1892, 90.
35 The *parodos* wall was finally excavated in 1961–1963. However, in the annual report on the excavation, Orlandos stated that there were no remarkable relics found in the excavation of the scenery storage room and ultimately did not analyze the excavated remains (Orlandos 1962). The eastern *parodos* wall collapsed after torrential rains in February 1996, and caused the scenery storage room to fill and be buried in earth (Lauter-Bufe – Lauter 2004, 144). The east *parodos* was eventually restored by the spring of 2002. However, it subsequently collapsed again under heavy rains (Karapanagiotou 1996).



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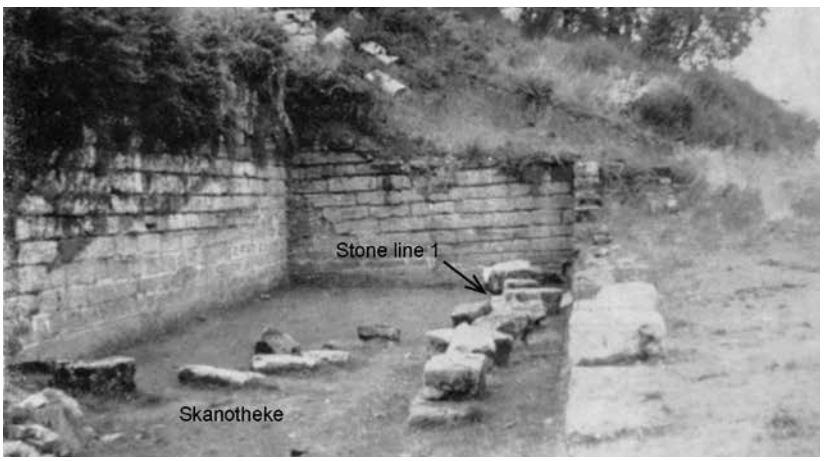

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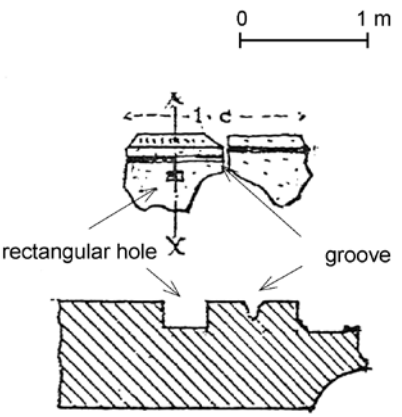

13

foundation at the location 1.2 m south of the north wall in the scenery storage room (Figs. 11. 12). Stone line 1 does not extend until the orchestra but breaks at the end of the *parodos*. Apart from this, stone line 2, which is made of tuff and has narrow grooves, on the top, remained under the stylobate of the *proskenion* in later periods, and partly extended near the vicinity of the east and west *parodos*. The groove of stone line 2 tapers toward the bottom of the cross section, with rectangular holes at 1.62 m intervals along the groove (Fig. 13).

Gardner and Loring, who were in charge of studying the building during the excavation, correctly interpreted that stone line 1 was part of the wall for storing the wooden stage construction, and that the gap between the buttressed north wall and stone line 1 was a passageway toward the scenery storage room[36]. Four years after publication of the excavation report, Dörpfeld offered a new interpretation of stone line 2; he suggested that the narrow groove at the top surface fixed the wooden background scenery panels (*pinakes*). According to Dörpfeld, the large rectangular holes spaced at 1.62 m intervals

Megalopolis, theatre

Fig. 11 Plan of the *skanotheke* (scale 1 : 500)

Fig. 12 *Skanotheke* in 1962

Fig. 13 Plan and section of the grooved stone (stone line 2)

36 Gardner – Loring 1892, 90.

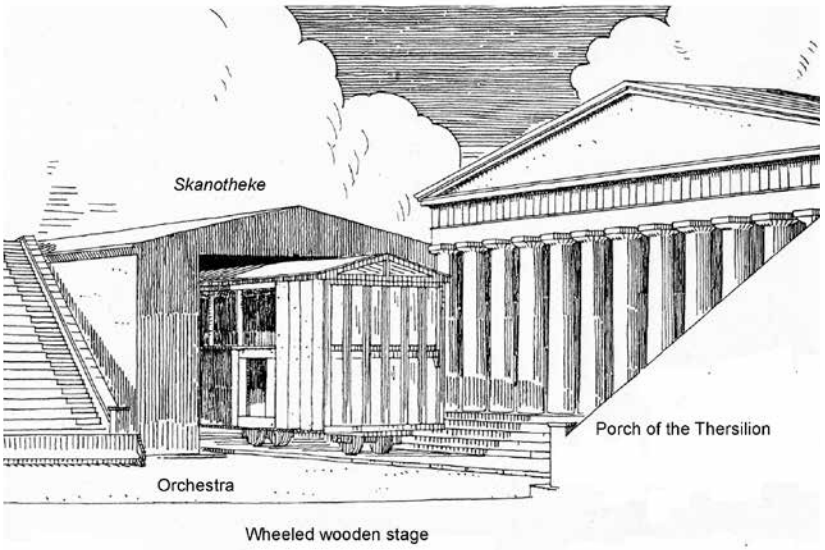

Fig. 14 Megalopolis, reconstruction of the wheeled wooden stage of the theatre (drawing by E. R. Fiechter)

were for inserting stilts to support the panels, such that wooden background scene panels with a width of approx. 1.6 m could be lined up in a row[37]. Since grooved stone lines such as those found in Messene and Sparta were not discovered around stone line 1 and its surrounding area in Megalopolis, Gardner and Loring's explanation remains a valid inference, even in light of current knowledge[38].

In 1928, Bulle asserted that stone lines 1 and 2 were paired tracks upon which the wooden stage constructions were moved. Bulle's wheeled wooden stage was composed of the following three sections: (a) a 2.7 m high and 3.0 m deep *proskenion* facing the orchestra; (b) a 4.0 m high and 2.0 m deep stage at the second story on top of the *logeion*; and (c) 2.1 m high scenery panels. Furthermore, based on the height of the portico of the assembly hall (9.0–9.5 m) and the state of the west *parodos* wall (maximum height of approx. 7.5 m), the height of the scenery storage room was estimated to be 8.5–10 m[39]. Bulle's theory was passed on through Fiechter's reconstruction drawing[40], and influenced later Greek theatre scholars (Fig. 14)[41].

In 1986, Buckler criticized Bulle's and Fiechter's wheeled wooden stage theory for not agreeing with the archaeological evidence and argued for a return to Dörpfeld's background scenery panel theory[42]. Buckler's point of contention was that there is no existing physical basis for Bulle's theory of a wheeled wooden stage, and that Fiechter's reconstruction drawing describes movement that seems impossible, as it did not include rims for wheels and other factors.

Although Buckler stopped at simply providing a critique of Bulle's theory, a comparison with Sparta and the recently discovered stone lines in Messene also supports the idea that a wheeled wooden stage was highly unlikely. The grooves left on the stone lines in Messene and Sparta are U-shaped, and are entirely different from the grooves at stone line 2 in Megalopolis. Furthermore, although the top face of the grooved stone lines in both Messene and Sparta were set at floor level, stone line 1 in Megalopolis was stacked higher than the *parodos* floor level and is clearly a part of the wall, as can be deduced from the survey drawings in the excavation report by Gardner and Loring[43]. Similarly, for stone line 2, the top face roughly corresponds to the bottom of the first step of the west *parodos* north wall. Hence, stone line 1 is part of a high wall built

37 Dörpfeld – Reisch 1896, 137 f.
38 Bulle 1928, 103.
39 Bulle 1928, 101.
40 Fiechter 1931, pl. 6.
41 Dinsmoor 1950, 210. 307 f.; Bieber 1961, 122. 217; Gebhard 1973, 74 n. 26.
42 Buckler 1986, 431–433.
43 Gardner – Loring 1892, pls. 9. 10. Based on the scenery storage room cross section, there are at least three stacks of stones remaining from the floor level at stone line 1. In contrast, stone line 2 is located directly under the first step of the *parodos* wall.

inside the scenery storage room and is entirely different from the grooved stone lines found in Messene and Sparta, while stone line 2 is clearly set on the floor surface and can be thought to have extended all the way inside the scenery storage room. Therefore, it is conceivable that, in Megalopolis, background scenery panels were used, with the room used for their storage[44]. As Gardner and Loring mentioned, the narrow space between stone line 1 and the north wall of the *skanotheke* might be a passage providing access from the backside of the *skene*; otherwise, it might be difficult for theatre staff to access the devices without showing themselves to the audience.

Conclusions

The discovered *skanotheke* and its grooved stone lines in the Messene theatre are tangible testimonies of the existence of movable stage construction, which has been a subject of controversy for many years. There is no doubt that the introduction of this theatrical machine to Hellenistic Greek theatres was exciting not only for ancient audiences but also for modern scholars, who have been interested in the historical development from Greek theatres to Roman theatres.

A remaining question is whether this kind of theatrical device has its origin in Greek heritage (such as the *ecclyclema* [the rolling machine]) or in Roman theatrical tradition (such as the *periaktoi* [the revolving machine]). In this context, more public archaeological findings are needed to allow estimation of the construction phases in both the Messene and Sparta theatres[45]. As far as the author knows, the movable stage of Greek theatres was discovered in Messene and Sparta only; however, it might be too early to argue that the movable stage was a regional Peloponnesian phenomenon.

44 Buckler 1986, 436, esp. n. 50. The background scenery panel theory also agrees with the interpretation of the *skanotheke* inscription discovered in Delos. According to Buckler, the letters for *skanotheke* were found, even though there were no buildings resembling a scenery storage room in the theatre in Delos, and thus *skanotheke* may not necessarily refer to a storage room building, but may possibly be a term used to mean a place for storing stage sets.

45 Recently, Spawforth advocated the Augustan dating of the Sparta theatre and explained the movable stage in connection with Roman theatrical devices. Nevertheless, the incorrect information that the *skanotheke* was constructed by burned brick and mortar lead to a doubtful dating. The walls of the *skanotheke* in Messene are made of cutting stone, Spawforth 2012, 121–130.

Abstract

Ryuichi Yoshitake, The Movable Stage in Hellenistic Greek Theatres. New Documentation from Messene and Comparisons with Sparta and Megalopolis

The present paper reports new survey results on the scenery storage room and stone lines in the Messene theatre and proposes a new reconstruction of the wheeled wooden stage construction as compared with other related examples from Sparta and Megalopolis. It is proposed that the wooden *proskenion* and *skene* were prepared to run on a track set on grooves 2 m wide in the Messene and Sparta theatres. The condition of the stone lines suggests that a wooden *skene* was used both at Messene and Sparta. The grooved stone lines under the later *proskenion* wall of the Megalopolis theatre might have been used for wooden scene panels.

Keywords
Messene • theatre • skanotheke • movable stage • reconstruction

Sources of illustrations
Fig. 1: Architectural Team of Kumamoto University with additional drawing by R. Yoshitake • Figs. 2–4. 9: R. Yoshitake • Fig. 5: Bulle 1937, pl. 3 • Fig. 6: K. Oyama, Graduate student of Kumamoto University • Fig. 7: von Gerkan 1921, pl. 35 • Fig. 8: Bulle 1937, 19, 1 (reconstructed by Weyhe) • Fig. 10: Werner 1997, 251 fig. 3 (permission by W. Werner) • Fig. 11: Lauter-Bufe – Lauter 2004, 137, 2 (permission by H. Lauter–Bufe) • Fig. 12: Orlandos 1962, 178, 207 (permission by the Archaeological Society at Athens) • Fig. 13: Gardner – Loring 1892, pl. 7, 3 • Fig. 14: Fiechter 1935/1936, pl. 6

Abbreviations

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