# THE DORIC ORDER: HELLENISTIC CRITICS AND CRITICISM

MANY authorities on ancient Greek architecture state that during the fourth century B.C. the Doric order was in a decline, and that by the Hellenistic period it was virtually abandoned for temples.[1] The archaeological evidence, it is argued, seems to bear this out. Doric temples were built during this period, but they can be dismissed, for instance by Dinsmoor (*Architecture of Ancient Greece* 267) as 'for the most part imitations of earlier works, and completion of earlier undertakings, together with a few sporadic but minor structures in which the style was adopted for conservative reasons'. It is clear, however, that the objection was not against the Doric order as such, since it was employed in all Greek areas to the virtual exclusion of the other orders (at any rate externally) in such buildings as stoas, of which large numbers were constructed during this period. We are to suppose, therefore, that it was only for temples that the other orders, Ionic and Corinthian, were considered superior to Doric, and that it was this belief that led to the decline and eventual abandoning of the Doric order. Since Vitruvius (iv 3.1) refers to statements by certain distinguished architects of the period to the effect that Doric was not suitable for temples, it would seem that the case is proved; moreover we are given the causes of this revulsion, *quod mendosae et disconvenientes in his symmetriae conficiebantur*, and more specifically, *quod impedita est distributio et incommoda in opere triglyphorum et lacunariorum*. The problems caused by the corner triglyphs in Doric buildings have been admirably expounded by Professor Robertson,[2] and it is not my purpose to discuss them further. I intend instead to discuss whether their effects, during the Hellenistic period, were quite as catastrophic as have been thought.[3]

It is essential first to see what the archaeological evidence is. The following lists of temples of the fourth century and Hellenistic period are compiled from Dinsmoor's *Architecture of Ancient Greece*, and include all buildings mentioned by him. The details of type, and the stylobate dimensions are intended as an approximate guide to the relative importance of the temples. Information in brackets has been supplied from other sources, and is often only approximate. I have divided the lists at 338 B.C., considering that the battle of Chaeronea, by altering the political foundations of mainland Greece, was not without some effect on the history of architecture, the most political of all the arts.

The information provided in this list is, of course, far from complete. Since Dinsmoor wrote his book several important temples have come to light, some of which are of great importance: the Ionic temple of Zeus at Labranda, for instance, and the Doric temple of Apollo at Klaros.[4] There must be many other temples in places which have not been so thoroughly investigated as Greece, or where the discovery of ancient remains is now impossible.

Even so, it is unlikely that further discoveries of Hellenistic architecture will upset the basic pattern which emerges from these lists, namely that the construction of Doric temples, some of them, at least, major buildings, continued in mainland Greece, to the virtual exclusion of Ionic,[5] while Ionic was normally employed in Asia Minor, though in those

[1] I am indebted to the University of Birmingham for a research grant which enabled me to inspect during the summer of 1960 the principal Hellenistic temples of mainland Greece.

[2] *Greek and Roman Architecture* 106 f.

[3] Robertson, *op. cit.*, 110: 'It is not surprising that the triglyph problem killed the Doric tradition.'

[4] For preliminary reports of Klaros, see, e.g., J. M. Cook in *Archaeological Reports for 1959–60* 42.

[5] Dinsmoor considers that the Ionic capital found at Korone in Messenia belongs to an early votive monument, not the fourth-century temple (*AAG*[3] 121).

## DORIC TEMPLES

### (i) Mainland of Greece

#### 400–338 B.C.

| *Locality* | *Deity* | *Date* | *Type* (peripteral front × flank columns, unless otherwise described) | *Stylobate dimensions* (metres) |
|---|---|---|---|---|
| Epidaurus | Asklepios | 380 | 6 × 11 | 11·76 × 23·06 |
| Delphi | Apollo | 373 onwards | 6 × 15 | 21·68 × 58·18 |
| Kalydon | Artemis Laphria | *c.* 360 | 6 × 13 | (14·02 × 31·63) |
| Thebes | Apollo Ismenios | (Time of Scopas) | 6 × 12 | (22·83 × 46·25 foundations) |
| Tegea | Athena Alea | *c.* 350 | 6 × 14 | 19·19 × 47·55 |
| Nemea | Zeus | *c.* 340 | 6 × 12 | 20·09 × 42·555 |

#### 338 B.C. onwards

| | | | | |
|---|---|---|---|---|
| Epidaurus | Artemis | (340–330) | 6 prostyle | (9·60 × 13·50) |
| Epidaurus | Aphrodite | ? | (2 in antis *or* 4 prostyle) | (7·50 × 13·65) |
| Epidaurus | Themis | ? | ? | (4·87 × 7·26) |
| Olympia | Metroon | (*c.* 320) | 6 × 11 | 10·62 × 20·67 |
| Lepreon | ? | (*c.* 320) | (6 × 11) | (*c.* 11·00 × 19·00) |
| Delphi | Athena Pronaia | ? | 6 prostyle | |
| Molykrion | Poseidon | ? | (6 × 13) | (14·37 × 31·45) |
| Ptous | Apollo | (316) | 6 × 13 | (11.65 × 24·72 euthynteria) |
| Stratos | Zeus | (*c.* 311) | 6 × 11 | 16·57 × 32·42 |
| Lusoi | Artemis Hemera | Hellenistic | 4 in antis | (*c.* 20·00 × 32·00) |
| Oropos | Amphiaraos | ? | 6 and 2 ½-cols. in antis | (14·41 × 30·86) |
| Lebadeia | Zeus Basileus | 175 | 6 × 13 | cella 151 ft. long |
| Lykosoura | Despoina | 175–150 | 6 prostyle | (12·31 × 21·35 euthynteria) |
| Messene | ? | Early Roman | 2 in antis | |
| Kourno | ? | Early Roman | 2 in antis | (5·20 × 7·16) |
| Kourno | ? | Early Roman | 6 × 7? | (7·98 × 9·96) |

### (ii) Islands

| | | | | |
|---|---|---|---|---|
| Delos | Apollo | 314 onwards | 6 × 13 | 12·47 × 28·53 |
| Delos | Isis | after 166 | 2 in antis | |
| Sikinos | Apollo | ? | 2 in antis | |
| Kos | Asklepios | 200–150 | 6 × 11 | (15·965 × 31·17) |
| Gortyn | Apollo | ? | 6 prostyle porch added | |
| Lesbos | Apollo Bresaios | first century | | |

### (iii) Asia Minor

| | | | | |
|---|---|---|---|---|
| Ilion | Athena | before 281 (See note 21) | 6 × 12 | (16·40 × 35·70) |
| Pergamum | Athena Polias | third century | (6 × 10) | 12·27 × 21·77 |
| Pergamum | Hera Basileia | 159–138 | 4 prostyle | (6·765 × 10·135) |

(iv) ELSEWHERE

| *Locality* | *Deity* | *Date* | *Type* (peripteral front × flank columns, unless otherwise described) | *Stylobate dimensions* (metres) |
|---|---|---|---|---|
| Cyrene | Apollo | | | |
| Hermopolis (Egypt) | Ptolemy III and Berenice | | 6 × ? | |
| Selinus | 'B' | | 2 in antis | |
| Akragas | Asklepios | | 2 in antis | |
| Taormina | Serapis | | 2 in antis | |
| Crimisa | Apollo Alius | | 8 × 19 added peristyle | |

## IONIC TEMPLES

(i) MAINLAND OF GREECE

None

(ii) ISLANDS

| | | | | |
|---|---|---|---|---|
| Messa (Lesbos) | Aphrodite | *c.* 280? | 8 × 14 pseudo-dipteral | 22·098 × 39·756 |
| Kos | Asklepios | third century? | 2 in antis | (8·50 × 15·07) |

(iii) ASIA MINOR

400–338 B.C.

| | | | | |
|---|---|---|---|---|
| Ephesos | Artemis | 356 onwards | 8 × 21 dipteral | *c.* 51·44 × 111·48 |
| Sardis | Artemis | *c.* 350 | 8 × 20 pseudo-dipteral | *c.* 45·73 × 99·16 |
| Priene | Athena | 340 | 6 × 11 | 19·53 × 37·17 |

338 B.C. onwards

| | | | | |
|---|---|---|---|---|
| Priene | Asklepios | late fourth century? | 4 prostyle | |
| Didyma | Apollo | *c.* 313 onwards | 10 × 21 dipteral | 51·13 × 109·34 |
| Chryse | Apollo Smintheus | ? | 8 × 14 pseudo-dipteral | 22·578 × 40·436 |
| Halikarnassos | Ares | | | |
| Magnesia | Zeus Sosipolis | after 197 | 4 prostyle | (7·38 × 15·82) |
| Teos | Dionysos | *c.* 180? | 6 × 11 | 18·63 × 34·98 |
| Magnesia | Artemis Leukophryene | *c.* 175 | 8 × 15 pseudo-dipteral | 31·60 × 57·89 |
| Alabanda | Apollo | | | |
| Ankyra | Rome and Augustus | | 8 × 15 pseudo-dipteral | |
| Mylasa | Rome and Augustus | | 6 × 7 | |
| Aphrodisias | Aphrodite | *c.* A.D. 125 | 8 × 13 | 19·945 × 32·57 |
| Aezani | Zeus | Roman | 8 × 15 | 21·35 × 36·59 |
| Termessos | | Roman | 6 × | |
| Sagalassos | Apollo Clarius | Roman | 6 × | |

regions the intruders—that is, Doric temples—were more numerous and more important. It is quite true that the total number of Doric temples constructed on the Greek mainland is likely to be lower than that of the sixth or fifth centuries. The reasons for this have nothing to do with any dissatisfaction with Doric as an architectural style, since, obviously, there is no evidence for the construction of Ionic temples in their place. The apparent decline of temple construction reflects the general insecurity of fourth-century Greece, the declining economic resources of the mainland, the tendency to devote these more limited resources, quite apart from military expenditure, to the construction of buildings other than temples—stoas, for example, or stone seated theatres. Moreover, the two previous centuries had seen mainland Greece lavishly equipped with magnificent temples, and, except as the result of disasters such as that which destroyed the temple of Apollo at Delphi, there was little incentive for further temple construction.

Equally, it is true that there are probably many more fourth-century and Hellenistic temples in Asia Minor of which we know nothing, and that the majority of these were certainly Ionic. Even if the Asia Minor temples greatly outnumbered those of mainland Greece, we must still bear in mind non-architectural factors governing this: that the Greek cities there were recovering from the stagnation of the fifth century; that many of their earlier temples had been destroyed; that, compared with the mainland, many of the cities were wealthy; and finally, that with the spread of Greek influence, many non-Greek peoples were becoming Hellenised, and, as a result, were equipping themselves with all the paraphernalia of Hellenism, including temples, Maussollos of Caria being an early and striking instance of this. On the other hand, this does not in itself imply any open rejection of Doric as an architectural style. The architects of these temples were simply building in the style which was local and traditional to their own particular regions, or, in the case of the Hellenised barbarians, the nearest Greek region. In no sense are these temples supplanting the Doric order. This all leads to the same point: the archaeological evidence does not show any decline, quantitively, in the construction of Doric temples as the result of competition from the other orders.

The argument against Doric must therefore shift to the question of quality, that the Doric temples I have listed are, as Dinsmoor says, merely 'imitations of earlier works, and completion of earlier undertakings, together with a few sporadic but minor structures in which the style was adopted for conservative reasons'. One can legitimately claim that fourth-century Doric is not as beautiful or impressive as that of the preceding centuries. However, this is not the reason proposed by the Greek architects quoted by Vitruvius for the unsuitability of the Doric order: *non quod invenusta est species aut genus aut formae dignitas.* The reason for rejection is the corner triglyph, not the more slender columns of the fourth century, or the less beautiful mouldings, or anything of that sort. The corner triglyph has nothing to do with a decline in architectural quality, since the problem was just as real in the fifth century. Secondly, it does not follow that Ionic was in any better condition. It is all very well for Professor Lawrence to tell us that '(Hermogenes) proclaimed that Doric was unsuitable for temples—a reasonable opinion considering the contemporary state of the order'.[6] We can, I think, quite legitimately doubt whether Ionic was any better off. Certainly the temple of Artemis Leukophryene at Magnesia, Hermogenes' most famous temple, impresses more by its size and position than by the details of the design,[7] the clumsy frieze being merely the culmination of its crudities, and it is well known that there have been difficulties concerning another of his temples, that of Dionysus at Teos, in distinguishing Hermogenes' work from later Roman repairs.[8] In some respects, it is

[6] *Greek Architecture* 216.

[7] This was not the ancient view, at least as reported by Strabo (xiv 647) who compares the temple favourably with that of Artemis at Ephesus. I inspected the sorry remains at Magnesia in 1956.

[8] Pullan, *Antiquities of Ionia* iv 39: 'It is evident from the plan that this temple was not that erected

true, Hermogenes' temples show attempts to return to the purity of design of earlier periods, though I doubt whether they succeed, and this must not be exaggerated; Hermogenes was no archaising purist, or he would not have retained the continuous carved frieze and Attic bases. It is a pity we have no directly comparable Doric temple; but this is the result of chance. If Antiochus Epiphanes' temple at Lebadeia had been completed, and if enough of it had survived for us to form a fair opinion of its qualities, it might well appear to be worthy of comparison with any of Hermogenes' work, with which it would have been contemporary. In other words: we may accept that in the detailed design and execution of individual temples there was a recognisable decline in standards during the Hellenistic period (for indeed the true genius of Hellenistic architecture lies elsewhere) but that this occurs as much in Ionic as in Doric architecture.

The antipathy against the Doric order is therefore by no means universal. It is rather the considered opinion of three particular architects, and bears little relation to actual architectural practice or general architectural ideas. The only reason we are given for the condemnation of the Doric order is the inevitable lack of symmetry in the arrangements of the triglyph and metope frieze, a shortcoming which does not seem seriously to have inconvenienced architects working in the Doric order. Nor do the strictures of these particular opponents of Doric seem to have had any real effect. If Doric was dying, it was for other reasons. It would seem more likely that the opponents objected to the Doric order rather as a matter of principle, and then tried to find a reason for their hostility, a weakness in the Doric order as such which they could use as a justification for their attacks. In order to see how their hostility came about, and to form some idea of its causes and its real extent, we must consider the three antagonists, Arcesius, Pytheos[9] and Hermogenes.

We know least about Arcesius. In the relevant passage of Vitruvius his name is Rose's correction for the MSS. reading Tarchesius, the 'T' being assimilated from the previous word *negavit*. Rose assumes that the same name is concealed in Vitruvius vii praef. 12, where the MSS. all read Argelius. If we do not accept this identification, we know nothing further about him, other than that he rejected the Doric order for temples. If we accept the identification we can add that he designed and described in a handbook an Ionic temple of Asklepios at Tralles in Caria, and that he wrote a book on the proportions of the Corinthian order. Since in vii praef. 12 Vitruvius gives a list of architects who have written treatises on various architectural topics, and since the present condemnation of Doric is likely to have been made in such a work, it is reasonable to look for the names of these architects in that list. Both Pytheos and Hermogenes are found, while 'Argelius' is the only name that resembles '(T)archesius'. Both emendations are simple and straightforward, particularly as the MSS. of Vitruvius are habitually confused over the precise forms of Greek names and technical terms. The identification of Tarchesius with Argelius seems to be certain. We can deduce his date only from this limited information, if we assume that his work on the Corinthian order refers to its use for external rather than internal colonnades. The earliest major Corinthian temple known is Antiochus Epiphanes' temple of Olympian Zeus at Athens. It is quite possible that the temple of Zeus Olbios at Uzunçaburc belongs to the early third century.[10] If Arcesius' treatise was a pioneering work, we can perhaps date him to the third century B.C.

Of Pytheos we know a little more. Though again we have the same textual complications in the MSS. (here the readings are Pytheus in H and G, Protheus in S), he must be identical with the Phyleos and Phileos of vii praef. 12, and the Pythios, Pithios and Pythius of i 1.12. From these passages we learn that he was the architect of the temple

by Hermogenes and described by Vitruvius as being eustyle. . . . The inferior character of the sculptures of the frieze and the inscription on the architrave prove that it was rebuilt in Roman times.'

[9] I use the spelling of Krohn's edition of Vitruvius (Teubner).

[10] Lawrence, *op. cit.*, 206.

of Athena Polias at Priene, and, with another architect, Satyrus, of the Mausoleum at Halikarnassos. On both buildings he wrote a handbook. In Pliny's garbled account of the Mausoleum (*NH* 36.30) his name appears as 'Pytis', and he is described as being responsible only for the marble four-horse chariot which crowned its pyramid roof. We are fortunate in having actual remains of his work, most notably, of course, the temple at Priene. His buildings date his floruit securely to the twenty-five years or so, 355 to 330 B.C. If there is anything in Pliny's information, it would seem that he worked on the Mausoleum in a subordinate position, and that he was then a young man. He may well have lived until the end of the fourth century, and his treatises, and so, perhaps, his condemnation of Doric, may belong to any time from 350 to 300 B.C.

Hermogenes is perhaps the most famous of all Hellenistic architects. His writings obviously greatly influenced Vitruvius. He was the architect (Vitr. iii 2.6) of the Ionic pseudo-dipteral temple of Artemis Leukophryene at Magnesia, and the 'monopteral' temple of Dionysus at Teos, on both of which he wrote descriptive treatises (Vitr. vii praef. 12). He was also responsible (Vitr. iii 3.8) for the various categories for describing the design of columns according to the proportions of column height and spacing in relation to the lower column diameter, and he 'discovered' the system of octostyle pseudo-dipteral arrangement, a claim that should probably be taken more seriously than it usually is. He was almost certainly a native of Priene,[11] and was responsible for the altar in front of Pytheos' temple there, and the completion of the temple itself. His antipathy to Doric was such that on one occasion he altered the design of a temple intended to be Doric and completed it in the Ionic order. This temple was dedicated to Dionysus: I shall argue below that it was in fact the famous temple at Teos.

It only remains to point out (and this is the most important fact about them), that all three architects were Ionians who worked exclusively, as far as we can tell, in Ionia and the immediately neighbouring districts such as Caria: Arcesius at Tralles, Pytheos at Priene and Halikarnassos, Hermogenes at Magnesia, Teos, and, perhaps, Pergamum. This is not, of course, fortuitous. All three architects come from that part of the world where the Ionic order was the established and traditional style of building. The ultimate reason for their antipathy to Doric is simply this. Not unnaturally, they considered the style to which they were accustomed was superior to all others, and in making the comparison with Doric they were bound to pick on the one element in its composition which could be interpreted as a weakness. What we have to consider now is what led them to exhibit their prejudices, to make their attacks on the Doric order.

In his most interesting book *Paradeigmata*[12] K. Jeppesen seeks to connect the prejudices revealed in this passage of Vitruvius with architectural developments in Attica of the fourth century. He suggests that 'the architects succeeding Ictinus and Mnesicles played a prominent part in the efforts at a renewal of the conventional orders resulting in the creation of a mixed order; Ionic columns combined with a Doric entablature'. He holds that fourth-century architects 'became accustomed to take an aesthetic pleasure in clear proportions, and that ultimately an architectural theory was created embodying a formulation of symmetry on the line of the geometrical definition of this word established by the Greek mathematicians'. So 'as a representative of a new epoch in the history of architecture Pytheus was forced to reject the Doric style, which because of the inevitable angle contraction was not so perfectly compatible with the principles of symmetry as the Ionic style'.

There are numerous objections to this. Despite Jeppesen's arguments it is by no means

[11] *Inschriften von Priene* no. 207 *ἀνέθηκεν Ἑρμογένης Ἀρπάλου τοῦ νεὼ ὑπογραφήν, ἣν καὶ ἠργολαβήσεν:* the absence of a reference to country or place of origin makes it likely that he came from Priene itself.

[12] K. Jeppesen, *Paradeigmata; three mid-fourth century main works of Hellenic architecture reconsidered* 153 f.

certain that Attic architects of the fourth century B.C. sought for a 'renewal of the conventional orders in the creation of a mixed order'.[13] The only actual fourth-century examples of a mixed order come from barbaric misinterpretations of Greek architectural forms in the buildings of the Hecatomnid dynasty at Labranda in Caria, which have, perhaps, had too great an influence on Jeppesen's ideas.[14] There, significantly, as in later degenerate Hellenistic mixed orders, Doric entablatures are superimposed on Ionic columns, a development which contributes precisely nothing to the solution of the corner triglyph problem. Undoubtedly Pytheos and his successors did hold that the symmetry of Ionic was preferable to Doric. Even if fourth-century architects were dominated by an all-consuming passion for symmetry,[15] it was hardly this that led them to the mixed orders. Nor, as we have seen, did it lead to the replacement of Doric by Ionic as the natural architectural order for mainland Greece. If we can discount any such serious innovations in mainland Greece, it follows that the antipathy of Pytheos and his successors must be something essentially local, that is, concerned with the architecture of Asia Minor.

If this is so, it seems that the theories of Pytheos, Arcesius and Hermogenes are an example of attack for the sake of defence; that these Ionian architects, rather than seeking to convince their mainland brethren of the error of their ways, are defending their native Ionic against an insidious invasion of Asia Minor itself by the despised Doric order. Whereas from mainland Greece we have, as far as we can tell, no serious intrusion of the Ionic order after the Erechtheum, the intrusion of Doric into Asia Minor is more extensive. In the reconstruction of the Asiatic cities, lavish use was made of the stoa as an architectural unit, for utilitarian and aesthetic purposes. Invariably these stoas, externally, were constructed in the Doric order. At Miletus, during the Hellenistic period a leading Ionian city, the number of Doric columns employed must have been considerably larger than the number of Ionic (even though Ionic was still reserved for temples). We cannot be certain of the reasons for this. It may be that the stoa, as an object of architectural importance rather than a mere utilitarian structure, was developed in mainland Greece, particularly by Athens, who, after the tentative Ionic stoa at Delphi, continued with important Doric structures such as the Stoa of Zeus and the early South Stoa, both in the Athenian Agora. I should prefer to stress more practical considerations. The Doric order was easier and cheaper to produce, with its simpler shafts—no bases, fewer and simpler flutes, often partly reduced to mere facets—simpler capitals (particularly so when one considers the straight-sided echinus of the Hellenistic order), and the relative paucity of complicated mouldings, and the absence of carved decoration on these mouldings. Further, as a matter of convenience it was preferable to have fairly close-spaced exterior columns to support the roof, with wider-spaced, taller columns under the ridge; thus Doric naturally came to be used for external columns, Ionic for internal. Whatever the reason, there can be little doubt that the great Ionian cities were predominantly Doric in appearance during the Hellenistic age.

There was consequently a danger that Doric would completely oust Ionic. Here we see the difficulties that faced Hermogenes. It was manifestly impossible to stop the flood of Doric stoas. Indeed, the setting of Hermogenes' own masterpiece at Magnesia is within a courtyard edged with Doric colonnades and overlooking an agora almost completely Doric. It would not be right to exaggerate the danger, or, at least, this particular cause of danger.

[13] See appendix.

[14] Hecatomnid architecture is far from being pure Greek, and its peculiarities must not be attributed also to Greek architecture, though they may anticipate late Hellenistic ideas. Another instance is the almost square plan of certain peripteral Ionic temples, Zeus at Labranda, and Augustus at Mylasa.

[15] A certain Silenus wrote *de symmetriis Doricorum*, and Philo, architect of the Piraeus arsenal, *de aedium sacrarum symmetriis* (Vitr. vii praef. 12). Both these books may well have been factual, referring to the actual proportions employed in their time (not, of course, symmetry in our sense).

The stoas were a fairly new development, certainly on this scale, and did not have behind them the architectural traditions which were of such great influence in temple design. The conservative and traditional outlook which seems to be inevitable in religious matters would normally see to it that the old traditional styles were employed for temples. However numerous the Doric stoas may be, they do not necessarily in themselves constitute a threat to the architecture of the temples. Their effect is more insidious; that is, they create an atmosphere favourable to the employment of Doric for temples, if ever a movement strongly urging Doric temples got under way. If this ever took place, it is not difficult to imagine the situation—the traditionalists deploring the innovations, extolling the virtues of the old native tradition against the defects of the upstart outsider, and finally laying it down as a firm law that however suitable Doric might be for the humdrum stoa, it was not suitable at all for temples. In a sense this is not merely blind hostility and prejudice. A temple, an offering to a god, had to be as near perfect as mere human endeavour could make it. I do not doubt for a moment that our Ionian architects sincerely believed that the triglyph problem constituted a flaw in the Doric order, and that therefore, in terms of pure perfection, Ionic was preferable—though Doric architects could legitimately retort that Ionic itself was flawed by the problem of the corner capital. I am sure that something like this lies at the heart of these criticisms of Doric, and that therefore they had no effect outside the immediate context of Asia Minor. The situation is particular, rather than general. These criticisms would not necessarily be accepted by other Greek architects working in other areas. They are totally unrelated to the archaeological evidence, whether this refers to the quantity of later Doric temples, or their individual quality. I feel that they have assumed an exaggerated importance in the works of later authorities, from Vitruvius onwards.

All that remains is to find the actual cause or causes which sparked off this wave of Ionic traditionalism. Basically, the cause must be the spread of mainland Greek influence to Asia Minor and the Ionian regions. The first instance of this was the creation of the Athenian empire in the fifth century, which led to the construction of a Doric temple on Delos.[16] This was not serious. Indeed, it was accompanied by the few certain examples of Ionic influence on the mainland, whether or not these were the results of political considerations. It does not explain the objections of Pytheos and his followers. The threat that influenced Pytheos may have been the second Athenian empire, but this is unlikely, as by the time that Pytheos emerges as an influential architect (admittedly in the pay of Maussollos, an enemy of Athens), the second Athenian empire was moribund. More serious was the threat of Macedon. In 338 B.C. Philip of Macedon became master of the Greek mainland. Up to this point his Hellenic pretensions inevitably concerned mainland Greece. Despite Chaeronea he deliberately chose to remain on good terms with Athens and the other Greek cities. Within Macedon itself the mainland tradition must have been strong. The earlier Hellenising monarchs (Archelaos, for example) were connected chiefly with the mainland Greek cities. The actual Greek towns founded on the coastline of Macedonia, from Dion to Amphipolis, were themselves the colonies of mainland Greek cities. This inevitably means that the chief architectural influence on Macedon was Doric in character.[17] This is, indeed, difficult to prove archaeologically. In general, Macedonian towns seem to have suffered severely from later occupation, invasion, and destruction. Much probably remains for the archaeologist to uncover, as is proved by the splendid results of Petsas' excavations at the Macedonian capital, Pella. The best evidence

[16] It is not unusual for cities building in the great sanctuaries to use their own local style, rather than that of the sanctuary or its surrounding region: e.g. the treasuries of Siphnos, Cnidus and Cyrene at Delphi.

[17] Further east Neapolis (Kavala) was an Ionian foundation, and so comes within the Ionic sphere of influence, as witness the important Ionic temple recently found there.

for Doric temples actually in Macedonia comes from Dion under Mt. Olympus, where there seems to have been at least one major building (*AA* 1933 242). In Thessaly, to all intents and purposes part of Macedon from the time of Philip II, there are Doric temples at Pazaraki (small and undated, *AA* 1931 269), Larissa (major temple of the fourth or third century, *BCH* lxxx (1956) 308), and Pherai (major peripteral temple of the fifth century B.C., with predecessors of the sixth and seventh centuries, *AA* 1927 389). The Doric order was also used for the peristyle and external colonnade of the 'palace' at Palatitza (new excavations, *BCH* lxxix (1955) 279 and lxxxi (1957) 601), for the lion-monument at Amphipolis, and for several Macedonian tombs.

There was not so much Ionic. It was used for the commemorative monument of Philip at Olympia, where its delicacy compared with Doric is perhaps a contributory factor; in some Macedonian tombs (superimposed as an upper storey over a Doric ground floor colonnade in the great tomb at Levkadhia);[18] and as the order for the peristyle of one of the houses recently discovered at Pella (another house, however, uses Doric). The Ionic employed in the Philippeion is hesitant and barbaric, suggesting that at this time the Macedonians had little real acquaintance with it. Some fifty years later they hardly had any better knowledge, for the Ionic order of a Macedonian tomb at Vergina copies faithfully the barbaric details of the Philippeion.[19] The Ionic capitals from Pella, to judge from the photograph in *BCH* lxxxiii (1959) 704 fig. 21, are not in accordance with strict Ionic design, the volutes being linked in a rising 'hump-back' line, which may suggest contacts with mainland Greece—for instance, the internal Ionic capitals of the temple at Bassae.

The Doric, however, is excellent in quality. The proportions are quite in accordance with those of Greece proper, the details, such as the echini of the capitals, being competently designed and worked by contemporary standards. In view of this, the natural position of Macedon, and her relations with Athens, it can safely be assumed that the Doric order had real importance in Macedon.

Following the conquests of Alexander, Macedonian control and influence was spread over a far greater area. It is quite impossible to discern within this extensive area any coherent architectural policy imposed by Alexander. In the Ionian cities, construction of Ionic temples took place. Alexander himself dedicated Pytheos' temple of Athena Polias at Priene. We may, I think, assume that in such circumstances Alexander's policy, if he ever gave it a thought, was to leave well alone. The real difficulty concerns the new Greek and Macedonian colonies, which grew to such importance, Alexandria and Antioch, for instance, and the policies of Alexander and the successor kings in building outside those areas where there was an established Greek architectural tradition. The archaeological evidence is slight in the extreme, but at the very least it does show that the Doric order was not unknown, and that it was used for temples. There are remains of Doric temples from Hermopolis in Egypt and from Seleucia, the harbour town of Antioch.[20] We cannot be sure how far this went, but taking into consideration the Macedonian character of many of these foundations it is likely that major 'official' temples sponsored by the Hellenistic kings would be Doric in style, at any rate during the first century of the Hellenistic era. This cannot be asserted as a definite, inflexible rule, but we can be certain that there was some royal prestige attached to the Doric order. It is quite possible that Pytheos lived long enough to protest against this.

An outstanding example of such a 'prestige' temple is that built by Lysimachus at Ilion, and dedicated to Athena.[21] In this region, a Doric temple is not completely an

[18] Levkadhia: *Archaeological Supplement* to *JHS* lxxv (1955) 15.

[19] Vergina: Rhomaios, *Ὁ Μακεδονικὸς Τάφος τῆς Βεργίνας;* Lawrence, *Greek Architecture* pl. 103.

[20] Hermopolis: Dinsmoor, *AAG*[3] 268; Seleucia: *Antioch on the Orontes* iii 33.

[21] Zschietzschmann, *Ber. VI Kong. Arch.* 426; Schleif, *AA* 1935 314. Now published by Goethert

intruder, since there had been a Doric temple at Assos, not many miles to the south, since the archaic period. The same is true of the next Doric temple in Asia Minor, that of Athena Polias at Pergamum,[22] which is presumably the work of the independent dynasts of that city, who had usurped for themselves the position (and eventually the title) of kings, and who in many ways sought to stress their (assumed?) Macedonian ancestry by aping their Macedonian 'betters'. As a result of developments in the third century B.C., the Ionian cities of Asia Minor, though usually independent, at least nominally, were actually at the mercy of the political ambitions and activities of three groups—the Seleucids, the Ptolemies and the Attalids. From all these there was likely to be pressure (misguided certainly, and unthinking, rather than a matter of deliberate policy) to build in the Doric style, particularly when the building was put up as a gift of one or other of the kings involved; elsewhere we have a notorious instance of this lack of concern for local traditions in the intrusion of the Pergamene stoa of Attalos II into the purer architecture of the Athenian Agora. It is surely against this form of intrusion that Hermogenes is protesting. The danger was real, as we now know from the Doric temple of Apollo at Klaros, and we also have the awful portent of the supercession of an earlier Ionic temple by a Doric one at the Asklepieion of Kos.

We can, I feel, be more precise on the specific instance of Hermogenes' protest. In 189 B.C., following the treaty of Apamea, Eumenes II gained control of a large part of Asia Minor, including the Ionian city of Teos. For reasons of policy, the Pergamene kings showed great favour to the guild of actors, the τεχνῖται Διονύσου who had made Teos their headquarters.[23] It is more than likely that Pergamene favour found its usual expression in the gift of a building, and that Hermogenes' temple was erected under Pergamene auspices.[24] I would suggest that it was this temple for which a quantity of marble had been collected, with the intention of building it in the Doric style, the normal Pergamene order, and which Hermogenes *commutavit ex eadem copia et eam Ionicam Libero patri fecit.* The reason for rejecting this identification is that the temple at Teos shows no sign of such alteration, while there is a small Ionic temple at Pergamum itself which has clearly been constructed out of re-used Doric parts, and whose Ionic mouldings are akin to those of Hermogenes' buildings at Magnesia. This, however, is a very unimportant building; the mouldings need only be the result of Hermogenean influence after the major incident concerning the temple at Teos. Nor is there any reason why the temple at Teos should show any physical signs of the change of design. The material would have been quarried and cut approximately to size, roughed out, perhaps, but not completely worked, since this was usually done on the site, in the course of construction. At this juncture Hermogenes, whether as the original architect of the temple or not, made his protest. Fearful lest the construction of an unwanted Doric temple should in some way offend these highly favoured subjects, the Pergamene king decided to entrust the whole work to Hermogenes himself to complete in the Ionic order. It would not be unduly difficult, provided construction had not yet begun (and this seems implied in Vitruvius' story) to alter the design to Ionic without any actual trace of the alteration appearing in the finished temple. Following this, the influence of Ionic spread to Pergamum, in the little rebuilt temple, and in the major post-Hermogenean temple of Apollo Chresterios at Aigai.

In the end, Hermogenes' alarm was unnecessary, since both Doric and Ionic succumbed

and Schleif, *Der Athenatempel von Ilion.* Goethert, following Dörpfeld, prefers to date this temple to the time of Augustus. For reasons which I have stated in my review of this book (see below) I am not convinced by his arguments.

[22] *Altertümer von Pergamon* ii.

[23] References conveniently collected by Esther V. Hansen, *The Attalids of Pergamum* 417.

[24] This is not affected by the controversy over Hermogenes' date. Whether he belongs to the first half of the second century (Dinsmoor) or the second half (Robertson, Lawrence) his floruit must fall within the period of Pergamene independence.

to Corinthian, developed particularly by the Hellenistic kings at the expense of the earlier traditions and enthusiastically adopted from them by the Romans. But the old traditions died hard. Even though Doric cannot show anything as magnificent as the late Ionic buildings of Aphrodisias, the reason is once more the relative poverty of the Doric areas. Against Aphrodisias we can place only the humble temples of Kourno, but even in their differing circumstances, they show just as clearly the loyalty of the Greeks to the styles they knew best.

## Appendix

### *Mixed Orders in the fourth century B.C.*

The mixture of Doric and Ionic can take two forms:

(*a*) The use of both Ionic and Doric columns, and perhaps entablature, in one and the same building.

(*b*) The combination of Ionic and Doric elements in a single order.

The first is quite common. Examples are:

(1) The hypothetical Ionic columns in the west chamber of the Parthenon.

(2) The Ionic columns flanking the central passage of the Athenian Propylaea.

(3) In stoas, the use of an Ionic colonnade of greater height supporting the ridge beam behind an external Doric colonnade. The earliest example of this is perhaps the stoa of Zeus at Athens, of the second half of the fifth century B.C.

In all these the motive is severely practical; to achieve greater column height in special circumstances without increasing unduly the lower diameter of the column.

The second form occurs to a negligible extent in fifth-century Attic architecture (e.g. the use of Ionic friezes and mouldings in the Parthenon and the Theseum) where to all intents and purposes the order remains Doric, and in one or two subordinate buildings of the fourth-century Carian dynasts at Labranda, where we find the full combination of Ionic columns and Doric entablatures.[25]

Jeppesen, however, considers that during the fourth century B.C. Athenian architects strove to achieve in the interests of symmetry a combination of major features from Doric and Ionic in single buildings. He bases his theories on examples of each form.

His example of the first form is the proposed porch for the Telesterion at Eleusis, for which the only evidence is the inscription *IG* ii$^2$ 1666. According to Jeppesen's revolutionary study of the stones, dimensions and quantities specified in this inscription, an Ionic porch was to be added to a building already decorated with a triglyph frieze. If this was in fact so, it would seem to me that the reason was the size of the existing telesterion, which would require ponderously large columns for a porch if it were to be Doric. Even if this porch, as seems likely, was abandoned as a result of Athens' financial difficulties in the late 350's, rather than the architectural oddities involved, it is significant that when the porch finally was constructed, the Doric order was employed. A comparison of Jeppesen's restoration of the proposed Ionic porch with Philo's later Doric porch suggests considerable aesthetic advantages for the alleged earlier proposal.[26] This, however, is entirely the result of special circumstances, and it would be folly to base general aesthetic principles on the evidence of these porches.

[25] Professor Martin Robertson reminds me also of a fourth-century example of Ionic columns supporting an entablature which includes Doric triglyphs over an Ionic architrave (Robertson, *Greek Painting* 162, 164). This is a Tarentine vase painting. To judge from the spindly character of the columns, it represents a temporary wooden structure (presumably stage scenery) rather than actual architecture.

[26] Compare Jeppesen, fig. 80, with, e.g., Dinsmoor *AAG*$^3$ pl. 66.

The example of the second form of a mixed order is Philo's design for the Arsenal at the Piraeus. Again, though this building was of course completed, we are entirely dependent on an inscription—*IG* ii² 1668—for our knowledge of it. Jeppesen seeks to show that the dimensions of the triglyphs (not given by the inscription) must have been such that there were fifteen triglyphs across the façade. This, he argues, presupposes a design based on the arrangements of octostyle temples. Further, the given dimensions of the façade are such that, if an octostyle arrangement underlies the design, the proportions of the 'columns' are such that they must have been Ionic. It is not, of course, suggested that actual columns were ever intended to be used for the façade. This argument depends on the number of triglyphs used for the façade; this in turn is based on an impressive series of mathematical calculations which are, I feel, unreliable in that they have to take into account too many unknown quantities, in particular the exact division of the frieze 'unit' between triglyph and metope (since the total length of the frieze consists of a certain number of units plus one triglyph) and the possibility of inclination of the walls.

Jeppesen, perhaps, accepts too readily that the number of triglyphs must have been fifteen, rejecting other possible figures and simply stating (page 88): 'The number of front triglyphs proposed by Marstrand and Dörpfeld (21 and 11 respectively) seems to be on the extreme: the size of Dörpfeld's triglyphs looks exaggerated, while Marstrand's appear to be too small. . . .' Marstrand's figure, I agree, is unacceptable, and would make the triglyphs far too small. Dörpfeld's number on the other hand, is much more reasonable. Given a frieze length of approximately 55 feet, the unit length for 11 triglyphs (i.e. 10 units + 1 triglyph) should be about 5 feet or a little more. On the Vitruvian proportions followed by Jeppesen, this gives a metope width of just over 3 feet, and a triglyph width just over 2 feet. These figures are not precise, because of the uncertainties mentioned above, but for our immediate purpose they will do. These dimensions, again following the Vitruvian proportions, give a frieze height equal to the metope width of just over 3 feet. This can be related to the known wall height of 27 feet; i.e. the proportions of frieze height to total wall height is 1 to 9. This compares admirably with the known proportion of other buildings. In the treasury of the Athenians at Delphi, according to the French publication, the frieze height is 0·674 m., the total wall height 5·499 m., proportions of about 1 : 8·2. In the Theseum, the total height of column, architrave and frieze is 7·365 m., frieze height alone 0·828 m., proportions of 1 : 8·9. In other words, a frieze of 11 triglyphs across the front of the arsenal, far from seeming exaggerated in size, is quite in accordance with normal Doric proportions. If we must relate this design to columnar arrangements, these should therefore be hexastyle, not octostyle. We may calculate further: a frieze height of about 3 feet would give an architrave height of about the same. Subtracted from the total wall height, this leaves 21 feet for the 'columns'. Six columns means five axial spaces of approximately 10 feet (not allowing for corner contraction, partly balanced by the additional column diameter). The Theseum proportions give axial spacing: column diameter as 2·55 : 1. Applied to the Arsenal, this gives us a 'theoretical column' diameter of about 3·9 feet, and proportions of column height to column diameter of approximately 5·5 : 1, proportions which cannot be other than Doric.

In other words, the proportions of the façade of Philo's arsenal can be explained entirely in terms of Doric, and they provide no evidence whatsoever for the crude combination of Doric and Ionic proportions by Attic architects of the fourth century B.C.

In theory, the various parts of the two orders should not be mutually exclusive. Both include essentially corresponding parts: platform; column shaft, with or without base; capital; architrave; frieze; cornice. In the Doric order the raking cornice over the pediments was similar in form to the cornice of the Ionic order, and it is quite likely that (in spite of Jeppesen's arguments) the *γεῖσα Δωρικὰ* and *γεῖσα Ἰωνικὰ* of *IG* ii² 1666 refer simply to the horizontal and raking cornices of a Doric pediment. It may have been uncertainty

of this sort (which may well have existed before the different orders were given their unfortunate 'racial' epithets) that enabled Attic architects of the fifth century B.C. to use what would seem to be other Ionic elements within the Doric order where special circumstances demanded—e.g. the need for a continuous frieze to depict satisfactorily the Panathenaic procession on the Parthenon, whether or not this has any antecedents in Peisistratid architecture. Elsewhere the distinctions were more inflexible, and everywhere the combination of Doric entablature over Ionic columns was regarded as a barbarism, as I am sure it must be at Labranda. On the other hand, the use of separate Doric and Ionic colonnades in the same building was quite acceptable.

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