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The cover illustration depicts the theatre of Delphi.
Photo by R. Frederiksen, see p. 135, Fig. 1.

Typology of the Greek Theatre Building in Late Classical and Hellenistic Times¹

Rune
Frederiksen

Introduction

When we refer to the Greek theatre in the architectural sense with terms such as *Greek Theatre* or *Greek Theatre Building* we are referring to a complex and not to a building. In Greek antiquity the theatre did not develop into a harmonious architectural building,² a fact which is reflected in the traditional view that the developed theatre consisted, basically, of three separate elements: the koilon, the orchestra and the scene building.³ The koilon and the orchestra are, however, often treated to-

gether,⁴ which makes sense since, as suggested by E. Gebhard followed by F. Kolb, the design of the orchestra seems to be determined by that of the koilon.⁵ On this view the theatre is an architectural complex composed not of three but of *two* main elements: on the one hand the *koilon/orchestra* (hereafter referred to as *theatre building*) and on the other hand the *scene building*. This is not only a formal architectural point but a point rooted in chronology as well: the theatre building reached its fully developed form in the late Classical and Early Hellenistic periods, whereas

Fig. 1. The theatre at Delphoi from the W. Example of 2:1 relation between steps in stairway and rows of seats. (Photo: R. Frederiksen)





Fig. 2. The theatre at Aigeira from the E. Example of 1:1 relation between steps in stairway and rows of seats. (Photo: R. Frederiksen)

the development and perfection of the stone *skene* is a Hellenistic phenomenon.⁶ This study deals with the architecture of the theatre building—element of the complex: the canon of it and its different types of design.

As far as the architectural development of the theatre building is concerned, the theatres of Dionysos at Athens and of Epidauros are considered, with good reason, to constitute its culmination because of their architectural splendour and perfection.⁷ They have, moreover, attracted special attention on account of their unique state of preservation. The date of the important restructuring of the theatre of Dionysos, phase III between 350–325 BC, commonly referred to as the Lykourgan phase, seems firm.⁸ The date of the Epidauros theatre is more uncertain; but it was probably constructed in the early 3rd century, the *epitheatron* being added ca. 170 BC.⁹ Following the general idea that the theatre of Dionysos and the theatre of Epidauros played a leading role in the creation of the canon of the monumental theatre building, they are often referred to as models for the construction of other

theatres (treated below).¹⁰ No matter how central a role these two theatres played, an architectural canon definitely developed for the theatre building from around the time of their construction: the semicircular design.

Looking beyond the canon, the two key monuments in Athens and at Epidauros represent two different ways of planning the theatre building, including elements like the *euripos* and the *proedria*.¹¹ The theatre of Dionysos is often referred to by scholars as U or horseshoe shaped,¹² whereas the theatre of Epidauros is described as more-than-semicircular or symmetrically-rounded.¹³ The similarities in the form of the *koilon* (and to a lesser degree also of the scene building) between the Theatre of Dionysos and a number of other Greek theatres (e.g. Eretria phase II, Peiraieus-Zea and Segesta) were pointed out at the very dawn of research on the Greek theatre in Dörpfeld and Reisch, *Das Griechische Theater*.¹⁴ Later more buildings of similar form have been added, and it makes sense to define this group of theatre buildings as a distinct type (Fig. 4). Apart from the U-shaped type, Dörpfeld defined two other types in his discussion

of the Greek theatre according to Vitruvius (*De architectura*, 5.7).¹⁵ The observations of Dörpfeld were repeated and the types more clearly established by Dilke in his article: *The Greek Theatre Cavea*.¹⁶ These other two types are variations of the same basic idea, of what was called the more-than-semicircular koilon, where the koilon wings keep on bending around the orchestra at or around the point where they extend beyond 180°: the real more-than-semicircular type and the elliptical type (Figs. 3 & 5, treated in detail below).

In the general literature on Greek architecture as well as specialised works on the Greek theatre the distinction between these three types of theatre building or the descriptive terminology of them, is not always clear;¹⁷ sometimes precise terminology is used but not explained,¹⁸ and often distinctions are not made at all.¹⁹ The reason why the focus on the variations of the canon and what they constitute has been a rare undertaking, is probably that the variations are in fact conceived of as simply variations of basically the same monumen-

tal building rather than as individual types. It is proposed here to subject the problem to a more penetrating investigation in order to arrive at a clearer understanding of the variations or types. Such an endeavour is called for because the source material has expanded dramatically since the days of Dörpfeld, Dilke and Bieber. Of great importance is the giant work *Teatri Greci e Romani (TGR)* which appeared in 1994, and which presented a *Corpus Theatrorum Antiquorum* for the first time in the history of research on the Greek and Roman theatre. In one of the introductory articles²⁰ the total number of Greek theatres is given as 167, but if we adopt the approach used in the same work, the correct number is more likely to be somewhere on the other side of 200²¹ of which the majority date from the Hellenistic period. This study will consider only ruins preserved and studied well enough to enable us to draw conclusions as to their date and original design. This leaves us with some 98 theatres, which is in fact a very good sample of the ancient total. We do not have to fear too much that crucial

Fig. 3. Stylized version of canon (type B, semicircular). Inspired from Megalopolis. (R. Frederiksen)

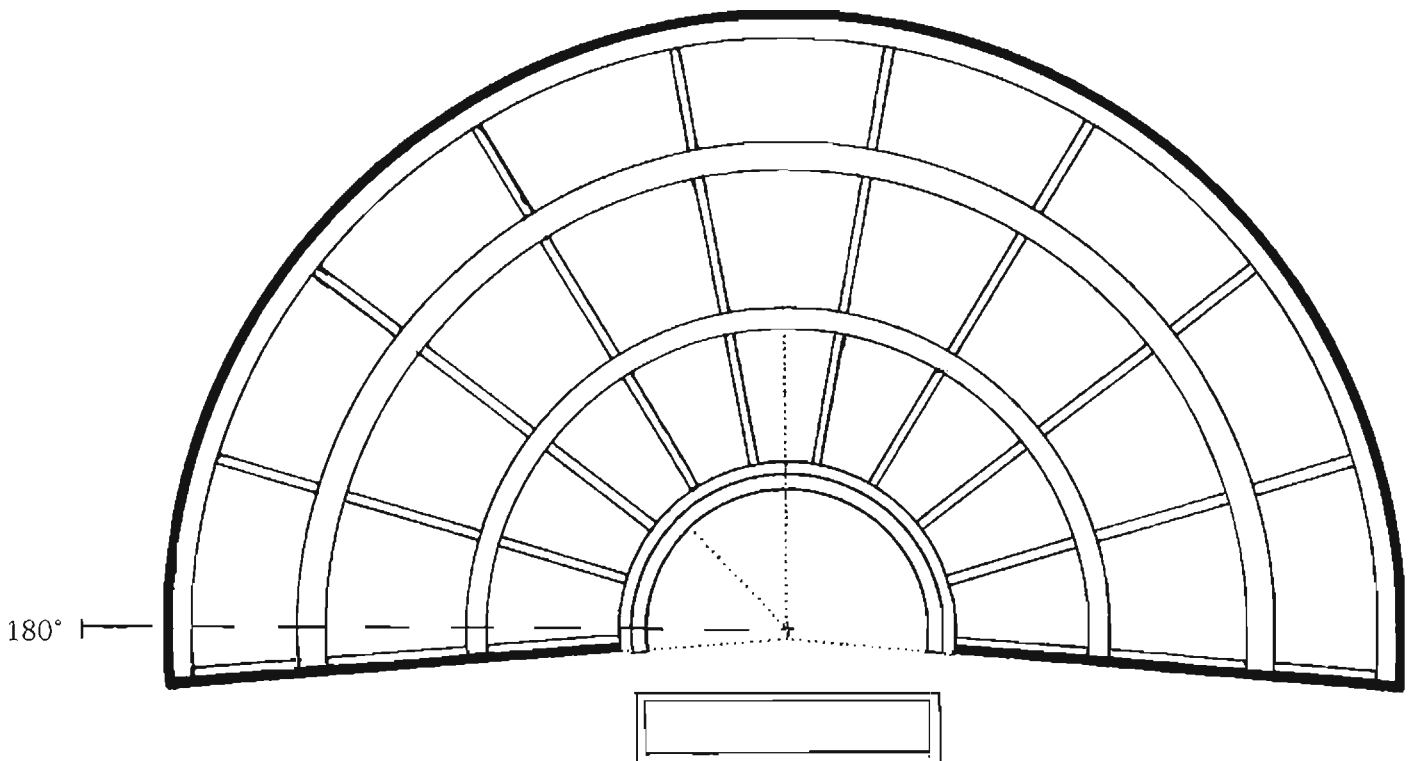


Fig. 4. Stylized version of type C (straight winged). Inspired from the theatre of Dionysos at Athens, the Lykourgan phase (Athens III). (R. Frederiksen)

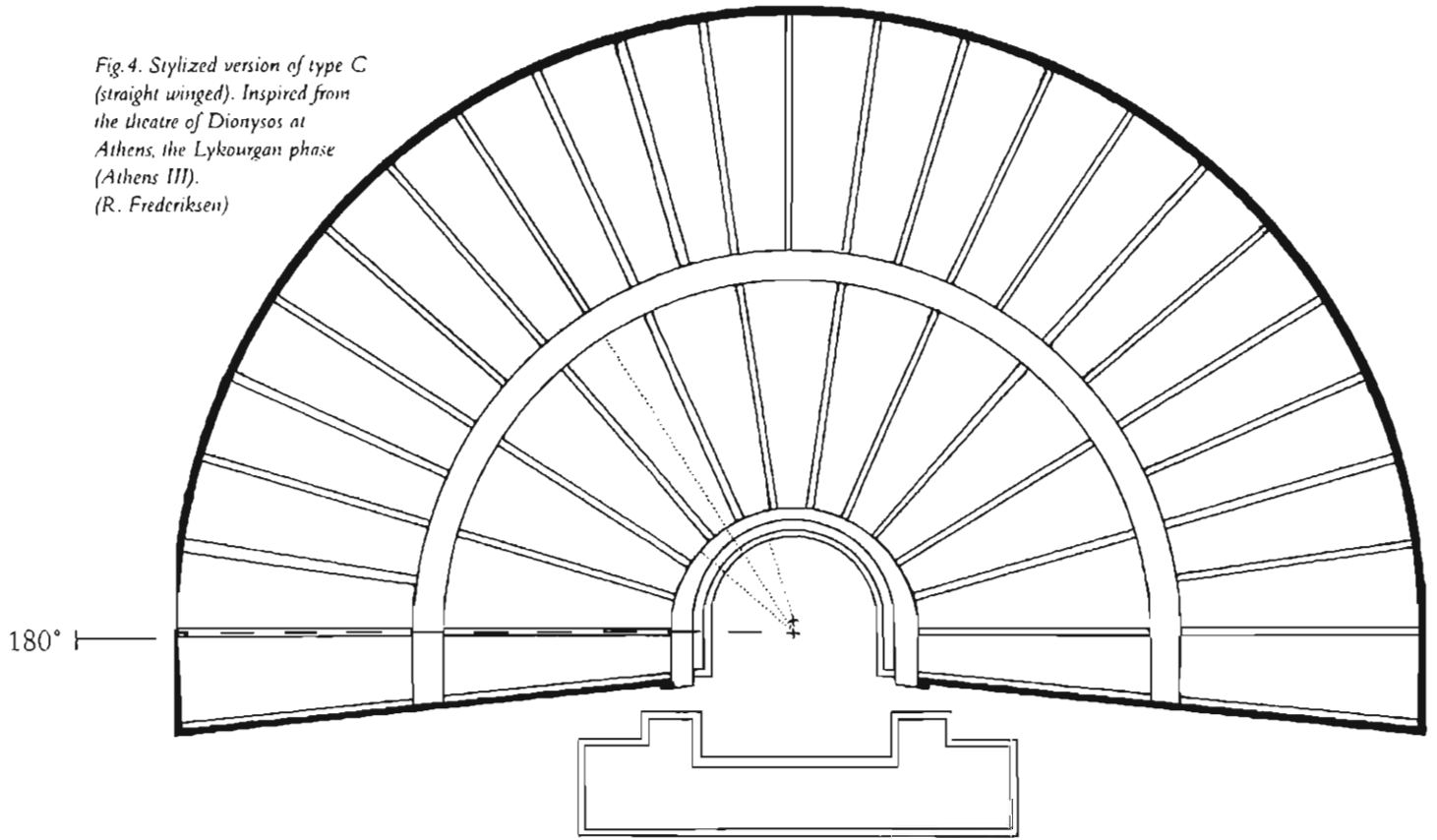
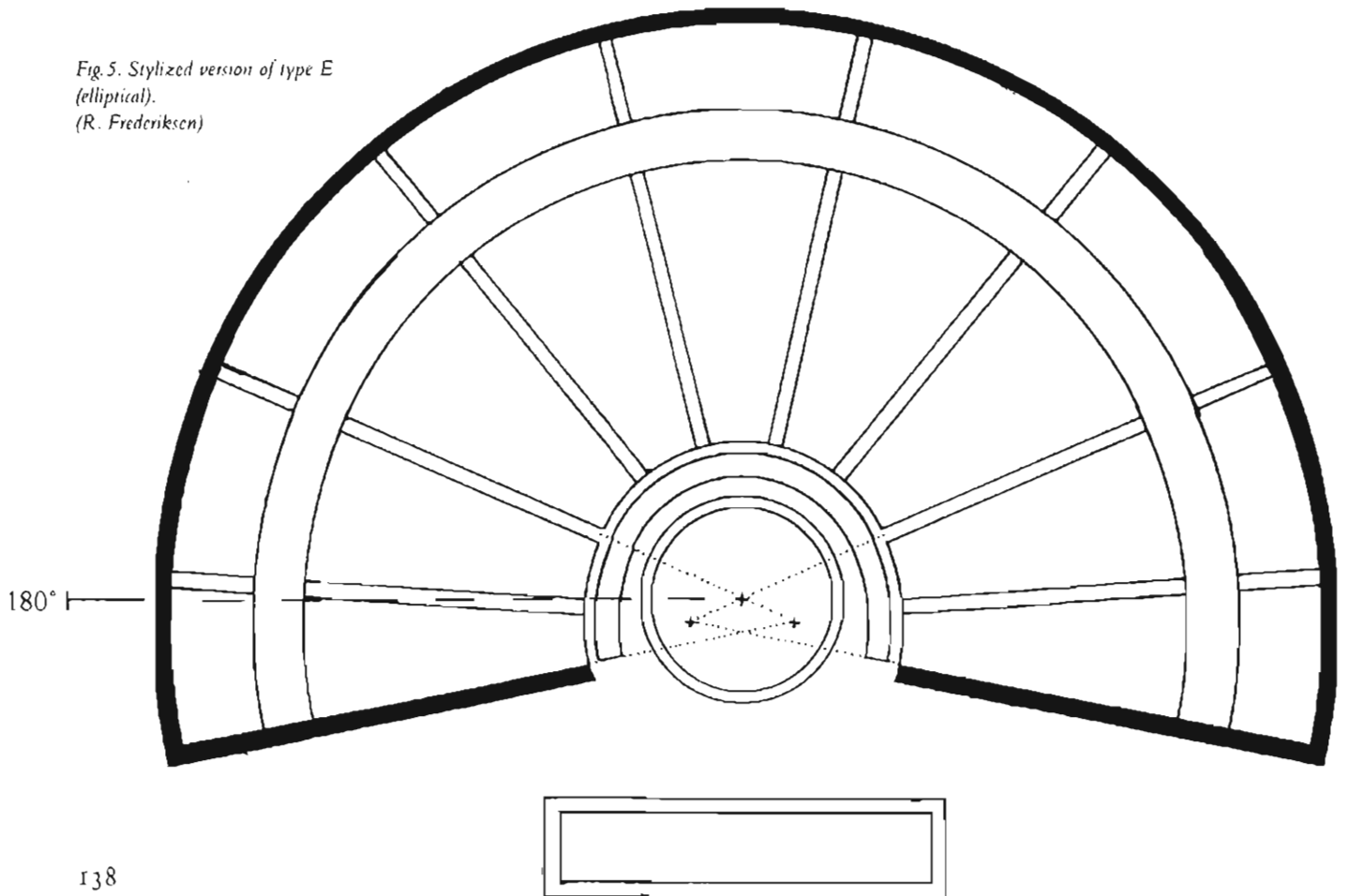


Fig. 5. Stylized version of type E (elliptical). (R. Frederiksen)



evidence is lost or hidden. The monuments are listed with references in an appendix (p. 167ff.).²²

After a brief outline of theatre typology before late Classical times I shall discuss the canon in general terms. Then the groups of monuments corresponding to the different types will be summed up, along with information on the level of detail, such as stairs and rows of seats, with focus on the theatre building. Finally it will be discussed to what extent the classification comprises a real typology, and possible explanations for the existence of these different architectural types will be considered. The focus on the need for classification is not, however, maintained blindly without respect for reality, since reality, as von Gerkan pointed out, offers hundreds of unique monuments: "Jedes der verschiedenen Theater ist durchaus Individuum und in seiner ihm eigentümlichen Form entworfen und gebaut worden".²³

Forerunners

The number of preserved Archaic buildings is low and the lack of similarities between them makes any architectural typology impossible.²⁴

The Classical period yields the first type of theatre building (A),²⁵ the theatres with linear rows of seats hewn out of the rock at *Argos I*, *Chaironeia I* and *Syrakousai I*. All three examples date, in all probability, to the 5th century BC.²⁶ From the 5th century we know of monumentalised phases also in e.g. the *theatre of Dionysos at Athens I-II*, *Eretria I*, *Isthmia I*, *Korinthos I*, *Metapontion III* and *Thorikos II*, but the evidence from these localities is either too poor or too varied to form the basis of any typology.

In the 4th century at least four new types of theatre were introduced, defined from the shape of the theatre-building, three of which continued in the Hellenistic period. The type that was not continued (type

D) is the small group of simple construction without a monumentalised koilon other than a straight proedria as the dominating element and supporting walls for the orchestra which was probably square (*Ikarion*, *Rhamnous* and *Tegea I*).²⁷ The other types (B, C, F and G) as well as the Hellenistic type (E) will be treated in detail below, but first their common features, the canon, must be dealt with.

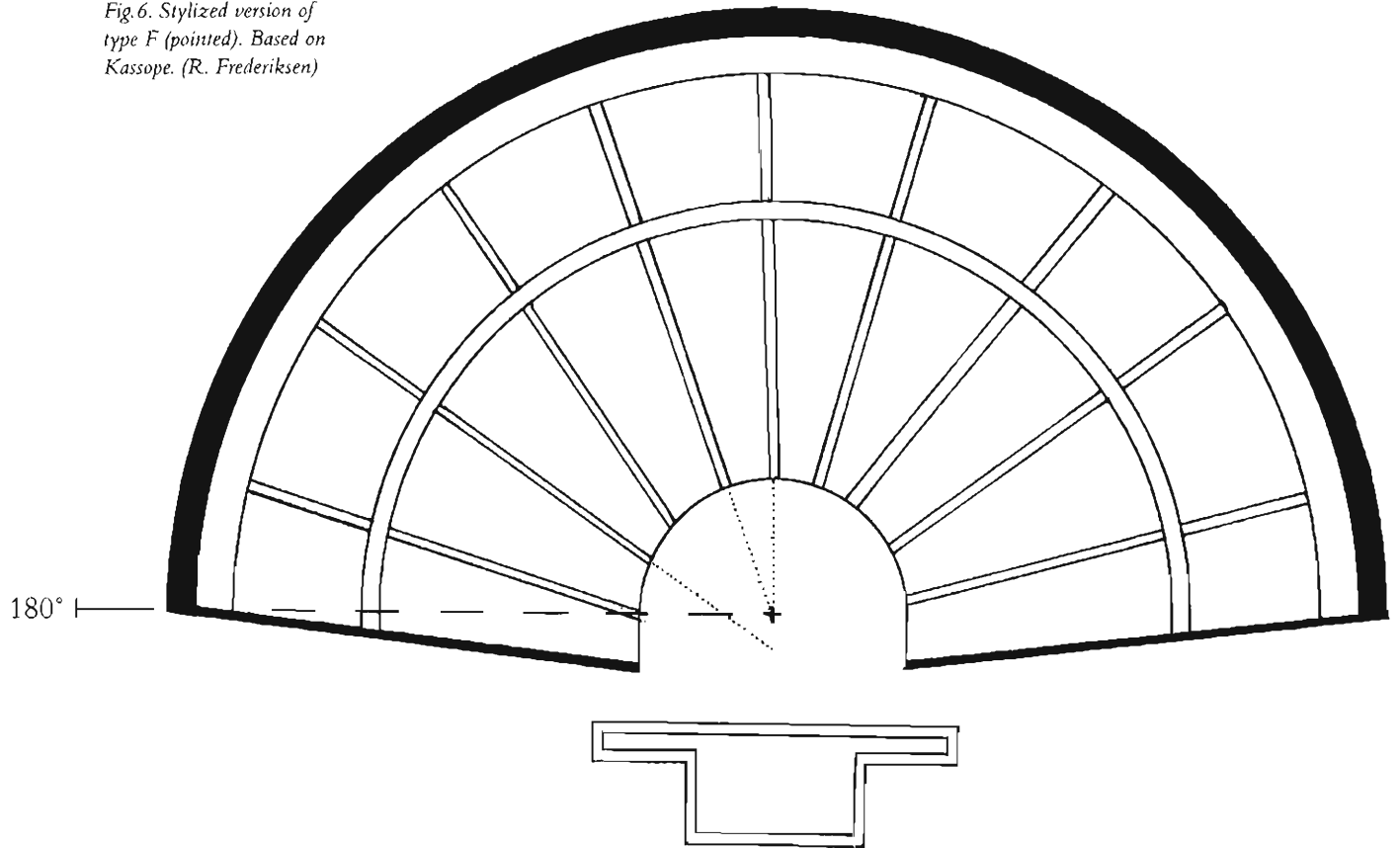
The Hellenistic Theatre

At the same time as the appearance of the developed and monumentalised theatre building there was a boom in the number of new theatres built and many of the old buildings were reconstructed, generally according to the new semicircular canon and,²⁸ more specifically as types, principally those already mentioned. The diffusion of the canonical theatre and its different designs took place practically all over the Greek world: more than 50% of the theatres included in this study were built in Greece proper, especially in the late 4th and 3rd century. Next Magna Graecia is an area with many theatres built down to the 2nd century, when Asia Minor took over as the area where most theatres were built. This picture of regional shifts in the intensity of building activity mirrors the general changes which took place within the Greek world from late Classical to late Hellenistic times.²⁹

Because of this increasing building activity, and because of the increasing preference for building in stone, we know far more about this period than about earlier periods. So we must accept the fact that a significant part of our knowledge about the architectural development through the Classical and early Hellenistic periods will remain inferior when compared to the period of the big boom.

The theatres were built primarily in or near the urban centres of cities and in major extra-urban sanctuaries, as in Classical times (exceptions to city locations are indicated individually in the appendix). The location was a slope of a hill in or close to the built-up areas.³⁰ Although all

Fig. 6. Stylized version of type F (pointed). Based on Kassope. (R. Frederiksen)



orientations are found, the standard orientation of the buildings seems to have been east and south,³¹ which is only natural, since the location of the cities themselves was often on the eastern and southern slopes of hills and mountains.³²

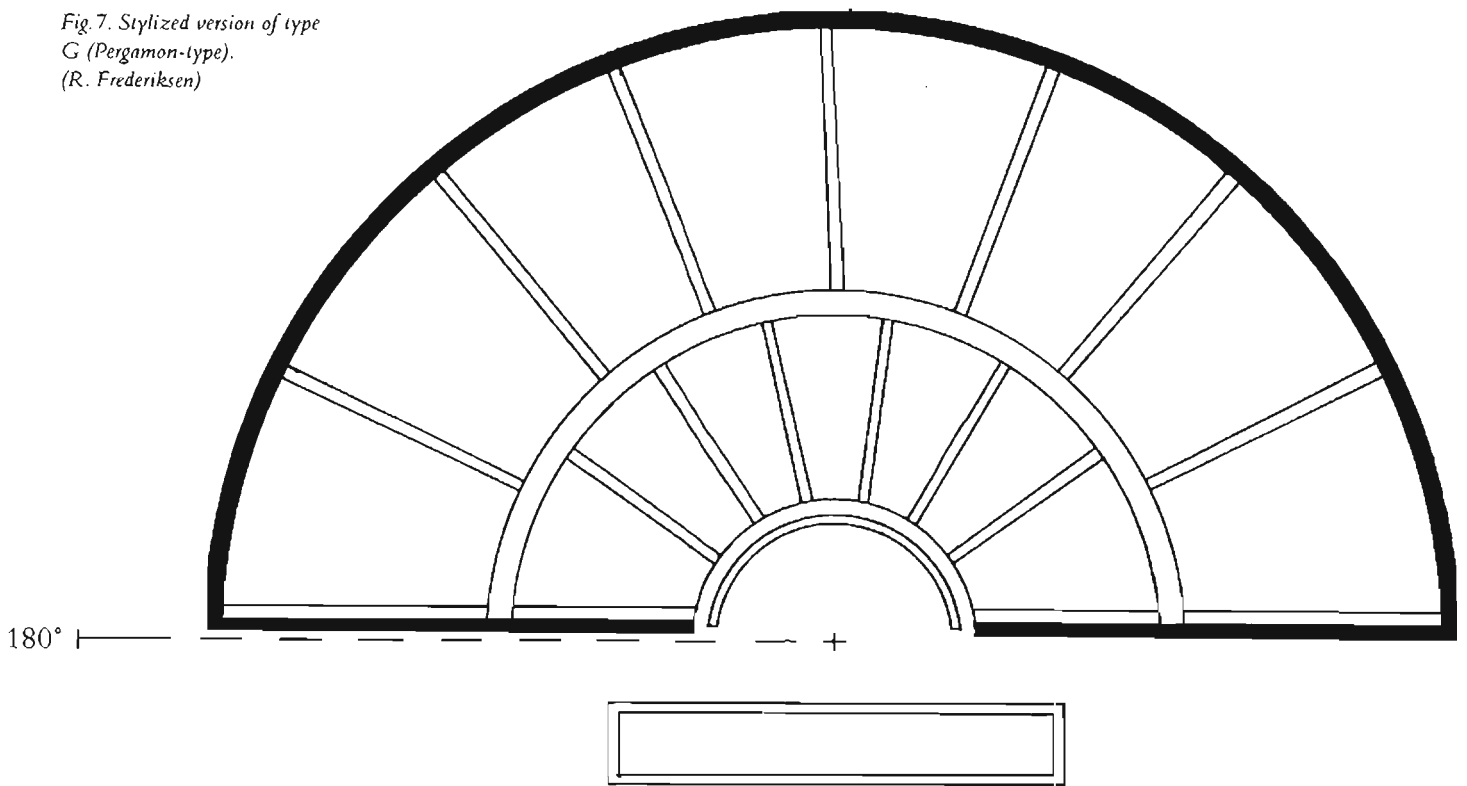
Koilon

The 'invention' of the monumentalised semicircular koilon is undoubtedly to be dated back to early Classical or perhaps even Archaic times. The dating of this innovation depends on the interpretation of Metapontion II, a structure admittedly not proved to resemble the later semicircular koila in detail, but still basically consisting of two semicircular, antithetically placed and sloping koila.³³ The existence of these koila makes it very unlikely that the semicircular design was invented just like that, be it Athens or anywhere else, about 150 years later. This observation corroborates other evidence for a gradual development of the canonical semicircular

design (see below p. 150). A parallel example of such gradual architectural development is the Greek temple where it is observed too that the basic layout of the building type is also established from the very beginning of the emergence of the monument, or at least from a very early point,³⁴ and around the core of which the canon gradually develops (more on the establishment of the canon below p. 149f.). Even though the canon of the theatre was established in late Classical times, it is correct to state that it was primarily a Hellenistic phenomenon,³⁵ because of the numbers of theatres in that period.

The development towards a canonical expression of the basic idea of the semicircular koilon is clearly the result of a growing popularity of the structure, documented both by the growing size of theatres and their increasing numbers. This again was rooted in the growing popularity of the activities that took place in the theatre

Fig. 7. Stylized version of type
G (Pergamon-type).
(R. Frederiksen)



and the growing population figures.³⁶ These developments required architectural structures that allowed as many people as possible to see and hear as well as possible.³⁷ A good indication of this relationship between shape and size is the fact that all the theatres that can be described as having an irregular, or at least *unique* shape, are to be found in the category of small theatres (e.g. *Chaironeia* II, 'Makyneia' in West Lokris, *Arkadian Orchomenos*, *Phleious* in the Argolid and *Trakhones* in Attika).³⁸ This is also the case with the Archaic and Classical theatre of *Thorikos* (I-III), the linear type A theatres of the 5th century and type D of the 4th century. The latest examples of theatres that do not follow the canon appear in the 3rd century BC. Later the canon takes over completely and thus there is both a broad chronological side to the canon, and a more firm side. So size definitely plays a role in the development towards the semicircular canon. Although no single tendency in respect of size is discernible and significant changing tendencies over time cannot, accordingly, be identified, it would pro-

bably be fair to say that the majority of buildings built during Hellenistic times are to be placed between the upper end of small and in the medium size category, which means that the monuments often have a diameter of between 50 and 70 metres (see note 38 for size categories).

A canonical semicircular koilon is normally designed as a segment between 180° and 210° of a circle (cf. Fig. 3),³⁹ and sometimes the entire koilon of a theatre building (rows of seats, stairways, *diazomata*, etc.) follows a single layout throughout, from the innermost rows near the *proedria* or *euripos* up to the surrounding *analemma* (e.g. *Antiphellos*, *Epidauros*, *Kasosope*, *Megalopolis* and *Oinoanda*). But a number of structures do not show such a consistency in the design, with the result that the typological focus has been on the orchestra and the area around the lowest tiers of the koilon in the works of e.g. Dörpfeld, Fiechter and Bieber.⁴⁰ Often such lack of consistency can be explained by the fact that a structure is built in a dense urban context, where important

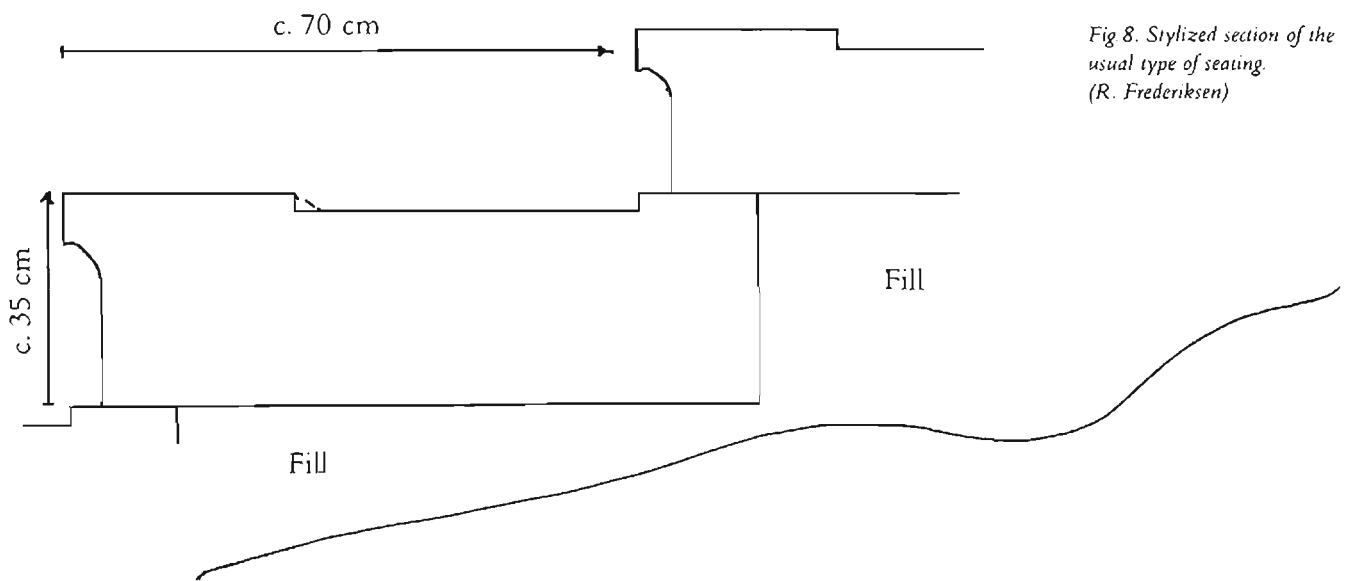


Fig 8. Stylized section of the usual type of seating. (R. Frederiksen)

adjacent buildings or building complexes might hinder the completion of the *epitheatron*, or some of it, that had been begun in the *ima cavea* (e.g. Athens III, Delphoi and Knidos 1).⁴¹ Other reasons for not completing a design could be local geomorphologic conditions as it is seen for instance at the theatre of Pergamon (treated below p. 155). In spite of the fact that the completion of a design from the centre to the periphery is not predominant among the known theatres, it is very likely that that design was perceived as the ideal, (*Epidauros* I-II is a good example),⁴² and that it was adhered to wherever possible. This is clearly the opinion of Dilke (1948) who hints more directly at the arrangement of the wings i.e. the *koilon*, when he discusses the different designs (below p. 149ff.).

The division of the *koilon* into horizontal sections and vertical *kerkides* is determined by the number of stairways and *diazomata*. Generally speaking, the number of sections and *kerkides* correspond to the size of the theatres so that large buildings have many and smaller ones fewer.⁴³ Most small theatres naturally have no *diazomata* and never more than one (i.e. two sections). But it is perhaps surprising that many of the medium-sized and even some of the large theatres show no sign of *diazomata*.⁴⁴ But, nevertheless, the tendency is clear since more than 50% in both groups have

two or three sections (e.g. Eretria II, Lokroi Epizephyrioi and Tyndaris), the percentage being the highest in the group of large theatres. The majority of theatres have an odd number of *kerkides* in the *ima cavea*.⁴⁵ Small ones have between 3 and 11, medium-sized and large theatres between 5-15 *kerkides*.⁴⁶ The average numbers in the three size categories are: 7, 8 and 10 *kerkides* in the *ima cavea*, proving that the number of *kerkides*, as expected, tends to grow with the size of the theatre. Commenting on the Greek Theatre of Vitruvius, which has 7 *kerkides*, Dilke both noted that this number is not more common than others, and that the number of *kerkides* in the *epitheatron*, in theatre buildings with more than one section, is normally twice the number of *kerkides* in the *ima cavea* (corresponding to Vitruvius' Greek theatre).⁴⁷ The number of *kerkides* in the *epitheatron* compared to the *ima cavea* is sometimes the same, or sometimes even less. The latter instances are by and large confined to theatres where the shape of the *ima cavea* is not continued in the *epitheatron*, often because of topographical circumstances.

The number of the flights of steps that separate the *kerkides* is very often one more than the number of *kerkides* due to the fact that the *koilon* is flanked at the end of the wings (at the *parodos* walls) by



Fig. 8b. The theatre of Dionysos at Athens from the S. Usual type of seating (re-erected section). (Photo: R. Frederiksen)

such a stairway (cf. Fig. 3). It sometimes happens, however, that the number is one fewer, meaning that the koilon ends in kerkides and not stairs. This is rare in buildings of medium or large dimensions, and accordingly corroborates the fact that

size determines the canon as well as prompts a higher degree of monumentality and elaboration. The stairs themselves are very often constructed of simple blocks. Two steps to one row of seats must have been considered the ideal of comfort, as the relation is the same almost everywhere (Fig. 1).⁴⁸ The depth and height of the individual steps of course varies with the sloping of the individual koila. Rare varieties are seen in *Eretria* II, where we find four steps per three rows of seats, and in *Aigeira*, *Athens* III, *Sikyon* and (possibly) *Peiraius-Zea*⁴⁹ where the relation is one to one (constructed with an individual sloping, see Fig. 2). Finally, the separations between the kerkides in a few theatres may be described as ramps (*Aigai* and *Elis*), that is, with no regular steps, in correspondence with the monumental



Fig. 8a. The theatre of Asklepios at Epidaurus from the NE. Usual type of seating. (Photo: R. Frederiksen)

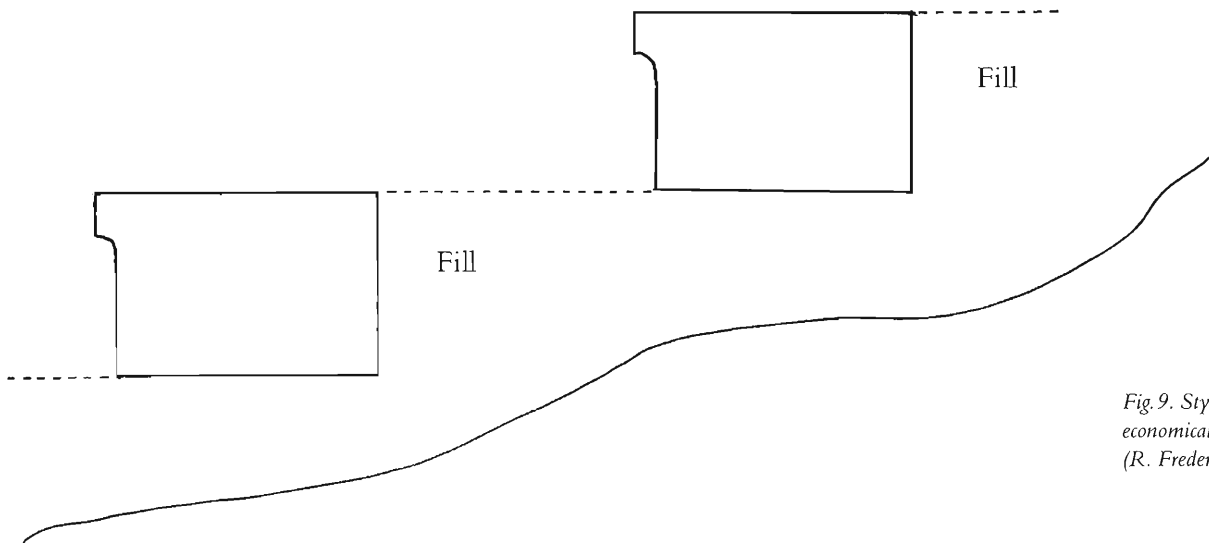


Fig.9. Stylized section of the economical type of seating. (R. Frederiksen)

poverty of the other elements of the koila at these two localities of which the former apparently had only one row of regular stone-seats, the latter none.⁵⁰

Another general characteristic of the Hellenistic theatre is the furnishing of stone

seats. A few theatres constructed in the late Classical and Hellenistic periods probably had wooden or partially wooden seats.⁵¹ The existence of wooden seats is often indicated negatively by the absence of blocks, but in general it is impossible to say with certainty whether this lack of

Fig.9a. The polis theatre of Epidauros (mod. Paleia Epidauros) from the W. Economical type of seating. (Photo: R. Frederiksen)



blocks is caused by later quarrying or whether it is in fact an indication of the use of perishable materials such as wood.

On the basis of construction or style, seats may be divided into several types.⁵² The average dimensions of those different types are the same: a depth around 70 cm and a height around 35 cm (cf. Fig. 8). Variations are great, especially in the Greek homeland, while dimensions, as far as the depth of the seats are concerned, are more fixed around 70 cm in Magna Graecia, with a few exceptions. That these dimensions are prevalent is very natural, as they fit the dimensions of the average sitting person; at the same time they control the sloping of the canonical theatres, which is, accordingly, always between 20 and 30 degrees (e.g. *Athens III*, 23°; *Epidauros I*, 27°; *Korinthos II*, 20°; *Megalopolis* 25°).

The usual type of seating (Figs. 8 & 8a,b) is used from late Classical and throughout the Hellenistic period.⁵³ This very common type possibly originated in

*Athens III*⁵⁴ and is used down to the 1st century BC (e.g. *Kibyra*). Characteristic of this mostly monolithic seating facility is a forward projecting fillet on the front and a recess for the feet, sometimes the fillet or the recess lacks. Dilke distinguishes between this type on the one hand and all other types on the other, which he lists under 'economical seating'.⁵⁵ This may be a reasonable way of dividing the material, but if the focus were functionalistic rather than on cost more examples could be added to the usual type. Sometimes the usual type is not monolithic but constructed of for example one type of stone for the seats and another for the footrest part or the footrest part may be just a fill of earth and rubble (Figs. 9 & 9a). But the basic idea is still that of the usual type: the recess and the fillet that provide space for the feet and a comfortable angle for the legs of the seated audience. These more economical versions of the usual type are more frequent in the 4th century than lat-

Fig. 10. The large theatre at Argos (2) from S. Simple type of seating.
(Photo: R. Frederiksen)



Fig. 10a. Detail of 10.
Measurement of depth.
(Photo: R. Frederiksen)



er.⁵⁶ Whatever the construction of the usual type I find that the fundamental stylistic alternative to it is the *simple type* (my expression) (Figs. 10 & 10a) which is just like a flight of steps, but with the same basic dimensions as the rows of seats of the usual type normally have. The simple type, naturally very common in rock-cut theatres, seems to be confined to Greece proper in the 4th and 3rd centuries and it is not very common among medium-sized and large theatres. Within the mixed *economical* group, Dilke count the seating of *Magnesia on the Maeander* and *Priene* which are quite alike, and to which we can compare the seating of *Boiotian Orchomenos*. It is a rare type of seating, which most probably is caused by the fact that its construction results in poor chances of preservation: stone plates resting on square blocks like benches, placed on rows of the simple type that actually work as a base for the benches. The stone plates and the blocks disappear easily, which makes it quite possible that in some theatres, where we have identified rock-cut rows of seats of the simple type, there were once seats of this economical type. To regard this small group as economical is not reasonable, since the plates used for seating in *Priene* were of marble. But of course in the majority of instances where types of the economical seating were combined with

earth, or constructed with a cheaper local stone, the term makes more sense (e.g. *Arkadian Orchomenos*, fig. 11).

The *proedria* is clearly identified in many theatres as a part of the *koilon*, but often at the same time as a separate section.⁵⁷ The basic type throughout the Hellenistic period consists of stone benches placed in front of every *kerkis* in the *ima cavea*, either replacing the first regular row of seats (e.g. *Argos 2*, *Korinthos II*, *Delos*, *Epidaurus* and *Boiotian Orchomenos*) or constructed as an independent section separated from the *koilon* proper by a gangway (e.g. *Herakleia Minoa*, *Iaitas*, *Megalopolis* and *Sikyon*). In both cases the *proedria* follows the overall design of the *koilon*. Often the *proedria* section is constructed of stone of a different quality, and often ornaments and profiles are carved, presenting highly varied decorations. An additional upper *proedria* of this type, in front of the *kerkides* of the *epitheatron*, comes to the fore in the 3rd and 2nd centuries BC, probably as a result of the general changes in drama which moved the focal point of event from the orchestra to the roof of the *proskenion*. This development obviously gave the spectators sitting in the upper part of the *koilon* a better view, and on that consideration it is only natural that such seats of honour, at least in part, were moved to



Fig. 11. Orchomenos (Arkadia) from the N. Economical plate-on-block seating combined with simple seating. (Photo: R. Frederiksen)

this area.⁵⁸ Proedria could, it seems, be as simple as just blocks or plates of a different kind of stone than the rest of the koilon, as for instance in *Pleuron*.⁵⁹

The sometimes elaborate stone thrones found in some theatres are interpreted as another type of proedria. This type may coexist with the benches just described, as for instance in *Arkadian Orchomenos*, *Priene* and *Stratos*, and it seems to consist of 3 to 5 individual stone thrones placed around the edge – but still clearly within the area – of the *orchestra* (e.g. *Ephesos*, *Oropos* II, *Priene* and *Stratos*).⁶⁰

Many theatre buildings were furnished with an euripos to lead rainwater from the koilon away from the area of the orchestra where it would otherwise have remained. It is accordingly always placed at the edge of the orchestra, but some buildings have additional euripoi along the diazomata, as Argos 2. Euripoi vary a lot in design and

construction, but from a basic point of view there existed two types.⁶¹ One is the wide, low and open type (e.g. *Epidauros* and *Eretria* II); the other the narrower, deeper and closed type (e.g. *Athens* III and *Korinthos* II). Here, as with the proedria, it is a general rule that the euripos follows the design of the koilon/orchestra. The well-built euripoi are mostly found in larger theatre buildings, where they were also most needed because of the larger amounts of rainwater collected by koila of such buildings.

Orchestra

The orchestra is undoubtedly the earliest architectural part of the theatre. But in architectural terms the orchestra remains insignificant and as a rule it is determined in form by the koilon.⁶² The first evidence for a circular orchestra is in 3rd century *Epidauros* I, and the evidence at all for circular orchestrai throughout the entire his-

tory of the Greek theatre is scarce. Apart from *Epidaurus* I, it is found in: *Argos* 2, *Korinthos* II⁶³ and *Stratos*.⁶⁴ The idea that a circular *orchestra* was an obligatory element of the fully developed theatre originates with Dörpfeld and the impact that this idea has had on later research may reasonably be called 'the Dörpfeld orthodoxy'.⁶⁵ No matter how one interprets the actual proofs of the circular orchestra, both of the Classical and Hellenistic era, we can state without qualifications that it simply did not exist in the great majority of buildings of the Hellenistic period, and accordingly, the circular orchestra cannot be regarded as a typical part of the canonical theatre building. This may also be deduced from the fact that the *proskenion* in most theatres was moved so close to the *koilon* that it simply did not leave enough space for a circular orchestra (e.g. *Aphrodisias*, *Arykanda*, *Delos*, *Mantineia* II, *Tegea* II and *Tyndaris*).⁶⁶

The orchestra's lack of architectural importance may also be deduced from the few attempts that were made to furnish the orchestra with a stone surface, as it is found for instance in Priene. There are difficulties in interpreting the 'smoothed rock' orchestrai found in not a few theatres (e.g. *Argos* 2, *Korinthos* II and *Boiotian Orchomenos*); whether they were normally covered by a layer of sand or beaten earth is naturally impossible to know. Traces of such layers have been found at for example *Morgantina* and *Solous*. Because of this lack of architectural importance and/or preservation of the early orchestra, we have no knowledge about it. It is only the appearance of the *koilon* that makes the orchestra visible to the archaeologist – indirectly, by the room that was made for it by the *koilon*. Accordingly the shape of the orchestra varies depending on the different shapes of the *koilon*, a fact that justifies the reasonable conclusion that the orchestra was of minor architectural importance.

Scene building

In this article the scene building will be treated according to the role it plays in

building typology of the theatre building and not in particular detail, because this is a huge subject in itself.⁶⁷

The increasing importance of the scene building in the Hellenistic period is not only demonstrated by the fact that it was given a more monumentalised and permanent form in stone, but is also indicated by the changing design of the *koilon* which seems to have been influenced not only, as stated above, by a growing audience but also by the growing importance of the scene building. Thus the function of the *koilon* was divided, so to speak, between two interests: the focus on the orchestra and on the scene building respectively.⁶⁸ Thus much was still controlled by the influence of the heritage of the Classical era; the theatre kept its semi-circular design, which means that the orchestra must still have been of importance. Otherwise we might have witnessed the introduction of such seating facilities as are characteristic of 'frontal focus theatres', like some of the present day theatres, or as we know them from cinemas.

The scene building is normally classified as one of two principal types: the *paraskenia* type or the *proskenion* type. But a combination of both is also known. The *paraskenia* type originated in the late Classical period, and is most frequent among the early monumentalised theatres, while the *proskenion* type originated in the beginning of the 3rd century BC and became an integrated part of the canonical theatre complex during the Hellenistic period.⁶⁹

Although the theatre building is the visually more dominant feature of a Greek theatre, the scene building has been brought forth as the element determining a specific type of theatre, namely theatres built more or less in the same design as the *Theatre of Dionysos*: the *parascenium type theatre*.⁷⁰ This approach embraces both main elements of the theatre and is an example of a typology where the scene building is the focus of attention. A few theatres in the latter half of the Hellenistic period were conceived of and constructed

as a single building rather than as a building complex (see note 2). But the *paraskenia* type of scene building does not occur consistently in connection with a specific variation/ type of theatre building. Accordingly, we cannot use 'paraskenium type theatre' as a typology to cover the entire complex of a Greek theatre. We should separate the theatre building-element from the scene building and develop independent typologies for each of them.

The *proskenion* is not a fixed or static part of the scene building. Its style and dimensions, vary considerably: the style is sometimes Ionic, but more often Doric⁷¹; and the dimensions, i.e. the number of columns, width of intercolumniations and the diameter of the individual columns or pillars, are dependent on the theatre: the larger the theatre building the higher the number of intercolumniations and the wider the distance between the individual columns.⁷²

So we have different types of scene building and within these types we have different modes of using the architectural orders; it seems that there is no correlation between the type of scene-building and architectural style.

Types of Theatre Building in Late Classical and Hellenistic Times

TYPE B. Semicircular
(Dörpfeld & Reisch 1896, 170 Fig. 67 No. I; Dilke 1948, 141 No. I.)

The pre-eminent characteristic of type B is the regular more-than-semicircular design of the theatre building. The koilon wings bend with the same radius from the point of 180° as the central semicircular part of the koilon, giving a continuous bend and the characteristic regular semicircular shape (Fig. 3). The seats, and all the other details of the koilon, and the orchestra, are laid out as circles drawn from the same centre, which at the same

time is the centre of the orchestra (Fig. 3).⁷³ There are few exceptions, such as *Korinthos II*, where the orchestra has been drawn closer to the innermost central part of the koilon, and some other exceptions such as changes in the orientation of the kerkides and the stairways, towards radiating that use more than one centre (e.g. *Dodone* treated below p. 158).

The finishing of the koilon with the frontal parodos-walls can be done in more than one way in this type. Frequent is the design incorporating kerkides of equal form and size, all radiating from the same centre. This type of design naturally entails that the angle relation between the parodos walls and the centre of the orchestra is the same, or approximately the same, as that between the lines drawn from the other elements of the koilon and the centre: all the major lines would, if continued, finish in the same centre (e.g. *Antiphellos*, *Argos 2*, *Balbyra*, *Kibyra* and *Megalopolis*, see Fig. 3). More often, however, such continuations of the parodos-walls would not meet exactly at this point, but a little bit below, i.e. in direction of the scene building (e.g. *Aphrodisias*, *Delos*, *Kibyra*, *Kyanae* and *Rhodiapolis*, see Fig. 3). The reason for this is partly that the koilon nearly always ends in stairways of the same width all the way up, as opposed to the kerkides which widen more and more upwards, but is also caused by the width of the parodos-walls themselves. But often these details do not add up to the difference in distance between the centre of the koilon design and the point where the artificial continuations of the parodos-walls meet, which means either that the two outermost kerkides do not widen upwards as much as the rest or that they are wider in their inner part than the rest. In extreme cases the parodos-walls are built on line (e.g. *Byllis* and *Dodone*).

Type B is described as the most simple and obvious way to design a monumental Greek theatre⁷⁴ and for that reason it is considered by some to be the earliest expression of the canon; it is also the

common type in the beginning of the Hellenistic period.⁷⁵ This view on the chronological priority of this type seems logical. But on closer inspection, no 4th century theatre can positively be said to antedate the second half of the 4th century BC; *Aigai*, *Lokroi Epizephyrioi*, *Mantineia I* and *Megalopolis* are some of the oldest examples. This leads to the conclusion that the introduction of type B is more or less contemporary with the 'more advanced' type C (*Athens III*). Excavations have not clarified which type is the elder.⁷⁶ It is a major problem that we know that many of the theatres rebuilt in the later fourth century had predecessors, but that these have been destroyed by the reconstructions. The few exceptions, such as the change from *Chaironeia I* to II and *Oropos I* to II, have yielded evidence only for the general change from *linear* and *unique* design to or towards the canon. Though we cannot at present *prove* that the simple semicircular type is the oldest type, we may assume with Dilke that it was so, on account of its simplicity.⁷⁷

The question of simple *versus* advanced types brings us to the next issue raised by Dörpfeld, *i.e.* the high number of theatres of type B.⁷⁸ After having studied the many excavation plans it is my impression that we may safely say that it *was* the most common type. 50 of the 98 theatres listed in the appendix may be considered as belonging to type B, that is 50%.⁷⁹ The type is represented all over the Greek world (its absence from Africa is probably not significant) and it is built continuously throughout and down to the end of Hellenistic times (late examples are *Aphrodisias*, *Rhodiapolis* and *Stratonikeia*).

The individual buildings of type B listed in the appendix show many variations. First of all theatres like *Elis*, *Philippoi* and *Tegea II* should be discussed. They cannot be more than possible examples of this the most simple type of monumental canonised Greek theatre. *Tegea II* is considered as a type B, because the shape of the analemma, which can be followed all the way

round, points in that direction. The analemma evidence from *Philippoi* is not as strong as in *Tegea II*, but to this we may add that the later Roman alterations of the Hellenistic theatre of *Philippoi* echo a type B design, which makes it probable that the predecessor was in fact built in type B design. *Elis* is a possible B because of the contours that can be drawn from the excavation plan of the Austrian expeditions. The fact that the parodos walls meet in an obtuse angle (placing this koilon within the vast majority of koila that take up more than 180° of the circle), and that the side-analemmata at the ends of the koilon wings are not parallel, suggest a type B design together with the form of the euripos. In *Elis*, which can be dated to c. 300 BC, we see an early expression of the monumentalised Greek theatre. The koilon is laid out with radiating ramps, dividing it according to the canon, but without blocks in stone. Another type B theatre, *Aigai*, shares the primitive ramps with *Elis* and is even older, perhaps as old as the beginning of the 2nd half of the 4th century BC. But at *Aigai* the form of the orchestra-edge/euripos and first row of seats is more clearly indicative of a type B design. The excavator Andronikos observed that the koilon wings are straight.⁸⁰ From the plan it can be observed that only the extreme one or two metres of the preserved row of seats are straight, while it takes at least an entire kerkis in order to reach an effect strong enough to be indicative of type C (cf. below); but more important is that these endings of the wings are not parallel, as they are in type C buildings (cf. below), so we cannot include *Aigai* in the list of type C.

As far as size is concerned the most extreme examples, also of the Greek theatre in general, are to be found in theatres of type B. The largest of all Greek theatres is presumably *Megalopolis* (width of koilon 129.5 m, diam. of orchestra 30.2 m) and one of the smallest is *Leontion* (width of koilon ca. 25 m, diam. of orchestra 9.3 m). Between these two extremes we find all sizes: small, medium and large.

Level of detail

All the types of solution for the construction of seats, proedria, euripos etc. are found in connection with type B theatre building design. The proedria is far more often encountered in middle-sized and large theatre buildings than in small ones, and the more elaborate euripoi, not very frequent compared to the high number of theatres of this type, are almost confined to large buildings; the low and wide type is found only once (*Stratos*). Many type B theatres have seating of the usual type, some of these without fillet or recess, and a number are constructed with simple or different economical seating.

TYPE C. Straight-winged

(Dörpfeld & Reisch 1896, 170 No. II Fig. 68; Dilke 1948, 141 No. II).

A common feature is a koilon with straight wings, as the rows of seats of the two outermost kerkides are straight and not curved like the others, and the inner edges of the koilon wings as well as the upper, at least of the *ima cavea*, are parallel (Fig. 4). The semicircular part of the koilon and orchestra are often designed from the same centre. *Athens III*, *Oiniadai* and *Peiraius-Zea* are, however, exceptions to that since the orchestra is moved closer towards the koilon like type B *Korinthos II* (cf. Fig. 4). Dinsmoor claims that this is a characteristic shared by the buildings designed or remodelled on inspiration from *Athens III*,⁸¹ which is true of *Oiniadai* and *Peiraius-Zea*, but not of *Eretria II*.

Focusing only on the design of the theatre building we can list the following buildings without much discussion: *Aigeira*, *Athens III*, *Eretria II*, *Isthmia II*,⁸² *Oiniadai* and *Peiraius-Zea*. Dilke, Dinsmoor and Gogos have listed some buildings as being of this type; but apart from the six ones mentioned above there are considerable variations between them.⁸³ De Bernardi Ferrero lists theatres from Asia Minor and for some reason she includes *Letoon*, which does not, however, fall easily within the definitions of the type as can be deduced from Ferrero's own plan.⁸⁴ The

innermost area of the theatre has not yet been fully excavated (the orchestra has been identified through trial excavations), but if we go by the probability of consistency in the layout, especially in the innermost area of the theatre building, it should be expected that the rest of the theatre at *Letoon* falls within type B.⁸⁵ *Assos* is correctly included by Dinsmoor and Dilke, *Akrai* and *Termessos* are wrongly included by Dilke, since they do not have straight wings. Dinsmoor includes *Segesta*, which is probably correct. It can be deduced from the excavation plan that the innermost row of blocks seems to form straight lines beyond the point of 180°. *Oropos II* is preserved just as bad as *Segesta* but can equally tentatively be interpreted as type C. *Pleuron*, which is listed by Gogos, is, however, definitely not of this type, for the wings are not straight at all.⁸⁶ Furthermore, *Herakleia Minoa* and *Iaitas* of Sicily, *Boiotian Orchomenos* and the theatre on the Mounichian hill at *Peiraius* should be added.⁸⁷ More uncertain, but pointing in the direction of type C, are the traces of the recently excavated large theatre of *Messene* in the Peloponnese. So far only the straight and parallel analemmata and parodos walls have been published, but the characteristic straight side-analemmata indicate a depth of the koilon which could correspond to a construction with straight wings (type C); but of course this must remain an assumption, for the time being. As concrete examples of design-consistency between koilon and analemma among type C theatres, we can point to *Eretria II*, *Oiniadai* and *Peiraius-Zea*. The peripheries of the other theatres of type C are either difficult to trace or have a shape determined by adjacent topographical factors (e.g. *Aigeira* and *Athens III*). From the plan showing the poorly preserved fourth phase of the Greek theatre under the Roman amphitheatre at *Kyrene* it could be maintained that we have one more theatre of type C. But the few remains point equally in the direction of type F, where it has been listed in this study (see below p. 154), and that is as far as we can get on the basis of the evidence available at present.

So we end up with between 12–14 theatres of type C, depending on the interpretation of *Kyrene* IV and *Messene*. Thus type C is the second most common type of theatre building and not the most frequent one as was maintained by Bieber.⁸⁸ The type does not vary from the general picture of the monumentalised theatres as far as the division into sections and *kerkides* go. The same observation can be made on size, which means that the majority of buildings are to be found around the upper end of the small and in the middle category.

Level of detail

There is more to say about the layout of theatres of this type, which are not at all identical as far as the construction of the theatre building is concerned. They can be divided into several minor sub-groups depending on what we choose to focus on. We find an uneven number of *kerkides* in the *ima cavea* as a common characteristic of *Aigeira*, *Athens* III, *Eretria* II, *Iaitas*, *Oiniadai* and *Peiraius-Zea*. In combination with that, we see in the same theatres that the transverse line, at the point of 180° divides the curving *kerkides* from the straight ones at or near the stairways (Fig. 4). The characteristic U-shape is followed strictly in the design of *euripos* and *proedria* in the theatres of *Aigeira*, *Athens* III and *Peiraius-Zea* and all three are orientated in almost the same direction (between S & SSE). In *Eretria* II it is not known whether there were actually *proedria* benches in front of all the *kerkides* and in *Oiniadai* a *proedria* is not identified. The *euripoi* of these two theatres are both of the low and wide type, though *Oiniadai* is a strange combination of this type and the *narrow* one.

All common types of seat are found in type C theatre buildings and we see the use of both the narrow and the wide type of *euripos* as noted above. But the frequency of both usual monolithic seating, elaborate *euripos* and *proedria* is higher for type C than for type B. When we include the scene building in the comparison we see no specific type occurrence; perhaps except for some local parallels. We

have at least five examples of scene buildings of the *paraskenia* type, the rest being of the *proskenion* type, and although the Doric style is predominant we find both the Doric and the Ionic in both types of scene building. The theatre buildings of *Athens* III, *Eretria* II and *Peiraius-Zea* are almost identical, and while *Eretria* II and *Athens* III both had a scene building furnished with a *proskenion* in the Doric order, *Peiraius-Zea* is suspected to have had a Ionic *proskenion* (though see note 109). That theory is not at all impossible, considering the fact that the *proskenion* was Ionic in *Oiniadai* and had a plan closely resembling the three mentioned above. It is clear that within this type some theatres are more alike than others, and it seems that the detailed resemblance, both in the layout and on the level of detail, between some of the theatres, is to be explained by local traditions. Accordingly it must be concluded that the choice of a type C design was not a choice which automatically limited the number of opportunities on the level of detail.

Type C was constructed from the late Classical period (*Athens* III) to at least sometime in the 2nd century BC (*Peiraius-Zea*),⁸⁹ and we find the type in mainland Greece, Sicily and South Italy, Asia Minor, and perhaps in North Africa (*Kyrene*). The present addition to the previous attempts at listing this type does not change the fact that this type of theatre is rarer than type B which is interesting, because we find it scattered all around the Greek world and in a broad span of time.

Especially on account of the date of the theatre of Dionysos, but perhaps also because of scholarly Athenocentricity, the ‘invention’, not only of type C, but of the fully developed canon as such is considered by some to have been a purely Athenian project, invented and built for the first time there.⁹⁰ Others consider it the result of a gradual development, which happened to find its first monumental expression at Athens.⁹¹ Others again follow the idea of ‘invention’ by specific architects, but hold that the place of

invention need not necessarily to have been Athens.⁹² As stated above I find that there is clear evidence for a gradual development of the canon. It is possible that the earliest expression of the C-version was *Athens III* and it may be regarded as some sort of prototype; but a direct copying of it was probably only done in one instance, in the most obvious place, namely *Peiraius-Zea*, the harbour of Athens.

TYPE E. Elliptical

(Dörpfeld & Reisch 1896, 170 No. IV Fig. 70; Dilke 1948, 142 No. IV).

Characteristic of theatres of this type is the elliptic plan of the theatre building (Fig. 5). The elliptic shape can be obtained in different ways essentially by letting koilon and orchestra use the same centre for the innermost part of the koilon (by and large the part within the innermost 160 – 170°), while two new centres are used for the outermost two or four kerkides, normally referred to as the three-centre-method (see Fig. 5). This design results in a more or less elliptical shape, in Dilke's words "being from dominating to almost not visible at first glance".⁹³ The shape depends on the distance between the centres after which the rows of seats, proedria, euripos and diazomata, etc. are drawn.

There are about 10 theatres of this type which means that it is third in number after B and C.⁹⁴ Some of them, as *Epidaurus*, *Magnesia on the Maeander* and *Priene*, are built according to the 'three-centre' method.⁹⁵ The remainder (*Demetrias*, *Ephesos*, *Kadyanda*, *Lindos*, *Maroneia*, *Oinoanda* and *Syrakousai 2 V*) are perhaps also constructed on that principle, but it is difficult to say with certainty, since the buildings are either poorly preserved or poorly investigated. Dinsmoor has suggested that *Korinthos II* was built according to E design,⁹⁶ thus rejecting the interpretation proposed by the excavator Stillwell who reconstructed it as a type B theatre. And Dilke suggested that *Oropos II* was of E type, but this is hardly confirmed by the excavation plans.⁹⁷

They all clearly show the elliptic aspect in at least the lower part of the ima cavea and in the area around the edge of the orchestra. This elliptical plan is the one that resembles Vitruvius' Greek Theatre the most, and in fact most of the 10 theatres in this group are to be placed somewhere between the layout of *Epidaurus* and Vitruvius' Greek Theatre. In at least five of them the change of centre occurs around the stairways that separate the kerkides of the inner ca. 180° from the two outermost kerkides, thus resembling Vitruvius, and in the rest we see a tendency towards a change of centre before the point of 180° (as can be seen in the stylized example Fig. 5).

The oldest member of this type is probably the well-preserved and fine theatre at *Priene* dated to around 300 BC,⁹⁸ followed a little later by the theatre at *Epidaurus I*. The remaining buildings were built later, during the 3rd and 2nd centuries BC, and more than half is found in Asia Minor, a fact that should not be pressed unduly since that area produced the most buildings in that period.

Type E theatres exist in all sizes, half of them small, and also the section and kerkides division show the same norm as the general picture.

Level of detail

At least two types of seat is seen, both types of euripos and also as many combinations as possible between types of scene building and architectural orders used for the proskenen. Significant is the two instances of plate-on-block (*Magnesia* and *Priene*) seating, members of Dilke's economical type, but which are not necessarily economical. At least *Priene* has rather refined and elaborate marble seating. As it was observed in connection with type C we may also conclude here that the frequency of normal monolithic seating, proedria and elaborate euripos is higher than in type B.

Moreover, as was the case with type C

theatres, we find within the group of the 10 type E theatres examples of a few theatres that are very much alike, as *Priene* and *Magnesia on the Maeander*, e.g. the same unusual type of seating and again, as observed in connection with the phenomenon in type C, local inspiration may offer a logical explanation, as the two localities are situated quite close to each other. As with *Athens III* in relation to type C, it is difficult to determine whether any of the type E theatres was in fact the prototype; perhaps it is even more difficult in the case of type E, since there is no candidate that could be regarded as a prototype for clear chronological reasons.

TYPE F. Pointed

A small group of four to five theatres show a similarity in the layout of the theatre building that separates it from the above mentioned types. The theatre of *Hephaistia* on Lemnos, the theatre of *Kassope*, the ones at *Methymna* and *Thasos*, and possibly the theatre of *Kyrene* (cf. above 151), are all laid out with a plan of the koilon that produces a pointed shape (Fig. 6). At least in *Kassope* and *Thasos* the innermost part of the koilon near the area of the lowest tiers and the edge of the orchestra resembles type C, but upwards from the first row of seats to the last of the outermost kerkides (and this is common for all members of the type) the cone-shape of normal kerkides is not maintained. The parodos-walls are recessed to such a degree that the entire koilon becomes pointed towards the scene-building, which produces an effect the exact opposite of the wedge-shaped space between koilon and scene building that we normally find in canonical theatres.⁹⁹ The type originated in the late Classical/early Hellenistic period and examples of this type are to be dated here or later in the 3rd century, except for *Methymna* which is vaguely dated to sometime in the Hellenistic period.

Level of detail

The information on the level of detail from the small number of buildings of this

type is scarce due to lack of investigation and the bad state of preservation; and thus it would not be appropriate to comment on it in this context. However, it is worth mentioning, that *Kassope* and *Hephaistia* were laid out with an even number of kerkides in the *ima cavea* resulting in a central stairway. This is not a significant characteristic of this type for, as noted earlier, this relatively unusual solution is to be found with a small group of type B buildings as well.

Kassope shows a peculiarity in the stairways that radiate not from one centre, but from different centres between the centre of the orchestra and the scene-building (see Fig. 6).

TYPE G. 'Pergamon type'

The last group of theatres left to be discussed as a type has got a ground plan resembling that of *Pergamon*, or at least the *ima cavea* of it. A common feature is that the parodos walls are built on line instead of (if continued) meeting in an angle in the orchestra, which produces the effect of a true (180°) or sometimes reduced (less than 180°) semicircle (Fig. 7). The group of theatres that share this architectural feature is not normally referred to as an individual type except by De Bernardi Ferrero.¹⁰⁰ I have my doubts as to whether it should be defined as a type. The characteristics of this type are defined negatively: lack of the part of the koilon that goes beyond the real semicircular part of 180°, which with its diverging forms constitute the other types of theatre building. On the other hand, the buildings of type G still have that characteristic in common, and the reason for this koilon form, which later became the standard in the Roman theatre, may be that it was not necessary for the localities in question to build more than a semicircle. Perhaps they had enough seats in what a koilon of this type could offer.

Apart from the previously mentioned theatre at *Pergamon* we can list at least five more buildings with the above-mentioned characteristics in the layout:¹⁰¹ *Ambrakia* and *Bouthrotos* in Epeiros, *Metapontion IV* and *Akrai* in Magna Graecia, and

'Perperene' (mod. Asaga-Bei-Köi) in the neighbourhood of *Pergamon*. From this we see a wide geographic diffusion, while the chronological span is more narrow, this is the late 4th and 3rd centuries BC.

It is quite obvious that local topographical conditions influenced this particular design of the koilon in *Pergamon*. The theatre here is placed on a very steep hillside, resulting in one of the steepest koila in the Greek world. If that dramatic sloping was to be maintained in possible kerkides constructed in the area extending 180°, so that the *koilon* would show a normal segment of a circle (between 180° and 210°), the parodos-walls supporting this koilon at the front would have to have been enormous, and perhaps too complicated to construct. Moreover the way the theatre is placed, attached to a narrow terrace sanctuary, would not allow the koilon to protrude more than it already does because of lack of space. That fact probably also explains why the scene building there was never built in stone (it had to be removed when not in use).¹⁰² The other theatres with a ground plan like this are not located in topographical and geomorphological surroundings similar to those of *Pergamon*. In the case of *Akraï* the scene building is placed so close to the theatre building that an extension of the koilon beyond the 180° would have been absurd. People sitting in those areas would not have been able to see anything. At *Metapontion* the geomorphologic surroundings are in fact the opposite of those at *Pergamon*, since the theatre here is built on level ground, except for the slight artificial sloping. That results in a situation which does not create the same difficulties as in *Pergamon* for the construction of kerkides and parodos walls. So here, as in *Bouthrotos*, there seems to be no obvious explanation for this particular design. As to *Ambrakia*, the smallest of all monumental theatres found to this date, it is at present impossible to interpret the immediate ancient surroundings, as they have not been excavated because of their location in the middle of modern Arta.

The Typology of the Greek Theatre Building

In the previous section the surviving theatre buildings were discussed and grouped on the basis of their overall design. It will now be examined to what extent it makes sense to focus on the material in that way.

The appearance of the different types of design of the canon is to be explained basically as the birth of the canon itself.¹⁰³ As mentioned earlier, the growth in the number of spectators required the canon in order to facilitate an optimal view and acoustic conditions for as many people as possible. The emergence of type B was a fundamental step forward as the earliest expression of the canon. A koilon of this type could expand up to a segment of 210° or so of a circle, but not more than that, because there had to be room for the parodoi and the scene building; *Lokroi Epizephyrioi* is a rare example of a segment of a lot more than 210°. It may be observed that the scene building takes up more and more of the orchestra area, proportionally corresponding to the size of the theatre, hindering the tendency to expanding the koilon beyond 180°. The scene building simply had to be moved closer to the main body of the audience sitting, often far away, in the central part of the koilon (e.g. *Megalopolis* and *Pergamon*).¹⁰⁴ This phenomenon, also connected with the viewing problems, increases in importance during the Hellenistic era because of the growing size of the theatre building.¹⁰⁵ The rows of seats could then be expanded upwards, until the distance between the audience sitting in the uppermost seats and the actors in the orchestra and on the scene building became too long. In my opinion this is the case for the theatre of *Argos 2* with a *koilon* of at least 81 rows of seats. The maximum distance from which an average ancient Greek could see or hear satisfactorily simply constitutes an upper limit to the size of theatre buildings, if all the seats were to be equally useful. As the scene building became more and more impor-

tant as the focal point, the seats in the outermost area of the wings of the type B-koilon became less useful, or at least less desirable: the people there had to sit in an inconvenient position and turn their heads in order to be able to see the action.¹⁰⁶

The many examples of type B theatres, for which it can be observed that the outermost kerkides do not widen as much upwards as the rest, are clearly to be interpreted as attempts to minimize those disadvantages of the type B design.

Attempts at solving these particular problems most probably led to the introduction of type C. The outermost kerkides, which would have had the unpopular orientation in the type B design, were straightened out, so that the view from there became a compromise between the focus on orchestra and scene building. These straight rows of seats could be and were indeed in some theatres extended, not only to solve the problem of view, but also most probably to give room for more spectators in the lowermost area of the koilon where the distance between spectators and actors was shorter (e.g. *Herakleia Minoa* and perhaps *Messene*). Because of such an elongation of the koilon wings, the scene building had to be moved farther away from the central semicircular part of the koilon, in an extreme situation resulting in a bad view for the better part of the spectators who sat in that area. So there was a maximum limit to such elongation of the wings in this type, especially in large theatre buildings.

A compromise between the attempt to provide a good view from the wings while not pushing the scene building too far back is the elliptical type E. This type of theatre building design is clearly the most sophisticated, since it combines the optimal solutions to the need for space for the audience (extension of the koilon beyond 180°), a comfortable and good view from the outermost kerkides towards the scene of action (the orchestra and scene building), and finally the keeping of as short a distance as possible between the central part of the koilon and the scene building.

The pointed Type F is a kind of devel-

oped type C, where the bad view from the outer and uppermost seats was eliminated in a very concrete way: the koila of this type were simply constructed without the bad or at times even useless areas of the outermost kerkides that the other types had. The fact that the type F koilon was constructed with so much thought to the scene building is in perfect harmony with the idea of a growing popularity of the scene building during the 3rd century BC. On the other hand, the removal of the 'bad sectors' in the F-design resulted in fewer seats, and that is perhaps the reason why this type of design was used only rarely.

The last type (G) is as rare as type F. The type is the only one, apart from E, that really addresses the consequences of the growing importance of the scene building during the Hellenistic period. But this fact is not reflected chronologically; the G theatres are concentrated in the late 4th and 3rd centuries BC rather than late in the Hellenistic period, when they would otherwise have been a natural prelude to the Roman period, when this type took over completely.

That some solutions to the problems of the space and view were better than others is also proved by the way they appear chronologically as a natural result of experiment and experience. The typology does not fit strictly into a chronological line of development, but there does seem to be some chronological interrelation between the different types. They all appear for the first time more or less simultaneously during the second half of the 4th century BC, type E arriving a little later. The popularity of the individual types can be deduced from the frequency with which they appear over time. Type B design is used for construction of theatres from the time of the introduction of the canon until the end of Hellenistic times, and no particular century show a definite peak. The higher number of type B theatres built or rebuilt in the 4th and 3rd centuries compared with later periods is to be explained by the generally vast number of theatres built in that period. So Dilke's

opinion that the type B gradually died out can no longer be maintained.¹⁰⁷ But this investigation, quite expectedly finding a relation between architectural development and chronology, supports the idea that type B was the oldest and the original expression of the canon. Later, type C becomes more frequent and in the 3rd century type E appears, the same century where we find more than half of the type G theatres and most of type F.

Details

The growing number of advanced ground plans during Hellenistic times shows a development that can also be observed on the level of detail, for example the previously mentioned lower frequency of economic versions of seats of the usual type in the 3rd century and later. The observations made on the simple type of seating points in that direction as well, but here we may also stress the fact, that this type is almost confined to small theatre buildings. This again suggests that growing size of theatre buildings leads to higher monumentality and elaboration.

An illustrative example of how design and detail concur is found in a group of large theatres of type B, *Dodone*, *Korinthos II* and *Sikyon*: they are all elaborate monumental buildings, with fine and well-built euripos, not very common for the type, and proedria, but significantly, typical of type B, with more or less economical solutions for the seats; *Sikyon* shows a combination of the usual type and the economic.

Size leads to higher monumentalisation and refinement, but it is important to note that it does not work the other way around. The types of theatre building that were considered to be more advanced are found in all sizes; they do not show a higher frequency in the large category than type B.

The examination of the details of the individual types demonstrated that none of the types of detail can add to or change the meaning of the typology in any consistent way. However, apart from the tendencies in refined details occurring propor-

tionally to the sizes of theatres, individual tendencies of more refined plans (types C and E) can also be found coinciding with a higher frequency of refined details, which must be said to have an effect on the descriptive value of the typology. A support of this hierarchic interpretation of the types is, for instance, the identification of the only examples of 'primitive' ramps for stairways and kerkides without seat-blocks in designs of type B.

It is clear that the construction of a theatre building of a more advanced type was more complicated and expensive than a plain type B theatre building. So of course the choice of type and details was influenced by the economic resources of the communities financing the enterprise. The larger *poleis* of Hellas did choose all types of theatre building, but often preferred the more advanced ones to type B. This tendency can also be inferred from the fact that we simply do not find any 'advanced' theatres in connection with what we class as smaller and more 'provincial' *poleis* and none of the communities with 'primitive' theatres are huge *poleis*. These observations supports the idea that the types represent different degrees of refinement and monumentality of the canon.

Local traditions

An approach like the present that classifies buildings on the basis of their architectural design cannot cover all aspects of the many canonical, but still individually constructed theatres. There are many relevant approaches to a subject as substantial and complex as the Greek theatre. Apart from the factors discussed above, we should obviously consider the impact of local traditions in the designs of theatres and their details, expressed in many different ways, sometimes so strongly that they divert from the canon itself.¹⁰⁸ Even if they are mostly confined to details and perhaps only once found as an all pervasive feature, *Peiraeus-Zea* in relation to *Athens III*, a presentation of some examples will surely give a more nuanced picture of theatre architecture than the present rigid typology offers.

On the basic level of construction an Arkadian peculiarity is found in *Mantineia* I-II and *Tegea* II both of which are constructed on level ground; a way of construction that is used only rarely in Greece (other examples are *Eretria* and *Metapontion*). Both cities were situated in plains, but at least in the case of *Tegea* there were minor hills within the area of (or at least close to) the urban centre with natural sloping that could have been used for a theatre. It is likely that the Tegeans learned from the earlier theatre in *Mantineia* I-II and thus, for whatever reason, chose to place their theatre in answer to needs considered of higher priority than the cheaper construction at a hill had offered.

On the overall theatre building design level, it has been observed that some type C theatres in the Attika-Euboia area and some type E theatres in Asia Minor show close similarities (see above). Another example is the design of 'Perperene' copied from the design of nearby *Pergamon*. The practical circumstances given as possible explanations for the design of *Pergamon* cannot be yielded at 'Perperene', so here, it seems, is an example of stylistic inspiration. But even at the narrow local level, where the similarity of buildings in a few cases is almost complete, there are all the same always differences. A good example of this is the transposed orchestra in *Athens* III, an idea which is copied in the later theatre *Peiraieus-Zea*, but not in *Eretria* II, which in fact with its wide and shallow euripos is a hybrid of *Athens* III and *Epidaurios* (type E). Even *Athens* III and *Peiraieus-Zea*, built by the same polis and considered to be quite alike, may have differed in regard to the scene building that was built in the Doric order in *Athens* III and (perhaps) in the Ionic in *Peiraieus-Zea*.¹⁰⁹

Both in the theatre at *Megalopolis* and the theatre in the sanctuary at *Epidaurios*, type B and E respectively, the epitheatra are not expanded as much as the ima caveae, so that the analemata fronts there are not equal to the outermost seats or stairs in the individual sections. That is, on the other hand, the norm for the canon as such. This is a local way to compensate for

the bad sectors in the outer and uppermost parts of the koilon, giving the same advantages in this direction as in the type F (pointed) design.

On the level of detail many examples of local tendencies can be given: in the Greek theatre building the stairways most often radiate from the centre of the orchestra, underlining the centrally oriented idea as the basic rule in the architecture of the Greek theatre. A few exceptions to that rule can, however, be observed, again with strong local roots. In *Dodone* and the large theatre of *Kassope* the stairways of the innermost part of the koilon follow the norm, while the outermost break it and bend more in the direction of the scene building (see Fig. 6). This bending of the orientation of the stairways does not have a practical function on the same level as the actual shape of the koilon wings in the way of optimizing the visual and acoustic qualities of the theatre building. In my opinion it is an example of details on the secondary level that are influenced by the design choices made on the primary level. *Kassope* with its type F-koilon, designed for a good view of the scene building at the expense of an optimal number of spectators, is an obvious place to expect this change of radiation in the stairways. The same can be said of *Dodone*, which is admittedly type B, but at the same time designed with a straight frontal analemma, showing that here, too, the attention paid to the view of the scenebuilding took priority, so that the least attractive areas of the koilon were avoided. That the two examples of this phenomenon are to be found in Epeiros, and also quite close to each other, is undoubtedly an example of the power of local inspiration.¹¹⁰

The 'one sloping step pr. one row of seats' stairways in the theatres of *Aigeira*, *Athens* III, *Peiraieus-Zea* and *Sikyron* is also a good example of a phenomenon with some local significance. Dwelling on stairs we see an Argolid-Corinthian peculiarity in a central stairway 'cutting the theatre building in two', in *Argos* 2, *Epidaurios*, and

Korinthos II. The former two are of type B, the latter of type E, and here we have a good proof of local habits, with an unknown practical significance, if any, that run counter not only to the types but also to the canon. This phenomenon is rarely seen in Greek theatres, but it is nonetheless also found as far away as *Alexandria Oxiana* and *Apollonia* in Kyrenaika. Accordingly it cannot be classified exclusively as a local north-east Peloponnesian feature. Further supporting the identification of a north-eastern Peloponnesian local tradition in theatre architecture is the fact that *Argos 2* and *Korinthos II*, now together with *Stratos* in Epeiros, resemble each other in the circular orchestra in a quadrangular/trapezoidal enclosure.¹¹¹ The fact that they share all these peculiarities (in fact almost unique for them) is very important in the discussion of the meaning and relevance of the typology, and proves that it is not sufficient as the only tool for the architectural description of the theatre building.

The canon and its types in new cities

Another aspect that could be studied in more detail is how the topographical context can be said to have an influence on the design of the theatre. Theatres built in connection with planned poleis and sanctuaries, as opposed to theatres built in self-grown poleis and sanctuaries, give good evidence for clear examples of the different types of theatre building, and also confirm the appearance of the types in a more or less chronological line of development. Of course, the development of the theatre took place everywhere, but one would expect to find the most articulated expression of new ideas in the architecture of the theatre, as well as in all the other types of monumental buildings of the Greeks, in planned new urban areas. Naturally, there were often local topographical or financial circumstances which limited the opportunities of the architects, both in regard to the choice of theatre building type and in regard to the choice of details.

A few examples will show that the evidence from planned poleis does in fact

support the chronological side of the typology. Built in the period apparently immediately after the 'Tearless Battle' in 368 BC¹¹² as an integrated part of the artificially created urban centre of the polis of Megalopolis, and without a predecessor to force it to keep within the frames of an eventual local tradition, the huge theatre of *Megalopolis* became one of the earliest and finest type B theatres, the earliest expression of the canon. The element of display was perhaps important in this case, since the whole ideology of Megalopolis, as proclaimed by the name itself, was one of resource accumulation. Of course, the city served an immediate and practical purpose as a defence-bastion-city for southern Arkadia against Sparta; but to convince both insiders and outsiders of Megalopolis that the project would work, the monumental architecture such as city walls, temples, theatres, etc. had better be impressive. In the case of the theatre this assumption would be corroborated if we were able to prove that it was far larger than necessary, but this is not possible.¹¹³ The theatre here was constructed to house a high number of people, and at that time the obvious choice of theatre building was a type B.

Another example is the urban circumstances around the theatre building in *Kassope*, perhaps the most perfect type F specimen. The plan of this large theatre seems very conscious, just as the rest of *Kassope* was, and typical of a city built from scratch in the 'Hippodamian tradition' after a synoikismos of 350 BC.¹¹⁴ Unfortunately we do not know precisely when the theatre was built. The German scholars working at *Kassope* date most of the public buildings to the time after 230 BC when *Kassope* was autonomous and a member of the Epeiror League.¹¹⁵ Even though there is a considerable time span between the foundation of the city and the construction of the theatre I believe that the overall planning was thought out from the start; maybe there was a more primitive structure serving as a theatre until the 'real one' was constructed. Even if there was a monumental predecessor for

the theatre to determine the scope of the new building, it would not be older than the 3rd quarter of the 4th century BC. The architectural choices were based on the available architectural knowledge that existed, not just locally but also generally in late Classical Greece. Among them was the idea that the theatre building did not necessarily have to be of type B, but could be of type F, as it came to be at *Kassope*, a universal type, but also furnished with some local features as pointed out above.

As a last example of the types in new cities *Priene* will do. The city was relocated some time in the 4th century BC, and the general opinion is that the new city was built from scratch.¹¹⁶ The theatre of *Priene* stands today as one of the finest examples of type E design, perhaps even the earliest expression of it, and also generally as one of the best preserved theatres. It was left almost untouched by Roman building activity and the preservation is good. But it is to be noted that the design of the *ima cavea* is not completed in the *epitheatron*, most probably because, as opposed to the theatres at *Kassope* and *Megalopolis*, the building was fitted into the orthogonal plan of the city. Even in this reduced form it was not possible to keep it within the *insulae* of *Priene*.¹¹⁷

Conclusion

The choice of type of theatre building is not, as pointed out above, a choice between a few all-covering concepts. Of course theatres such as *Athens III* and *Epidauros* were used as models of inspiration for architects all over the Greek world, but the lack of examples of conceptual copying, even from these two important theatres, underline to what extent we have to regard the theatre as a building composition. The choice of overall planning is of course central, but still just one out of several elements in a building composition incorporating details too. All choices are determined by change of fashion/development of new ideas, practical matters like size requirements and local topographical conditions, financial ability, and also by

local tradition. The lack of typological connection between theatre building and scene building of course means that the typology B–G is not a typology of the Greek theatre – such a typology cannot be established – but a typology of the most dominating and characteristic part: the theatre building.¹¹⁸ That we are dealing with different types, and not just variations of the canon, is proved by the tendencies to different degrees of monumentality that the types and the details stand for.

That the types of theatre building more or less followed the general economic capacity, number of spectators, etc. of the *poleis* or sanctuaries that built them is to be expected. The element of display should not be underestimated.¹¹⁹ Here we only have to refer to the polis of Athens and the sanctuary of Epidauros, both of which were visited by many people from the Greek world and the rest of the Mediterranean. At both places, the theatre played perhaps the most important role not only as the architectural and topographical *locus par excellence* generally in the architectural plan of the cities; but also as the place where the climax of events during festivals took place. Of course Athens and Epidauros had to have beautiful theatres that could impress all foreigners and thus play their part of the architectural orchestra that should confirm and legitimate the important role of these localities. But in my opinion Isler perhaps gives the representational value too much credit as opposed to the practical when he writes: “The introduction of the circular plan marked a turning point in the progression from purely utilitarian to representative architecture at a time when the theatre, which was not only used to stage performances but also to hold citizens’ meetings, became the symbol of the free Greek city”.¹²⁰ I do not believe that it is possible, nor that it makes sense, to distinguish between the practical and the representational explanation for the emergence of the monumental theatre. They go hand in hand.

Notes

NOTE 1

I would like to thank my supervisor Annette Rathje for good help during the writing of this work which began as an MA thesis. Furthermore I am indebted to Tobias Fischer-Hansen, Pelle Oliver Larsen, Thomas Heine Nielsen, Pernille Flensted-Jensen & Lene Rubinstein for many corrections and suggestions. Also, thanks are due to Kjeld de Fine Licht for having read an early draft, and to the Danish Institute at Athens for its never failing help and friendly attitude, and finally to the foundation *Christian og Emma Blinkenbergs Rejselegat* and the Copenhagen Polis Centre for raising enough money for me to be able to visit more than 60 theatres between the autumn of 1995 and the summer of 1999.

NOTE 2

Bieber 1961, 73, 127; Wycherley 1962, 167, 174; Dinsmoor 1975, 318-319; Lauter 1986, 167. There are, however, a few examples of monuments where *parodos* doors unify the scene building and the *koilon* into one whole, i.e. into a theatre building as such: e.g. Epidauros, sanctuary of Asklepios (e.g. Dilke 1950, 45; Dinsmoor 1975, 318-319; see, however, Wycherley 1962, 167) and Byllis in Epeiros (Ceka 1990, 227). The theatres of Magna Graecia show a step towards this unification in the Hellenistic period, which became standard in the Roman period, cf. Mitens 1988, 11.

NOTE 3

Dörpfeld & Reisch 1896, 375-379; Bieber 1961, 73; Wycherley 1962, 174; Mitens 1988, 11-12; Isler 1994, 88; Corni 1994, 134. - I use the traditional terminology, accepting its mix of Greek, Latin and modern terms. For a recent treatment of the architectural terminology of the Greek theatre, see Corni 1994, fig. at 135-136.

NOTE 4

Lauter 1986, 166ff; Isler 1994, 94ff.

NOTE 5

Discussion p. 147f. and note 62.

NOTE 6

Bieber 1961, 73; Dinsmoor 1975, 301; Implicit in Isler 1994, 96.

NOTE 7

Bieber 1961, 71-73; Lauter 1986, 168; von Gerkan 1961, 36 (on *Epidauros*).

NOTE 8

Dörpfeld & Reisch 1896, 36-40; Pickard-Cambridge 1946, 134 ff.

NOTE 9

Von Gerkan 1961, 77-80.

NOTE 10

Theatre of Dionysos as a general 'Urbild': Isler 1994, 96, 100; Wycherley (1962, 167) calls the theatre of Dionysos "... the prototype of Greek theatres". Monuments given as examples of Athens inspiration: Dinsmoor 1975, 316 (*Peiraius-Zea*, *Korinthos II* and *Oiniadae*). *Epidauros* as general 'Urbild': Dilke 1948, 135 (see however Dilke 1950, 42); von Gerkan 1961, 34. Monuments given as examples of Epidauros inspiration: von Gerkan 1961, 34 (*Magnesia* and *Priene*); Dinsmoor 1975, 250, (*Magnesia*). Dörpfeld & Reisch 1896, 155 note the similarities between the *paraskenia* constructed in Magnesia and The Theatre of Dionysos but also the likeness in the overall plan (elliptical) between Magnesia and Epidauros (156).

NOTE 11

General treatment, see Bieber 1961, 127.

NOTE 12

Bieber 1961, 70. U shaped: Dinsmoor 1975, 317. Horseshoe shaped: Mitens 1988, 22; Gogos 1992, 27 note 52, 109; TGR II, 134.

NOTE 13

TGR II, 209 and Bieber 1961, 72, respectively.

NOTE 14

Dörpfeld & Reisch 1896, 99 (*Peiraius-Zea*), 113 (*Eretria II*), 170 (*Segesta*).

NOTE 15

Dörpfeld & Reisch 1896, 169-175. For other treatments of Vitruvius' Greek theatre, see Bieber 1961, 127-128 and Dilke 1948, 132ff.

NOTE 16

Dilke 1948.

NOTE 17

Dinsmoor 1975, 316-317 consistently recognises the three types, but uses 'horseshoe plan' explicitly about the more-than-semicircular *koila*, an expression normally used for the U-shaped ones. Horseshoes look in fact more like the elliptic *koila* than the U-shaped, but I prefer to avoid the ambiguous expression horseshoe at least in a study like the present where the differences in design of the theatre building is concerned.

NOTE 18

Mitens 1988, 22 states that the Greek theatres of Magna Graecia are normally horseshoe shaped (i.e. U-shaped) except for the theatre of *Akrai* which is semicircular. In the introductory articles of TGR 1994 this issue is not treated in detail, but the individual catalogue texts distinguish between horseshoe (e.g. II 204, 215) and more-than-semicircular shape (e.g. II 153, 189), but use both these terms about the third elliptical type (e.g. II 209, III 441).

NOTE 19

Bieber 1961, 70 uses 'horseshoe' and U-shape synonymously, while on page 127 she correctly recognises the types and accordingly uses the correct terms. Wycherley 1962, 166, describes the characteristics of the elliptic type as if they were general to the canon. Lauter 1986, 167ff. uses 'muschelförmig' as a broad term for the monumentalised theatre as such. In the chapter on 'Theatre Classification' in TGR Corni writes (1994, 134): "The *cavea* - *koilon* - varies in shape, but is normally a circular segment that goes beyond the semicircle."

NOTE 20

Rossetto & Sartorio 1994, 64.

NOTE 21

The Corpus includes not only actual ruins, but also theatres that are only attested in literary or epigraphic sources. An important supplement to the corpus is Isler 1997 and a special study by the author about the preservation of theatres and the different sources for reconstructing the original number of buildings (*Papers from the Copenhagen Polis Centre* 6, forthcoming).

NOTE 22

Theatres listed in the appendix and mentioned in the text are italicised and often followed by Roman numerals which stands for the major phases of construction e.g. *Athens III* = the Theatre of Dionysos at Athens, the Lykourgan phase. The Arabic numerals 1 and 2, sometimes added too, are used to distinguish between more theatres at the same locality. Because the theatres are listed according to type, an alphabetical list is given at p. 167.

NOTE 23

Von Gerkan 1961, 36.

NOTE 24

Metapontion II-III and *Thorikos I* did perhaps have a square *orchestra* in common in late Archaic times (depending on the interpretation of *Thorikos*), Frederiksen 1997. *Metapontion*: Mertens & De Siena 1982. *Thorikos*: W.L. Cushing, *The Theatre of Thorikos*, PAA IV, 1885-86, 30.

NOTE 25

In my unpublished MA thesis (Frederiksen 1997) I have suggested, without much fantasy I must admit, to name the types of Greek theatre building A, B, C etc. according more or less to the way they appear chronologically as well as on the basis of their numeral frequency. (see p. 139 and 149ff.).

NOTE 26

On this type and the dating of it, see G.V. Gentili, Nuovo esempio di "theatron" con gradinata rettilinea a Siracusa, *Dioniso* XV 1952, 127; Ginouvès 1972, 40, 61-62; Anti & Polacco 1969, 42-44. To these should perhaps be added the similar structure at Stymphalos (mentioned briefly in E.H. Williams, *Stymphalos: A planned city of Ancient Arcadia*, EMC XXVII.2 1983, 200 and G. Touchais, *Chronique des Fouilles* in 1983, BCH CVIII 1984, 756, 757 Fig. 36 [indicated on a very small scale]) but we

must wait for a detailed investigation before we determine that. The interpretation of these buildings as theatres is not without problems, as the only real unambiguous architectonic member of the Greek theatre, the scene building, is missing completely from this group of buildings. For a general treatment of the problem of identification see Ginouvès 1972, 53ff. and Frederiksen 1997, and Inge Nielsen in the volume.

NOTE 27

Bulle 1928, 5-6; Dilke 1950, 40; Ginouvès 1972, 63-65. The theatre at *Trakhones* could be regarded as a type D theatre, but as there is a monumentalized koilon (or traces of it), it rather belongs to the group of *unique* monuments, where it has in fact been listed in the appendix. But, of course, nothing can be said for certain about this monument before it has been published.

NOTE 28

Dörpfeld & Reisch 1896, 375; Wycherley 1962, 170; Dinsmoor 1975, 297-98; Isler 1994, 96; Lauter 1986, 167; Rossetto and Sartorio 1994, 66, also commenting on the geographical spread.

NOTE 29

Dinsmoor 1975, 265ff.; Lauter 1986, 7ff.

NOTE 30

Cf. Rossetto and Sartorio 1994, 80; Mitens 1988, 20-21 (Magna Graecia); De Bernardi Ferrero IV 1974, 18-20 (Asia Minor).

NOTE 31

Generally: Rossetto and Sartorio 1994, 79-80; von Gerkan 1961, 5 Abb. 1; Wycherley 1962, 163. Asia Minor: De Bernardi Ferrero IV 1974, 24. Magna Graecia: Mitens 1988, 33 fig. 24.

NOTE 32

A. von Gerkan, *Griechische Stadtanlagen*, Berlin 1924, 80; Wycherley 1962, 163.

NOTE 33

In this context the interpretation of the function of the monument, by the excavators called theatre-ekklesiasterion, is of less importance. Cf. Mertens & De Siena 1982 for a discussion.

NOTE 34

Cf. Dinsmoor 1975, 49.

NOTE 35

Lauter 1986, 168.

NOTE 36

Cf. Kolb 1984, 80, 133.

NOTE 37

Cf. Isler 1994, 94.

NOTE 38

I use the size definitions introduced by Rossetto and Sartorio 1994, 80: small <60 m, medium 60-80 m and large >80 m (measured at the widest point of the koilon).

NOTE 39

Dilke 1948, 139.

NOTE 40

1896, 170ff., 1930, 24 and 1961, 127, respectively. Later followed by De Bernardi Ferrero IV 1974, 76, and (though more ambiguous) Gogos 1992, 27 note 52.

NOTE 41

Further treated by Dilke 1948, 138-139, 186 ff. Cf. Wycherley 1962, 164-165 and Kolb 1984, 134, on the problem of fitting theatres into 'Hippodamian' town plans.

NOTE 42

Cf. von Gerkan 1961, 3, 33-34.

NOTE 43

See however Mitens 1988, 23, who concludes in regard to the Greek theatres in Magna Graecia: "Le dimensioni del koilon non sembra abbiano avuto importanza nei riguardi di detta suddivisione."

NOTE 44

In a not insignificant number of buildings the knowledge about the layout of the koilon remains uncertain because of lack of preservation and/or investigation, e.g. Abdera (*TGR* II 115), Koroneia (Dilke 1948, 152), the large theatre in Larissa (*TGR* II 245), Keryneia (*TGR* II 255) and Tanagra (*TGR* II 302).

NOTE 45

Dinsmoor 1975, 317.

NOTE 46

Cf. Bieber 1961, 128, making a similar general statement on that issue.

NOTE 47

Dilke 1948, 135.

NOTE 48

Gogos 1992, 31 and note 71.

NOTE 49

Pickard-Cambridge 1946, 139 note 5. See however Fiechter 1950, 37.

NOTE 50

This could be the case also in the not excavated theatres of Boiotian Koroneia (Dilke 1948, 152) and Thespiai (valley of the Muses) (*TGR* II 307).

NOTE 51

Dilke 1948, 152-153; Dinsmoor 1975, 316.

NOTE 52

Treated by Dilke 1948, 153-161.

NOTE 53

Dilke 1948, 153. He adds that this type of seating was "by no means universal even in Hellenistic times", but that statement is far too pessimistic in my opinion. Von Gerkan 1961, 35, claims that Asia Minor showed different habits for example in the use of the 'economical type' of seating exemplified by *Ephesos*, *Magnesia on Maeander* and *Priene*. This is partly true, but according to De Bernardi Ferrero IV 1974, 45, the use of monolithic seats became the norm in Asia Minor, and she gives the same exceptions as von Gerkan and adds *Pergamon* and *Tralles* (*TGR* III 380-81).

NOTE 54

Von Gerkan 1961, 35.

NOTE 55

Dilke 1948, 153ff.

NOTE 56

According to Dilke (1948, 161) economic seating is not attested in any theatres constructed later than 150 BC.

NOTE 57

Treated by Dilke 1948, 165-181; Dinsmoor 1975, 317-318; Gogos 1992, 109 note 269.

NOTE 58

This interpretation of the upper *proedria* is debated. See von Gerkan 1921, 99f; von Gerkan 1961, 80; Gogos 1992, 110.

NOTE 59

Dinsmoor 1975, 317; Fiechter 1931, 21, suggesting this based on a find of one plate on the first row of seats.

NOTE 60

Further examples where thrones, fragments of thrones or bases have been found are e.g. *Eretria* II, *Mytilene*, *Tegea* II and *Typaneai*.

NOTE 61

For a broad description of the different types of *euripos*, see e.g. von Gerkan 1961, 35 and Dinsmoor 1975, 312.

NOTE 62

Gebhard 1974, 428ff.; Kolb 1981, 16f. Opposed to this view we have e.g. Dörpfeld & Reisch 1896, (implicit 366-367), Dilke 1948, 127 (on the early theatre), De Bernardi Ferrero IV 1974, 76 and Lauter 1986, 311, stating that it was the other way around.

NOTE 63

See however von Gerkan 1961, 34 who is sceptic about the existence of a circular orchestra here.

NOTE 64

Gebhard 1974, 428 note 2 adds *Oiniadai* and cautiously *Ephesos*. *Oiniadai* has also earlier been included among the theatres having a circular orchestra (Bieber 1961, 119), but I must admit that I am not convinced. The excavator B. Powell (A.I.A. II Ser. VIII [1904] pl. VIII) draws it in on the plan of the theatre, and describes traces of the stone ring continuing. But already Fiechter, 1931, 13, noted that the continuation of the row of white poros-stones was not traceable when he examined the theatre. The finely profiled blocks that mark the limit of the orchestra towards the *euripos* do not, as far as I can see, continue to form a complete circle. The orchestra, the groove in which the profiled blocks are laid, and the *euripos*, are all hewn out of the rock and it is easily noticed that the groove does not continue from the point where the *euripos* disappears to continue underground (autopsy May 1998).

NOTE 65

Dörpfeld & Reisch 1896, 376, 379 (4th cent.), 383 (entire Hellenistic period). As late as 1975 Dinsmoor, 312, writes (having all the localities in mind where we do not find the full orchestra circle) that it was imagined; Gebhard 1974, 428-440 sums up the evidence on the existence of circular orchestra before *Epidaurus* and finds that there are none. A most recent follower of the Dörpfeld orthodoxy is Isler 1997, 549, giving the examples (dating from the middle of the 4th cent. BC): *Athens* III, *Elis*, *Megalopolis* and *Aigai*, none of which, however, have circular orchestras.

NOTE 66

Cf. Dinsmoor 1975, 312.

NOTE 67

A good treatment in Dinsmoor 1975, 298-308. Among the problems with the scene-building is the possible existence of a wooden skene as such in the early phase of the monumentalised Greek theatre and whether the purpose of the *proskenion* was as a background for acting or as an actual stage for it. For clarifications in the discussion on these problems see e.g. Modona 1961, 30ff and Dinsmoor 1975, 298-308, for descriptions of the development of the scene building from wooden additional element to permanent stone element. Though the sources have expanded a lot since the turn of the century a good general treatment is still to be found in O. Puchstein, *Die Griechische Bühne*, Berlin 1901, but for a more recent study comprising a few key monuments see S. Gogos, *Zur Typologie vorhellenistischer Theaterarchitektur*, *OJh* 59 1989 Beiblatt, 114-158.

NOTE 68

This increasing focus on the scene building was caused by the introduction of the New Comedy, with the accompanying decreasing importance of the *choros* and the moving of the remaining main characters to the roof of the *proskenion* or *logheion* as it was called. See e.g. Dinsmoor 1975, 298; Isler 1994, 102.

NOTE 69

Isler 1994, 98.

NOTE 70

Dinsmoor 1975, 298; Isler 1994, 100.

NOTE 71

Isler 1994, 100.

NOTE 72

For some examples see Dinsmoor 1975, 303; Gogos 1992, 75ff.

NOTE 73

Dinsmoor 1975, 316.

NOTE 74

Dörpfeld & Reisch 1896, 173.

NOTE 75

Cf. Dilke 1948, 141.

NOTE 76

Isler 1994, 96.

NOTE 77

Dilke above note 75 Gogos 1992, 27 note 52 and 30 note 68, discusses the chronological and regional aspects of types B and

C and finds that they were not linked to either chronology or place, but coexisted. Gogos also refers to Fiechter's diverging suggestions on chronology. Fiechter 1935, 84-87 (probably meaning all semicircular koila) only mentions *Epidauros* and *Priene* (both type E) explicitly as being older than type C.

NOTE 78
1896, 173. Cf. Dinsmoor 1975, 316 and Corni 1994, 134.

NOTE 79
Listings of monuments previously classified as type B: Dörpfeld & Reisch 1896, 170 (the theatres mentioned here, Side, Myra and Aezani, are apparently all Roman); Dilke 1948, 141; Dinsmoor 1975, 316 (includes *Ephesos* among theatres of this type, but it belongs to type E, see below; On Asia Minor: De Bernardi Ferrero IV 1974, 76.

NOTE 80
Andronikos 1984, 46-49.

NOTE 81
1975, 316.

NOTE 82
As reconstructed by the excavator the theatre at Isthmia, despite having the common straight wings of this type, has got a koilon whose inner part does not form a complete semicircle before the wings straighten, see Gebhard 1973, Pl. IV.

NOTE 83
1948, 141, 1975, 317 and 1992, 27 note 52, respectively.

NOTE 84
IV 1974, 76 and III 1970, Tav. XIII, respectively.

NOTE 85
Only the existence of a Roman stage building has been identified so far (Isler in *TGR* III, 475). The monument is located in the extrurban sanctuary, used as a federal sanctuary for the Lycian League, and perhaps the function of the monument was as meeting place for it and therefore constructed without scene building. Until otherwise proven *Letoon* will, however, be considered a regular theatre.

NOTE 86
Corresponding to this fact the theatre of *Pleuron* is listed by Dilke (1948, 141) and Dinsmoor (1975, 316) with theatres of type B.

NOTE 87
The beautiful and well-preserved theatre at Halikarnassos is also of this type, but since it has not been published I cannot include it in this investigation, see *TGR* III, 402.

NOTE 88
1961, 127. Dilke's statement (1948, 135) to the effect that the straight-winged type C and the circular-winged type B are equally common, will also have to be regarded as out of date.

NOTE 89
Type C theatres were built in the Roman period as well, e.g. *Tralles*, probably dating to the 1. cent. AD. De Bernardi Ferrero III 1970, 111, Tav. XX. In *TGR* III, 381, dated to 1. cent. BC.

NOTE 90
Dilke 1948, 141; Wurster 1993, 20; Lauter, 1986, 167, also considering Athens to be the spot of invention, makes a distinction between Athens and Epidauros, placing the theatre of Epidauros and also the large theatre of Syrakousai as perfect specimens developed from the theatre of Dionysos.

NOTE 91
E.g. Wycherley 1962, 170. This particular problem belongs in a study of the development of the Archaic and Classical theatre and will not be treated in detail here, see e.g. Anti 1947 (in some of the analysis partly out of date but still very useful); Bieber 1961, 54-73; Anti & Polacco 1969; Gebhard 1974; Isler 1994, 86-92.

NOTE 92
Isler 1994, 94 & 96.

NOTE 93
Dilke 1948, 135.

NOTE 94
Listings of monuments previously classified as type E: Dilke 1948, 135, 142; Bieber 1961, 72, 127 figs. 176a-c; Asia Minor: De Bernardi Ferrero IV 1974, 76.

NOTE 95
See e.g. Dörpfeld & Reisch 1896, 122-124; Dilke 1948, 142.

NOTE 96
1975, 317.

NOTE 97
Dilke 1948, 135 (inspired by Fiechter) lists *Oropos* II among theatres like *Epidauros* and *Priene* in a context where he explains their

refinements in the elliptic aspect. For a more reasonable treatment of the theatre building at *Oropos* I-II, see Anti and Polacco 1969, 17ff.

NOTE 98
Von Gerkan 1921, 62, suggests the end of 4th century or 300 BC at the latest. Discussion in Dinsmoor 1975, 298 note 2.

NOTE 99
In the case of *Kassope* Isler describes the orchestra as a horseshoe (i.e. type C) but the koilon as being less than a semicircle. This is not exactly the case. It is true that the segment of a circle decreases upwards and thus makes the opposite angle as is normally seen in Greek theatres, but the parodos walls are not recessed as much as to be within the area of 180°, and thus the koilon is in fact larger than a semicircle.

NOTE 100
De Bernardi Ferrero IV 1974, 76, note 4. On Asia Minor she lists (IV 1974, 76), apart from the ones mentioned in the text below, *Alyndos* and *Balbyra* which to my knowledge are type B, and *Aspendos* which is Roman (*TGR* III, 393-95).

NOTE 101
Because of the state of knowledge on the Greek theatre in the 1940s Dilke wrote the following about the alternatives to the canon (1948, 141): "Apart from irregularly built theatres, the only exception to these rules is Pergamon, where the parodos walls form a straight line, but the cavea itself only a small segment."

NOTE 102
Dinsmoor 1975, 307.

NOTE 103
See Dörpfeld & Reisch 1896, 171-173, and Dilke 1948, 135, 141, for the following practical explanations for the development of the canon and their relations to the types B, C and E.

NOTE 104
Dinsmoor 1975, 314.

NOTE 105
Bieber 1961, 127; Cf. Fiechter 1914, 72.

NOTE 106
A fragment of Alexis' *Gynaikokratia* (T. Kock, *Comicorum Atticorum Fragmenta* [Leipzig 1834] vol. II no. 41) can possibly be interpreted as if the outer kerkides were given to foreigners (or foreign women), because

they offered the least attractive view, but it will remain an open question, because the context of the fragment could change the interpretation. Cf. A.W. Pickard-Cambridge, *The Dramatic Festivals of Athens*, Oxford 1968², 269.

NOTE 107
1948, 141.

NOTE 108
An extreme view is found at Wycherley 1962, 219 note 18 (on the canon generally): "But the type was not rigidly fixed and local convenience was the determining factor".

NOTE 109
Nothing to confirm the diverging attitudes on this point by Isler *TGR* II, 277 and Gogos 1992, 83, is preserved.

NOTE 110
On the local Illyrian-Epeirot characteristics of the theatre architecture, see Ceka 1990, 226-227.

NOTE 111
Anti & Polacco (1981, 192) suggest to add *Syrakousai* 2V with its deep trapezoidal groove to the group of buildings with this particular phenomenon, which is probable, though it cannot be proved that there ever was a circular *orchestra* there. They also add *Epidaurus* to this group, which is true as far

as the circle goes, but strange anyway as there are no traces there at all of a quadrangular/trapezoidal enclosure for it.

NOTE 112
The synoecism of Megalopolis is recently treated by T. Heine Nielsen, ΠΟΛΙΣ ΚΑΙ ΠΟΛΙΤΕΙΑ. The *Polis* Structure of Arkadia in the Archaic and Classical Periods (unpublished PhD dissertation, Copenhagen 1996), 286ff.

NOTE 113
We have quite good population figures for Megalopolis, admittedly dating some decades later than the construction of the theatre took place, but it is unlikely that they would have changed considerably in that span of time. From the year 318 we know that the number of men fit for military duty was 15.000 (including slaves and metics), and the total population estimated from that is between 60.000 to 70.000, while the capacity of the theatre building is around 20.000. With these figures in mind we can say with a high degree of probability that the theatre building of Megalopolis was not far bigger than necessary, considering the fact that the group of men fit for military duty almost alone would fill it. The 15.000 were, moreover, only the major part of the male population. As expected spectators we should add to these, depending on the local tradition at this point, the remaining part of the male population, women, children,

teenagers, elderly people (including these groups from slaves and metics too). For the population numbers of Megalopolis, see B. Forsén, Population and Political Strength in some Southeastern Arkadian *Poleis*, in P. Flensted-Jensen (ed.) *Further studies in the Ancient Greek Polis. Papers from the Copenhagen Polis Centre 5. Historia Einzelschriften* 138. Stuttgart 2000, 41.

NOTE 114
Hoepfner (*et al.*) 1999, 368.

NOTE 115
Hoepfner (*et al.*) 1999, 371

NOTE 116
Hoepfner & Schwandner 1986, 142.

NOTE 117
Hoepfner & Schwandner 1986, 154, Abb. 148

NOTE 118
As opposed to type A of the 5th century, the theatres of which do not consist of more than the theatre building (*koulon* and *orchestra*) and thus do not rise the same problems of classification.

NOTE 119
Cf. Isler 1994, 88.

NOTE 120
1994, 96.

Alphabetical list of theatres included in the appendix (p. 169ff.)

<i>Locality</i>	<i>Type</i>				
		Herakleia Minoa	C	Oropos I	Unique
		Iaitas	C	Oropos II	C
Aigai	B	Iasos	B	Pergamon	G
Aigeira	C	Ikarion	D	'Perperene'	G
Akrai	G	Isthmia II	C	Philippoi	B
Alexandreia Oxiana	B	Kadyanda	E	Phleious	Unique
Alyndos	B	Kassope	F	Pinara	B
Ambrakia	G	Kaunos	B	Peiraieus-Mounichia	C
Antiphellos	B	Kibyra	B	Peiraieus-Zea	C
Aphrodisias	B	Knidos 1	B	Pleuron	B
Apollonia (Kyrenaika)	B	Korinthos II	B	Priene	E
Argos 1	A	Kyanai	B	Rhamnous	D
Argos 2	B	Kyrene	F(?)	Rhegion	B
Arykanda	B	Larissa 2 (Phthiotis)	B	Rhodiapolis	B
Assos	C	Leontion	B	Samothrake	B
Athens III	C	Letoon	B	Segesta	C
Babylon	B	Lindos	E	Sikyon	B
Balbyra	B	Lokroi Epizephyrioi	B	Solous	B
Bouthrotos	G	Magnesia (on Maeander)	E	Stratonikeia	B
Byllis	B	'Makyneia'	Unique	Stratos	B
Chaironeia I	A	Mantineia II	B	Syrakousai 1	A
Chaironeia II	Unique	Maroneia	E	Syrakousai 2 V	E
Delos	B	Megalopolis	B	Tegea I	D
Delphoi	B	Melos	B	Tegea II	B
Demetrias	E	Messene	C(?)	Termessos	B
Dion (Macedon)	B	Metapontion IV	G	Thasos	F
Dodone	B	Methymna	F	Thebes (Phthiotis)	B
Elis	B	Miletos	B	Thera	B
Ephesos	E	Morgantina	B	Thorikos I-III	Unique
Epidaurus I-II	E	Mytilene	B	Trakhones	Unique
Epidaurus, polis of-	B	Oiniadai	C	Tyndaris	B
Eretria II	C	Oinoanda	E	Typaneai	B
Heloros	B	Orchomenos (Arkadia)	Unique		
Hephaistia	F	Orchomenos (Boiotia)	C		

Appendix

For conventions see note 22. The dates are as a rule the ones given in *TGR* (to which a basic reference is also given where further references will be found). Then follows a specific reference to indicate what plan I have used for the study of design. There will sometimes be references to more plans as well as to some important literature published after 1994 when *TGR* appeared.

Type A

Argos 1, 5th century BC
TGR II 123; Anti & Polacco 1969, Tav. V.
- Ginouvès 1972 Plates 1 & 5.

Chaironeia I, 5th century BC
TGR II 146; Anti & Polacco 1969, Tav. I.

Syrakousai 1, 5th century BC
TGR III 33; Polacco 1990, Tav. XXX.

Type B

Aigai, 4th century BC
TGR II 317; Andronikos 1983, Fig. B.

Alexandreia Oxiana, c. 200 BC
TGR I 211; M.P. Bernhard, Campagne de Fouilles 1976-1977 à Ai Khanoum (Afghanistan), *CRAI* 1978, 431, Fig. 6.

Alyndos, 2nd century BC
TGR III 463-4; De Bernardi Ferrero II, Tav. XXIX.

Antiphellos, Hellenistic
TGR III 465; De Bernardi Ferrero II, Tav. XXIII.

Aphrodisias, 1st century BC
TGR III 429-30; De Bernardi Ferrero IV, Tav. II-III.

Apollonia, Kyrenaika, 3rd century BC
TGR III 132-3; *ibid.*

Argos 2, 3rd century BC
TGR II 125-6; G. Roux, Chronique des Fouilles en 1955, *BCH* LXXX 1956, Fig. 41 (pp. 384-85). - J.-Ch. Moretti, Travaux de l'École Française en Grèce en 1988. Argos. 4. Le théâtre, *BCH* CXIII.2 1989, 718, Fig. 21.

Arykanda, 2nd century BC
TGR III 370; De Bernardi Ferrero IV, Tav. I.

Babylon, 4th century BC
TGR II 330-2; *ibid.*

Balbyra, 2nd century BC
TGR III 460; De Bernardi Ferrero II, Tav. XIII B.

Byllis, 3rd century BC
TGR I 222; Ceka 1990, 225, Abb. 14.

Delos, 4th - 3rd century BC
TGR II 192-4; Y. Béquignon & J. Replat, Le Tracé du Théâtre de Délos, *BCH* LI 1927, Pl. XVI-XVIII.

Delphoi, 3rd - 2nd century BC
TGR II 188-90; E. Hansen & G. Algreen-Ussing, *Fouilles de Delphes 2 Atlas*, Paris 1975, Pl. 20.

Dion, 2nd century BC
TGR II 197; *ibid.*

- Dodone. Sanctuary of Zeus at Dodone, 3rd century BC
TGR II 200-2; S.I. Dakaris, To Ieron tes Dodones, *ArchDelt* 16 1960, 25, Fig. 14.
- Elis, 4th century BC
TGR II 207; V. Mitsopoulou-Leon & E. Pochmarski, Elfter vorläufiger Bericht über die Grabungen in Elis, *ÖJH* 51 (1976-77) Beiblatt, 200-3, Abb. 17.
- Epidauros, the polis of-, 4th century BC
TGR II 213; Autopsy IX 1996 (no published plan exists).
- Heloros, 4th-3rd centuries BC (?)
TGR II 444; P. Orsi, Eloro: I. Campagne di Scavo del 1899, *MonAnt* 47 1966, 233 fig. 9.
- Iasos, 2nd century BC
TGR III 476; De Bernardi Ferrero III, Tav. XIA.
- Kaunos, 2nd century BC
TGR III 414; De Bernardi Ferrero III, Tav. XLIVA.
- Kibyra, 1st century BC
TGR III 433-4; De Bernardi Ferrero I, Tav. I.
- Knidos 1 ("Lower theatre"), 2nd century BC
TGR III 511-2; I.C. Love, A preliminary Report of the Excavations at Knidos, *AJA* 74 1970 Pl. 37, Fig. 2.
- Korinthos II, 3rd century BC
TGR II 152-5; Stillwell 1952, Plates II-IV.
- Kyanai, 3rd century BC
TGR III 529; De Bernardi Ferrero II, Tav. XXIVB.
- Larissa 2, 1st century BC
TGR II 246; A. Tziafalias, Anaskaphikes Ergasies. Larisa, *ArchDelt* 40 1985 (chronika), 199, Fig 1.
- Leontion, 4th (?) century BC
TGR II 251; Autopsy VI 1998 (no published plan exists).
- Letoon. Extraurban sanctuary to Xanthos, 1st century BC
TGR III 475; De Bernardi Ferrero III, Tav. XIII.
- Lokroi Epizephyrioi, 4th century BC
TGR II 490-1; Mitens 1988, Fig. 44 (plan by D. Mertens).
- Mantineia II, 4th century BC
TGR II 313; G. Fougères, Fouilles de Mantinée, *BCH* XIV 1890, Pl. XVII.
- Megalopolis, 4th century BC
TGR II 262-3; E.A. Gardner & R.V. Schultz, Excavations at Megalopolis, *JHS* 1892 suppl. 1, Fig. I. - A. Petronotis, I Megali Polis tis Arkadias, *Ancient Greek Cities* 23, Athens 1973, 229-232, Fig. 11.
- Melos, Hellenistic
TGR II 264; H. Bankel, *C. Haller von Hallerstein in Griechenland 1810-1817*, Berlin 1986, 199, fig. 4.18.
- Miletos, 4th century BC
TGR III 384-7; The Hellenistic koilon is poorly preserved, but the design of it is probably reflected in the later Roman Cavea. See F. Krauss, *Das Theater von Milet*, Berlin 1973, Taf. 11.
- Morgantina, 3rd century BC
TGR III 26; R. Stillwell, The Theater of Morgantina, *Kokalos* X-XI 1964-65, Tav. LI Fig. 3.
- Mytilene, Hellenistic
TGR II 252; B.Ch. Petrakos, (chronika), *ArchDelt* 22 1967, 450, fig. 3.
- Philippoi, 4th century BC
TGR II 243-4; G. Karadedos & Ch. Koukoule-Chrysanthaki, Skepseis gia tous analemmatikous toichous kai tis parodous tou archaiou theatrou ton Philippon, *AEMT* 7 1993, 520, Fig. 1.

- Pinara, 2nd century BC
TGR III 481; De Bernardi Ferrero II, Tav. XIXA.
- Pleuron, 3rd century BC
TGR II 234; Fiechter 1931, Taf. 8.
- Rhegion, 4th century BC
TGR II 578; F. Martorano, Il porto e l'ekklesiasterion di Reggio nel 344. Ricerche di topografia e di architettura antica su una polis italiota, *RivStorCalabris* 6, 1985, Fig. 4 (heavily restored).
- Rhodiapolis, 1st century BC
TGR III 491; De Bernardi Ferrero II, Tav. XXVIII B.
- Samothrake. Sanctuary of 'the Great Gods', 2nd century BC
TGR II 288; F. Chapouthier, A. Salac & F. Salviat, Le Théâtre de Samothrace, *BCH* LXXX 1956, 122 Fig. 4, 139, Fig. 28.
- Sikyon, 3rd century BC
TGR II 291-2; E. Fiechter, *Das Theater von Sikyon*, Stuttgart 1931, Taf. 6.
- Solous, 4th century BC
TGR III 39; V. Tusa, Edificio sacro a Solunto, *Palladio* 17 1967, Fig. 7.
- Stratonikeia, 1st century BC
TGR III 424; *ibid.*
- Stratos, 4th century BC
TGR II 302; Autopsy VI 1998 (no published plan exists). The theatre has been excavated recently under the direction of Dr. E.-L. Schwandner.
- Tegea II, 2nd century BC
TGR II 270; R. Vallois, Le Théâtre de Tégée, *BCH* L 1926, Pl. V-VII.
- Termessos, 2nd century BC
TGR III 443-4; De Bernardi Ferrero II, Tav. I.
- Thebes (Phthiotis), 4th century BC
TGR II 266; A. Mpatziou-Eustathiou, Anaskafikes Ergasies, Nomos Magnesias, Fthiotides Thebes, *ADelt* 47.1 1992, 222-5 figs. 2-3, pl. 67a, b. Plan 225 Fig. 3.
- Thera, 2nd century BC
TGR II 289-90; W. Dörpfeld, Das Theater von Thera, *AM* XXIX 1904, Taf. V.
- Tyndaris, 4th century BC
TGR III 63-4; L. Bernabò Brea, Due secoli di studi, scavi e restauro del teatro greco di Tindari, *RLA* 14-15, 1964-65, Tav. 1.
- Typaneai, 4th century BC-Hellenistic
TGR II 235; W.M. Leake, *Travels in the Morea*, London 1830, vol. II, 83. - E. Meyer, *Neue Peloponnesische Wanderungen* (Bern 1957) Pl. 1. Autopsy VI 1998.
- ## Type C
- Aigeira, 3rd century BC
TGR II 204-5; Gogos 1992, Taf. 51.
- Assos, Hellenistic
TGR III 392; De Bernardi Ferrero III, Tav. VIA.
- Athens, Theatre of Dionysos III, 4th century BC
TGR II 132-5; Dörpfeld & Reisch 1896 Taf. II. - E.R. Fiechter, *Das Dionysos-Theater in Athen* I. Stuttgart 1935, Taf. 1.
- Eretria II, 3rd century BC
TGR II 215-6; E. Fiechter, *Das Theater in Eretria*, Stuttgart 1937, Taf. 1.
- Herakleia Minoa, 4th - 3rd century BC
TGR II 446; E. De Miro, Il Teatro di Heracleia Minoa, *RendLinc* 21 1966, Tav. 2.
- Iaitas, 4th century BC
TGR II 513-4; Isler 1981, Tav. II,3 - See also H.P. Isler, *AK* 36 1993.1, 59, *AK* 39 1996. 1, 52 for reports on recent investigations. Cf. R.J.A. Wilson, *AR* 42 1995-96, 107.

Isthmia II. Sanctuary of Poseidon, 4th century BC

TGR II 224-6; Gebhard 1973, 23, Pl. IV.

Messene (?), 4th century BC

TGR II 258-9; *ibid.*

Oiniadai, 3rd century BC

TGR II 236; Fiechter 1931, Taf. 1.

Orchomenos (Boiotia), 4th century BC

TGR II 268-9; Autopsy X 1995 & VII 1998 (no published plan exists).

Oropos II. Sanctuary of Amphiaraos at Oropos, 3rd century BC

TGR II 227-8; Fiechter 1930, Taf. I. - Anti & Polacco 1969, Tav. III.

Peiraieus-Mounichia, Hellenistic

TGR II 276; *ibid.*

Peiraieus-Zea, 2nd century BC

TGR II 277-8; D. Philios, Ekthesis. Periton en Peiraiei anaskaphon, *Praktiká* 1881 Plate (unnumbered). - Fiechter 1950 Taf. 6. - E. Curtius & J.A. Kaupert, Karten von Attika, Berlin 1881, Heft I p. 67, Plate (unnumbered).

Segesta, 3rd century BC

TGR III 21-3; Isler 1981, 155, tav. V,9.

Type D

Ikarion. Deme of Athens, 4th century BC

TGR II 199; J. Travlos, *Bildlexikon zur Topographie des antiken Attika*, Tübingen 1988, Abb. 98.

Rhamnous. Deme of Athens, 4th century BC

TGR II 221; Bulle 1928, Taf. 1.

Tegea I, 4th century BC

TGR II 270; R. Vallois, *Le Théâtre de Tégée*, *BCH L* 1926, Pl. IX.

Type E

Demetrias, 3rd century BC

TGR II 319-20; V. Milojevic, *Demetrias III*, Bonn 1980, Taf. VII.

Ephesos, 2nd century BC

TGR III 494-6; De Bernardi Ferrero III, Tav. VIII B.

Epidaurus I-II. Sanctuary of Asklepios, 3rd-2nd century BC

TGR II 208-10; Gerkan 1961, Taf. 1.

Kadyanda, 2nd century BC

TGR III 523; De Bernardi Ferrero II, Tav. XVIII C.

Lindos, PQ 3rd century BC

TGR II 279; E. Dyggve, *Lindos III* 2, Berlin-Copenhagen 1960, Pl. X, A & C.

Magnesia on Maeander, 2nd century BC

TGR III 354; De Bernardi Ferrero III, Tav. XVIII A.

Maroneia, Hellenistic

TGR II 257; E. Pentasos, *To Archaio Theatro Ste Maroneia*, in *Mneme D. Lazaride. Polis kai Chora sten Archaia Makedonia Kai Thrake*, Thessaloniki 1990, 640, Fig. 2. - G. Lavvas & G. Karadedos, *Vitrouvianes Epharmoges sto Theatro kai se Ysteroklasike Katoikia tes Maroneias*, *op. cit.*, 659, Fig. 3.

Oinoanda, 2nd century BC

TGR III 452; De Bernardi Ferrero II, Tav. XIV C.

Priene, 4th century BC

TGR III 441-2; Gerkan 1921, Taf. VIII & XXXII.

Syrakousai 2V, 3rd century BC

TGR III 34-7; Polacco 1990, Tav. XXX.

Type F

Hephaistia, 4th - 3rd century BC

TGR II 249; G. Libertini, *scavi di Lemno, ASAtene I-II (Nuova Serie) 1939/40*, fig. 2.

Kassope, 3rd century BC
TGR II 231; S. Dakaris, Cassopaia and the Elean Colonies, *Ancient Greek Cities* 4, Athens 1971, Fig. 53.

Kyrene IV(?), 4th century BC
TGR III 137-138; Stucchi 1975, 136, Fig. 115.

Methymna, Hellenistic
TGR II 253; H.-G. Buchholz, *Methymna*, Mainz 1975, Abb. 1 & Plan (Z) (no published plan exists).

Thasos, 4th century BC
TGR II 303-4; G. Daux (ed.), *Guide de Thasos*, Paris 1968, 51, Fig. 17.

Type G

Ambrakia, 4th century BC
TGR II 129; E. Andreou, To mikro teatro tes Ambrakias, *Ep. Chr.* XXV 1983, Fig. A.

Akrai, 3rd century BC
TGR II 548-9; L. Bernabò-Brea, *Akrai*, Catania 1956, Tav. A.

Bouthrotos, 3rd century BC
TGR I 217-8; Ceka 1990, 228, Abb. 16.

Metapontion IV, 4th century BC
TGR II 500-3; Mertens & De Siena 1982, Tav. II.

Pergamon, 3rd century BC
TGR III 396-8; De Bernardi Ferrero III, Tav. IV.

'Perperene'. The identification of this locality (mod. Asaga-Bei-Köi) as Hellenistic Perperene is uncertain.
E. Fabricius & R. Bohn, Eine Pergamenische Landstadt, *AM* XIV 1886, 8 Plan (unnumbered). - J. Stauber, *Die Bucht von Adramytteion*. IK 50.1. Bonn 1996, 291-305.

Unique

Chaironeia II, 3rd century BC
TGR II 146; Anti & Polacco 1969, Tav. I.

'Makyneia', 4th century BC?
Isler 1997, 553; The identification of this locality (mod. Palaiokastro Mamakou) as Makyneia is uncertain. Autopsy V 1998 (no published plan exists). L. Kolonas, Makyneia Naupaktias, *ADelt* XLII 1987, Chronika, 182, Pl. 93b. - Photographs published: M. Stefossi (*et al.*), *Ancient Theatres*, Athens 1997, 122-3.

Orchomenos (Arkadia), 4th - 3rd century BC
TGR II 229; Autopsy VI 1998 (no published plan exists). Useful photograph: G. Steinhauer, *ADeltion* 29 1973-74, 301, Pl. 193a.

Oropos I. Sanctuary of Amphiaraos at Oropos, 4th century BC
TGR II 227-8; Anti & Polacco 1969, Tav. III.

Phleious, 4th century BC-Hellenistic
TGR II 117; W.R. Biers, The Theater at Phlius: Excavations 1973, *Hesperia* XLIV 1975, 52, Fig. 1.

Thorikos I-III. Deme of Athens, 6th - 4th century BC
TGR II 308-9; H.F. Mussche, I. Bingen (*et al.*), *Thorikos 1965 III*, Gent 1967. Pl. V.

Trakhones. Deme of Athens, 4th century BC
TGR II 311-2; Autopsy V 1998 (no published plan exists).

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