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ERNEST BOWCOTT

MUSIC IN EDUCATION :

AN EXAMINATION OF THE PROPOSALS OF
PLATO AND ARISTOTLE, TOGETHER WITH
A SPECIAL CONSIDERATION OF THEIR
POSSIBLE RELEVANCE TO THE
PRESENT DAY.

A thesis submitted for the degree
of Master of Education

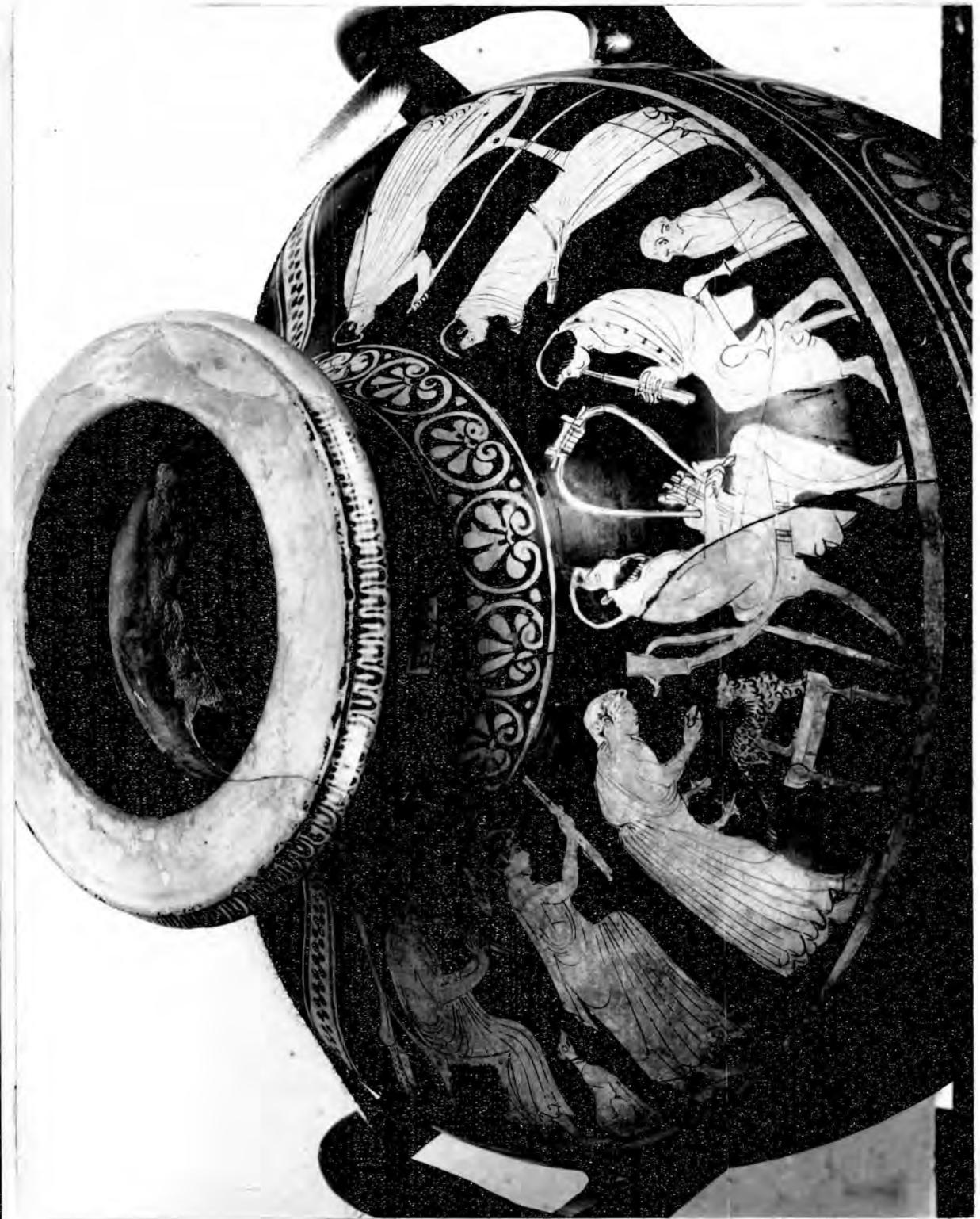
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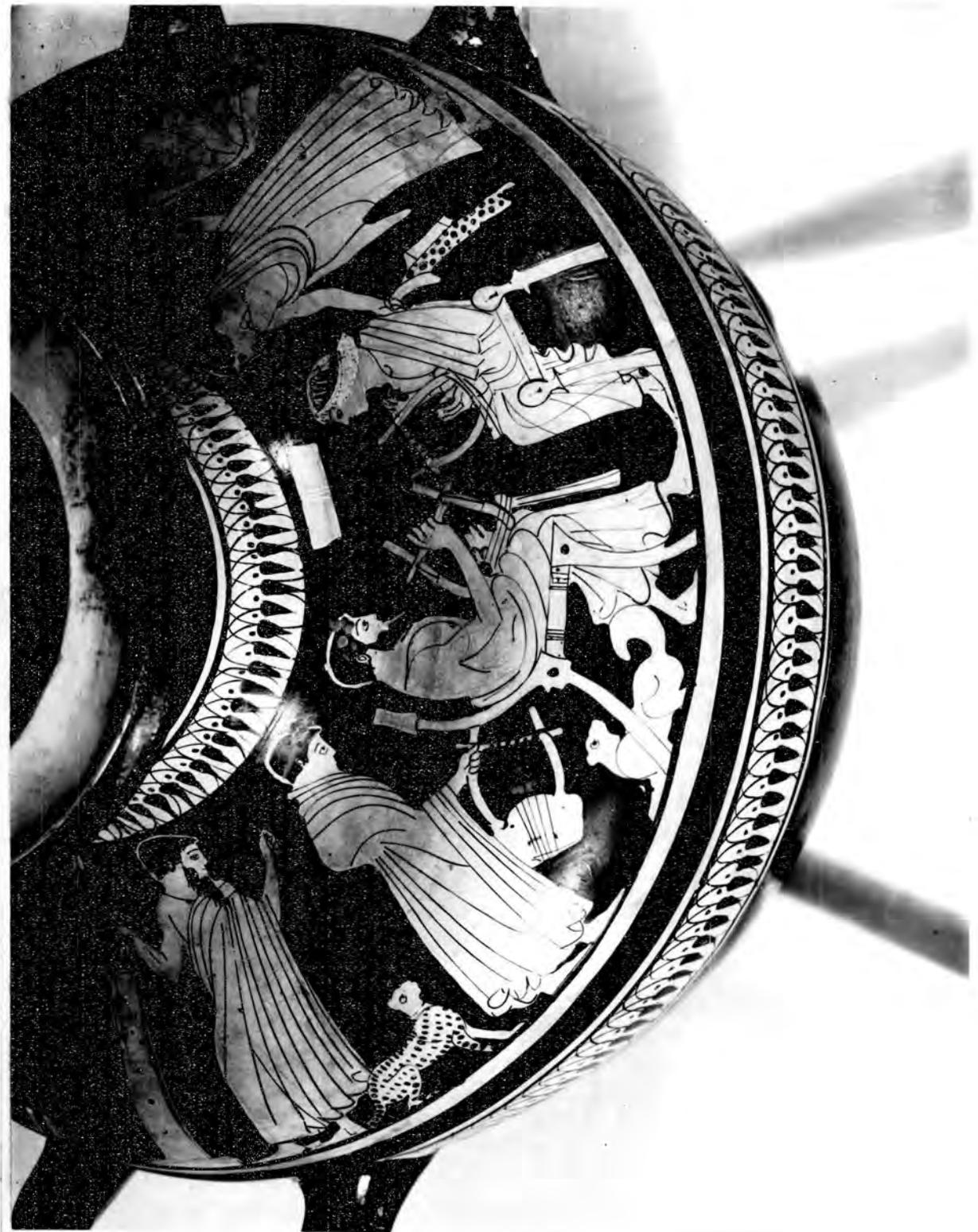
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I L L U S T R A T I O N S









A Flute Player

British Museum E.270. From Vulci.¹ Detail from an amphora (Ht. of vase $18\frac{1}{2}$ in.) Beazley, Attic Red-figure Vase-painters, Second edition, p.183, no.15. (A.R.V. First edition, p.122, no.13.)

This picture of a flute player is the work of the Kleophrades painter whose actual name was Epiktetus (the second)². He is described by Beazley as "the greatest pot-painter of the late archaic period". He was probably the son of the Athenian painter Amasis and his work belongs to the period 500-480 B.C. This is particularly interesting as it was about this time that, according to Aristotle, the flute was becoming popular and was introduced into education - "just before and still more after the Persian Wars". (Politics VIII, 6. 1341 a 32).

The flute player stands on a plinth and is perhaps the accompanist of the poet who is shown reciting on the other side of the vase. The instrument he plays is really

1 "one of the wealthiest Etruscan cities." Oxford Classical Dictionary, p.955.

2 G.M.A. Richter, Attic Red-figured Vases, Yale, 1958. p.66.

a pair of flutes. It is not known for certain how such a pair was played, but Miss Kathleen Schlesinger in her exhaustive analysis of the Greek aulos makes two suggestions.¹ First it would be possible to stop up the ends of the flutes: thus with four fingers down on one flute the note would sound from the second of the pair. Alternatively, the player might swiftly change from one pipe to the other by simply withdrawing his lips. Both are practical suggestions, but there can, as yet, be no certainty in the matter. We can be sure, however, that these "flutes" were in fact reed instruments (that is, like clarinets or oboes). The face-band (Gk. phorbeia) would clearly be of help in playing a pair of reed instruments, especially when the player was marching or dancing.² Modern oboes and bassoons are virtually impossible to play on the march, simply because the reed is so quickly damaged as it strikes against the teeth.

It is a delightful painting and one can agree with Dr. Richter when she says of the Kleophrades painter:

1 The Greek Aulos, Methuen, London, 1939. pp. 67-68.

2 Dr. J.G. Landels of Reading University tells me that the face-band was only worn out of doors, thus confirming this hypothesis.

"his best paintings have a grandeur and spaciousness,
and are drawn with a flowing line which has seldom been
excelled."¹

1 For further discussion see

- (a) Catalogue of the Greek and Etruscan Vases in the British Museum. London, 1896. Vol. III, p.202.
- (b) Max Wegner, Musikgeschichte in Bildern, Griechenland Leipzig, 1964. pp. 32-33.

A Harp Player

British Museum E.271. From Vulci, Etruria. Detail from an amphora (Ht. of vase 23 in.). Beazley, A.R.V. Second edition p.1039, no. 13. (First edition, p.687, no. 9.)

In this picture we see the Muse Terpsichore seated on a chair playing a harp. Her name is to be seen above her head: ΤΕΡΨΙΧΟΡΑ. The painting is the work of the Peleus Painter. He belongs to the so-called period of the free style, about 450-420 B.C.¹ This is the age of Pericles.

To the right of Terpsichore stands Musaeus (all three persons in the picture are named by the artist). He holds a lyre in his left hand, and in his right, a staff which has a shoot of laurel. To the left we can just see Melousa holding a pair of flutes and fingering the mouthpiece of one of them, just in the fashion of a modern oboist. The name of the instrument which Terpsichore plays is not known for certain. It has been called a magadis²; it could even be a

1 Richter, op. cit., pp. 115-138. See especially p. 130.

2 British Museum Catalogue of Greek Vases, Vol. III, p.203.

sambuca¹. Whatever its name we can be fairly certain that Plato and Aristotle would have banned its use in schools on grounds of complexity. This particular harp has thirteen strings. According to Wegner² this kind of instrument did not appear in Greece before the mid-fifth century B.C. and, as he says, there is no uniform type. Its interest for us lies in the fact that the strings of such an instrument demonstrate something like the mathematical proportions so much loved by the Pythagoreans and by Plato in the *Timaeus*. When I asked a craftsman of the University of Durham to construct an instrument incorporating strings of the *Timaeus* proportions he produced just such a harp as this. We must remember that the Greek lyre, unlike the harp, had strings of equal length. A cradle kithara is to be seen above the head of Terpsichore.

It is in every way a beautiful picture and it is not

1 J.G. Landels. "Ship-shape and Sambuca-fashion". *Journal of Hellenic Studies*, 1966. pp 69-77. In a discussion of Polybius VIII, b, Dr. Landels examines Terpsichore's harp as a possible candidate for the name of sambuca; he rejects the idea but ends, as he says, "on a note of regrettable uncertainty".

2 op. cit. p. 46.

difficult to see why Plato was moved to reflect that the harmony of such an instrument might give some idea of the underlying principles of harmony in the universe.

Music Lesson

British Museum E172. From Camirus in Rhodes. Detail from a hydria (Ht. of vase 11 1/4 in). Beazley, A.R.V. Second edition, p. 565, no. 42. (First edition p. 372 no. 36.)

This painting of a music lesson is the work of the Pig Painter, so called because of the two pigs in his picture of Odysseus and Eumaeus the swineherd. He belongs to the period of the early free style, about 475-450 B.C.¹

The teacher, seated in a chair, faces his boy pupil who is seated on a stool. Each holds a lyre decorated with a fillet (taenia). Beneath the chair there lies a dog looking back. Behind the pupil stands a young man holding in his right hand a spotted flute - case (sybene) and a reed case (glottocomeion). He seems to signal for silence. Further to the right sits another young man closely muffled in his cloak. Above him, only partly visible in our photograph, appears the word KALOS - "favourite of the artist". Behind the teacher stands another young man holding a lyre, and presumably waiting for his lesson. Further to the left we see a bearded man

1 Richter, op. cit., p. 96.

who is possibly a paedagogus and he is holding a cord attached to the collar of what appears to be a young panther, but is more likely to be a cat (as in our next vase painting)¹. Both the lyres of the pupils appear to have just five strings but great caution needs to be exercised in counting strings. Ben Nicholson in his well known painting of a guitar (Tate Gallery) gives the instrument only four of its proper complement of six.

This music lesson seems to be a thoroughly happy occasion: the boy pupil and the slave wear fillets and all the other figures wear wreaths. The pets blend well into the scene. Richter describes the Pig Painter as "an able mannerist" and speaks of his "rhythmical compositions". There could scarcely be a better example of his work than this vase.

1 This description of the vase is based on that in the British Museum Catalogue of Greek Vases, Vol. III, p. 155.

Music Lesson

British Museum. E171. From Camirus in Rhodes. Detail from a hydria (Ht. of vase $12\frac{1}{2}$ in.) Beazley, A.R.V. Second edition, p. 579, no. 87. (First edition, p. 381, no. 63.)

This is the work of the Agrigento Painter and it belongs to the same period as the preceding vase, that is the period of the early free style, about 475-450 B.C.¹

In the centre is seated the instructor playing a very large and graceful kind of lyre called a barbiton². As it is often seen in the hands of Dionysus in Greek vase paintings it has been called the Dionysiac lyre as opposed to the smaller instrument associated with Apollo. There can be little doubt that it produced deeper notes and a fuller sound. We must, I think, assume that the lyre player tuned his instrument to the flute. With fixed finger-holes, the aulos, like a modern oboe would give little scope for variation in pitch. The instructor is apparently singing - as teachers of instruments often do. From his mouth we can just see in our photograph an

1 Richter, op. cit., p. 96.

2 See Max Wegner, *Das Musikleben der Griechen*. Berlin, 1949. pp 42-3. cf. Anderson, *Ethos and Education in Greek Music* pp 7-8, also note 10, pp. 212-213.

oblique line of four notes  (The same kind of detail may also be seen on the British Museum vase E354; Beazley, A.R.V. Second edition, 1119). Opposite the teacher sits a young man on a stool playing a double flute. Above him is the word KALOS. Beside him squats a nude boy or monkey. Further to the right a young man waits for his lesson, flutes in hand. Behind the teacher a cat (or again, young panther?) stands on a stool and looks back at an object like a plectrum. This is held out by a young man who has a lyre in his other hand. Behind him stands another young man holding a pair of flutes: in front of him KALOS is written vertically. Next in the group sits a dog with nose in air, and finally we see a young man playing a pair of flutes. Slung from the back of his chair there is a spotted flute-case (sybene) and reed-case (glottocomeion).¹

In this second picture of a music lesson we see master and pupil playing different instruments. Again the wreaths and fillets suggest a happy occasion. All four illustrations have been chosen from vases in the British Museum. There are, of course, an immense number of Athenian vases depicting musical life and they are in museums scattered through the

1 This description is based on that in the British Museum Catalogue of Greek Vases, Vol. III, p. 155.

world. Together with the literary evidence they prove beyond doubt that when Plato and Aristotle laid such great emphasis on music in education, they were in fact following a great Athenian tradition.

MUSIC IN EDUCATION

An examination of the proposals of Plato
and Aristotle, together with a
special consideration of their
possible relevance to the present day.

INTRODUCTION

"It is not an easy matter to settle either what is the real effect of music, nor with what object we ought to take it up."

Aristotle¹

"It is the unhappyness of Musick, that the use and practice of it seldome meets with learning and ingenuity in one person; wherefore it hath bin ever a mistery, and litle understood, as to the principles and reasons of it."

Roger North²

"But a deeper cause of failure in the classroom arises from the fact that many teachers themselves lack any conviction of the value of their work and are not merely unable, through poor technique, to achieve their aims but are fundamentally uncertain

1 Politics, 8, 5, 1339 a 15. Trans. John Burnet.

2 Roger North on Music. Selection from Essays c1695-1728 ed. John Wilson. Novello. London, 1959. p. 41.

about what their aims should be."

Noel Long¹

It is the aim of this essay to examine the proposals for music in education set out by Plato and Aristotle in their philosophical writings. It is, of course, never easy to speak or to write meaningfully about music. The most moving musical performance - whether in opera house or jazz club - seems to reduce the listeners, when asked for a verbal account of their experience, to a level of almost total incoherence. In no field of values is the Emotive Theory so plausible: musical cognoscenti of all persuasions seem often to indulge in little more than Hurrahs and Boos - sometimes delivered fortissimo. This kind of language is of no use to the music teacher in the classroom: for him it is essential to have some grasp of what he is about. It has been well said that education today is a public affair, and correspondingly it is apparent that music teachers, like their colleagues specialising in other subjects, must be able

1 Music in English Education, Faber, London, 1959, p. 42.

to justify in a rational manner the work they have undertaken¹. A cheery song by the school choir before the governors at Speech Day is not in itself a satisfactory justification for the inclusion of music in the curriculum.

What place then should music have in education? Plato and Aristotle at least offer articulate, if uncompromising answers, though we should be clear at the outset that 'music' for the Greeks sometimes had a rather wider meaning than it does for us today. Music, to quote Liddell and Scott, was "any art over which the Muses presided, especially poetry sung to music". This is helpful so far as it goes, but three further points could be made. First, rhythm and movement were important elements in Greek music: the metrical 'foot' in poetry was often quite literally a step. Secondly we should remember that much of the music we hear today is "poetry sung to music": indeed, it could be argued that this is the finest music of all: we can mention Handel's 'Messiah', the St. Matthew Passion of Bach, and Britten's War Requiem.

1 See R.S. Peters, *Ethics and Education*, Allen and Unwin, London, 1966, pp. 91 et seqq.

Thirdly, music in the sense of pure instrumental music played to a passive audience sitting in rows of seats is a comparatively recent phenomenon. Roger North describes the growth of England's first concert room in Villiers Street down by the River Thames at Charing Cross¹. This was about the year 1689.

We may fairly conclude that music to the Greeks may have had a wider meaning in certain contexts, but by and large it was for Plato and Aristotle much the same sort of activity we have today: that is, singing, the playing of instruments and rhythmic movement. Indeed, the term 'music' is probably much less misleading than other ancient Greek concepts today appearing in modern dress: one thinks of terms like 'philosophy' and 'democracy'.

Both Plato and Aristotle set music in a fully political and civic context: each recognised that music played a significant part in the lives of Greek citizens. It comes as a surprise to read that they are therefore disqualified as aesthetic philosophers. This assertion is made by Ruth Saw and Harold Osborne in the opening

1 op. cit. p. 306.

volume of the British Journal of Aesthetics¹. They rest their case on the familiar distinction between first order and second order judgements. They argue that it is not the job of moral philosophers to make judgements on conduct, but only to make judgements about judgements on conduct - "similarly we may say that it is the function of aesthetic philosophers to make second order judgements and that this is the demand which disqualifies Plato and Aristotle as aesthetic philosophers". They do not go on to add the other obvious conclusion of their argument: that Plato and Aristotle are also thus disqualified as moral philosophers. Indeed it is difficult to see, in this light, how they qualify as philosophers at all. Now there is no denying that the distinction about the two orders of judgement has certainly cleared the philosophical air, but the rejection of Plato and Aristotle is an unwise move for at least two reasons. First, there is a wealth of conceptual analysis in their writings. This was, after all, the stock-in-trade of Socrates. Secondly, the sheer volume of first order judgements in works like

1 Volume I, 1960. p. 17. "Aesthetics as a Branch of Philosophy".

the Republic and the Politics offers a sound testimony to the relevance of their second order judgements - a quality not always obvious in some modern writings on aesthetics. Again, precisely how many judgements about aesthetic judgements are there to be made? It would be quite wrong to suppose that all subsequent volumes of the British Journal of Aesthetics are filled with such judgements and nothing else. As Stolnitz says, Aesthetics "can talk intelligently about art "in general" only if it is responsible to the factual evidence concerning particular works of art....."¹ The point made by Saw and Osborne is to be taken, I believe, as a salutary warning and not as an outright disqualification. The objection about extraneous matter in philosophical writing is an old one: it is ironic that the most celebrated example of such a charge was that made by Aristotle against Plato².

A related and perhaps more searching question might be raised at the outset of this enquiry. We have now seen how both the scope of music and the scope of philosophy

1 Jerome Stolnitz. Aesthetics and Philosophy of Art Criticism. Houghton Mifflin, Boston, 1960. p. 13.

2 Politics, II, 6. 1264 b 39.

have altered to a certain degree since the days of Plato and Aristotle. Both factors urge us to ask the question posed by Renford Bambrough: "how far is it proper and profitable to combine with the historical study of an ancient philosophical text a concern for the substantive philosophical issues which are its subject matter".¹

Bambrough's own answer is unequivocal: "my plea is that debates on the primary questions of philosophy, politics and ethics should be involved in the study of the historical texts on these themes".² This is, in fact, the current practice in much University philosophy teaching. An exciting philosophical discovery may cause its author to urge philosophers "to suspend their work for the present"³ but clearly the historical approach has its values as well as its dangers. "To be ignorant of the history of philosophy is to be doomed to repeat it": Santayana's aphorism seems to have particular force in moral and aesthetic theory. In the present confusion surrounding educational values we may do well to study Plato whom

1 "Plato's Modern Friends and Enemies". Philosophy, May, 1962. p. 97.

2 p. 113.

3 Kant. Preface to the Prolegomena, 1783. Trans. Peter Lucas. Manchester University Press, 1953. Wittgenstein clearly felt a similar impatience.

Sir Karl Popper, one of his sharpest critics, has described as "the greatest of all philosophers"¹. Bambrough laconically observes that the Republic should not be scheduled as an ancient monument² and Alasdair MacIntyre in similar vein observes, "History is neither a prison nor a museum; nor is it a set of materials for self-congratulation"³.

Two further points perhaps should be made by way of introduction. First, it is virtually impossible to take account of all the books and articles published each year on Plato and Aristotle. The list assembled in *L'Année Philologique* is terrifyingly long. Secondly there is, in the case of Plato, a primary question of organisation. It is possible to discuss his doctrines topic by topic (e.g. harmony, rhythm, musical inspiration), or alternatively one can approach the doctrines dialogue by dialogue. Either approach involves a certain amount of repetition. In fact, in this examination the second method has been chosen.

1 The Open Society and its Enemies. Routledge, London, 4th edn., 1962. p. 335.

2 op. cit. p. 101.

3 A Short History of Ethics. Routledge, London, 1967. p. 4.

Plato wrote extensively on music in education and it is very easy to assemble a doctrine by piecing together ill-assorted quotations. As A. E. Taylor warns, "if there ever was a Platonic 'system' at least Plato himself resolutely refused to write an exposition of it"¹. What we see with regard to music in education, as in many other topics, is the gradual unfolding of an idea. The road leads from the hints given in the early Socratic dialogues to the detailed legislation in the Laws.

The examination of Plato's proposals appears in this discussion under four chapter headings:

1. The earlier dialogues: Phaedo and Symposium.
2. The Republic.
3. The later dialogues: Phaedrus, Timaeus, Critias, Politicus and Philebus.
4. The Laws.

No absolute claim is made for the accuracy of this chronological schema. Nor again is it claimed that every passage which Plato wrote on music has been discussed in this thesis. From the beginning it has been clear that some degree of selection would be necessary.

1 A. E. Taylor. Plato. Methuen, London, 1926, and 1960. p. 23. See Plato's Seventh Letter 341 b. The letter, whether genuine or not, makes a valid point.

CHAPTER ONE

MUSIC IN EDUCATION: PHAEDO AND SYMPOSIUM

The Phaedo

There are, perhaps, two features of Plato's thought about music which most commonly attract attention among students of philosophy and education: first, his attitude towards modes in the Republic, and secondly his idea that philosophy is a kind of music. Both views appear somewhat eccentric to the modern student.

In the Phaedo, we see the second view presented in some detail. Socrates speaks to his friends in the prison cell: "The same dream came to me often in my past life, but always saying the same thing:" Socrates, make music and work at it."¹ Formerly Socrates thought this music was philosophy - "because philosophy is the greatest kind of music" (61A φιλοσοφίας μεγίστης μουσικῆς); but now in prison, he has begun to take the dream more literally and has begun to compose verses. Two questions pose themselves to the modern reader: Why music? And if music, why verses?

To answer the first question we need to consider the circumstances of the dialogue. The opening discussion between

1 60E Trans. H.N. Fowler. Loeb.

Phaedo and Echebrates takes place at Phlius - a town in the North East of the Peloponnese. The town was associated with Pythagoras.¹ It also became, together with Thebes, a centre for Pythagoreans when many fled from Magna Graecia² in the middle of the fifth century B.C. We are told by Diogenes Laertius³ that Echebrates was a Pythagorean of Phlius and that he was a pupil of Philolaus. Phaedo gives an account of the last hours of Socrates, and the master is seen discussing philosophy with a group of friends of whom the two principal speakers are Simmias and Cebes. Both these young men⁴ are, like Echebrates himself, pupils of Philolaus, the Pythagorean.⁵ What we see therefore is a discussion with a strong Pythagorean element reported to a distinguished member of that same school.

In this context the injunction to make music has a clear

1 Cicero, *Tusculan Disputations*, V 3, recounts the story of Pythagoras at Phlius claiming only to be a "philosopher" and not a master of any art. See also Diogenes Laertius, I, 12 (placing the story at either Sicily or Phlius), also VIII, 8.

2 For detailed discussion see W.K.C. Guthrie, *History of Greek Philosophy* p. 179 et seqq.

3 VIII, 46.

4 89A

5 61D

significance. Strabo the geographer, in a discussion of the effects of music and dancing, says that Plato and the Pythagoreans before him called philosophy "music".¹ In this Pythagorean setting Socrates is reporting a dream which has a special significance.

But if Socrates wishes to make music - "to make this, which is ordinarily called music" (ταύτην τὴν δημῶδη μουσικὴν ποιεῖν 61A) - why does he compose verses? The answer lies in the fact that the modern and somewhat confusing distinction between music and poetry was not made by the Greeks. In Burnet's translation, Cebes speaks of Socrates "setting to music the words of Aesop and the hymn to Apollo".² There can be little doubt that the verses would be sung or given a musical accompaniment. R.S. Bluck translates "putting into verse" because 61B "strongly suggests poetry rather than musical settings".³ This, for a fifth century

1 Book X, 468. Loeb, Vol. 5, p. 94: καὶ διὰ τοῦτο μουσικὴν ἐκάλεσεν ὁ Πλάτων, καὶ ἔτι πρότερον οἱ Πυθαγόρειοι, τὴν φιλοσοφίαν.

2 ἔντείναις 60D. Burnet, Plato's Phaedo, Clarendon, Oxford, 1911, p. 15. He cites similar usage - Protagoras 326B, Philebus 38E.

3 R.S. Bluck, Plato's Phaedo. Routledge, London 1955, p. 41.

Greek is a distinction without a difference. As Miss Henderson points out, "in Homeric and classical times music included not only poetry but often dancing as well. As the sung word expressed intonation, so the beat of the dancing foot.....expressed the rhythm"¹. Poetry was not spoken, but sung or chanted, and it is inconceivable that the Hymn to Apollo should be written for speaking. Apollo was a patron of music and a particular patron of the Pythagoreans.² Even today it is unwise to draw too sharp a distinction between poetry and music - however convenient for school and university timetables. An Honours English class was most surprised to discover that the lyrics they had been studying were intended not for silent reading but for musical performance. Bluck, presumably apprehensive about the ambiguity of the word "music" translates Socrates' celebrated dictum as "philosophy is the greatest of all the arts". This however is misleading, for the Greeks never talked about the arts as we do. It is impossible to translate into Greek "The Arts Council", for arts to the Greek included not only painting but cookery and navigation. A further objection to Bluck's translation is that it would scarcely

1 New Oxford History of Music, p. 378.

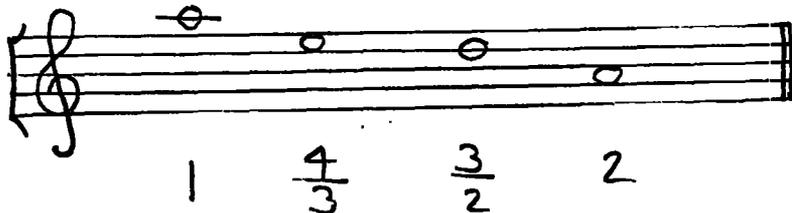
2 Aristotle, fragments 191 and 192, Rose. For discussion see W.K.C. Guthrie, A History of Greek Philosophy, Cambridge, 1962. pp. 203-5.

be said by the Pythagoreans that Philosophy is the highest form of painting or pottery. Socrates was referring to an ancient and unambiguously musical tradition. It may be wise briefly to consider that tradition.

It is by no means easy to write with certainty about Pythagoras and his followers, for as Guthrie says "it is perhaps the most controversial subject in Greek Philosophy". It is a simply vast field and we can only pick out one or two central topics which are of immediate relevance to a study of music in education. Guthrie sees Pythagoras both as a religious teacher and scientific genius and there was the closest connexion between these two aspects of his teaching:¹ "For Pythagoras the purification and salvation of the soul depended not merely, as in the mystery-cults, on initiation and ritual purity, but on philosophia; and this word, then as now, meant using the powers of reason and observation in order to gain understanding". Reason and observation were skilfully combined in the discovery of the mathematical nature of musical intervals; this discovery has

1 op. cit. p. 181. E.R. Dodds, like Guthrie, sees the dichotomy between science and religion as a later development, for the need had not yet been felt to define either. The Greeks and the Irrational p. 167. n. 68.

usually been ascribed to Pythagoras himself.¹ The details of the theory will be described at a later stage; suffice it to say that the musical intervals of the perfect fourth, the perfect fifth and the octave can be produced by strings or pipes in simple ratios employing the numbers one, two, three and four.



Diogenes Laertius tells us that Pythagoras discovered the musical intervals on a monochord.² This is no doubt true, because to experiment with strings of varying lengths requires that the tension should be equal in all of them. This is by no means easy to arrange. Guthrie may go perhaps a little too far when he says that since the native Greek stringed instruments, the lyre and cithara, had strings of equal lengths, the existence of these numerical ratios would

1 So Burnet, Taylor and Cornford: for discussion and a slightly more cautious note see Guthrie, op. cit. p. 221.

2 VIII, 12: Τὸν τε κανόνα τὸν ἕκ
μιάς χορδῆς εὐρεῖν.

not be obvious.¹ If Pythagoras visited Egypt² he might well have seen a harp similar to the one played by a delightful girl of the nineteenth dynasty (1200 B.C.) This charming wooden figure is to be seen in the British Museum (No. 48658). However the insight was gained, the discovery was a momentous one. It appeared that order could be discovered in the world - and this order was both mathematical and beautiful. It is scarcely too fanciful to suggest that Pythagoras secured a special place for mathematics in the curriculum of higher education for the next two thousand years.³ Dainton might well envy him his success. Arithmetic, Geometry Astronomy and Harmonics became part of the staple diet not only of Plato's Guardians but of the mediaeval universities as well.

The importance of this harmonic discovery to the question of music in education is very clear. Through the study of music there came a special understanding of the world about us.

1 op. cit. p. 224.

2 Porphyry gives several accounts - Vita Pythagorae 6 and 7. Teubner text. A. Nauck. Leipzig 1886. Hildesheim (Georg Olms) 1963.

3 Aristoxenus says that Pythagoras studied number in relation to mercantile affairs and also that he introduced weights and measures into Greece. (Stobaeus 1, 1, 6 and Diogenes Laertius VIII, 14.) Guthrie (p. 177 and p. 221) supports this tradition. Possibly it was through the influence of men like Plato that 'pure' mathematics won the day over 'applied' as a subject for study.

Aristotle says of the Pythagoreans "...since they saw that the attributes and ratios of the musical scales were expressible in numbers and since all other things seemed in their whole nature to be modelled after numbers, and numbers seemed to be the first things in the whole of nature, they supposed the elements of numbers to be the elements of all things, and the whole heaven to be a musical scale and a number."¹ But this is only one aspect of music. Admittedly, philosophy through reason and observation could throw much light on the mysteries of number and musical intervals, but music had another aspect. It could take possession of men. This too is in the Pythagorean tradition, for assimilation to God (ὁμοίωσις θεῶ) was an aim of Pythagorean followers. Stobaeus² speaks of Socrates, Plato and similarly Pythagoras as having assimilation to God as their aim (Σωκράτης Πλάτων ταῦτὰ τῷ Πυθαγόρᾳ τέλος ὁμοίωσιν θεῶ). Dodds considers, in the light of Euthydemus 277D, that Socrates had personally taken part in the Corybantic rites.³

1 Aristotle Metaphysics I, 5, 985 b.32 et seqq. Trans. Sir David Ross.

2 Ecl. Eth. II 7. Cited by Guthrie, op. cit., p. 199.

3 The Greeks and the Irrational, p. 99, note 104.

Of the musical practices of Pythagoras and the early Pythagoreans we have little direct evidence though, as Dodds remarks, "some form of musical catharsis had been practised by Pythagoreans in the fourth century and perhaps even earlier".¹ Aristoxenus said that the Pythagoreans practised the purification (καθάρσει ἔχρωντο) of the body by medicine, that of the soul by music.² Porphyry, in his usual style, speaks of Pythagoras soothing (literally 'enchanting') both psychic and bodily ailments with his rhythms, melodies and songs.³ However shaky the later testimony, we are surely justified in seeing what is now called music therapy as part of the Pythagorean tradition.

Music, then, could refer either to the austere beauty of rational enquiry or the cathartic experience of rhythm and song. Socrates, because of his dream, naturally turned to the first kind of music - the search for underlying principles. Then, in the last days of his life he applied

1 op. cit. p. 79.

2 Anecdota Graeca. Ed. J.A. Cramer, Oxford, 1839-41, Vol. I, p. 172.

3 Porphyry Opuscula Selecta Teubner. Life of Pythagoras, ch. 30.

himself, in a pleasant and self-mocking fashion, to the second kind of music consisting of words, rhythm and melody. These two aspects of music - complementary, not contradictory - are to be seen throughout Plato's writings. When Socrates said that philosophy was the greatest music, he meant just that, and no true Pythagorean would ever have doubted him.

The second passage in the Phaedo which calls for comment is the speech of Simmias at 85 E which likens the soul to the harmony produced by a lyre. Its importance for educational thought lies in the Pythagorean principle that like is known by like.¹ If the soul is a harmony then it will be able to comprehend the harmony of the universe and indeed the more it seeks to comprehend the heavenly harmony the more it will come to resemble it. "The philosopher whose dealings are with the divine order himself acquires its characteristics so far as a man may" (Republic 500C). This was for the Pythagoreans and for Plato a fundamental principle of the curriculum. It is a principle which clearly favours theology at the expense of soil mechanics.

1 See Empedocles, Fragment 109 ("We see earth by means of earth....." etc.) and 133. For Empedocles as Pythagorean see Diogenes Laertius. VIII, 54.

The puzzling feature of Simmias's argument is that he uses a Pythagorean analogy to prove that the soul is mortal. If the lyre and its strings are broken then the harmony perishes. Now the soul is a harmony of hot, cold, moist and dry. It follows that when "the body is too much relaxed or is too tightly strung by discases or other ills, the soul must of necessity perish."¹ This doctrine runs completely contrary to what we know of the teachings of Pythagoras and the early Pythagoreans. From the very beginning it would appear that Pythagoras not only taught that the soul was immortal but that it transmigrated to different species of living creatures. According to Xenophanes, a contemporary writing in elegiacs², Pythagoras is said to have asked a man to stop beating a dog - on the grounds that he recognised its yelp as that of a friend, a human soul!

How can Pythagorean doctrine encompass the contradiction of mortality and immortality? There are two possible explanations and they are probably linked. First, there is the medical school of thought which saw harmony in the blending

1 86 B.

2 Diogenes Laertius, VIII, 36: παῦσαι μηδὲ ῥάπισ'
ἐπεὶ ἢ φίλου ἀνέρος ἐστὶ ψυχῆ, τὴν
ἔγνω φθεγδαμένης αἰῶν.

of physical opposites. Secondly, there is the fact that the followers of Pythagoras were widely scattered and strict orthodoxy would be difficult: "they did not all develop the doctrine of their master along identical lines".¹

Alcmaeon, a member of the Pythagorean school² is reported by Aetius,³ the doxographer, as saying "the band of health is the equal balance (ἰσονομία) of the powers, moist, and dry, cold and hot, bitter and sweet, and the rest, while the 'supremacy' (μοναρχία) of one of them is the cause of disease". This could well be the kind of theory which Simmias has in mind though we should note with G. Vlastos⁴ that there is an important difference between the 1/1 ratio of balance (ἰσονομία) and the 1/2, 2/3, 3/4 ratios of Pythagorean musical harmony. Alcmaeon, unlike Simmias, believed the soul to be immortal.⁵ The soul he described as being like the heavens in that it was in perpetual motion: here again we have the principle of like being known by like. Alcmaeon held both a medical and a 'metaphysical' view. We also have a reference

1 Guthrie op. cit. p. 314.

2 Diogenes Laertius, VIII, 83.

3 V, 30, 1. Trans. Kirk and Raven, op. cit. p. 234. H. Diels, *Doxographi Graeci*, Berlin, 1879, p. 442.

4 *Gnomon*, Vol. 25, 1953, pp. 33-41.

5 Aristotle, *De Anima*, I, 2. 405 a 29.

to the doctrine of Philolaus, the teacher of Simmias, Cebes and Echecrates. Macrobius in his commentary on the *Somnium Scipionis*¹ says that Pythagoras and Philolaus called the soul a harmony.

In all this, two views seem to emerge: First the medical view that there is physical harmony; secondly, what Guthrie calls 'the harmony of numbers' - the harmony to be observed in the cosmos. The real difficulty, as Guthrie observes, is that the Pythagoreans of the Fifth century B.C. were not in a position to draw a clear distinction between material and non-material.² Aristotle shows how the Pythagoreans regarded soul as a disposition of numbers.³ Guthrie comments: "on this view, the soul is a harmony of its own parts, not of the parts of the body, just as music is a harmony of the numbers 1, 2, 3 and 4 and not of the frame and strings of the lyre; so that Simmias's analogy, even if some Pythagoreans were taken in and disturbed by it, was in fact by genuine Pythagorean reasoning, a false one".⁴ Guthrie points to the distinction between the formal

1 In *Somnium Scipionis* I, 14, 19. Cited by Sir David Ross, *De Anima*, p. 195. cf. Aristotle's view of the soul as the first actuality (*ἐντελέχεια*) of the body.

2 op. cit. p. 315.

3 Aristotle, *Metaphysics*, I, 5. 985 b 26.

4 op. cit. p. 316.

elements of musical theory, 1, 2, 3 and 4, and the physical elements which can be strings or pipes. He then goes on to suggest that the Greeks had two views of the soul - a breath soul (ψυχή) and an image soul (εἶδωλον). The first vanished like smoke at death and the second - which I believe had its origin in dream appearances - was immortal. Here perhaps we can see the origin of the split to be observed throughout musical theory. We have two kinds of music corresponding to the two kinds of soul. There is the sublime and eternal truth of harmonic principle and at the other side we have the physical appeal of practical music; in fact music can be physical to an almost absurd degree (Plato speaks scathingly of "lucky shots"¹).

The Phaedo owes much to Pythagoreanism and here we see perhaps for the first time in Plato's writings how music came to play such an important part in the curriculum. It is a lofty and inspiring doctrine and few perhaps have expressed the teaching of the Pythagorean school with the majesty of John Dryden in his Song for St. Cecilia's Day, 1687,

1 Philebus, 56A.

From harmony, from heavenly harmony,
 This universal frame began:
When nature underneath a heap
 Of jarring atoms lay,
And could not heave her head,
The tuneful voice was heard from high,
 'Arise, ye more than dead!'
Then cold, and hot, and moist, and dry,
 In order to their stations leap,
 And Music's power obey.
From harmony, from heavenly harmony,
 This universal frame began:
From harmony to harmony
Through all the compass of the notes it ran,
The diapason closing full in Man.

The Symposium

'The Phaedo and the Symposium seem to be stylistic neighbours':¹ this is the view of Ryle and it has a long tradition. The dialogue throws interesting light on the place of music in Greek life and certainly we can see more clearly the background to the proposals of the Republic.²

In fact the flute girl is dismissed at the beginning of the dialogue:³ she is to play either for her own amusement or for the women-folk within. Conversation is to be the entertainment. Eryximachus quotes Phaedrus to the effect that the god of Love (Eros) has not been honoured by hymns and paeans. How seriously the singing of hymns was taken we shall discover in the Laws. Phaedrus himself, in his praise of love, gives a highly unflattering account of the descent of Orpheus into Hades. Orpheus had not, like Alcestis, the courage to die for his love - "he seemed to lack spirit, as is only natural in a musician."⁴ It would of course be quite

1 op. cit. p. 226. See Taylor, Plato, p. 20.

2 The Symposium of Xenophon also contains interesting references to music not least the account of the boy tuning his lyre to the flute and singing:

τῇ λύρα πρὸς τὸν αὐλὸν ἐκίθάρισεν ὁ παῖς
καὶ ᾄσεν

3 176 E

4 179 D

wrong to assume that this necessarily represents the view of Plato, but clearly this kind of opinion was noted by Plato and here, if I am not mistaken, it is reported with some glee.¹

The speech of Eryximachus is of particular interest for in it he draws together the threads of harmonic theory applied in the fields of medicine and music. Like Pausanias, the first speaker, he distinguishes two kinds of Love.² He later identifies these as heavenly (οὐράνιος) and popular (πένθημος).³ This is also a musical distinction with an arrestingly modern connotation. Eryximachus, like Empedocles, sees Love not merely as a human emotion, but as a cosmic principle. Medicine, for example, rests on the knowledge of how to create love and harmony between the opposites, hot and cold, wet and dry, and the like.⁴ The same principle of Love and harmony is to be found in physical culture (γυμναστική) and agriculture (γεωργία). The last example looks odd, but in

1 cf. Republic 411 A, where a man who surrenders to the charms of music is described in Homer's terms as "a feeble fighter". For a more sympathetic portrait of Orpheus see Vergil, Georgics IV, 454 et seqq.

2 186 A.

3 187 E.

4 186 E.

fact we too can speak of "the rhythm of the Seasons."¹ But the clearest example of all is music and of this Eryximachus speaks at length. He cites the view of Heraclitus that a unity agrees with itself by being at variance² - as in the stringing of a bow or lyre.³ The first thing to note about this obscure saying is that a bow does not produce musical harmony in the Greek sense: that is, a sequence of notes put together to produce melody. The harmony of Heraclitus then refers literally to the putting together of the bow or lyre. This, of course, is confusing and it is not surprising that Eryximachus misinterprets Heraclitus, but the blame surely must be laid at the door of Heraclitus himself who so loved speaking in riddles. That Plato himself understood Heraclitus' position is shown in the Sophist at 242D. The doctrine which Heraclitus wished to teach

1 Diogenes Laertius VIII, 26 records the Pythagorean view of the balance of the climatic elements: "if all are in equilibrium (ἰσομοιρῆ) we have the best periods of the year.

2 τὸ ἐν γὰρ φησι (Ἡράκλειτος) διαφερόμενον αὐτὸ αὐτῷ συμφέρεσθαι, ὥσπερ ἁρμονίαν τῆς βίας τε καὶ λύρας."

3 For full discussion see Kirk and Raven, *The Presocratic Philosophers*, pp. 193 et seqq; G.S. Kirk, *Heraclitus, The Cosmic Fragments*, Cambridge, 1954 p. 15 also pp. 224-5. Guthrie, *op cit.* pp. 435 et seqq.

was reported by Hippolytus (Refutation of all Heresies IX, 9, 1): "Heraclitus, then, says that the All is divisible and indivisible.....listening not to me but to the Logos, it is wise to agree that all things are one." Heraclitus is then reported to have used words like these: "They do not apprehend how being at variance it agrees with itself: there is a connexion working in both directions, as in the bow and lyre."¹

From this passage we can see that, as Guthrie observes, Heraclitus is referring to a bow or lyre at rest:² "Look at a strung bow lying on the ground or leaning against a wall. No movement is visible. To the eyes it appears a static object, completely at rest. But in fact a continuous tug-of-war is going on within it, as will become evident if the string is not strong enough, or is allowed to perish." So far so good. If we say that putting things together involves tension - assembling a bow or pegging a lyre - this is undeniable. It is however quite another thing to assert that "the most beautiful harmony" - which must surely refer to musical and aesthetic experience - "is composed of differing elements" and that everything comes into being by way of strife. This passage is

1 Translation by Kirk and Raven, p. 203. This is a highly controversial passage: "the arguments on both sides are endless" says Guthrie p. 439 n. 3 but the meaning for a musician, I think is clear.

2 P. 440.

reported by Aristotle in the Nicomachean Ethics.¹ Here we have harmony used in a musical and Pythagorean sense. It would be odd to describe a Mozart symphony as a "strife" between woodwind, brass and strings, though some school orchestras may well give this impression. Harmony in this sense (I refer both to the 'linear harmony' of the Greeks and the chordal harmony of more recent music) is manifestly not produced by strife, but by a balance agreed on by all performers. Such a democratic notion is of course quite foreign to a Heraclitus.²

Eryximachus quite rightly objects to the notion that harmony is formed from things still varying. We can agree that the words of Heraclitus which he quotes do not bear this meaning, but it must be pointed out that other sayings of Heraclitus quite clearly do refer to musical experience.

Kirk³ in his examination of the Cosmic fragments of Heraclitus rejects the Aristotelian passage (Ethics VIII, 1, 1155 b) to which we have just referred. He cannot accept it

1 Nicomachean Ethics. VIII, 1, 1155 b.

2 For the political importance of Heraclitus see Popper op. cit. Chapter Two. For the curious testimony of Lenin and the admiration of Nietzsche see Guthrie, p. 403.

3 Heraclitus. The Cosmic Fragments. p. 220.

as genuine because he does not think it possible that Heraclitus could have applied the epithet 'most beautiful' (καλλίστη) to a 'harmonia' unless it was a musical harmony; and if it was a musical harmony or scale then it would perforce be made up of different notes. This is logical enough, but it would be wise to consider another fragment which does unambiguously refer to musical harmony. This passage is taken from the Eudemean Ethics and is translated by Kirk and Raven:¹ "Heraclitus rebukes the author of the line 'Would that strife might be destroyed from among gods and men', for there would be no musical scale unless high and low existed, nor living creatures without female and male which are opposites." I believe that this passage shows clearly what Heraclitus meant when he said that the most beautiful harmony is composed of differing elements.

Without the strife of high and low, argues Heraclitus, you cannot have beautiful harmony. But is the argument really a logical one? Was Eryximachus wrong in rejecting the notion that musical harmony is born of strife? The

1 Kirk and Raven op. cit. p. 196. Aristotle, Eudemean Ethics VII, 1. 1235 a 25.

difficulty lies in the picture language so much loved by Heraclitus. To what extent is it fair to say that this note C is the 'opposite' of the note an octave above it, C? The two are 'opposite' in the fact that one is high and one is low, but far from being in opposition they are, in common language, "in unison". Similarly, male and female are 'opposite' with regard to sex, but sexuality is not the sum total of a human being and it is hopelessly misleading to regard men and women as 'opposites'. What they have in common (e.g. political, religious, literary interests) quite outweigh sexual differences.

This brief digression on Heraclitus has been included to demonstrate the view that early Pythagorean musical theory did not go unchallenged. Where Pythagoras and his followers were impressed by the mathematical beauty of musical intervals, Heraclitus wished to stress that strife - ugly though it may be - underlies all seeming beauty. He did this in two ways. By using the word harmonia in the sense of 'connexion' and applying

it to the structure of the bow and the lyre, he was able to show that harmony was tension. His second line of attack was to point out that without the opposition of high and low one could have no harmony. Plato, though much influenced by Heraclitus and his doctrine of change in the physical world, preferred to follow Pythagoras in his account of musical theory. The sublime doctrine of cosmic harmony and its replication (however poor) in the individual soul was far too attractive to be ignored by a man in love with mathematics and metaphysics. The 'strife' in Heraclitus' musical theory leads nowhere: Pythagorean harmony on the other hand can lead a man's soul directly to God.

The portrayal of Eryximachus as a somewhat pedantic medical expert¹ is brilliantly done by Plato. His speech is not - and is not intended to be - a philosophical tour de force. It is an encomium of the principle of Love in the fields of medicine and music. "Music," he says, "may be called a knowledge of the principles of love in the realm of harmony and rhythm".² Eryximachus stresses

1 See J.G. Bury, Symposium, p. XXVIII.

2 187 C

the principle of love; Heraclitus, a far less lovable character¹ laid emphasis on tension. Eryximachus goes on to say that as far as harmony is concerned the double nature of love does not arise; "but when one has to deal with the effect upon human beings of rhythm and harmony, either in their creation by the process known as composition, or in the right use of melodies and verse-forms in what is called education, difficulties occur which demand a skilful artist". Here he makes the important distinction between the science of acoustics and the art of music: the first is a matter of observable facts whereas the second involves ethical judgements. The division of course is not quite so neat as this, for any Pythagorean would want to go on and say how very beautiful is the world of mathematics, thus importing aesthetic judgement into the world of science.

Eryximachus states the aesthetic principle of both the Republic and the Laws: "We come back to our old notion that it is the love felt by virtuous men which should be

1 The surest evidence is to be found in the fragments themselves: for examples and discussion see Guthrie p. 410 et seq. Guthrie speaks of Heraclitus' 'austere aloofness from his fellow men'.

gratified and preserved".¹ This love Eryximachus calls Heavenly (Urania) and the virtuous are the "cosmioi". Thus there is a link - and it is a musical link - between the ordered cosmos and the ordered individual. This relationship is worked out in detail in the *Timæus*. Vulgar Love (Polyhymnia) requires caution, for few can "cull the pleasure it affords without implanting any taint of debauchery". Lamb translates² Polyhymnia as 'Queen of Various Song', and this interpretation foreshadows the later Platonic criticisms of popular music.³

In all, we may say that the delightful exposition of Eryximachus contains the seed of much later Platonic thought on music and education. The Heraclitean musical theory is examined and rejected. It is possible that Plato deliberately misinterpreted the doctrines of

1 187 D Trans. W. Hamilton

2 Loeb edition 1925.

3 See in this context Heraclitus fr 104, trans. Guthrie p. 412: "What sense or mind have they? They put their trust in popular bards and take the mob for their teacher, unaware that most men are bad, and the good are few".

Heraclitus in order to show Eryximachus in an unfavourable light,¹ but this would assume that the teaching of Heraclitus was so well known by Plato's audience that they would all immediately see the joke. This, in view of Heraclitus' well merited reputation for obscurity, seems most unlikely. I believe that Plato's intention in this speech was to present in a thoroughly entertaining manner the Pythagorean view of Love expressed in music and medicine and to discredit the idea that musical harmony was born of strife. He was also able to suggest that Love has two natures, and that when talking about music and education we should be careful to listen to the opinions of the best people.

The second passage in the Symposium which calls for comment is no less delightful. Alcibiades arrives at the party in a drunken state, just after Socrates has finished reporting the discourse of Diotima. He playfully refuses to speak in praise of Love, but suggests instead that his speech should be in praise of Socrates. He proposes to

1 This is the suggestion of Guthrie, op. cit., p. 436. W. Hamilton (Penguin, p. 15) considers the speech "poor stuff" but this is to overlook the fact that much of it is solid Platonic doctrine to be seen in both the Republic and the Laws.

speak in similes, and he immediately likens Socrates to the figures of Silenus to be found in statuaries' shops. This likeness can easily be verified in the British Museum by comparing the well known figure with the many portrayals of Sileni on the red-figure vases. Alcibiades presses the point home: "I declare also that he is like Marsyas the satyr". He goes on to say that the tunes of Marsyas are still played, and "whether executed by a skilled male performer or by a wretched flute-girl, are capable, by reason of their divine origin, of throwing men into a trance and thus distinguishing those who yearn to enter by initiation into union with the gods".¹ It is interesting to note that this kind of music making was apparently so well known that it was possible to make reference to it in a humorous speech at a drinking party. Plato discusses 'possession' through music elsewhere.² In this passage Alcibiades confesses that on hearing Socrates he is more

1 215C τούς τῶν θεῶν τε καὶ τελετῶν

δομένους . For Marsyas, see Laws 677D.

2 See especially Laws, 790D et seqq., and Phaedrus 244E et seqq.

affected than the Corybants at a musical performance.¹

Alcibiades lists the symptoms:

- (1) My heart beats faster.
- (2) Tears run down my face.
- (3) I observe that numbers of other people have the same experience.
- (4) My soul is thrown into confusion and dismay by the thought that my life is no better than a slave's.

This accurate picture has many parallels in later times up to and including the present day. The evidence is discussed by William Sargent.² He quotes Salmon's notes on the nineteenth century religious revival: "Strong men burst into tears.....The penitents.....seemed to have the most intense conviction of their lost state in the sight of God".³ What is surprising in the light of such passages is not the fact that Plato devoted so much thought to the place of music in education, but that we devote so little.

1 215E πολύ μοι μάλλον ἢ τῶν
κορυβαντιῶντων

2 Battle for the Mind. Pan Books, 1959. See Chapter 6, Applications of Religious Techniques.

3 op. cit. p. 117.

Having considered briefly the hints in the *Phaedo* and *Symposium* concerning the nature of musical education we must now turn our attention to the *Republic*, the best known discussion of our theme in the Platonic corpus.

MUSIC IN EDUCATION: THE REPUBLIC

The Republic is the most widely studied of Plato's works: in this country and elsewhere in the Western world it is often read as a foundation text in classics, philosophy, political theory and educational theory. The work has been approached with something akin to reverence - Bambrough speaks of Platonolatry¹ - and certainly Plato very early acquired a reputation for being divine and inspired.² The effect of all this has been that the educational proposals have been taken very seriously - and indeed have not been subjected to weighty criticism by classical scholars at all except in points of detail.³

The discussion about music in education in the Republic is of central importance but we should be very unwise to tear it out of its context, for it is possible in this long dialogue, as in the Bible, to construct any position whatever by judiciously selecting sentences here and there.

1 Plato's Modern Friends and Enemies. Philosophy, April, 1962, pp. 97-113.

2 Aristides Quintilianus in his De Musica (?2nd cent. A.D.) refers to him as "the divine" or inspired ὁ θεῖος no less than six times. In fact the poet Simonides is described by Socrates as "wise and inspired" - σοφὸς καὶ θεῖος εὐνή - the very epithets Aristides Quintilianus applies to Plato. As Socrates says, it is not easy to disbelieve such a man (331e).

3 Bambrough, loc. cit. p. 98.

Edward Urwick¹ reminds us of this danger and quotes the Latin couplet:

Hic liber est in quo quærit sua dogmata quisque
Invenit et pariter dogmata quisque sua.

Bearing this in mind we shall examine the passages dealing with music in education in the order in which we see them presented in the dialogue; and at the same time it is hoped to keep an eye on the general discussion as it moves forward. The first question depends on just such general considerations. Are the proposals for musical education to be taken as a serious contribution to fourth century theory and practice or as a mere pipe dream of a distinguished philosopher? To answer this question we must examine - however briefly - Plato's purpose in composing this dialogue.

The work opens with a delightful scene: Socrates is pressed by a group of friends to visit the house of Polemarchus. When they arrive, they discover Cephalus - a very old man and father of Polemarchus - sitting at ease after making a sacrifice in the courtyard (328C). The talk naturally turns to the benefits of old age and Cephalus expresses the view that wealth is a considerable advantage here because it assists a man both in keeping to the truth

1 Edward J. Urwick. The Message of Plato p. 222.

and in paying one's debts. At this point (331c) Socrates questions whether justice simply consists in telling the truth and paying one's debts, and we are here launched into the principal theme of the dialogue - the nature of justice or righteousness.¹ In fact, the subtitle of the work is given by some manuscripts as "On Justice"² and this gives a clear indication of what the dialogue discusses and the *raison d'être* of the construction of the Republic. Polemarchus takes over the discussion from his father and then Thrasymachus springs in "like a wild beast".³ At the end of the first book, Socrates declares that he is none the wiser for all the talk.⁴

The subsequent nine books have a different outlook for, as we shall see, Socrates not only defines justice, but works out in detail the implications of his view for the community. The Socratic ignorance disappears and there unfolds, through both myth and dialectic, a vision of justice at work in a community. Socrates urges that

1 *δικαιοσύνη* is not easy to translate: it has both a legal and a moral flavour.

2 Oxford Classical Text: *Πολιτεία ἢ περὶ Δικαίου* *Πολιτείας ἢ περὶ Δικαίου*

3 336B ὡς περ θηρίον

4 354 b ὥστε μοι νυνὶ γέγονεν ἔκ τούτου διαλόγου μηδὲν εἰδέναι.

it will be easier to recognise justice in a community than in an individual.¹ We very soon see this community taking shape - four or five men catering for their basic needs of food, shelter and clothing, each man contributing his own labour (τὸ αὐτοῦ ἔργον) to the common pool. With further consideration and with due emphasis on the need for specialisation the state grows - smiths, cowherds, shepherds, merchants and retailers being added. Adeimantus suggests that justice may originate in the relationship between the various members of the community.² As we shall come to realise, the leit motif of the Republic has now been heard for the first time - "each man doing his own job" (τὸ τὰ αὐτοῦ πράττειν); but Glaucon interrupts, for he feels that the community so far described might be a community of pigs in that it caters only for basic needs and has no hint of luxury. Socrates is quite happy to go on to examine the luxurious or extravagant community (τρυφῶσαν πόλιν ³) because he will still be able to see how justice and injustice spring up, but he makes it

1 368 E.

2 372 A. Here, as elsewhere, the translation follows that of H.D.P. Lee, Penguin Classics.

3 372 E.

quite clear that the true or real community (ἡ ἀληθινή πόλις) is the one that has already been described. It is therefore misleading to suppose, as does Adam,¹ that the subsequent reconstruction of the community is the ideal one. Plato would scarcely describe his truly ideal community as 'heated' or 'inflamed' or 'festering',² and apply the epithet 'healthy' to the first community.³ In short, I believe that Plato meant business when he composed the Republic. I.M. Crombie writes: "The Republic is not intended to make a direct contribution to practical politics,"⁴ but this is a misleading half truth. No political or educational book makes a direct contribution: this is as true of Karl Marx's Das Kapital as it is of the Plowden Report. Both are Utopian in very different ways, and the contribution they make is essentially indirect: neither Karl Marx nor Lady Plowden could be described as holders of

1 Republic, p. 93 and pp. 100-101: "ἡ πρώτη πόλις" is not of course Plato's ideal republic.

2 φλεγμάνουσαν πόλιν Translations suggested by Liddell and Scott.

3 It is worth pointing out that Aristotle (Politics 1260 b et seqq.) took this first community seriously. W.H.G. Armytage in his book Heavens Below describes the numerous attempts to live at this primitive or "natural" level.

4 An Examination of Plato's Doctrines, Routledge, London, 1962. Vol. 1, p. 76.

great political power. Gavin Ardley¹ takes the matter even further when he suggests that the Republic is not really serious at all, but in effect a form of play. Again there is some truth in the assertion: Plato did not expect to have all his proposals taken seriously (which social philosopher does?), and he no doubt found enormous intellectual enjoyment in working out his thoughts - but could he really be described as writing the dialogue as a form of amusement? Any work of art from the St. Matthew Passion to a Wordsworth poem might be described as a kind of pastime in that no immediate practical consequences were looked for by their creators, but it would be folly indeed to charge them with lack of seriousness. I would suggest that whilst most of us have forgotten the mass of fourth century legislation in Athens, the influence of the Republic lives on: in that sense it makes a far more direct and serious contribution to practical politics; and this is in fact just what Plato had in mind.

The serious intent of the Republic is best demonstrated by the wealth of detailed proposals for education, and in no

1 Philosophy, July, 1967, pp. 226-244.

field is this more true than that of music. As soon as the community is enlarged to cater for occupations not concerned with necessities (373A et seqq), there arises the need for guardians to acquire new territory and to check similar communities pursuing similar aims. Plato makes no attempt to conceal the evil of this kind of acquisitiveness: so much for theories of this being the truly ideal state! The qualities of these guardians are of the utmost importance: "they ought to be gentle towards their fellow citizens and dangerous only to their enemies". It ought to be pointed out that this is the very position advanced by Polemarchus and rebutted by Socrates in Book One: "justice is to help your friends and harm your enemies" (334B).¹ The moral argument - whatever its validity - is of importance in our enquiry, for it is this whole question of bravery and gentleness in the guardians which dictates the nature of the proposals for music in education.

Plato gives detailed consideration to the education

¹ ὠφελεῖν μὲν τοὺς φίλους ἢ δικαιοσύνη,
βλάπτειν δὲ τοὺς ἐχθροὺς 334B.

cf. δεῖ πρὸς μὲν τοὺς οἰκείους πράξεις αὐτοὺς
εἶναι, πρὸς δὲ τοὺς πολεμίους χαλεπούς. 375c.

Admittedly ἐχθρός and πολέμιος have different shades of meaning but the moral distinction, if there is one, is not discussed by Plato.

of the guardians.¹ His avowed purpose is still to enquire into the origin of justice² and injustice, but it would be a mistake to suppose that he was merely attempting the analysis of a concept. If that were the case, he would have done no more than give in outline the sketch of the truly ideal community which in fact, covers a mere three Stephanus pages (369C-372C) whereas the subsequent discussion of this community runs virtually to the end of the work (621D) i.e., more than two hundred and fifty Stephanus pages. Professor R.S. Peters in his recent book, *Ethics and Education*, both carries out analyses of educational concepts and then applies them, in an appendix and elsewhere, to current educational practices. Plato did not feel the need for such separation,³ but it is clear that both writers are engaged in philosophical discourse and, however indirectly, in shaping the future of their respective communities. Once the need for the

1 376C.

2 Οὔτερ ἕνεκα πάντα σκοπούμεν.

3 Nor, at first, did Professor Peters: only advice from "pure" philosophers caused him to change his mind.

examination of education is admitted by Adeimantus
 Socrates plunges in medias res. He accepts the traditional
 view of a gymnastic training for the body and a musical
 training for the mind.¹ That there was some ambiguity
 about the term mousike is shown by Socrates' question at
 376E - "Do you include words under music?"²

It is not within the scope of this essay to examine
 in detail Plato's case for moral censorship of literature
 but a brief review is necessary because the case for purely
 musical censorship (i.e., modal and rhythmic) rests on the
 selfsame structure. The argument runs as follows:

Any impression on a young child leaves a permanent
 mark

Therefore a bad impression on a young child leaves
 a bad permanent mark

Therefore we ought not to allow bad impressions to
 be part of a young child's life.

The unexpressed premise is "Young children ought not to
 suffer harm". The argument clearly pre-supposes (as do

¹ ἡ μὲν ἐπὶ σώμασι γυμναστική, ἡ δ' ἐπὶ ψυχῇ
 μουσική. Cf. Crito 50D. The Laws of Athens
 personified point out to Socrates that they instructed
 his father to educate him in music and gymnastic.

² Μουσικῆς δ', εἶπον, τιθεῖς λόγους, ἢ οὐ;

its modern counterparts) that it is easy to detect what constitutes harm, and that questions of 'good' and 'bad' will be self evident. Plato does not think that our children should be allowed "to receive into their minds ideas for the most part the very opposite of those which we shall wish them to have when they are grown up".¹ It will be observed that all pretence at Socratic ignorance has now melted away: the very first task is the supervision of children's stories and such work must rest on the knowledge of good and bad. Again, this literary censorship extends itself to all members of the community - not just children - and the poet is asked to leave the city.² We might well ask how Plato comes by this knowledge which has apparently not been shared by other Greek thinkers: we have not at this stage had a discussion of the idea of the Good.

Perhaps at this point E.A. Havelock has offered the

1 377B..... λαμβάνειν ἐν ταῖς ψυχαῖς ὡς ἐπὶ τὸ πάλυ ἐναντίας δόξας ἐκείναις ἄς, ἐπειδὴν τελεωθῶσιν, ἔχειν οἰησόμεθα δεῖν αὐτούς. The translation here is that of Benjamin Jowett.

2 398A. See Popper's discussion of literature and music, op. cit. pp. 228-230.

most reasoned defence of Plato: "Once the Republic is viewed as an attack on the existing educational apparatus of Greece, the logic of its total organisation becomes clear. And once it is appreciated that the poets are central to the educational apparatus, the successive critiques of poetry fall into place".¹

Before proceeding to the discussion of the specifically musical proposals it may be helpful to repeat the following points by way of summary:

- (1) The dialogue is intended as a serious contribution to political theory and practice.
- (2) It both analyses the concept of justice and makes specific political proposals.
- (3) The state which is constructed is not thought of by Plato as an impossible ideal.
- (4) The educational proposals are not drawn from thin air. They are rooted in the educational practices of Plato's own day.
- (5) Pretence of Socratic ignorance is dropped at the beginning of Book II. Henceforth the dialogue displays a sense of political urgency.

1 Preface to Plato, p. 13.

PROPOSALS FOR MUSIC 398C-403C

Having considered the literary aspect of music¹ Plato turns his attention to melody and song.² The general approach is obvious,³ claims Socrates, and it is for this reason that in this essay a brief look has been taken at the general proposals for education: the specifically musical passages need to be set in their context.

The exposition is extremely clear and we are left in no doubt that Plato holds some vigorous views on fourth century music. Song consists of three elements, words modes and rhythm. Mode and rhythm should suit the words. Dirges have already been rejected in the discussion on words⁴ so that rules out the dirge-like

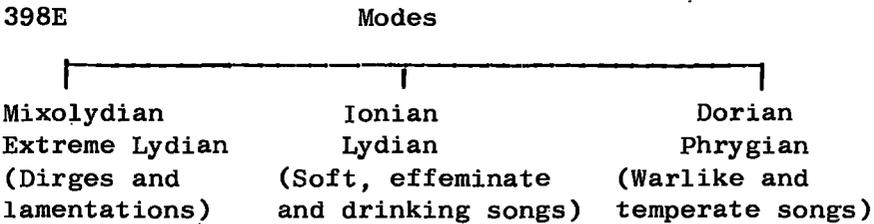
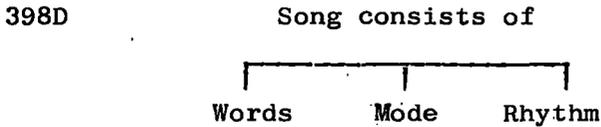
1: We are told "there will surely be no difference between words which are and which are not set to music; both will conform to the same laws and these have already been determined" (398D). Translation of Jowett. As has already been said, Homer and Hesiod were sung, as also were the choruses of the plays. The simple narrative poem will, we are informed, be set to one and the same mode. The dramatic poem with its vivid portrayal of different characters will require "programme music" to match - Plato lists, scornfully, trumpets, flutes and shepherd's pipes but this kind of entertainment is finally dismissed (398A).

2 τὸ περὶ ᾠδῆς τρόπου καὶ μελῶν

3 Ἄρ' οὖν οὐ πᾶς ἤδη εἴς εὖροι εἰ ἡμῖν λεκτέον....

4 386B.

modes - Mixed Lydian and Extreme Lydian. Again, in training guardians there can be no place for relaxing modes and those used for drinking songs and this involves the Ionian and certain Lydian modes and so we are left with Dorian and Phrygian and these happily meet the guardians' requirements. The structure of the argument lends itself to diagrammatic illustration as the scholiasts saw.¹



"Only the hardest of pedants would seriously delve here into Athenian musicology" declares Gavin Ardley.² We are told by him that Plato is "in a thoroughly naughty Carlylian mood". But, as we have already argued, Plato was indeed serious about his analysis of justice and a proof of this seriousness is the very detail of these musical

1 G.C. Greene Scholia Platonica p. 212.

2 Philosophy, July, 1967, p. 244.

proposals. As a work of inconsequential humour the Republic has without doubt many superiors.

What, then, are these modes or harmoniae? In 1923 in an article on the musical scales of Plato's Republic, Sir James Mountford wrote with confidence, "the precise intonation of the scales can be reconstructed with the aid of the musical ratios of Archytas",¹ but like so many statements on Greek musical theory it has failed to win complete acceptance by specialists in this field. Mrs. Henderson² rejects Mountford's view on the grounds that it is based on the late Neoplatonist Aristides Quintilianus (whom we have already mentioned for his references to "the divine Plato".) and Aristides was writing more than five hundred years after Plato and he cites no authority. Mountford however identifies the ratios of Aristides with the very much earlier ones of Archytas (floruit 400 B.C.).³

1 J.F. Mountford. The Musical Scales of Plato's Republic. Classical Quarterly, Vol. 17, 1923 pp. 125-136.

2 Isobel Henderson, Ancient Greek Music ap. New Oxford History of Music. Vol. I, p. 349.

3 loc. cit. p. 135.

It is not our intention to make a detailed examination of the scale systems of antiquity,¹ but it does seem possible to offer one or two provisional conclusions. Here we should do well to recall the general nature of Greek Music. According to Aristoxenus, a pupil of Aristotle, whose book on Harmonics was composed soon after 322 B.C.² the smallest concord is the musical fourth.³ Now this interval can be completed by two 'movable notes':

(οἱ κινεῖσθαι πεφύκότες φθόγγοι)

The interesting point here is that Aristoxenus complains that early students of Harmonics investigated the

1 R.P. Winnington-Ingram gives a summary of recent work in the field. *Lustrum* Volume 3, 1958, pp. 31-37. His review of Mrs. Henderson's chapter is to be found in *Gnomon* Vol. 30, 1958, pp. 243-247. He gives reasons for thinking that Mrs. Henderson goes somewhat too far in rejecting such later testimony as Aristides. See p. 246.

2 Henderson op. cit. p. 343. See also Macran's edition of Aristoxenus p. 86.

3 Aristoxenus § 22

4 From Henderson p. 344. For similar table see Macran p. 8.

enharmonic scale alone and ignored the diatonic and chromatic.¹ Now Aristides, writing very much later, gives us the various modes (Lydian Ionian, Dorian etc.) solely in their enharmonic form.² He writes about the genera or kinds of scale (Enharmonic, Chromatic and Diatonic) but then, as Mountford says, "suddenly he seems to have forgotten the genera" and, he proceeds to give details of the Harmoniaë.³ Aristides ends his list with the quite explicit claim: "it is of these scales that Plato makes mention in the Republic, where he says that the Mixolydian and the Extreme Lydian are threnodic and the Ionian and Lydian are convivial and too relaxed."⁴

1 §2. τὰ γὰρ διαγράμματα αὐτοῖς τῶν ἐναρμονίων ἔκκεται μόνον συστημάτων διατόνων δ' ἢ χρωματικῶν οὐδεὶς πώποθ' ἔώρακεν.

2 Sir David Ross places him as belonging probably to the 3rd or 4th century A.D. (Oxford Classical Dictionary) Winnington-Ingram says that he lived not before the latter half of the 2nd century A.D. and possibly he lived considerably later (Teubner edition, 1963, Preface p. XXIII.)

3 Aristides Quintilianus. De Musica. Ed. R.P. Winnington Ingram. Leipzig, 1963, pp. 18-19.

4 τούτων δὴ καὶ ὁ θεῖος Πλάτων ἐν τῇ Πολιτείᾳ μνημονεύει..... loc. cit.

There seems here to be a gratifying measure of agreement¹ and in broad outline we are justified in following Mountford. Aristoxenus tells us about the three genera and the very much later writer, Aristides, goes over the same ground but breaks off his account to give us details and a diagram of the scales in Plato's Republic. These scales are in the Enharmonic form and this bears out what Aristoxenus tells us - namely that harmonic specialists before him had concentrated on the Enharmonic to the exclusion of the other two genera: Chromatic and Diatonic. We may fairly suppose that as Aristides wrote - possibly in the second century A.D. - he had before him a very much earlier manual on Harmonics - very possibly, as Mountford argues, that of Archytas of Tarentum; (The work of Archytas is recorded by Ptolemy.²)

1 It must be admitted that the agreement is one of name rather than substance. Though Aristoxenus and Aristides give great emphasis to the Enharmonic their actual scales differ considerably. "We seem farther than ever from a valid understanding of the Greek scale system" writes R.P. Winnington-Ingram (ap Lustrum, 1958, p. 7). The point established in this present discussion is a simple and unambitious one. It would seem that in Plato's day the Enharmonic scale was very much used. I shall go on, however, to suggest that even more to Plato's liking might be the older form of scale - the Diatonic.

2 Ptolemy Harmonics Book II, 14.

It is, however, possible to go even further. There is no disagreement about the Doric diatonic genus. (It is described in some detail in our discussion of the Timaeus.) And again Aristoxenus gives us some solid information: "Any melody we take that is harmonised on one principle is diatonic or chromatic or enharmonic. Of these genera the diatonic must be granted to be the first and oldest, in as much as mankind lights upon it before the others; the chromatic comes next. The enharmonic is the third and most recondite; and it is only at a late stage, and with great labour and difficulty, that the ear becomes accustomed to it".¹ Certainty in these matters is not possible, but I would suggest that knowing as we do Plato's love of Spartan culture and again his admiration for the good, ancient ways we can conjecture that he might have in mind the Spartan diatonic genus when he writes about musical scales in the Republic. That the sublime simplicity of the genus had a profound effect on Plato we can deduce from the fact that he used these very proportions in his mystical account of the construction of the world-soul in the Timaeus.

1 Aristoxenus § 19 translated by Macran.

On the recording accompanying this essay the scales of Archytas may be heard in the three genera, as well as the diatonic Dorian genus as described in the Timaeus.

To sum up, we may say that despite much writing, it is difficult to reconstruct the actual scales to which Plato refers. But in the light of Aristoxenus and Aristides we would be justified in thinking that the modes appeared in three different forms of which the enharmonic was the most used, and the diatonic the oldest. That is, the use of quarter tones (not necessarily equal)¹ was widespread but the simpler scales composed of tones and semitones (again not equal - equal temperament is an innovation of the eighteenth century) were studied by the experts in harmonics.²

1 See Mountford op. cit. (p. 135): "If one looks at the enharmonic tetrachord of Archytas, it is clear that the two small intervals were not precisely the same, and that the really important thing was that they should together make up a semitone, leaving a major third to complete the tetrachord". Mountford does not deny the general concept of the three kinds of scale; he merely insists that Aristoxenus was trying to be too systematic in his approach.

2 Van der Waerden considers the Timaeus scale a fact of musical practice. See Winnington-Ingram op. cit. p. 45.

To give some idea of what an ancient Greek musical composition might sound like, a recording of the Seikilos epitaph is included on the tape. It is a beautiful melody and two writers claim to see versions of it in much later music, but as Winnington-Ingram suggests this may well be coincidence.¹ There is little doubt in my mind that had we sufficient musical texts we should soon get inside Greek music and discover its great beauties. I suspect that Winnington-Ingram and Mountford were too sceptical when they described it, for our ears, as "bizarre, uncouth and possibly barbaric".² In the twenty years since that was written (1949) the music of the East has made a great mark in this country, not least in the 'pop' world.

Having given a brief consideration to the actual notes of the harmoniae we must now turn our attention to their origins. The modes were known by tribal names - or, to be more precise, adverbs derived from the tribal names: thus we have 'Mixolydisti', 'Iasti' etc. Professor Anderson considers³ that such adverbs suggest a whole style - "in

1 For discussion see review in *Lustrum*, 1958, p. 10.

2 *Oxford Classical Dictionary v.s. Music* p. 585, 1949.

3 *Ethos and Education* p. 25. See also Henderson, *op cit.*, p. 384.

the Dorian manner", and so on; and he is surely right to point to other features of an ethnic mode - "timbre and bodily movement have their own rightful claims to attention".¹ Such consideration goes a long way to explain Plato's strong feelings: it was not simply an arrangement of musical intervals that was under scrutiny, but a whole mental and physical pattern of behaviour. One is reminded of G.W. Allport's dictum that traits are adverbial² - they describe a person's mode of living. And here we come upon the question of representation: Plato takes the view,³ that if the guardians play an evil part in a dramatic recitation and they do it often enough they become evil. It is easy enough to apply this doctrine to the musical modes. Posture and general behaviour are a real part of musical expression. I have seen many Elijahs, in performances of Mendelssohn's Oratorio, who would, without doubt, do credit to their illustrious original.

The ethnic connotations of the various Greek modes

1 op.cit. p. 11. Cf. Lippmann, op. cit. p. 54.

2 Pattern and Growth in Personality. pp. 347 et seqq.

3 395D Plato's graphic language runs, as follows:

αἱ μιμήσεις εἰς ἕτη τε καὶ φύσιν
καθίστανται

are of interest. The Dorian and the Phrygian seems reasonably well attested, with the Lydian a possible third. The other names possibly arrived later.¹ We can be reasonably certain that though the modes began their lives in separate communities they were universalised and systematised as were the various Greek dialects. On a much larger scale we have seen the pattern repeated: national styles of composition are now perforce self-conscious. An American composer like Aaron Copeland has heard as much Viennese music as ever Mozart did, so if he opts for an American style, he does so in a deliberate manner.

The Dorian mode was considered to be especially Greek: Laches, in Plato's dialogue of that name, is made to say that "the Dorian mode is the only Hellenic mode";² the Ionian, Phrygian and Lydian being ruled out. Athenaeus, in the *Deipnosophists*,³

1 Anderson, op. cit., p. 12; Henderson, op. cit., p. 389: she speaks of "artificial segments with artificial names".

2 Δωριστί ἥπερ μόνη Ἑλληνική ἐστὶν ἀρμονία. 188D.

3 Translated by Professor Gulick in the Loeb Library edition. The floruit of Athenaeus is c 200 A.D.

records the view¹ that "the Dorian mode exhibits the quality of manly vigour, of magnificent bearing, not relaxed or merry, but sober and intense, neither varied nor complicated". This indeed would appeal to Plato as would the statement that the Lacedaemonians preserve better than all other Dorians the customs of their fathers": this is the essential nature of the music of the Laws.² Athenaeus speaks of the Ionians as "never condescending to kindness nor cheerfulness"³ and thus their mode is "neither bright nor cheerful" but he does go on to say that they have grown more voluptuous (*πρυφερώτερα* - the word recalls Plato's description of his second community which admits of luxuries) and the ethos of their mode is much altered.⁴

1 This could be the view of Heraclides Ponticus, a pupil of Plato, who is said to have written a book on music. He is mentioned at 624C and E, but as Winnington-Ingram says (*Mode in Ancient Greek Music* pp. 19-21) it is uncertain whether the views on the modes should be attributed to him or not.

2 Egypt and Sparta provided a model for Plato's theory of music in education.

3 οὐδὲν φιλόανθρωπον οὐδ' ἱλαρὸν
ἐνδιδόντες.

4 καὶ πολὺ παραλλάττον τὸ τῆς ἁρμονίας
ἦθος.

Mrs. Henderson speaks of the "witless fancy"¹ of Heraclides, but this is a little harsh. In the cheery after-dinner gossip we learn something of the Greek attitude towards modes (it would surely be difficult to question the accuracy of the description of the Dorian). No less intriguing is the view of the Phrygian mode:² Theophrastus is reported as saying "that persons subject to sciatica would always be free from its attacks if one played the flute in the Phrygian mode over the part affected". Like so many of the views expressed in Athenaeus' discussion of music it is racy, amusing and has, however minute, a grain of truth. The more substantial claims for the healing power of music will be examined in the section on Aristotle. Broadly speaking, the views expressed on racial characteristics have as much validity as their modern counterparts (Scottish meanness, German thoroughness and so on) which is not to say very much. They do however throw some light on the musical traditions examined by Plato. In view of all the evidence I believe we are justified in concluding that the modes had ethnic origins,

1 op. cit. p. 349.

2 624A.

but like so much modern national music, the choice of mode became more a matter of personal choice than cultural necessity. We need not doubt that each mode had a marked character of its own, but we should be more careful in linking such a character to real (as opposed to anecdotal) differences in racial temperament.

We have seen that Plato finally chooses the Dorian and the Phrygian modes.¹ He puts into the mouth of Socrates the words, "I am no expert on modes"² and Winnington-Ingram is surely fair in saying, "it is doubtful whether Plato or his master Socrates had any considerable knowledge or understanding of music as an art".³ The two modes are to represent respectively:

(1) The voice and accent of a brave man on military service.

(2) Praying to God, moderation and common sense.⁴

1 399A.

2 399A. οὐκ οἶδα..... τὴν ἀρμονίαν. Cf. the need to consult Damon 400B, 400C, also Laches 200B.

3 ap. Grove's Dictionary of Music and Musicians. Vol. 6, p. 824.

4 A paraphrase of Lee's translation.

Perhaps the real distinction Plato draws is that between the compulsory activities of war and the voluntary activities of peace.¹ And here we must bear in mind the model of the good watch dog: the aim of this education is to instil both perfect gentleness and great physical courage.² We can see that gymnastics are intended to promote courage and that philosophy has for its end the pursuit of gentleness³ but music, in its words rhythm and modes, can foster both these qualities.

Is there any substance whatever in Plato's view? Sir Desmond Lee says "the Greeks were more inclined that we are to associate certain types of music with certain types of feeling and sentiment"⁴ and Popper calls Plato's attitude "superstitious and backward if compared with a more enlightened contemporary criticism".⁵ I would

-
- 1 (i) ἔν τε πολεμικῇ πράξει καὶ ἔν
πάσῃ βιαίῳ ἐργασίᾳ.
(ii) ἔν εἰρηνικῇ τε καὶ μὴ βιαίῳ ἀλλ'
ἔν ἔκουσίᾳ πράξει. (399B)

2 375D. See Popper op. cit. p. 52: "it is the purely political aim of stabilising the state by blending a fierce and a gentle element in the character of the rulers.

3 376B.

4 Penguin translation p. 138.

5 op. cit. pp. 53-54 and note on p. 229.

suggest that modern parallels might lend some support to Plato's theory, especially if we bear in mind that mode included timbre and bodily movement as well as particular scales. The examples are chosen at random, but more objective reports will be mentioned.

(1) In the autumn of 1967 when violence in Aden was at its worst, a Scottish commander ordered a piper to play, and from the roof of an Adeni house, the skirl of the bagpipes was heard by an astonished populace. As he played, the emotional effect was considerable - the brave history of Scotland was evoked, and the military qualities of the task-force was established beyond question. What, one may ask, would have been the effect of a trendy 'pop' group equipped with guitars and percussion? But here a note of caution needs to be sounded. How far were the people of Aden able to judge the military nature of the actual music played? Is it true that certain sequences of notes, certain timbres, certain rhythms have a universal effect upon human beings? This question we shall examine later. What I think we can say in the present instance is that - as in Plato's time - a combination of circumstances produced a profound effect, but it was the music which was a basic ingredient.

(2) As an example of the second kind of music desired by Plato, we might well take church organ music, or the reflective 'Last Post' as played by the massed bands at the annual British Legion Festival of Remembrance. The 'language' of this music is widely understood in the West and if - horrible dictu - just one side drummer took it into his head to tap out the 'off beats', all heaven would be in a rage.

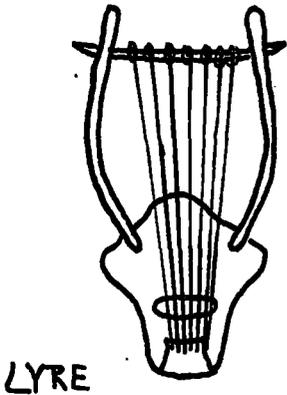
It is hoped that these two anecdotal examples will go some way to disprove Lee's implication that we today are not too affected by music.¹

A brief word should be said about instruments. In view of Plato's limited repertoire the needs are simple. Instruments with many strings (ὄργανα πολύχορδα) and with a wide harmonic range (πολυαρμόνια) will not be required; this rules out the trigonon,² the pektis and such like instruments of the harp family. The aulos too, being of the widest range (πολυχорδίστατον) is also banned.

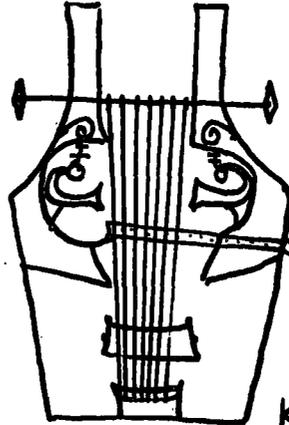
1 The examples given are, of course, music for an occasion. Lee is certainly correct in the case of 'musical wall-paper'.

2 See Musikgeschichte in Bildern, Max Wegner, p. 46. For lyres see 89.

We are left with the lyre and the kithara, both very common instruments if we may judge from the evidence of Greek art, collected by Max Wegner. Traditionally the lyre was Apollo's instrument and the flute that of Dionysus.²



LYRE



KITHARA'

The aulos, usually translated 'flute', was in fact a kind of oboe or later perhaps a kind of

- 1 From Max Wegner, *Das Musikleben der Griechen*. Berlin, 1949. pp. 28-52.
- 2 Alcman, the Spartan poet of the seventh century B.C. spoke of a different tradition. See Plutarch, *On Music* 14: "Not only the lyre belongs to Apollo but he is the inventor of flute-playing as well as lyre-playing..... Others say that he played the flute himself, for instance the great lyric poet Alcman". (Translated by J.M. Edmonds, *Lyre Graeca*, Vol. 1, p. 99, Loeb Library). For further discussion see Aristotle's sardonic views on the aulos, *Politics*, 8, vi.

clarinet.¹ There is little doubt in my mind that, like most primitive oboes (we need look no further than secondary school beginners!) it has a strident and compelling tone. The double reed instrument still plays an unmistakable part in Arabic and Indian music. The vase paintings leave us in little doubt about its power - musical and extra-musical.²

The concert-kithara in the volume of its tone seems in quite a different class. It was no bigger than the small Irish Harp or Scottish Harp (Clarsach) and its tone must have been small indeed. Solo Cithara-playing was however to be found at the Pythian and other festivals - Winnington-Ingram and Mountford think "it would seem to be a bleak entertainment".³ I believe in any

1 The evidence for this statement is to be found in *The Greek Aulos*, Kathleen Schlesinger, London, 1939 (pp. 45 et seq; 106 et seqq).

2 Wegner op. cit. 74.

3 *Oxford Classical Dictionary* p. 589. O.J. Gombosi, *Die Tonarten und Stimmungen der antiken Musik*, Copenhagen, 1939 examines vase paintings of lyres and builds up a theory of tuning from the evidence of stringed instruments. Of the work of Schlesinger (aulos) and Gombosi (stringed instruments) Winnington-Ingram writes, "It is a remarkable, a significant, and a rather depressing, fact that these two works, both the product of great ingenuity, present accounts of the Greek scale-systems which hardly correspond to one another in any fundamental particular". *Lustrum*, 1958, p. 32.

assessment of Plato we should do well to remember the very considerable difference in volume between the two instruments. Admittedly an oboe can sound very martial,¹ but one can surmise that the aulos of Plato's day had acquired something like the sleazy night club associations of the modern saxophone.² The harp family has always enjoyed a better reputation and, as Scholes observes, it is to be found everywhere except Hell.³

Plato's only concession on musical instruments is the syrinx or, as we call them, Pan pipes, for the country dwellers.⁴ They could either be the familiar set of pipes bound together (*σύριγξ πολυκάλαμος*) - the pipes being of graded length,⁵ or the syrinx could be a single

1 See remarks on The Fireworks Music. See p. 345 of this essay.

2 Even Vaughan Williams could not purge the instrument of these associations.

3 Oxford Companion to Music.

4 Κατ' ἀγροῦς τοῖς νομεῦσι σύριγξ ἄν τις
εἶη 399D.

5 Wegner op. cit. p. 59.

pipe (σύριγξ μονο κάλαμος). These pipes must have been a common sound in the Greek countryside of Plato's day.

So much then for modes and instruments. Socrates at this point reassures his listeners that in making these proposals they are doing nothing new. One must imagine that the instruments of Apollo were educationally more favoured than those of Marsyas.¹ Today parents and governors alike beam their approval as the small school boys "render" Schubert's Marche Militaire at the school Speech Day; but what would their attitude be if these same boys played saxophones and trumpets in serried ranks and rendered some such number as Miss Eartha Kitt's "I want to be evil"? No one will deny that almost everyone in the school hall enjoys such music on the television, but it is not thought educationally desirable. If this is a fair parallel, we can see that Plato's aim is to be educational pretty nearly all the time. His aim is a consistent one: to produce in the guardians and in the community as a whole a truly healthy set of virtues.

1 Marsyas was a satyr or silenus, according to H.J. Rose in OCD, "generally associated with the river of that name, a tributary of the Maeander". He is said to have invented music for the aulos and is "pretty certainly a Phrygian".

With a strongly emphatic oath¹ Socrates observes that, without noticing it, they are cleansing or purging thoroughly (Σιακῶν βαίροντες) the luxury in the community. Music was not a part of the first city and if it is to be introduced into the luxurious city then it must have a job of work to do: it must serve as an encouragement to moral virtue. Two questions now present themselves. First, was it really true that there was nothing new in what Socrates proposed and secondly have communities other than the Greek had similar attitudes towards music?

Socrates goes a long way towards answering the first question. He is unable to say much about rhythms and suggests that they should consult Damon. Now Damon was a musician of the fifth century and as Anderson observes "it has always been supposed that in his views on musical ethos Plato draws directly on Damonian theory, without any attempt to be original".² There is considerable

1 Adam, op. cit., p. 160. 399E.

2 The Importance of Damonian Theory in Plato's Thought. Transactions of the American Philological Association, Vol. 86, 1955, pp. 88-102. Moutsopoulos, op. cit. pp. 188 et seqq. in closely reasoned argument takes the view that Plato's teaching (398c et seqq) was a version of Damon's last speech to the Areopagus.

controversy concerning Damon and this manifestly is due to the tiny number of surviving fragments. But of certain points we can be clear: first, Damon was not merely a practical musician, but a philosopher and thinker as well;¹ secondly he moved in the highest circles at Athens and exerted considerable influence;² thirdly his views were still being quoted by men like Aristides Quintilianus some seven hundred years later.³ It is clear that he saw a close connexion between music and behaviour and there is little doubt that Plato found his views highly congenial, but it would be surprising indeed if Plato, who devoted thought to musical education both in the Republic and the Laws, merely copied out

- 1 Cicero. De Oratore III 33 132. Crassus inveighs against specialisation: "distributione partium ac separatione magnitudes sunt artium diminutae" The general competence of Euclid, Archimedes (mathematics), of Damon and Aristoxenus (music) and Aristophanes and Callimachus (literature) is brought into the argument as evidence against specialisation.
- 2 Plutarch's life of Pericles Ch. 4. Damon is described as 'a consummate sophist' (ἄκρος σοφιστής) and he was ostracised for being a great schemer and friend of tyranny (μεγαλοπράγμων καὶ φιλοτύραννος.)
- 3 Aristides Quintilianus. οὗ περὶ Δάμωνα p. 80 ed. Winnington-Ingram.

verbatim the views of an earlier Sophist.¹ Plato rarely borrowed arguments without transforming them, but in a sense there was, as Socrates said, nothing new.

It must not be thought, however, that all Greeks shared the views of Damon and Plato. The Hibeh Papyrus No. 13² takes a very different line. It is worth quoting in full. The author might be Hippias of Elis, a contemporary of Socrates and Damon.³

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- 1 Anderson seems to go too far in suggesting a 'direct clash' between Damon and Plato (p. 79 op. cit.) Admittedly Plato does not speak of music fostering justice in the same way as courage and moderation, but this, as I see it, has to do with the emotional qualities to be found in the virtues of courage and temperance. Music works on the emotions, whereas justice is altogether more abstract. Music can rouse or it can soothe, but it can hardly, in any specific way, encourage people to grasp the concept of each man doing his own work (τὸ τῷ ἑαυτοῦ πράττειν). Anderson perhaps overstates his case when he adds (loc. cit.) "(Plato) claims neither that the musical man is just nor that the just man is musical". Cf. Laws 655D. "If, then, we three understand what constitutes goodness in respect of dance and song, we also know who is and who is not rightly educated". (Trans. R.G. Bury). For further criticism of Anderson's position on Damon see Winnington-Ingram, *Lustrum*, 1958, p. 53.
- 2 Edited B.P. Grenfell and A.S. Hunt. London, 1906. The papyrus dated c 280-240 B.C. was discovered at the Ptolemaic necropolis of El - Hibeh in 1902.
- 3 Grenfell and Hunt consider that it might be the work of Hippias (see Plato Hippias Minor 363C and 368D. See also Hippias Major 285E).

"It has often been an occasion of surprise to me, men of Hellas, that certain persons, who make displays foreign to their own arts, should pass unobserved. They claim to be musical, and select and compare different tunes, bestowing indiscriminate blame upon some and praise upon others. They assert that they ought not to be regarded as harpers and singers, for these subjects they say, they concede to others, while their own special province is the theoretical part. They appear, however, to take no small interest in what they concede to others, and to speak at random in what they say are their own subjects. They assert that some tunes make us temperate, others wise, others just, others brave, others cowardly, being unaware that enharmonic melody would no more make its votaries brave than chromatic will make them cowards. Who is there who does not know that the Aetolians and Dolopes, and all the folk round Thermopylae use a diatonic system of music, and yet are braver than the tragedians who are regularly accustomed to use the enharmonic scale? Therefore enharmonic melody makes men brave no more than chromatic makes them cowardly. To such lengths of confidence do they go that they waste all their life over strings, harping far worse than harpers, singing worse than

the singers, making comparisons worse than the common rhetorician, - doing everything worse than anyone else. With regard to the so-called harmonics, in which, so they say, they have a certain state of mind, they can give this no articulate expression; but go into ecstasies, and keeping time to the rhythm strike the board beneath them in accompaniment to the sounds of the harp. They are not ashamed to declare that some tunes will have properties of laurel, and others of ivy, and also to ask whether....."¹ (the manuscript breaks off here). In the light of this document we can make the following points:

(1) Ancient philosophers, like their modern counterparts, were apparently inclined to make judgments where they had no technical competence. The under-labourers in the garden of knowledge too often attempt to take over the whole garden.

(2) Assertions on the effects of modes were an area of sharp controversy.

(3) The writer was not afraid to call upon some empirical evidence.

(4) Whilst we have discussed the difference between ethnic modes - Dorian, Phrygian, Lydian etc. - the writer

1 Translated by Grenfell and Hunt.

refers only to the distinction between the three kinds (genera) of scale within each mode. Diatonic, enharmonic and chromatic kinds are each mentioned whereas Plato emphasizes between the modes themselves.

(5) The extreme claims for modes to have the properties of laurel and ivy can be linked to the symbolism of religion. As absolute statements they are of course nonsensical. The laurel is associated with Apollo and the ivy with Dionysus.

(6) It will come as no surprise whatever that Anderson finds the papyrus unconvincing¹ and that Popper finds it "a brilliant exposure of a silly point of view". The assumptions made by each are certainly interesting.

Whatever the merits of the case we are clearly in a position to state that, in an important sense, there was nothing new in Socrates' proposals. But have other communities shared this view of the ethical properties of modes? Wellesz² points to parallels in Chinese, Indian

1 Anderson op. cit. p. 152 - following Grenfell and Hunt, Popper op. cit. p. 230 (note 41).

2 Byzantine Music and Hymnography p. 46. Wellesz quotes from R. Lachmann, Musik Orients, 1929, pp. 54-64 and L. Laloy La Musique Chinoise pp. 11. et seqq.

and Arabic musical treatises: "Each Indian mode (raga), for example, is connected with a god or goddess, and images of deities, representing the different ragas, are a favourite subject of Indian miniature painting. The rules given in the Chinese Book of Ceremonies are even more rigid than those of Plato in his Republic: certain melodies must be played in the morning, others only in the evening, otherwise they cause disorder. Certain instruments can be used only by a restricted number of persons with high rank".

Laurence Picken points out that the Chinese in antiquity did not conceive the essence of music to be sound at all but a transcendent power:" as a manifestation of a state of the soul, a single sound had the power of influencing other souls for good or ill".¹ A comparative study of ethos in music² would be a considerable task in itself but I think we should here be justified in supposing that the rigorous views put forward by Socrates find their parallels in early musical culture in many parts of the world. In

1 The music of Far Eastern Asia. ap New Oxford History of Music, pp. 86-87.

2 See Muslim modes allotted to various times of day; Henry George Farmer, The Music of Islam. op. cit., p. 449. For recordings consult H.M.V. History of Music in Sound.

the light of ancient Greek history and in the light of comparative musicological studies we should do well to emphasise that Plato's views on the ethical effects of music are not so strange and bizarre as has sometimes been supposed.

It remains now to take a brief look at the discussion of rhythm and then to glance at Plato's summary of his educational proposals at this stage.

After words and modes we come to rhythm.¹ The basic principle, that words are the first consideration, of course still holds. The metre and the melody must come second to the subject matter.² Socrates passes the analysis of rhythms first to Adeimantus and then to Damon. Adeimantus confesses inability, but points out that there are three basic forms of rhythm just as in sound there are four basic forms.³ What are these basic

1 399E.

2 400A. ἔπειθα 'to follow', means that metre and melody are a secondary consideration. There is ambiguity in the English expression 'the melody and metre follows the words' which refers to the common practice of setting a song.

3 Τρί' ἕττα ἔστιν εἶδη ἐξ ὧν αἱ βάσεις πλέκονται, ἐν ταῖς φθόγγοις τέτταρα, ὅθεν αἱ πᾶσαι ἁρμονίαί.

forms in each case? In the case of rhythm, Aristides Quintilianus tells us of the three kinds.¹ Adams² shows how each of these kinds go to make up (i) dactyls, spondees, anapaests; (ii) paeons, cretics and bacchei (iii) trochees, iambics ionics. The four basic forms from which all the harmoniae are derived are more difficult to see. Certainly they cannot be the harmoniae themselves as this would be a logical nonsense.³ I believe that we need look no further than the Pythagorean discovery of the ratios of the perfect consonances.⁴ From the four numbers, 1, 2, 3, and 4 we derive the perfect fourth, the perfect fifth and the octave. Plato discussed the ratios at length, as we shall see, in the Timaeus.

1 ed. Winnington-Ingram p. 33.

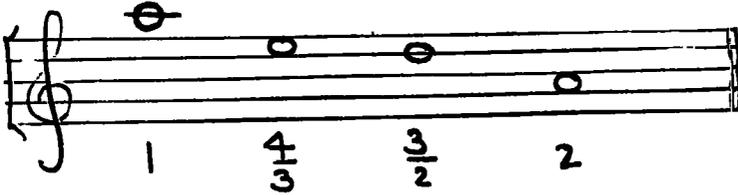
Γένη τείνων
 ἔστι ρυθμικά τρία, τὸ ἴσον, τὸ ἡμιόλιον
 τὸ διπλάσιον i.e. $\frac{2}{2}$, $\frac{3}{2}$, $\frac{2}{1}$

2 op. cit., p. 161.

3 Anderson op. cit. p. 194 attacks this view taken apparently both by Westphal (see Adam loc. cit.) and by Meyer in his dissertation on Harmonia (Freiburg, Zurich, 1932).

4 Wellesz op. cit. p. 47. See Nichomachus of Gerasa in Musici Scriptores Graeci, ed. C. von Jan, Teubner, 1895 p. 244.

These ratios are surely the four basic forms.



Plato is now in a position to summarise his proposals.

Whilst we may have been perplexed by one or two details, there is no mistaking the main thread of the argument and the summary merely serves to bring the topic into sharper focus. Socrates says¹ "Beauty of style and harmony and grace and good rhythm depend on simplicity - I mean the true simplicity of a rightly ordered mind and character, not that other simplicity which is only a euphemism for folly". Here then are the three ingredients, to do

respectively with words (εὐλογία), modes (εὐαρμοστία) and rhythm (εὐρυθμία), and a fourth is added as an overall feature - good design (εὐσχημοσύνη). These depend on what is basically a moral quality (εὐηθεία) - good nature, simplicity or,

1 400D. Translated by Jowett. In his commentary on this passage Jowett makes clear his dislike of the harmony of modern times (1894) and Popper also dislikes modern music intensely! p. 230 op. cit.

in its bad sense, stupidity, (there is a hair-line distinction between a saint and a simpleton). Now if the young men who are to become guardians "are to perform their function in life" (τὸ αὐτῶν πρᾶττειν) then they must seek the qualities in music and literature which have been discussed. The leit motif of justice reappears: justice has not yet been defined for us¹ but we are left in no doubt that music has a key role in education if the community is to be a just one.

The relationship between beauty (εὐσχημοσύνη) and good character (σώφρων τε καὶ ἀγαθὸν ἦθος 401A) holds good in other spheres also:² Plato mentions painting, weaving, embroidery and so on. In all, the effects of living among good works of art is likened to feeding in a healthy pasture. The simile is continued with the idea of a place enjoying the benefits of breezes from some healthy country. The concept of

1 See 433B.

2 Kant draws the distinction between the agreeable and the good, Ju 208, yet later goes on to speak of the beautiful as "the symbol of the morally good". (Ju 353).

education as a form of nourishment has considerable appeal.¹ In fact the metaphor was a commonplace in both Greek (τρέφω) and Latin (educō).² It is easy to observe that the human child is for a long time utterly dependent on adults for its care in food and clothing. And it is no less easy to draw the analogy between body and soul: it would appear reasonable to minister to the needs of both as occasion demands. But there is some confusion here, for whereas there is widespread agreement about physical needs there is no

1 Adam, like Jowett and Campbell, is much moved by the passage. The difficulties presented by the simile are ignored. Modern movements such as "Feed the Minds" remind us of present vigour of the metaphor. Sir John Adams discusses the concept of growth in his book, "The Evolution of Educational Theory", 1912, pp. 283 et seqq. He cites Comenius, Pestalozzi and Froebel. Of the last he says (p. 290): "We are entitled to a better argument than a mere analogy". He also comments that "the educational theories of Froebel find a great deal of justification in Plato". (p. 284).

2 Liddell and Scott say "Properly a boy was called τρεφόμενος only so long as he remained in the charge of women, i.e., till his fifth year. τροφή was used frequently by Plato: see especially Laws, Book I, 643D, "First and foremost, education, we say, consists in the right nurture....." (ἡ ἐρθή τροφή)

Lewis and Short cite Varro ap. Nonium Marcellum "educit obstetrix, educat nutrix, instituit paedagogus, docet magister". Educare came to have a much wider meaning.

such agreement on strictly educational needs.¹ In Plato's day there would clearly be widespread agreement on what constituted a healthy pasture: the principles of animal husbandry were to a large extent verifiable. But could the same be said of musical and literary education? In the light of the Hibeh papyrus which flatly contradicts the kind of view Plato propounds we are surely fair in refusing to accept the analogy without careful examination.²

After the analogy there follows Plato's most well known dictum on musical education:³ "musical training is a more potent instrument than any other, because rhythm and harmony find their way into the inward places of the soul, on which they mightily fasten, imparting grace, and making the soul of him who is rightly educated graceful, or of him who is ill educated ungraceful....." This

1 See R.F. Deardon "Needs in Education". British Journal of Educational Studies, Vol. 14, No. 3, pp. 5-17.

2 Aristotle Politics VIII, i "There is no agreement as to what the young should learn". cf. VIII, 5 "It is not an easy matter to settle either what is the real effect of music nor with what object we ought to take it up". For an examination of the fairness of the analogy see the third part of this essay.

3 401D. Translated by Jowett.

dictum has the appearance of an overstatement: can it be true that music, to which we devote so little time in our schools, has such a powerful effect? I believe that Plato's statement is to be taken as a psychological observation and it is to the psychologists of modern times that we must turn for information.¹ Suffice it to say at the present that Plato had first hand knowledge of the powerful effects of music both in the religious and military spheres. He goes on to show, in this summary, that the principle of musical education is to know the good and to hate the bad (the reference is to both moral and aesthetic experience) and this facility is to be

1 The discussion of modern psychological observations appears later in this essay. William Sargant gathers evidence from a wide variety of sources in *Battle for the Mind*, Heinemann, 1957, and Pan Books, 1959. See especially pp. 92 et seqq. (Pan) and the quotation on p. 141 from Aldous Huxley, *The Devils of Loudun*:

"No man however civilised can listen for very long to African drumming, or Indian chanting, or Welsh hymn singing, and retain intact his critical and self conscious personality". (p. 369. *Collected Edition*, Chatto and Windus, 1961.)

Plato was fully aware of the power of music in ecstatic religious rites: see the discussion later in this essay of Corybantism (Phaedrus 244DE). The other side of the coin is military music, and Plato clearly saw and approved of Spartan musical training.

acquired by the child "even before he is able to know the reason why" (πρὶν λόγον δυνατὸς εἶναι λαβεῖν 402A). This phrase is echoed in the Laws when the Athenian first attempts to describe education (παιδεία 653B). We are told that education consists in children feeling pleasure and pain aright before they are yet able to know the reason why (μήπω δυναμένων λόγον λαμβάνειν) This is what R.S. Peters has called "the paradox of moral education" the child is confirmed in one set of habits rather than another before he is able to make a rational choice. "The palace of reason is entered through the courtyard of habit" is an aphorism of Professor Peters which seems to apply with equal force in both moral and aesthetic discourse.¹ It would appear that a child's interests and tastes in the arts are much determined by early environment and certainly in the case of pure music it is notably difficult to give reasons for liking or disliking a particular work. For a young child I would judge it to be very nearly impossible;

1 R.S. Peters. Ethics and Education, p. 314.

how can a five-year-old discuss the quality of the Badinerie in Bach's Suite in B. Minor for Flute and Strings? And yet it is a highly popular introduction to the television programme, "Watch with Mother".

Plato, as always, comes to the heart of the problem. He states, with complete frankness, the principle on which his theory of musical education rests. The child is to be habituated to good music and good behaviour even before he is able to grasp a rational account. There are two questions which need to be asked, the first philosophical, the second psychological:

- (1) How can we agree on what is 'good' music?
- (2) How far does early aesthetic experience determine preferences in later life?

Plato in my view gives very full consideration to the first question but the second he answers only on the basis of his own observation, and keen though this is, more needs to be known through the carefully documented researches of modern psychologists. Plato is, in fact, not deeply concerned with the second question, for his answer to the first in the Republic is so sure and strong. Indeed, the whole theory of ideas, hinted at

in the present section,¹ is introduced in Book Five by discussion of the nature of the knowledge held by lovers of sights and sounds, and it is to this inquiry that we must now turn our attention.

Reference has already been made to the certainty with which Plato made his pronouncements on musical education;² this certainty is in striking contrast to Socrates' professed ignorance.³ The reason for this

1 402C. "We must be able to recognize both the qualities themselves and their images" (καὶ αὐτὰ καὶ εἰκόνας αὐτῶν).

2 See discussion of 377B.

3 "I'm still none the wiser after all our discussion" 354B. Ryle, speaking of the abrupt termination of the "elenctic" dialogues, says, "Plato's succeeding dialogues are markedly different from their predecessors. Negatively, they differ in being devoid of or almost devoid of argumentative checkmating; positively, they differ in presenting constructive philosophical doctrines. Of these by far the most famous is Plato's Theory of Forms". (op. article on Plato, The Encyclopaedia of Philosophy, New York and London, 1967). The abrupt change is to be seen between Book One of the Republic and the subsequent books. It is interesting that music in education is presumably one of the first questions which Plato tackled in his new role of Constructive philosopher. It had to be. As Havelock explains in "Preface to Plato", until the poets and musicians had been deposed as teachers of mankind, the dialectical philosopher could make no headway.

certainty clearly rests on the Platonic view of knowledge (ἔπιστήμη) as opposed to opinion (δόξα). The distinction is discussed, in the Republic, in three principal passages:

(i) The end of Book 5 (474B - 480)

(ii) Books 6 and 7 (505A - 535A)

(iii) Book 10 (601B - 602B)

It would be quite out of place, at this stage, to carry out a full inquiry into the Theory of Forms which is at the root of the distinction between knowledge and opinion in the Republic. Nevertheless both the first and third passages deal with aesthetic knowledge and are of direct relevance to a discussion of Plato's views on music.

The first passage, in fact, attempts to draw a firm line between philosophers and lovers of beauty. Socrates makes the point that a philosopher is a man who is curious to learn and never satisfied, but Glaucon replies that this definition places the philosopher in dubious company for theatregoers (φιλοθεάμενες) and music lovers (φιλήκοοι) are curious to learn (καταμανθάνειν χαίροντες) and they are unwilling to get down to serious discussion.¹ How then does one distinguish a

¹ πρὸς μὲν λόγους καὶ τοιαύτην
διατριβὴν ἔλθειν. 475D.

true philosopher? We are told that he has a passion to see the truth. But what does this mean? Socrates elucidates further:

"Since beauty and ugliness are opposites, they are two things, each of the pair being a single thing..... The same is true of justice and injustice, good and evil, and all formal characteristics; each is a single thing in itself, but each appears as a multiplicity because it is seen in combination with actions and material objects and other characteristics.....I use this principle to distinguish your theatre lovers and art lovers and practical men from the philosophers in the true sense, who are the subject of our discussion..... the music lovers and theatre lovers are delighted by the beauty of sound and colour and form, and the works of art which make use of them, but their minds are incapable of seeing and delighting in the essential nature of beauty itself".¹

This passage has been subjected to much discussion. There appear to be three steps in the argument:

1 476A et seqq. trans. H.D.P. Lee.

(i) Beauty is one thing

(ii) This one thing can be seen only by true philosophers. (These are likely to be few in number.¹)

then (iii) These philosophers are able to see both beauty itself and the particular things which share its characters (καθορᾶν καὶ αὐτὸ καὶ τὰ ἐκείνου μετέχοντα 476D)

It will be noted that all three doctrines are established without disputation in a very short passage. The prime difficulty is the relation between the one thing (Beauty, Justice and the like) and its highly varied exemplars (beautiful sights and sounds, just actions and so forth) Plato speaks in three ways of this relationship.

(1) As a COMBINATION. The one thing in combination with particulars (τῇ κοινῶν τε 476A)

(2) As a SIMILARITY. Particulars will be similar to the one thing as a dream object is similar to a real object. (ὅμοιον 476C).

(3) As a SHARING. Particulars are described as sharing in the one thing (μετέχοντα 476D)

All three descriptions are metaphors rather than literal accounts. They are attempts to deal with the

1 476B.

puzzle that whereas we describe many sights and sounds as beautiful it is extraordinarily difficult to define Beauty; especially if, with Plato, one is going to confine one's attention to the objects commonly described as beautiful and make no reference to personal experience (cf. the aesthetic sense discussed by Hutcheson and Hume in the eighteenth century). Plato is no doubt right to draw attention to the verbal poverty of the lovers of sights and sounds. To describe a Mozart opera as 'sublime', or a pop song as 'fabulous' really tells us very little, and certainly would be very little help to a music teacher who takes the question seriously: why teach this rather than that?¹ But surely we can ask Plato how a concept (e.g. of Beauty) is gathered without reference to particulars, for it is clear that the concept is not in his view arrived at inductively. What is meant by concept here? It is the general notion which is presumed to underlie the many particular predicates. For example the one notion Beauty would combine with particular things with the result that we should say "these are beautiful". Now some general notions as Ryle points out² are ideal limits or standards.

1 See R.S. Peters on worth-while activities, ap. Ethics and Education.

2 Encyclopaedia of Philosophy. loc. cit.

For example we have not seen the Euclidean straight line, but we have the notion. May we not say the same about Beauty? To speak meaningfully about such a concept or general notion one must be in a position to supply a definition. In the case of a straight line this is not difficult: it is the shortest way between two points. Again we can define what we mean by an even number, and speak with certainty, although we have by no means inspected all even numbers. In other words we have not been obliged to inspect a vast number of cases in order to build up, inductively, a concept of evenness. But can a concept of Beauty be built up in similar fashion? Surely it is very much more difficult to supply a definition: particular beautiful things have a great variety - sights, sounds and so on. The only certainty we can express about Beauty is that it is not ugly and this is a mere tautology. Plato's concept of justice - each man doing his own job - is of a different character to geometrical concepts: to speak of an equilateral triangle being equiangular has a demonstrable and logical certainty which is not shared by statements about morals. It is impossible to conceive of an equilateral triangle not

having equal angles: it is not impossible to conceive of a man doing his own job (e.g. making weapons of war) and yet not acting justly. Admittedly there must be some general notion of justice in our minds for us to judge the making of weapons to be wrong but this general notion is not covered by the definition in terms of doing one's own job. Whether Beauty or Justice have ever adequately been defined is another question: all we need say here is that Plato does not show us how the certainty of mathematical concepts is matched by that of moral and aesthetic language. Socrates tells us that he is unable to give us an account of the good and this is the very concept from which all others flow: "I'm afraid it's beyond me, and if I try I shall only make a fool of myself".¹ He would not have spoken in such terms of the properties of geometrical figures.

It is worth noting that J. Gosling reiterates Plato's point in an article on the present passage² "If I am interested in art and what makes a good work of art I

1 506D.

2 Republic V: τὰ πολλὰ καλὰ etc. Article in Phronesis, Volume 5 pp. 116 et seqq.

shall not be helped by being taken to the National Gallery, shown a catalogue, and told "So you see, there are several thousand beautiful pictures" - this tells me nothing to the point; I could not care less". There does seem to be here a contradiction between the interest claimed in art and the complete lack of concern for particular examples of art. To establish a general notion in this workaday world (unless we are making purely logical points) we need to look at particular works of art as well as conceptual schemata which might help us to formulate criteria of good art. If all the qualities of a good piece of music can be put into words, then why bother with the music?¹ One sympathises with Plato when he protests at the enthusiastic yet incoherent views of the lovers of sights and sounds, yet he does not make clear how the many beautifuls are related to beauty and, what is of direct relevance for teachers, how those who claim to know beauty are competent to make judgements about particular beautiful things.

Plato, having declared the singleness of beauty and the like now goes on to show how knowledge and opinion and ignorance are linked to reality. There are three classes:-²

1 Quoted from a public lecture by Professor Arthur Hutchings.

2 476E.

- (1) The existent (ὄν)
- (2) The non existent (μη ὄν)
- (3) That lying between the existent and non existent.

It should be made clear that these descriptions apply to the objects of knowledge etc. A man knows something and this something must be existent, etc. Now as R.M. Hare points out,¹ "Plato, when he wrote the Republic was not clear about the distinction between the existential is and the is of predication". This seems a fair statement in the light of this present passage, though many attempts have been made to draw a different conclusion from the evidence.² It is not possible to maintain that 'the existent' in (1) and (2) is purely

1 Ap. New Essays in Plato and Aristotle Ed. Renford Bambrough. Routledge, 1965.

2 See Gregory Vlastos on "Degrees of Reality in Plato" ap. New Essays. Note 5, p. 8, Vlastos declines to discuss "the difficult question of whether or not Plato formally distinguished the existential from the predicative uses of is". This might appear to be an important question to ask when dealing with degrees of reality. Predicates might be more or less (red, pleasant etc), but existence is not a predicate. (Kant, Crit. Pure Reason II, iii, 4) Vlastos enumerates the many recent discussions of this controversial passage (p.2).

predicative.¹ There is nothing absurd in knowing a man who is not an Athenian, not a musician or whatever. The absurdity would arise in claiming to know a bachelor's wife (i.e. a non-existent person): "How can something which does not exist be known?" (477A).² What is clear from Plato's text is that (1) and (2) are existential and (3), if it is not to defy the law of contradiction, must be predicative. Plato felt no qualms about describing an object as both beautiful and not beautiful and in the Symposium (211A) he produces four ways in which this might be true. Suffice it to say that when applied to such objects as the Parthenon, or Greek vases, or Greek poems the argument is very curious.

Plato's purpose in discussing the three classes of (i) 'is' (ii) 'is not' (iii) 'both is and is not', is to get clearer on the function (*δύναμις* 477B) of knowledge and opinion. We are told that knowledge and opinion have different functions and each a different object (*ἐφ' ἑτέρῳ* 478A). The object of knowledge is what exists (*ἐπὶ τῷ ὄντι* 478A), the object of ignorance is what does not exist (*Μὴ ὄντι μὴν*

1 Crombie Vol. II, p. 68.

2 πῶς γὰρ εἶναι μὴ εἶναι γέ τι γνωσθεῖν;

ἀγνοίαν ἐξ ἀνάγκης ἀπέδομεν 478C). The object of opinion is not so speedily established:

- (i) Opinion lies between knowledge and ignorance.
- (ii) The class of what both is and is not lies between pure existence and non existence.
- (iii) Neither knowledge nor ignorance has this class for its object
(ἐπ' αὐτῷ 478D)
- (iv) This class is the object of opinion
(δοξαστὸν αὐτό)

To drive the point home Plato returns to the example of Beauty (αὐτὸ καλόν) and beautiful things (τὰ πολλὰ καλά): "Our friend" (note patronising ὁ χρηστός)" who denies that there is any absolute Beauty or any eternally unchanging Form of Beauty, but believes in the existence of many beautiful things, who loves visible beauty but cannot bear to be told that Beauty is really one and Justice one, and so on - I shall return to him and ask him "Is there any of these beautiful objects of yours that may not also seem ugly? or of your just and righteous acts that may not appear unjust and unrighteous?"¹

1 479A trans. H.D.P. Lee.

To summarise, this whole section seeks to show that

- (i) There is a difference between philosophers and lovers of sights and sounds
- (ii) philosophers, few in number, have knowledge of the single thing Beauty
- (iii) other people hold opinions about beautiful things.

From these propositions Plato can go on to show how philosophers are uniquely fitted to rule in the community. We also have an uncompromisingly clear justification for the absolute control of music in education.

The interpretation of this passage has followed what might well be called the traditional view but two recent strong challenges ought to be mentioned: those of J. Gosling in his article on Book V, and of I.M. Crombie in his detailed analysis of Plato's Doctrines.¹

Mr. Gosling maintains that Plato in this passage "is not talking about particular beautiful objects or just actions and saying that you will never find an instance of either that you could not equally well, in some sense

1 J. Gosling. Republic Book V: τὰ πολλὰ καλὰ etc. Phronesis Vol. 5, 1960. pp. 116-128.

I.M. Crombie. An Examination of Plato's Doctrines. Routledge, 1962.

or other, call ugly or unjust; but rather that there is no type of characteristic or description of action commonly said to be beautiful or just which could not equally well be said to be ugly or unjust. In fact $\tauὰ πολλὰ καλά$ means not 'the many particular beautiful objects' but "the many kinds of colour, shape etc. commonly held to be beautiful!"

An immediate objection to this view is that if this is what Plato meant he could easily have said it.¹ Secondly Plato specifically refers to beautiful things at the beginning of the discussion: 476C "The man who recognises beautiful things, but does not believe in absolute Beauty ($\delta \dots \text{καλὰ μὲν πράγματα νομίζων, αὐτὸ δὲ κάλλος μήτε νομίζων}$). It is difficult to see how πράγματα refers to types of characteristics: these surely are the particular things which interest practical people. Gosling claims not to see the

1 Cf. Sophist, 228: $\text{οὕτω \dots ποικίλον τί ἔστι τὸ ἀγαθὸν καὶ παντοδαπὸν ὥστε \dots}$ "varied and of different kinds".

also Philebus 47A: παντοῖα χρώματα "colours of all kinds".

point of this passage if this is the interpretation, but surely it is clear that Plato is anxious to establish a distinction between knowledge and opinion with a corresponding distinction between philosopher - rulers and the rest of the community. Now the latter clearly have some sort of notions about beautiful things, and just actions, so if one is to rescue the community from democracy one will need to establish a marked difference between their views and those of the philosopher - rulers.

This is not to deny that Gosling points to considerable difficulties in the account of "mixed" predicates. At 479B Plato mentions things which are both double and half.¹ Are these particular things? Gosling says² "What is true is that any size of group or measurement which is double some other must be half a further one - but now we are talking of types and not particulars". There is truth in this, but unfortunately Plato did not distinguish descriptions of quality (beautiful,

¹ τί δὲ τὰ πολλὰ διπλάσια; ἥπτόν τε ἡμίσεα ἢ διπλάσια φαίνεται;

² p. 117.

just and the like) and descriptions of relationship (big = bigger than). It is true that a thing can be both double and half, but the statement as it stands is incomplete. If we specify that it is twice X and half Y the paradox dissolves. In the case of beauty no evidence is produced to show that in any particular case ugliness must be present as well. Gosling grapples with the undoubted difficulties of 'the many beautifuls' and then goes back to make sense of Plato's earlier remarks, but surely a logical argument must be inspected from the beginning: to start in the middle can be misleading.

Mr. Crombie's examination is long and detailed. He admits that he takes the analysis a "little further" than Plato,¹ and one feels that this is true too of Gosling and Vlastos. There is no doubt that all three see clearly the extreme importance of the passage, for it is the bedrock of a certain view of morals and aesthetics. There is space here to deal with only three points which have directed relevance to aesthetic knowledge and therefore to music in education.

1 op. cit. p. 55.

Crombie reconstitutes Plato's argument about the inadequacies of the lovers of sights and sounds in the following way: "The blunder then is that of supposing that, when S is P, the property of P - hood is identical with the properties of S which make us say that S is P". But surely the lovers of sights and sounds do not commit this blunder: on the contrary, far from settling for this S or that S as a complete expression of P - hood, they are dashing hither and thither to find as many examples of P as possible.¹ One wonders whether the blunder might not be on Plato's part in supposing that knowledge of P - hood would be sufficient grounds for assessing the validity of particular P's. Here we come back to the complaint about the philosophers in the Hibeh papyrus: "They assert that they ought not to be regarded as harpers and singers, for these subjects they say they concede to others, while their own special interest is the theoretical part. They appear however to take no small interest in what they concede to others....."

1 475D: "They run round the city and country Dionysia, never missing a festival, as if they were under contract to listen to every performance".

Crombie's discussion of functions and objects¹ again presents difficulties. Plato has suggested that knowledge and opinion have different functions (477D et seqq) and different objects. But how different are the objects? Crombie sees the difficulty here but his solution, though ingenious, does not appear acceptable: "If we assume that the "object" of a function is an internal accusative, the case of A and B which do a different act to the same object does not arise". Thus quite clearly we see sights and smell smells. But do we really, in the same sense, opine opinions and know knowledge? In the case of knowledge by acquaintance there is no counterpart in belief. (We can know London, but we cannot in a parallel sense, believe London); and in the case of knowledge by description there seems to be no difference in the object. "I know that London is south of Edinburgh" entails that the statement is true; "I believe that London is south of Edinburgh" is a less strong assertion - I do not stake my reputation on it - but the object surely remains the same. The internal accusative settles nothing. A musical example may make the point even more clearly. If a boy in 2A says

1 op. cit. p. 57.

this music is beautiful, this is clearly in Plato's views an opinion. But the music master is in the same predicament, for whilst his opinion might be more correct, he has literally no knowledge to verify his opinion. The only man who can carry out the verification is the philosopher who can judge a particular beautiful in the light of Beauty itself. It is small wonder that the Hibehe musician disliked the experts in theory! Plato fails to demonstrate that the objects of opinion and knowledge are different.¹

The predicative and existential uses of 'is' have already been discussed. Crombie seeks to defend Plato by saying (p.58): "it will be the beliefs themselves and not the subject matter which are said to be between on and me on". But surely it is difficult to reconcile this with the view expressed on p. 68 that we are here concerned with "the predicative and not the existential sense of to be". Crombie seems to suggest that it is the beliefs, and not the

1 See Cross and Woosley, Plato's Republic, London, 1964, p. 151: "it seems a fair conclusion that Plato would have to produce arguments not present in this passage if he were to convince us that different powers must be concerned with different objects, or, more specifically, that the objects of knowledge must be different from the objects of belief.

objects, which are and are not beautiful, but this is not Plato's view.

Despite the two skilful defences of Plato's position on this subject - for this is how I interpret the work of Gosling and Crombie - the basic distinction between knowledge and opinion concerning beauty remains unsatisfactory. Plato fails to show how particular things are both beautiful and ugly - these, as Sir David Ross observes, are not concealed comparatives like 'great' (= greater than) and small (= smaller than). "Individual acts are not proved to have contradictory attributes; for a particular act is done in a particular situation and Plato has said nothing which shows that in this situation it can be both right and wrong. All that is proved is that the generalization "all acts of returning to a man what is his are right" is not true".¹ Precisely the same holds true of beauty.²

1 Sir David Ross. *Plato's Theory of Ideas*, Oxford, 1951, p. 38.

2 N.R. Murphy, *Interpretation of Plato's Republic* p. 109 says that Penelope's complexion would not be beautiful on the face of Odysseus. This is true. But it does not imply that Penelope's complexion is not beautiful. Nor can it follow that philosophers are the only true judges of complexions! All that can be said is that pink cheeks and a soft skin are not always to be sought after by every member of the human race.

Cross and Woosley¹ write of this passage "our conclusion then must be that, if we have interpreted the argument rightly it fails in its ostensible purpose". The importance of the argument for us is that it attempts a justification of music censorship and a particular kind of music teaching, and it has had considerable influence, directly or indirectly, on various agencies of political, ecclesiastical and educational control. There is a distinction to be drawn between knowledge and opinion but it is by no means clear that Plato draws it at the right place. The great value in what Plato says about the opinions of the lovers of sights and sounds is to be found in the complaint about lack of rational discussion.² A purely emotional 'hurrah - boo' approach to music, painting and literature is totally unsatisfactory in education: if the teacher is unable to give reasons, however tentatively, then his pupils will often have only the option of blind acceptance or blind refusal. Plato's criticism was justified here, but he was mistaken in

1 Plato's Republic. p. 159.

2 475D.

supposing that artists could put their house in order by asking philosophers to give a reading off an ontological slide-rule.

As has been mentioned, three passages in the Republic deal with knowledge and opinion. The second unfolds the theory by way of the analogies of Sun, Line and Cave. The theories of book V are elaborated with great beauty, but unfortunately, despite the great importance of these passages for education, we must press on to the third discussion which has to do specifically with art.

In passing, however, mention should be made of the place of Harmonics in the training of the philosopher.¹ Plato sees astronomy and harmonics as sister sciences² and both are included in the curriculum. But the guardians-to-be must not waste their time on studying the visible heavens or audible concords and notes. In a passage of glorious humour Plato speaks of musicians

1 530D et seqq.

2 ἀδελφαὶ ἐπιστήμας 530D. Astronomy, Music, Arithmetic and Geometry formed the mediaeval Quadrivium. See Rashdall's *Mediaeval Universities*. Ed. F.M. Powicke and A.B. Emden, Oxford, 1936, Vol. I, pp. 35 et seqq.

listening to musical intervals "as carefully as if they were trying to hear a conversation next door". Catgut is not like a slave: "you cannot wring the truth out of it by twisting it on pegs". This merry attack on contemporary musicians is a clear indication that some serious empirical studies were being undertaken. The passage has a parallel in the Philebus (56A) which will be discussed presently. There we are told that a musician arrives at concords "by lucky shots of a practised finger". The practical musician, as any practical artist, holds a lowly position in Plato's community.

In Book X we do, in fact, return to knowledge and opinion in connexion with the role of the artist. With a glow of satisfaction Socrates says, "You know, among all the excellent features of our ideal state, there's none I rank higher than its treatment of poetry".¹ This seems an extraordinary thing to say: from many bold proposals - philosopher kings, community of wives, women guardians - Plato selects as highest his discussion of poetry. Why is this? I believe that Havelock provides

1 595A.

the answer. Havelock's thesis is, quite simply, that oral poetry in Plato's day was treated as "a kind of reference library or vast tractate in ethics, politics, warfare and the like", and it enjoyed at that time "a complete monopoly over training in citizenship".¹

Until Plato dealt vigorously with this oral tradition and its teaching about virtue (*ἀρετή*) and the like,² his own constructive political and ethical teaching would not be taken seriously. In the light of Athenian educational practice Plato's ideas on poetry were perhaps the most controversial of all his proposals. In the *Laws*, as we shall see, he was willing to surrender some cherished schemes but on poetry he remained remarkably firm.

1 E.A. Havelock, *Preface to Plato*, p. 43. Cf. p. 279, "the Homeric mind and idiom was the controlling mind and idiom of the Hellenes until Platonism substituted a thoroughly conceptual idiom".

2 The principles of Homeric virtue have recently been examined by Alasdair MacIntyre in his *Book A Short History of Ethics*. He demonstrates the considerable difference between the virtue (*arete*) of an Homeric virtue and the ethical standards of Plato and other philosophers.

There is no need for us to examine in detail Plato's teaching in Book X on representation or imitation (μίμησις). The passage spells out the implications of the theory of forms for the poet and the painter. If we are not satisfied with the doctrine that a poet's work is the imitation of an imitation then we must, as Cross and Woosley insist,¹ "show what is wrong or defective in the philosophical arguments by which Plato has reached his own position". The principal difficulty, in my view, is the philosopher's claim to hold infallible knowledge. Nothing is said to show how the philosopher comes by this knowledge. We are told that the representations of the tragedians and dramatists "definitely harm the minds of their audiences unless they're inoculated against them by knowing their real nature".²

Thus Plato returns to the familiar distinction between knowledge and opinion: his community can never see the light of day whilst people still consult Homer on questions of medicine, military strategy, political administration and education.³ Plato asks for evidence of a war being fought

1 op. cit. p. 282.

2 595B. ὅσοι μὴ ἔχουσιν φάρμακον τὸ εἶδέναι αὐτὰ οἷα τυγχάνει ὄντα.

3 599C.

successfully under Homer's command. This is a fair empirical question. Equally fair, surely, is the demand we might make of Plato for evidence of a philosopher, fit to rule a community. Plato names none.¹ Again, Plato tells us that "the poets give only a superficial representation of any subject they treat, including human goodness".² Apparently it is forgotten that Socrates himself in the Republic made no claim to knowledge of goodness: "Do you think it's right for a man to talk as if he knows what he does not?" (506C). Without solid demonstrable knowledge of the Form of the Good (as opposed to analogy) I do not see how Plato's theory of beauty and the like gets off the ground. If Plato is granted his assumption in Book V that Beauty is one thing and the philosopher is the only person to know this one thing then the rest of the theory is coherent. But clearly these are the kinds of assumption which need to be challenged in philosophy.

Now even if we reject Plato's solution to the problem

1 Popper, op. cit. p. 154.

2 600D Πάντας τοὺς ποιητικούς μιμητὰς εἰδώλων ἀρετῆς εἶναι.

of poetry, politics and censorship, there is no doubting the great value of his observations on educational practice as he knew it. It is sometimes asserted today that we should teach morality through literature but, like Plato, I should want to examine conceptually the validity of this teaching and to make fully sure that my pupils and I were not being led into a stupid moral position by the extreme beauty of style displayed by the writer. This is the old quarrel between poetry and philosophy.¹

It might well be doubted whether the mere beauty of sounds can have such a far-reaching effect. Professor W.B. Stanford has shown, however, that the spoken word had great appeal for Greek listeners and there was the closest possible connexion between speech and music. He quotes Dionysius of Halicarnassus (1, 66, 16 et seqq. first cent. B.C.):

"The love of beauty (τὸ φιλόκαλον) attached to literary diction blossoms in the days of our youth no less than in later life. For every young person's spirit

1 607B παλαιὰ μὲν τις διαφορά φιλοσοφίας
τε καὶ ποιητικῆς. Much writing in the modern philosophy of education is devoted to the cool conceptual analysis of educational theories which have been expressed with great beauty and persuasiveness.

(ψυχή) is naturally inclined to be excited about loveliness of verbal expression and receives instinctive impulses, like divine inspirations (ἐνθουσιώδεις), toward that loveliness".¹

As Stanford remarks, this language hints at mysticism. The skilful use of metre, rhythm and music mentioned by Plato (601A) can be very persuasive, and, in fact, we see its mystical aspect brought out by Plato himself in the Laws (759E), where he speaks of chants "which are evidently incantations seriously designed to produce in souls that conformity and harmony of which we speak".² There can be no denying the power of attractive language and music to put an idea across.³ Plato is surely

1 W.B. Stanford. The Sound of Greek. University of California. Berkeley and Los Angeles, 1967, p. 15.

2 Trans. R.G. Bury.

3 Cf. current advertising jingles. Rightly or wrongly the B.B.C. have refused to broadcast powerful and effective 'pop' songs which appear to encourage drug taking for pleasure. An even sharper example is the intoxicating use made by the Nazis of "Deutsche über alles". Haydn described this as his favourite tune ("Gott erhalte Franz den Kaiser". 1797). Was ever such a noble melody so utterly misused? Eric Routley discusses the remarkable popularity of this tune in Companion to Congregational Praise, Independent Press, London, 1953.

right in urging us to examine the credentials of winning and persuasive writers.

Plato reaffirms his position at the very end of the discussion, just before he turns to immortality and the rewards of the good life: "But you will know that the only poetry that should be allowed in a state is hymns to the gods and paeans in praise of good men; once you go beyond that and admit the sweet lyric or epic muse, pleasure and pain become your rulers instead of law and the principles commonly accepted as best".¹ Throughout the Republic, Plato advances a powerful and consistent doctrine concerning music in education. It is founded upon a particular theory of knowledge and although we may not be able to accept all the conclusions there is no doubting the value of the discussion. To many of the questions raised by Plato we are still searching for an answer.

1 607A. cf. Phaedrus 245A on "adorning countless deeds of the ancients".

MUSIC IN EDUCATION: PHAEDRUS

The Phaedrus is probably later than the Republic.¹ In the Republic we saw the triumph of Reason² although we must admit that this victory was won only on the grounds of analogy and not pure reason itself.³ It is however startling to read in the Phaedrus a speech put into the mouth of a certain Stesichorus,⁴ for in this speech we are told uncompromisingly, "the greatest blessings come by way of madness".⁵ Does not this view overturn the central doctrine of the Republic which states

- 1 See A.E. Taylor, Plato, p. 300; more certain is R. Hackforth, Plato's Phaedrus, p. 7, where he speaks of "virtual certainty". Ryle, following quite different arguments, also sees the Phaedrus as a later dialogue. See especially op. cit. p. 267 where Ryle argues that the Academy was now going into competition with Isocrates' school as a school of rhetoric.
- 2 506A. The best citizens know what goodness is and such citizens are produced by the education described, 521C et seqq.
- 3 506D. Even if we were to agree that the Battle of Waterloo was won on the playing fields of Eton, we cannot concede that it is possible to win the victory for Reason on the playing fields of Analogy.
- 4 Son of Auspicious of the town called Desire (son of Euphemus of Himera).
- 5 244A. Translations of this dialogue are taken from R. Hackforth's edition.

that a carefully planned syllabus taught to the right pupils is sufficient to establish heaven on earth? And what of the statement (to take but one example from a later dialogue) that cosmic Reason is king of heaven and earth (Philebus 28E)?

The question is of the greatest moment when considering Plato's view of music in education, for Plato is as aware as anybody of the powerful irrational forces released by music. Is he now repenting of some of the harsh statements we have considered in the Republic? Is the irrational element in man now to be accorded a place of honour? If so, how will this affect our educational theory?

By any standards the Phaedrus is an exceptional dialogue. It takes place outside the city, and the walk through the beautiful countryside is described by Plato with loving detail.¹ "I'm a lover of learning, and trees and open country won't teach me anything"² he is, in his discourse, profoundly affected by the nature of the place.³

1 See L. Robin. *Le Phèdre*. Budé text 1944, p. XI: 'les indications topographiques données par Platon nous permettent....de le retrouver sur le terrain'. For the text see 227A-230E, also 258E-259D and 279B.

2 230D.

3 238D, 241E, 242B, see also the playful story of the Cicadas and the appeal to Calliope and Urania 259D).

The discussion of the irrational in some way matches the natural beauty and folk mythology of the Greek countryside.

After the speech of Lysias read by Phaedrus, and a second 'somewhat blasphemous'¹ speech concocted by Socrates, we arrive at a third speech described as a palinode or recantation of former errors concerning Love. It is, here that Socrates, through the mouth of Stesichorus,² proclaims the blessings of divine madness. This is a recantation of the view that Love is a form of madness and therefore a disgrace.³ Now whereas the palinode of Stesichorus carries little conviction - it reads like one of those official denials put out by a public relations officer - we must, I think, take Socrates seriously. Madness, we are told, is not invariably evil: heaven sent madness brings the greatest blessings and Socrates enumerates four kinds:⁴

1 ὑπό τινος ἀσεβῆ (λόγον) 242D.

2 This name is chosen because the Palinode of Stesichorus was a well known recantation. See Republic 586C.

3 238B. The nature of the irrational desire called Love.

(ἡ ἀνευ λόγου.... ἐπιθυμία ἔρως ἐκλήθη)

4 244a sqq.

- (1) Prophetic madness
 (2) Ritual and purifying madness

(καθαρῶν τε καὶ
 τελετῶν τυχοῦσα)

- (3) Poetic inspiration
 (4) Erotic madness.

Of these four types we are here most concerned with the third, the madness sent by the Muses; but a word perhaps should be said at this point about the second, telestic or ritual madness for this is discussed elsewhere in Plato¹ and also in Aristotle.² In the light of Linforth's writings on this subject we can accept that there was a vogue for these telestic rites in Athens. Music (and dancing) was a principal feature, and the Phrygian mode was the one most used. Finally, and most important for us in this discussion of the Phaedrus, we

1 There are, in fact, six references: (1) Euthydemus 277D E (2) Crito 54D (3) Ion 533D - 536D (4) Phaedrus 228B (5) Symposium 315c (6) Laws VII, 790D sqq. The passages are discussed in detail by Ivan M. Linforth, Corybantic Rites in Plato, and Telestic Madness in Plato - Phaedrus 244D E. (University of California Publications in Classical Philology, Vol. 13, Nos. 5-6 respectively, 1946).

2 Aristotle Politics VIII, 7, 1342a 7.

must note that though Plato writes little about this form of madness, the texts are quite informative and they extend from the early *Crito* to the late *Laws*. Contrary to expectation, Plato does not condemn the cult in any of the six passages. It would be quite mistaken, for example, to infer from the *Phaedrus* that Plato was retreating from the Reason of the *Republic*. Plato's knowledge of Corybantism extended over a long period and he speaks of these rites, to quote Linforth,¹ "in a tone which implies recognition of their worth." Their bearing on musical education will be discussed in later sections.

The third form of divine madness is in itself a form of education (245A):

"And a third kind of possession and madness comes from the Muses. This takes hold on a gentle and pure soul, arouses it and inspires it to songs and other poetry, and thus by adorning countless deeds of the ancients educates later generations".²

In this passage we see how Plato turns even musical inspiration into an educational medium in the service of

1 *op. cit.* p. 162.

2 *Trans.* H.N. Fowler, Loeb.

the community. The idea is much more fully developed in the Laws where we are told of chants or incantations designed to produce in souls conformity and harmony.¹ But the element of divine madness must not be ignored. We see this in the Laws. Plato had a great admiration for the unchanging music of Egypt but to enact this kind of thing by law "would be the task of a god or a godlike man".²

(The Egyptian music was said to be composed by Isis.)

Divine inspiration is, as we shall see, a recurrent theme in the Laws.³ In this Phaedrus passage we discover that this madness inspires "chants" of a particular kind -- those which "adorn countless deeds of the ancients", which is in fact one of the two kinds of poetry allowed in the Republic.⁴ What emerges here in the Phaedrus and what will emerge with greater force in the Laws is that madness of divine origin is indeed a blessing, but such madness is acceptable only if it upholds the traditions of the men of old. Plato does not deny the divine inspiration of music

1 659E. ἕθελά and ἑπαιθελά

2 657a.

3 See the opening sentence: "Is a god the author of your legal arrangements?" See J.B. Skemp. Plato's account of Divinity. D.U.J. December, 1967, p. 31: "The religious note is constantly to be heard in the Laws".

4 607A "the only poetry that should be allowed in a state is hymns to the gods and paeans in praise of good men".

and in fact he places such music very high in his curriculum for the young. Even when discussing the blessings of divine madness the educational possibilities are kept in mind.

The description of heaven and what lies beyond is of interest. We read of the blessed gods "each doing his own work" in a phrase¹ which echoes the definition of justice in the Republic; the human and the divine are inseparably mixed in Plato - and there can be no doubting the influence of Socrates who was prompted both by divine voices² and by the principles of logical discourse. But reason it seems can go even beyond divine inspiration:

"Of that place beyond the heavens none of our earthly poets has yet sung, and none shall sing worthily. But this is the manner of it, for assuredly we must be bold to speak what is true".³

Here we have an example of ill concealed impatience with the poverty of poetic inspired utterance. This is

¹ Πράττων ἕκαστος αὐτῶν τὸ αὐτοῦ ^{247A, cf.}
τὸ τὰ αὐτοῦ πράττειν..... Δικαιοσύνη ἐστίν.

Rep 433A.

² An example is to be seen at 242B.

³ 247C

scarcely surprising, for once again emphasis is laid on reason and knowledge¹ as opposed to irrational and divine possession. Do we then have a glaring contradiction in Plato between the voices of reason and of inspiration? Does he see music as an expression of reason or of religious frenzy? I believe we have a clear answer to these questions. Plato tells us how the human soul tends to decline on each return to earth. The scheme he gives is an uncompromising hierarchy of values:²

A pure soul will never fall to earth, but the following list gives, in due order, possible rôles on earth:

- (1) A philosopher, or a lover of beauty or one of a musical or loving nature
- (2) Lawful king or a warlike ruler
- (3) Politician, or a man of business or a financier
- (4) Hard working gymnast or one concerned with care of the body
- (5) Prophet or one who conducts mystic rites
- (6) Poet or some other imitative artist
- (7) Craftsman or husbandman
- (8) Sophist or demagogue
- (9) Tyrant

1 247D

2 247D trans. H.N. Fowler. Loeb.

This explicit table helps to clarify the confusion about music, for we see at a glance that it has a double entry. Music holds first place as an abstract study and this view is the one probably held by the historical Socrates: "make music and work at it" he is told in the dream.¹ We see this view most clearly worked out in the *Timaeus*² with important consequences for the *Laws*.³ The second entry also deserves attention. These are the poets and musicians so roughly handled in the *Republic*. Yet even they rank above manual workers and the two despised classes at the bottom of the list.

The *Phaedrus* now unfolds a moving and most influential theory of art.⁴ Every human soul has had contemplation of true Being but few can remember much. "Beauty it was ours to see in all its brightness in those days" (250B). It is difficult to lay hold of wisdom, justice and temperance but beauty we can perceive through sight, the clearest of our senses. And Plato

1 *Phaedo* 60E.

2 35B seqq.

3 654D.

4 Carritt speaks of this view in the *Phaedrus* as the germ of most mystical thinking about beauty, especially from later mediaeval, or early renaissance, down to quite modern times. (*Theory of Beauty*, p. 32).

goes on to describe the far reaching effects to be felt when the lover gazes on his loved one, thus linking aesthetic and erotic feeling. Plato does two things in this remarkable section: first, he stresses the universality of the aesthetic experience and secondly he links it with man's sexual appetite as though to underline this universality. It is a foreshadowing of the universal aesthetic sense of Hutcheson and Hume and it also anticipates the Freudian view of art as to some extent a sublimation of erotic impulses.

Brief mention should be made of the myth of the cicadas.¹ These creatures were once men who enjoyed singing so much that they forgot to eat and died without noticing it.² The Muses made them cicadas who sing without ceasing, and not only that, they were also appointed H.M.I.'s by the Muses and were to report on how mortals favoured each Muse. Those men, we are told, who live a life of philosophy, and so do honour to the

1 258E - 259D.

2 This playful story reminds us of the enthusiasm of the music lovers in the Republic 476B.

music of Calliope and Urania, have the sweetest music.¹

At 265B Socrates recapitulates his discussion about the blessings of madness. Prophetic madness is ascribed to Apollo, mystic to Dionysus, poetic to the Muses and fourth and highest, the madness of the lover, is ascribed to Aphrodite and Eros. Of these four divinities, three are directly concerned in music; the joint authors of our sense of rhythm and harmony are Apollo and the Muses and the god Dionysus.²

We see therefore, in the Phaedrus, emphasis is laid on the irrational. As Hackforth says, "It is clear that Plato is in this dialogue quite exceptionally conscious of the value of the imaginative, as against the rational, power of the human soul".³ And we have seen that it is through beauty that we can best become our true selves; hence the emphasis which we have examined in the Republic on music in education. "Wisdom we cannot see,.....nor yet any other of those beloved objects, save only beauty; for beauty alone this has been ordained, to be most manifest to sense and most lovely of them all".⁴ We may

1 καλλίστη φωνή.

2 Laws 672D. For the rôle of Apollo and Dionysus see E.R. Dodds, op. cit. p. 69.

3 op. cit. P. 61.

4 250D.

smile at the pin-up photographs and the pop records which are so often secretively stowed away in classroom desks, but are not our boys and girls perhaps reaching out for the genuine aesthetic experiences which our traditional curricula so often deny them?

MUSIC IN EDUCATION: THE TIMAEUS

The Timaeus is of considerable importance for our inquiry. The discussion is supposed to have taken place on the day following that of the Republic¹ and there can be no doubt that this dialogue was written after that work.² In fact, in the present discussion there is a summary of the political part of the Republic; that is, Books II to V. We are told that the class of defenders (τὸ γένος τῶν προπολεμησάντων) was separated from that of the workers on the land and in other crafts (τὸ τῶν γεωργῶν, ὅσα τε ἄλλα τέχναι).³ Immediately mention is made of the guardians' souls and of their education. "And what of their training? Did we not say that they were trained in gymnastic, in music, and in all the studies proper for such men?"⁴ Now the Timaeus gives us, as I believe, a very clear account

1 17C.

2 A.E. Taylor, Commentary, p. 4. Cornford Plato's Cosmology, p. 1.

3 17C.

4 18A. Τε δὲ τροφὴν; ἄρ' οὐ γυμναστικῇ καὶ μουσικῇ μαθήμασί τε, ὅσα προσήκει τούτοις ἐν ἅπασι τεθράφθαι;

of why music should be so highly regarded by Plato. We must however face the controversy between two very distinguished commentators: Professor A.E. Taylor and Professor F.M. Cornford, for we must decide at the outset whether this dialogue represents Plato's own view, or whether it is a reconstruction of a Pythagorean view held "not later than about the time of the peace of Nicias (421 B.C.)".¹ It can only be said that in the years since Professor Taylor propounded his thesis few scholars, if any, have been able to accept his arguments on this point. The objections to the thesis raised by Professor Field² seem final and it is not surprising that Professor Skemp settles for Cornford's view in his detailed examination of the dialogue.³ In other words we can be reasonably sure that the lengthy and highly detailed account given by Timaeus, "our best astronomer" (ἀστρονομικώτατος ἡμῶν)⁴ represents, in fact, the considered view of Plato

1 Taylor, op. cit. p. 16.

2 G.C. Field. Critical Notice of Taylor's Commentary in Mind, Vol. XXXVIII (1929) pp. 84 ff.

3 J.B. Skemp. Theory of Motion in Plato's Later Dialogues p. 65. See also Preface, p. vii.

4 27A.

himself. This is vital for our own thesis; for the account of harmony and proportion in the *Timaeus* supports the high claims made for music by Socrates in the *Republic*.

The dialogue opens with Socrates counting the guests - Timaeus, Hermocrates and Critias. Socrates has already listed the subjects for discussion.¹ He reminds his friends of his proposals in the *Republic* and repeats the charges against the poets and the sophists.² Critias recounts the story of the lost city of Atlantis. The citizens of the ancient Athens nine thousand years ago³ were very much like the citizens of Socrates' *Republic*, and because of their greatness they were able to ward off a mighty force which came from the Atlantic Ocean.⁴ But before Critias tells his story in detail, it is agreed that Timaeus should first give an account of the origin of the Cosmos and end with the nature of man (πρῶτον λέγειν ἀρχομένου ἀπὸ τῆς τοῦ κόσμου γενέσεως τελευτᾶν δὲ εἰς ἀνθρώπων φύσιν).⁵

1 17B.

2 19D - E.

3 23E.

4 24E.

5 27A.

Timaeus invokes the gods and goddesses and begins his discourse which, in the manner of Plato's later dialogues, continues almost without interruption.¹ He at once makes a distinction which is of the greatest importance in considering Plato's view of musical education.

27D. "Now first of all we must, in my judgement make the following distinction. What is that which is existent always and has no Becoming? And what is that which is Becoming always and never is existent? Now the one of these is apprehensible by thought with the aid of reasoning, since it is ever uniformly existent; whereas the other is an object of opinion with the aid of unreasoning sensation since it becomes and perishes and is never really existent".²

1 27C - 92C. See 29D.

2 Trans. R.G. Bury. Loeb. "Ἔστιν οὖν δὴ κατ' ἐμὴν δόξαν πρῶτον διαιρετέον τῷδε· τί τὸ ὄν αἰεί, γένεσιν δὲ οὐκ ἔχον, καὶ τί τὸ γιγνόμενον αἰεί, ὄν δὲ οὐδέποτε; τὸ μὲν δὴ νοήσεται μετὰ λόγου περιληπτὸν αἰεί κατὰ ταῦτα ὄν, τὸ δὲ αἰεὶ δόξῃ μετ' αἰσθήσεως ἀλόγου δοξαστὸν γιγνόμενον καὶ ἀπολλύμενον, ὄντως δὲ οὐδέποτε ὄν."

<u>EXISTENCE</u>	<u>BECOMING</u>
Apprehended by thought with the aid of reasoning	Apprehended by judgement with the aid of unreasoning sensation

Now this metaphysical distinction lies at the heart of Plato's philosophy, as we have seen in the Republic. The significance of the present passage for us is that it ushers in an account of the creation of the heaven or cosmos.¹ And here we are specifically told that the Constructor (δημιουργός)² kept his eye on the eternal (πρὸς τὸ αἰδίων ἔβλεπεν) when carrying out his work. What was the nature of this eternal model? It had, I believe, close connexions with Pythagorean musical theory. Before we examine this model in detail we should perhaps first consider what kind of account Timaeus claims to give us. He tells us that "an account is of the same order as the things which it sets forth".³ In dealing with matters of existence, the account will be abiding and unchangeable (μόνιμος καὶ ἀμετάπτωτος) but an account dealing with a

1 28B ff.

2 29A.

3 29B. Tr. Cornford.

likeness, a copy of a model, will itself be a likeness.

"As Being is to Becoming so is Truth to Belief."¹

Taylor² sees in this distinction the now familiar view of modern science that "we must be satisfied by an approximation to finality and exactitude which is as close as we can make it". The quite fatal objection to this interpretation is the closing sentence of Timaeus at 29D. (Socrates here gives a final word of encouragement to the speaker). Timaeus declares that "it is fitting that we should in these matters, accept the likely story and look for nothing further".³ The whole ethos of modern science is opposed to this view: the likely story is accepted only provisionally, and the enquiry is continued with vigour. Professor Skemp⁴ has demonstrated the close connexion between the Copy (Εἰκῶν) and the likely account (εἰκῶς λόγος or

1 29C. ὅ τί περ πρὸς γένεσιν οὐσία, τούτο πρὸς πίστιν ἀλήθεια cf. Rep. 510a.

2 op. cit. p. 73.

3 ὥστε περὶ τούτων τὸν εἰκότα μῦθον ἀποδεχομένους πρέπει τούτου μηδὲν ἔτι πέρα ἵητεῖν.

4 op. cit. p. 67.

μῦθος).¹ Thus we have:-

The Model	The Copy
(τὸ παράδειγμα)	(ὁ εἰκὼν)
An abiding and unchangeable account.	A likely account
μόνιμοι καὶ ἀμετάπτωτοι λόγοι	εἰκὼς λόγος

Now the importance of this passage can scarcely be exaggerated, for not only does it make clear Plato's view of metaphysics and science, but it is also touches upon one of the most interesting questions in the modern educational world (the relation between knowledge, opinion and teaching). To quote the memorable aphorism of Cornford, in Plato "the truth is not at the further end of your microscope. To find reality you would do better to shut your eyes and think".² For our present purpose

1 cf. 48D ἡ τῶν εἰκότων λόγων δύναμις
53D κατὰ τὸν μετ' ἀνάγκης
εἰκότα λόγον πορευόμενοι.
55D κατὰ τὸν εἰκότα λόγον
also 56B κατὰ τὸν ὀρθὸν λόγον καὶ
κατὰ τὸν εἰκότα.

2 op. cit. p. 31. For another discussion of Taylor's position see G.C. Field. op. cit. p. 93.

it is necessary only to show that music, by its very nature, belongs firmly to Plato's world of true existence, and is therefore the object of knowledge and not opinion.

It is not possible to give a full account of Timaeus' cosmogony:¹ all that can be given here is a mere outline for the purpose of placing the musical discussions in their proper context. God took over all that was visible (*πάν ὅσον ἦν ὄρατόν ὑπολαβών*)² and brought it into order from disorder. "He constructed reason within soul and soul within body as He fashioned the All.....thus, then, we must declare that this Cosmos has verily come into existence as a Living Creature endowed with soul and reason owing to the providence of God".³ Timaeus advances mathematical reasons for the four elements (fire, earth, water and air) in our three dimensional world.⁴ We are told that "the body of the Cosmos

1 Even Professor Taylor, in his 700 pages, by no means exhausts the subject.

2 30A.

3 30B tr. R.G. Bury.

4 32B.

was harmonised by proportion and brought into existence".¹

In shape the Cosmos is a sphere² and its motion is rotatory.³ God set a soul in the middle of the Cosmos

and this he stretched throughout the body and then He

wrapped the soul round on the outside (34B $\delta\iota\acute{\alpha}$ παντός
 τε ἔτεινε καὶ ἔτε ἔξωθεν τὸ σῶμα αὐτῆ
 (sc. ψυχῆ) περιεκάλυψε ταύτη). This is a

clear, if mythical picture. At first sight it appears that the body is older than the soul, but this will not do. God would not have permitted the elder to be ruled by the younger.⁴ So, we are told, God constructed the soul to be older than the body. How God, in fact, constructed this world soul is of the greatest interest for us. He first blended a compound from Existence, Sameness and Difference.⁵ "He then began to distribute

1 32C tr. R.G. Bury. τὸ τοῦ κόσμου σῶμα
 ἐγενήθη δι' ἀναλογίας ὁμολογήσαν

2 33B.

3 34A.

4 For further discussion of this principle of gerontocracy see Laws III, 690A:

τὸ πρεσβυτέρους μὲν ἄρχειν δεῖν
 νεωτέρους δὲ ἄρχεσθαι. See Popper, The Open
 Society p. 77.

5 I follow here Cornford's account which is based on all the MSS. Other scholars delete the second $\kappa\rho\iota$ αὐ

the mixture in this way" (35B ἤρχετο δὲ διαίρειν
 ὄσει). It is at this point we delve into Pythagorean
 mathematics, for the pieces of soul are in the following
 proportion:

1, 2, 3, 4, 9, 8, 27.

Timaeus immediately goes on to say that the intervals
 in the two series are to be filled up in a certain manner.
 Cornford¹ separates the two sentences by four pages of
 commentary and goes on to say that our series "has nothing
 whatever to do with musical harmony". This is unlikely,
 for Plato² clearly wishes us to take the two series
 separately

(a) 1 2 4 8

(b) 1 3 9 27

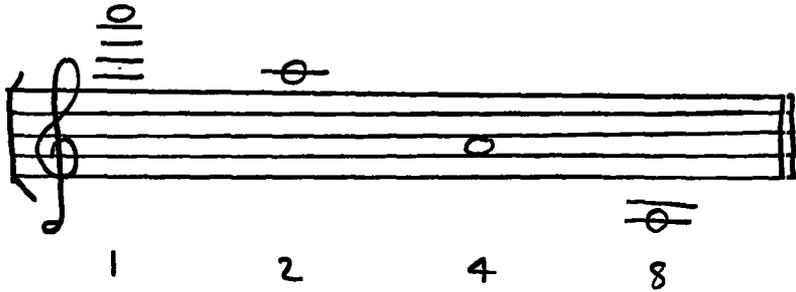
We are directed to fill up the intervals in the precise
 proportions of the Pythagorean scale. Moutsopoulos³
 clearly has the matter right (following Handschin: The
 'Timaeus' Scale) when he declares, "Si l'on veut cependant
 rendre la correspondance numerique et musicale plus

1 op. cit. p. 66.

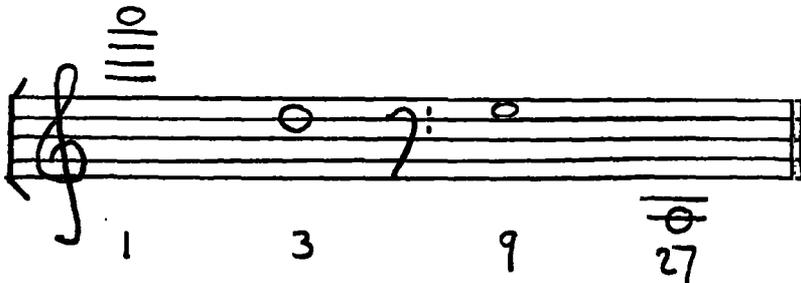
2 436A.

3 Moutsopoulos, La Musique. p. 366.

évidente, il suffit de substituer les nombres platoniciens à des longueurs de cordes". In this case we have:



Four notes, all at the octave. The use of the modern staff is useful, but we should remember that we are not in the world of the "well-tempered" scale which dates from the time of J.S. Bach. The choice of A is somewhat arbitrary, but it is quite useful if we are unhistorical enough to go to a well-tempered keyboard to inspect the range of Timaeus' scale. The second series is in fact even more extensive.



These notes are of a twelfth from each other. We are now directed to insert two means into the intervals of the two means thus:

[1] Harmonic Mean. Arithmetic Mean [2] H.M. A.M. [4] H.M. A.M. [8]
and similarly, in the case of the second series.

[1] Harmonic Mean. Arithmetic Mean [3] H.M. A.M. [9] H.M. A.M. [12]
Now the Harmonic Mean is defined by Archytas as follows:¹

"the three terms are such that by whatever part of itself the first exceeds the second the second exceeds the third by the same part of the third". An example will make this clear:

$$12 \quad 8 \quad 6$$

The first term exceeds the second by one third of itself, and the second term exceeds the third term by one third of the third term (that is, one third of six). Heath gives us a useful equivalent formula to calculate the Harmonic Mean. Let the three terms be a , b , c . Now a is greater than b , and b is greater than c .

$$\frac{1}{a} + \frac{1}{c} = \frac{2}{b}$$

b is the Harmonic Mean.

Let us now fill in the first interval in the first series.

Let $a = 2$, $c = 1$ and $b =$ Harmonic Mean

$$\frac{1}{2} + \frac{1}{1} = \frac{2}{b} \quad \therefore \frac{3}{2} = \frac{2}{b}$$

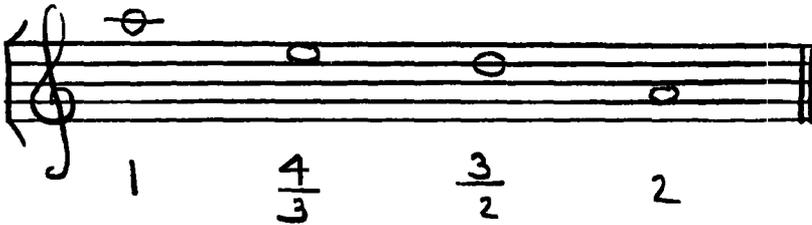
$$\therefore b = \frac{4}{3}$$

1 Quoted from A. Manual of Greek Mathematics. T.L. Heath pp. 51-52.

The Arithmetic Mean of 1 and 2, is of course, $\frac{3}{2}$. It will be seen that the A.M. is greater than the H.M. Our series now runs

$$\boxed{1} \quad \frac{4}{3} \quad \frac{3}{2} \quad \boxed{2}$$

or, in musical terms, a note, its major fourth, its major fifth and its octave. For example:-



We can now in similar fashion fill up the remaining intervals

$$\boxed{1} \quad \frac{4}{3} \quad \frac{3}{2} \quad \boxed{2} \quad \frac{8}{3} \quad 3 \quad \boxed{4} \quad \frac{16}{3} \quad 6 \quad \boxed{8}$$

and in the second series,

$$\boxed{1} \quad \frac{3}{2} \quad 2 \quad \boxed{3} \quad \frac{9}{2} \quad 6 \quad \boxed{9} \quad \frac{27}{2} \quad 18 \quad \boxed{27}$$

Timaeus¹ tells us that we now have intervals of $\frac{3}{2}$ $\frac{4}{3}$ and $\frac{9}{8}$. The first two we have already seen on the staff. The third requires explanation. Let us examine the first two means we inserted into the first interval of the first series. Here we have two lengths in the proportion $\frac{4}{3}$ to $\frac{3}{2}$

1 36B.

or $\frac{8}{6}$ to $\frac{9}{6}$ or quite simply, 8 to 9. Now this is a descending tone in the Pythagorean scale. In our example it was E to D. (On our modern piano with its equal temperament the ratio is $2^{\frac{5}{12}}$ to $2^{\frac{7}{12}}$ See C.A. Taylor's table of Pythagorean, Just Intonation and Equal Temperament tunings.¹ We are now told that God went on to fill up the $\frac{4}{3}$ intervals with $\frac{9}{8}$ intervals. Let us examine the very first interval. We begin at 1.

$$1 \times \frac{9}{8} = \frac{9}{8}$$

$$1 \times \frac{9}{8} \times \frac{9}{8} = \frac{81}{64}$$

We are unable to fit in another tone because the third tone would exceed $\frac{4}{3}$ which is the next term in our series. We are therefore left with a fraction which is, as Timaeus² tells us, $\frac{256}{243}$. We arrive at this fraction by examining the proportion of $\frac{81}{64}$ to $\frac{4}{3}$.

$$\text{Now } \frac{\frac{81}{64}}{\frac{4}{3}} = \frac{81}{64} \times \frac{3}{4} = \frac{243}{256}$$

This proportion is known in Greek Music as a remnant ($\lambda\epsilon\iota\mu\mu\alpha$) which is something less than half a tone.

Following Timaeus, we continue adding $\frac{9}{8}$ intervals where

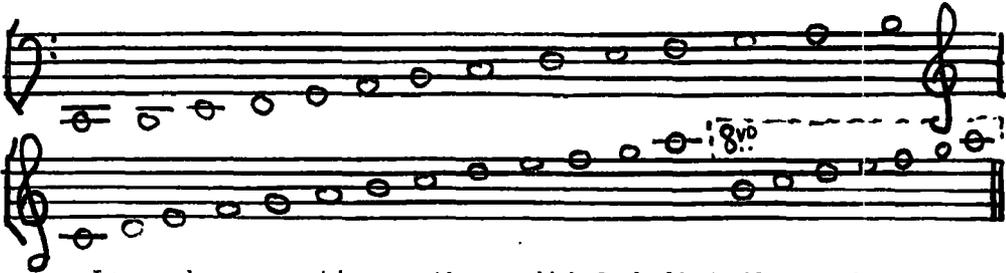
1 The Physics of Musical Sounds p. 128.

2 36B.

unlikely. For our present purpose it is necessary only to demonstrate that when God made His divisions in the world soul these divisions corresponded to the proportions of the Pythagorean diatonic scale. In its descending form it appears thus:



In its ascending form it looks familiar, as it approximates to our own diatonic scale of C Major

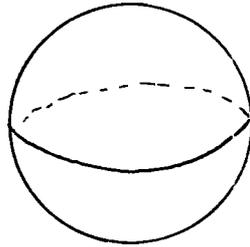


In such proportions, then, did God distribute the portions of the World Soul and the mixture was all used up.¹ Before considering the relevance of this account to Plato's view of music in education we should perhaps

1 36B τὸ μίχθ' ἐν..... οὕτως ἦδη πᾶν
καταναλώκεν.

glance quickly at the subsequent details. Unfortunately these details are not always clear, and they have in fact been subjected to a wealth of discussion through the centuries. God takes the material and splits it into two parts and makes a cross.¹ As Cornford² observes, "Timaeus now speaks as if the Demiurge had made a long band of soul-stuff, marked off by the intervals of his scale".³

Two circles are made and each revolves. We are then to suppose that these circles are the equator and the Zodiac.



After Taylor.

Now the second circle is split into seven circles; "He split the inner Revolution in six

places into seven unequal circles, according to each of the intervals of the double and triple intervals, three double and three triple".⁴ Here again we have the series

1 36C.

2 op. cit. p. 72.

3 See also Taylor op. cit. p. 146.

4 36D Trans. R.G. Bury.

1 2 3 4 8 9 27

It is possible that these proportions are supposed to refer to the radii of the seven planets.¹ Whatever the truth of the matter (and we may well be unable to come to a definite conclusion²) the planetary rings have attributed to them, in some way, the proportions of Pythagorean tuning. Now that the soul had been completed God brought body and soul together (προσῆρμοσεν 36E. The root verb προσ - ἄρμῳ "I fit together" gives the noun ἁρμονία harmony or "fitting together"). To continue in Timaeus' own words, "Whereas the body of heaven is visible, the soul is herself invisible but partakes in reason and harmony (λογισμοῦ δὲ μετέχουσα καὶ ἁρμονίας [ψυχῆ] 36E³). This is the fundamental point for our enquiry. The difficulties

1 Cornford, op. cit. p. 79; R.G. Bury, op. cit. p. 73; Taylor, op. cit. p. 160. See Timaeus' later statement at 38D.

2 Heath. Greek Math I, 313 quoted by Cornford op. cit. p. 79.

3 Τὸ μὲν δὴ σῶμα ὄρατον οὐρανοῦ γέγονεν αὐτὴ δὲ ἀόρατος μὲν λογισμοῦ δὲ κ.τ.λ. Taylor takes αὐτὴ to refer to οὐρανός but identifies οὐρανός with ψυχῆ. The final ψυχῆ is often bracketed (though Plutarch read it), but the sense is clear. See Cornford op. cit. p. 94.

of the preceding quasi-astronomical account are considerable, but in a note on the present passage Taylor¹ observes that the meaning overflows the symbolism....." the imagery will not really fit the picture of the two circles or hoops into which God shaped the ψυχή". What we have is a soul which is "everywhere inwoven into the texture of the body"

(πρὸς τὸν ἔσχατον οὐρανὸν πάντα διαπλακείσα 36E) and this soul is of musical proportions.

At this point we might well ask ourselves why Plato applied harmonic theory to his account of the heavens. We can then look at the corresponding account of the human soul and discover the relationship between the world soul, the human soul and music. In this way it is hoped to demonstrate the importance of music, for Plato, in education. Why, then, musical proportion in the soul of heaven? The answer must lie in the words reason and harmony

(λογισμὸς and ἁρμονία). Plato observed order in the heavens and he wishes in some way to give an account of that order before going on to speak of the world of Necessity

1 op. cit. p. 174.

- that is, the physical world about us.¹ The Pythagoreans in Southern Italy had studied the order of mathematics with a very special interest in harmonics. Mathematics in those days often used appropriate models² (indeed Plato does complain that it is difficult to give his account without a model), but of all the materials lying to hand surely none could offer such beauty and mystery as the lyre or harp. Professor Burnet indeed expressed the view that an elementary knowledge of the Greek lyre is essential for the understanding of Greek philosophy.³ The lyre presented a perfect subject for mathematical analysis. As we have said, even the elementary arithmetical calculations required to construct the diatonic scale have a beauty which arises out of their symmetrical sequence. The movement of the heavenly bodies,

1 At 46D-E we are told that the one and only existing thing which has the property of acquiring thought is Soul whereas physical bodies and their causes are devoid of intelligence and produce always accidental and irregular effects. (After R.G. Bury's translation.)

2 "The Greeks used to designate numbers by the letters of the alphabet - a system which completely conceals the laws of sequence in a series of numbers". S. Sambursky. *The Physical World of the Greek*, p. 27.

3 P. 36. Footnote. *Greek Philosophy*.

though on a simply vast scale in comparison with the lyre, betray a similar beauty of proportion. Kant¹ too saw an affinity between aesthetics (where purposiveness is seen without purpose) and teleology (where purposiveness is displayed in nature). Clearly Kant's approach is very different from Plato's, but both saw a link between the beauty of microcosm and macrocosm. If we wish to speak of the greatest things we are often obliged to use homely examples. Much scientific and other work (e.g. in physics or psychology) requires a model, and often the success of the work depends on the appropriateness of the model chosen. Plato, then, chose the lyre because he realised its beautiful proportions and it allowed his hearers, who were fellow students of harmonics, to catch a glimpse of what he meant by reason and proportion in the universe.

Doubtless other considerations also led to Plato's choice. Amongst these we need mention only two: as the soul is the source of motion it must have order and proportion itself,² and secondly the soul is the source

1 Kant. Critique of Judgement. § 236, also § 187.

2 See Taylor, op. cit. p. 157.

of all knowledge and on the principle that like is only known by like the soul must have Pythagorean proportions. Cornford tends to play down the whole musical element in the account of the soul: as we have seen, he probably goes too far at 35B: "this decision has nothing whatever to do with musical harmony"¹ and again, "Plato's set of seven numbers has no primary concern with the musical scale"² but he is right to remind us that nothing in fact is said, in the *Timaeus*, about the music of the heavens. It is important to note however that even if music were intended it would surely not be perceived by the ears but purely by human intellect. We shall have occasion later to discuss Neville Cardus' contention that Bach's *Art of Fugue* should not be played by mere physical instruments, but merely be contemplated by the mind. Such a suggestion would surely have appealed to Plato. The music of the world soul lies beyond sense experience: it belongs to the world of Being and is

1 P. 67.

2 P. 70.

apprehended by pure thought ($\nu\acute{o}\upsilon\varsigma$ ¹).

We must now turn briefly to consider the place of music in the human soul, in the account of Timaeus the young gods were given the task of moulding mortal bodies and that part of the human soul not yet finished.² We are given a picture of the twistings of the human soul, its fractures and disruptions³ but the links held for they had, as we know, been fashioned by God Himself. (Here again we read of the three intervals in each of the series 1, 2, 4, 8, and 1, 3, 9, 27, and of the mean terms and binding links of $\frac{3}{2}$, $\frac{4}{3}$ and $\frac{9}{8}$.) When the soul is first attached to the body it is irrational.⁴ But finally the circles move into their own tracks and they announce the Same and the Other aright. "And if

- 1 The Pythagoreans taught that the music of the heavenly bodies was not heard because human beings were so used to it from birth that they were unable to detect it, like a coppersmith who becomes by long habit indifferent to the din around him. Aristotle. *Metaphysics*, 986A. Quoted by Sambursky. *op. cit.* p. 34.
- 2 42D. See also 41D.
- 3 43D.
- 4 For a discussion of Plato and the Irrational Soul see Ch. 7, E.R. Dodds, *The Greeks and the Irrational*, pp. 207 - 235; and esp., for our passage pp. 213 - 214.

so be that this state of his soul be reinforced by right educational training, the man becomes wholly sound and faultless, having escaped the worst of maladies".¹ Through education, given that a degree of rationality can be achieved in the first place, it is possible to have a human soul which reflects the harmony of the soul of the Cosmos itself. It is not too fanciful to think of this harmony as that regular order which is betrayed in a healthy patient in an electroencephalograph. A disturbed patient on the other hand (one suffering disease) reveals a chaotic state of affairs. And Plato was right in locating the centre of thought in the head. Unfortunately we have no space to comment upon the imaginative account of how the body came to be attached to the head and the interesting account of sleep and dreams (a biological mystery even today). Suffice it to say that Plato attempts an account of sensation beginning with

1 ἂν μὲν οὖν δὴ καὶ συνεπιλαμβάνηται
 τις ὀρθὴ τροφή και δούσεως, ὁλόκληρος
 ὑγιής τε παντελῶς, τὴν μεγίστην
 ἀποφυγὸν νόσον γίγνεται. 44C. Trans.

vision¹ (explained on the principle we have already mentioned: like is known by like). Timaeus declares that through vision man has been able to see the revolutions of Reason (τοῦ νοῦ περίοδοι 47b) and that by learning and sharing in calculations which are correct by their nature, by imitation of the absolutely unvarying revolutions of the God, man has the possibility of stabilising the variable revolutions within himself.²

Plato³ now turns to sound and we quote the passage in full although, unfortunately the second sentence is, in part, obscure, and this may be due to textual corruption.

"Concerning sound also and hearing, once more we make the same declaration, that they were bestowed by the Gods with the same object and for the same reasons; for it was for these same purposes that speech was ordained, and it makes the greatest contribution there to; music

1 45B. For the priority of sight see 47A: "vision the cause of the greatest benefit to us ὄψις αἰτία

τῆς μεγίστης ὠφελείας ἡμῖν.

2 47C. After R.G. Bury. op. cit. 107-9.

3 47C.

too, in so far as it uses audible sound was bestowed for the sake of harmony. And harmony, which has motions akin to the revolutions of the Soul within us, was given by the Muses, not as an aid to irrational pleasure, as is now supposed, but as an auxiliary to the inner revolution of the Soul, when it has lost its harmony, to assist in restoring it to order and concord with itself. And because of the unmodulated condition, deficient in grace, which exists in most of us, Rhythm also was bestowed upon us to be our helper by the same deities and for the same ends".

As we shall see, the view is expressed with even greater force in Laws Bk III (689D): "For without harmony, my friends how could even the smallest fraction of wisdom exist?" Moutsopoulos does not exaggerate when he writes "La musique contribue plus que toute autre discipline à introduire la vertu dans le caractère des jeunes conformément à l'harmonie et au rythme".¹

But this music must be of the right kind. Irrational

1 op. cit. p. 343.

pleasure (ἡδονὴ ἄλογος) is ruled out. Once again Plato expresses his disapproval of the popular enthusiasm for music.¹ For Plato the true purpose of music was to

assist the soul to achieve order and concord

(κατακόσμησις καὶ συμφωνία). It is possible that these two words could refer to the "fitting" of the strings and the internal tuning: "concord with itself"

(συμφωνία ἑαυτῇ) might suggest such a reference.

Certainly we often see more than one lyre on Greek vases²

and also other collections of musical instruments, and each

instrument would have to be tuned to the other instruments

and be in tune with itself. Whatever the truth of this may

be, Plato leaves us in no doubt that for the person who

makes intelligent use of the Muses (τῷ μετὰ νοῦ

προσχωμένῳ Μούσαις³) order and concord is to

be found. To paraphrase Bury⁴, there is audible harmony in

1 cf. Havelock. Preface to Plato. p. 9. Plato "does seem to be occupied to a rather extraordinary extent with the emotional reaction of an audience to a public performance".

2 e.g. Max Wegner Musikgeschichte im Bildern pp. 35, 65, 89. Theaetetus 144E.

3 47D.

4 op. cit. p. 14.

the microcosm, pure harmony in the macrocosm, or as Taylor so gracefully puts it,¹ the real purpose of music "is not that we may learn to tune the strings of a lyre, but that we may learn to make our own thinking and living a spiritual melody".

Timaeus² goes on to give an account of Necessity (so far he has been speaking mostly of Reason) and there is a physical account of the universe. At 67A-C Timaeus speaks of sounds and their perception: "Sound we may define in general terms as the stroke inflicted by air on the brain and blood through the ears and passed on to the soul; while the motion it causes, starting in the head and ending in the region of the liver is hearing". The crude physiology need not detain us, but the underlying metaphysical assumptions are extremely important. The sound is transmitted to the soul (cf. 'vision' which is described in like manner: indeed, Plato uses the same

1 Plato, *the Man and His Work*, p. 453.

2 47e ff.

phrase - the movement reaches as far as the soul" 45C¹).

Vision has made philosophy possible² - in that we can study the heavens; and sound too is accorded a similar exalted position. Sound enables us to perceive the harmony of the universe.³ So we see that both vision and sound have motions which reach as far as the soul.

(Nothing like this claim is made in the case of the other

1 45C τούτων τὰς κινήσεις διαδιδόν εἰς ἅπαν τὸ σῶμα μέχρι τῆς ψυχῆς αἴσθησιν παρέσχετο ταύτην, ἣ δὴ ὄραν φαμέν.

"It distributes the motions of the objects throughout all the body even as far as the soul and brings about that sensation which we now term seeing".

And compare the very similar account of hearing: 67B

ὅλως μὲν οὖν φωνὴν θῶμεν τὴν δι' ὠτων ὑπ' ἀέρος ἐγκεφάλου τε καὶ αἵματος μέχρι ψυχῆς πληγὴν διαδιδομένην, τὴν δὲ ὑπ' αὐτῆς κίνησιν, ἀπὸ τῆς κεφαλῆς μὲν ἀρχομένην, τελευτῶσαν δὲ περὶ τὴν τοῦ ἥπατος ἕδραν, ἀκοήν

Both vision and sound are thought of as motions or motion which reach as far as the soul.

2 47B.

3 47C.

senses: taste (65B ff) and smell (66D ff). If this is the 'likely account' of the physiology of sound it is small wonder that Plato should set such store by music in education. But why should the region of the liver have importance for our enquiry? The answer may be given in the account of the liver (71B). Here we are told that the liver is virtually in charge of the appetitive part of the soul¹ (τὸ ἐπιθυμητικόν). This is the midriff, situated well away from the head so as to cause the least uproar and din (this passage conjures up a fearful picture of Ancient Greek digestion). Now thoughts proceed from the mind and are reflected in the liver as in a mirror. Clearly this part of the body is not capable of thinking for itself.² But it is the seat of emotion - pains, nausea, cheerfulness and serenity, and, at night, it is the home of divination. Now Timaeus in his account of music has laid great stress on harmony and proportion, but here we have (albeit in crude physiology) an acknowledgement of the emotional effects of sound. Timaeus

1 τὸ δὲ δὴ σίτων τε καὶ ποτῶν ἐπιθυμητικόν
τῆς ψυχῆς καὶ ὄσων ἔνδειαν διὰ τὴν τοῦ
σώματος ἰσχυρὴ φύσιν.

2 71A.

was aware of the physical concomitants of hearing sound. Taylor¹ gives the example of the squeak of a pencil on a slate; this, in fact, often does shake up the whole system. A more musical example would be a majestic fanfare or the pealing of a Cathedral organ; here we often say "it sends shivers down my back". These shivers appear - I can only report subjectively - to start in the head and to involve the whole trunk, but not the legs. This experience, I believe, would help to account for Plato's view that sound ends in the region of the liver.² So here in this short but illuminating passage we are offered a physiological account of how sound affects both the soul and the emotions.

Timaeus returns to the subject of sound when discussing respiration.³ It is really part of a

1 op. cit. p. 477.

2 Cornford, following Onions, *Origins of Greek and Roman Thought* pp. 65ff cannot offer a satisfactory explanation. Professor F.V. Smith suggests that this familiar sensation has to do with the autonomic nervous system. Extremes of pitch can in fact produce audiogenic seizure: these symptoms have been studied in somewhat cruel experiments on rats and similar techniques are reported to have been used in "brain washing" sessions.

3 79E.

digression on circular motion the details of which need not concern us here. Suffice it to say that Plato seemed to think that high sounds travelled more quickly than low sounds and he was therefore obliged to offer some explanation of how we can hear a concord i.e., a high note and a low note mixed together. The passage is relevant to our enquiry for two reasons: first, it clearly discusses the harmony of two notes of different pitch played simultaneously, and secondly Plato in an uncompromising fashion speaks of the effect of this harmony respectively on the wise and foolish.

The account of the movement of sound is so condensed as to have given rise to the most acute controversy.¹ Cornford with great ingenuity sees it as a race. The high sounds reach the winning post and slow down, and along come the lower sounds moving at a similar pace. But this (even though he is speaking of internal motion) would still seem to produce not only a single effect but also a single note. As Taylor writes, "if $\epsilon\acute{\iota}\varsigma \acute{\omicron}\mu\omicron\iota\omicron\nu$
 \rightarrow $\acute{\epsilon}\nu\alpha\lambda$ means that they slow down to the same rate as the slower, the result would not be that we should hear two consonant or concordant notes, but that we should hear

1 Taylor, op. cit. pp. 575 ff; Cornford, op. cit. pp. 320 ff.

only one of augmented loudness". Taylor then goes on to ask what seems to be the fundamental question: why do we need any slowing down to produce harmony?

We should be wise, I believe, to take careful note of the context of this passage: Plato has just mentioned projectiles. If we think of bowls on a bowling green we shall get closer to Plato's meaning. To illustrate the point we really require an animated diagram. Two players each send a ball across the green: one goes quickly but soon 'tires' the second goes more slowly. To begin with, let us suppose the ratio of the speeds is 2 : 1. The slow but sure ball catches up with the fast but tired one and imparts to it a new but slower motion. But this is not just any motion.¹ Both balls now proceed in their old relationship 2 : 1 and hence the harmony reaches the soul. For the account to be anything like plausible the weight of the two balls would have to be quite different. Cornford's account would surely suggest that the higher sounds would reach

1 καταλαμβάνοντες δὲ οὐκ ἄλλην
ἐπεμβάλλοντες ἀνετάραξαν κίνησιν.

the ear first which Plato cannot mean.¹ The ratio must be restored externally to the sense organ. That is, these two sounds must have sorted themselves out before we hear them. Needless to say, Plato's ballistic analogy is a false one, because when sound is produced a little bit of air does not dash along carrying it, and then get knocked by another bit of air carrying a heavier load. It is a delightful picture and it must be admitted that the wave theory is considerably more complex. Having smiled at Plato's inadequacies we are rapidly confronted with some of our own. Why is it that the combination of notes gives rise to consonance and dissonance? This problem was attacked in a very thorough manner by H.L.F. Helmholtz.² Unlike Plato,

1 Porphyry quotes Archytas (fragment 1) to the effect that high notes move more quickly and low notes more slowly. It was Theophrastus (fragment 89, p. 437 Winner) who pointed out that high pitched sound does not differ in speed from the lower: "if it did, it would reach our hearing sooner". These passages are cited and discussed by W.K.C. Guthrie, *History of Greek Philosophy*, Cambridge, 1962, pp. 226-229.

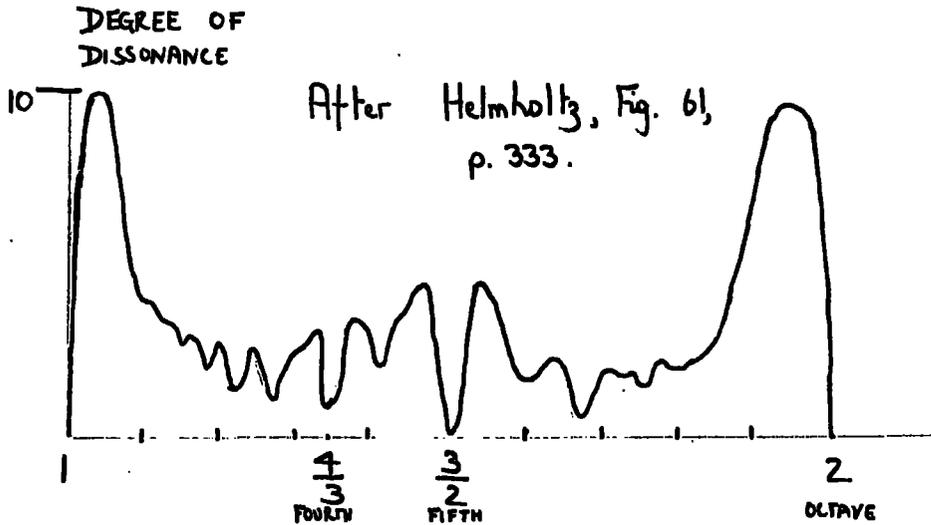
2 On the sensations of tone. 4th edition (1877) translated by A.J. Ellis, London, 1912. (Reissued 1954 by Dover, New York) pp. 152-233 also pp. 330-334.

Helmholtz was thoroughly empirical in his approach and his translator advises us to follow the discussion "step by step on the Harmonical".¹ Helmholtz makes his start with Euclid² "Consonance is the blending of a higher with a lower tone. Dissonance is incapacity to mix, when two tones cannot blend but appear rough to the ear". Helmholtz offers a clear explanation: the primary factor in consonance and dissonance is the number of beats of partial and combinational tones: "they are not inventions" he declares "of empty theoretical explanation, but rather facts of observation". (He refers in his preface to his "metaphysico - esthetical opponents"). The theory of beats and dissonance is argued with clarity and Professor C.A. Taylor has carried out experiments with his students to confirm a link between the number of beats and the consequent "roughness".

1 p. 334.

2 "Ἔστι δὲ συμφωνία μὲν κράσις δύο φθόγγων ὀξυτέρου καὶ βαρυτέρου. Διαφωνία δὲ τούναντίον δύο φθόγγων ἀμιξία, μὴ οἶων τε κραθῆναι ἀλλὰ τραχυυθῆναι τὴν ἀκοήν.

op. cit. p. 226.



The intervals are those of equal temperament. At the octaves and at the fourth and fifth the "roughness" is almost non-existent. Very near the octaves the dissonance is at its height (which explains why even doting parents can find a school orchestra an ordeal). C.A. Taylor¹ confirms Helmholtz in broad outline but as one might expect, with more accurate modern equipment several amendments need to be made. Suffice it to say that we see yet again the importance of Pythagoras' Fourth, Fifth and Octave. So far, we have spoken merely of "roughness": to delve into questions of pleasantness

1. op. cit. p. 130.

is, as C.A. Taylor observes, a highly subjective matter.¹ To quote H. Lowery: "Beyond the most simple consonance it is quite difficult to say where consonance ends and dissonance begins; here we are not on physical but psychological ground".

To Plato this would have read very oddly: for him the simple ratios 1 : 2, 3 : 2, 4 : 3, were both musically and arithmetically perfect. How could they be less? For they were the very proportions of the soul of the cosmos. We should stress at this point that Plato in the present passage is clearly referring to sounds played together.

The last point in the digression Plato throws in

1 See Valentine. The Experimental Psychology of Beauty p. 198 from where I draw the quotation of H. Lowery. (The Background of Music London 1952), Valentine carried out careful tests on dissonance with both adults and children. It would be extremely interesting to repeat these early experiments (1910 onwards) for it was clear that views on dissonance were formed by listening to music. The wireless, television and cinema we must guess have had the most profound effect on such preferences. (See British Journal of Psychology, Vol. VI, 1913, pp 190-216).

almost as an 'aside':¹ the sounds "produce a single combined effect in which high and low are blended. Hence the pleasure they give to the unintelligent and the delight they afford to the wise, by the representation of the divine harmony in mortal movements". Here Plato is able to play on the Greek words (τοῖς ἀφροσιν the unintelligent; τοῖς ἔμφροσιν the wise, and the cognate word εὐφροσύνη delight:- in Homer 'merriment' and 'good cheer'). The word for 'delight' has emotional overtones. Taylor quotes an interesting passage from the Protagoras (337c) where this word is connected with the mind and thought (φρόνησις), and the word for pleasure (ἡδονή) is applied to the body. Timaeus is here emphasising once more the double aspect of music. At the purely physical level it causes pleasure, and at the higher level it provides delight, seeing that the proportions

1 80B Trans. Cornford. "..... μίαν ἐξ ὀβείας καὶ βαρείας συνεκράσαντο πάθην. ὅθεν ἡδονὴν μὲν τοῖς ἀφροσιν, εὐφροσύνην δὲ τοῖς ἔμφροσιν διὰ τὴν τῆς θείας ἁρμονίας μίμησιν ἐν ἀθηταῖς γενομένην φοραῖς παρέσχον.

of musical sound are those of the world soul itself.
Music in an imitation of the divine harmony.

The Timaeus, then, gives us a clear and forthright explanation of Plato's view of music in education. To know the truth we need not only to turn to the light: we need also to "listen", in an intellectual sense, to the divine harmony.

We have now seen how Plato regarded music in several different ways. His teacher Socrates saw philosophy as the highest music - a notion which he acquired from the Pythagoreans. In the Republic emphasis is laid on the ethical effects of rhythm and harmony, for here Plato is dealing specifically with education. In the Phaedrus, however, the irrational aspect of music is stressed and we read of the blessings of divine madness. The Pythagorean notions of harmony at a cosmic level and at a human level are worked out in the Timaeus, just discussed. We now turn to other dialogues to see these various ideas developed. It is, however, in the Laws that the various strands are gathered into one; for there, as we shall see, music both instructs and enchants.

MUSIC IN EDUCATION: CRITIAS POLITICUS PHILEBUSCRITIAS

Only two passages call for comment in this fragment of a late dialogue (it was planned as a sequel to the Timaeus). Timaeus himself at the end of his long discourse prays to God that if anything has been said out of tune (παρά μέλος) a suitable penalty should be imposed. True justice lies in bringing into tune the man who is playing out of tune.¹ The verb which means 'I play out of tune' is compounded of μέλος and πλῆν which is cognate with πελάζω "I draw near". When I was a boy at school the headmaster never censured a pupil for playing a wrong note; he merely roared above the orchestra "Very near!" This is precisely the sense of πλημμελέω. As we shall see in the Philebus, it is this whole business of approximation, as opposed to absolute truth, which leads Plato to accord practical music a lowly position in the sphere of knowledge. The metaphor which Plato employs here is a common one in Greek literature. The idea of the well

1 δίκη δὲ ὀρθὴ τὸν πλημμελοῦντα
ἐμμελῆ ποιεῖν.

tuned string is ubiquitous.

The second passage is also an invocation.¹ Critias is urged to take courage and invoke the aid of Paeon and the Muses. Paeon (Apollo) represents here the god "of the epic, of the contemplation of the world" as Lippman has it² as opposed to Dionysus the god "of the dithyramb, of ecstatic feeling". The two kinds of music are accorded very different treatment in Plato.

POLITICUS

Gilbert Ryle refers to the Politicus as "this weary dialogue"³ and is only impressed by "a useful little excursus" between 283C and 285B. It is to this passage that we must turn our attention. The Stranger points out⁴ that measurement is of two kinds. The first is concerned with the relative greatness or smallness of objects and another section concerned with their size in relation to the fixed norm to which they must approximate if they are to exist at all. Without reference to the norm there can

1 108C.

2 op. cit. p. 87.

3 op. cit. p. 285.

4 283d - paraphrase based on the translation of J.B. Skemp.

be no arts for it is precisely by preserving the standard of the mean that they achieve effectiveness and beauty in all that they produce.¹ Plato here wishes to do two things. First he wishes to defend a myth which might have seemed excessively long, but more important he is applying - or proposing to apply² - Pythagorean principles to the arts and crafts in general and to the science of statesmanship in particular (ἡ βασιλικὴ ἐπιστήμη). There is no doubt that in this science true accuracy may be found (αὐτὸ τᾶκριβές 284D). As we saw in the Timaeus there are simple mathematical formulae to help us arrive at the right length of string and if the length is right then the note will be in tune. Professor Skemp writes³ "(Plato) sees that what matters is the inner correctness of the interval which makes it right and fitting, not the arithmetical relationship of the string which produces it". I am not at all sure that this is a valid distinction, for if the arithmetical relationship is not right then the note

1 τὸ μέτρον σώζουσαι πάντα ἕναθὰ καὶ καλὰ ἀπεργάζονται.

2 "We shall find" the need for this postulate". 284d tr. J.B. Skemp.

3 P. 79 op. cit.

is not in tune. Plato insists surely on true accuracy and true knowledge both in the art of music and in the art of statesmanship and in each case there can be said to be few who have mastered the art - in the latter case "one or two or, at most, a select few".¹ This view of art is quite opposed to the view that an artist is not a special kind of man but every man is a special kind of artist,² and as a political view it is opposed to that of Pericles: "Although only a few may originate a policy we are all able to judge it".³ The importance of the passage for us is that it shows clearly how Plato applied a musical and mathematical concept to the art of ruling and how later he was able to insist on the exclusiveness of the expert artist. Whether as Professor Skemp says,⁴ "the Politicus leads us on to the Philebus", or as Ryle maintains, the discussion of the Mean in the Politicus was an advance on the Philebus need not detain us. The dialogues are both clearly late and they were read by Aristotle who, of course, advanced the highly influential

1 293a.

2 Attributed to Eric Gill.

3 Thucydides Bk. 2. Hume attempted to slither through the horns of the dilemma thus: "though the principles of taste be universal yet few are qualified to give judgement on any work of art". Essay XXIII.

4 op. cit. p. 80.

doctrine of the Mean in his ethical writings.¹

The second passage which calls for attention could scarcely be more startling for it apparently contradicts almost everything else which Plato has ever said on music and the fine arts. The Eleatic Stranger in attempting to define the Statesman is obliged to distinguish the various kinds of arts; he counts seven in all and it is the fifth one of these which concerns us here. We are told² that this fifth class includes "all arts concerned in decoration and portraiture and every art which produces artistic representations whether in these visual arts or for the ear in poetry and music". The Stranger then goes on to say "The works all these arts produce are wrought simply to give pleasure". This surprising assertion is repeated almost immediately: "None of them has a serious purpose; all are performed for pure amusement" (οὐ γὰρ σπουδῆς οὐδὲν αὐτῶν χάριν, ἀλλὰ παιδιᾶς ἕνεκα πάντα δρᾶται).

Both Professor Skemp³ and Moutsopoulos⁴ take παιδιᾶ as

1 Nicomachean Ethics Books II and VI especially.

2 288c translated by J.B. Skemp.

3 op. cit. p. 181.

4 op. cit. note 4, p. 263.

a serious activity and each finds support in the Laws,¹ passages which will be discussed later. The discussion of παιδιά in the Laws points to its ultimate seriousness, but here the emphasis is laid on pleasure. The concept of play is not an easy one. Gavin Ardley sees all Plato's writing as play,² but this is perhaps confusing. As we see from this passage playthings are merely for pleasure (πρὸς τὰς ἡδονὰς μόνον) and have no serious purpose. In the light of Plato's political career at Syracuse and elsewhere³ it is difficult to see how Plato could have composed the Republic and the Laws only for pleasure. Yet Mr. Ardley rightly emphasises the importance Plato attaches to play in all his writings. The real confusion seems to be based on the ambiguity of the word 'play'. Play is indulged in for its own sake and for no other purpose. A striking example from the animal world is reported by Professor F.V. Smith: the great bears of Yellowstone Park

1 Laws II 656c - 660a. Book X 889c d painting and music as playthings

2 Philosophy, July, 1967, pp. 226-244.

3 e.g. Megalopolis.

were seen to climb up a steep slope and then to slide down at great speed. When they reached the bottom of the slope they began to climb again at considerable effort to themselves; no 'serious' biological purpose could be detected and surely Professor Smith was right to conclude that these bears put in all this hard work just for the fun of it. Play then is an end in itself.¹ But one cannot, without violating the Law of the Excluded Middle, go on to say that all activities of intrinsic value are play. Ardley is right to suggest that the Republic and the Laws are, like a Mozart symphony works of intrinsic value, but is misleading to label them all as play (Professor R.S. Peters² seems to go to the other extreme: such is his concern for serious activities that he sees music and drama as mere games and consequently of problematical value in education.) If what Ardley says were true then all education would be play, if what Peters says were true then it is difficult

1 For a full analysis see R.F. Deardon, The Concept of Play. For F.V. Smith's discussion see Explanation of Human Behaviour 168-170. Play is the equivalent of Vacuum activities or "Leerlaufreaktionen" (Lorenz). The anecdote of the bears appeared in an unpublished lecture.

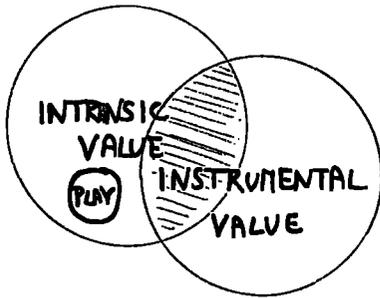
2 Ethics and Education, p. 163.

to see how education should concern itself with so many aesthetic activities which are manifestly not serious (e.g. Mozart's Don Giovanni or Chaucer's Canterbury Tales).

A classification with a diagram might help to clear up the confusion. There are three true categories with a fourth added (as a deceit for children: it is not a true category):

1. SERIOUS ACTIVITIES of INTRINSIC VALUE
2. PLAY ACTIVITIES of INTRINSIC VALUE
3. SERIOUS ACTIVITIES of INSTRUMENTAL VALUE

and the noble lie usually detected by bright four-year olds - PLAY ACTIVITIES OF INSTRUMENTAL VALUE ("Let us play at putting your toys away".) It is this fourth class which is serious play in the Laws - getting the children to play at games which they will need in adult life. This kind of play is emphatically not for pleasure only: the leaders see to that. There is of course considerable overlap between serious activities of both intrinsic and instrumental value.



Plato only fitfully recognises music and drama as play: for him every action must be the subject of state decision and the very spontaneity and individuality of true play make it suspect.¹ I suggest that in the present passage Plato forgot the noble lie that play is of instrumental value.

The third and last passage which calls for comment in the Politicus has to do with the relation between the law and the arts. The Stranger wishes to show that "true statesmanship is above all laws".² All that matters is that the rulers are "men really possessed of scientific understanding of the art of government".³ Whether they

1 "Nor should the mind of anybody be habituated to letting him do anything at all on his own initiative; neither out of zeal, nor even playfully" Laws Book XII 942A

(μήτε σπουδάζοντος μήτ' ἐν παιδικαῖς)

2 J.B. Skemp op. cit. p. 193.

3 293c tr. J.B. Skemp. ἀληθῶς ἐπιστήμονες.

rule by laws or without them, whether their subjects are willing or unwilling, whether the rulers themselves are rich or poor - all these considerations are irrelevant. The Stranger (or rather Plato) speaks with considerable warmth throughout this passage (292b-300e). He suggests how absurd it would be if every art were to be governed by laws:¹ "How do you imagine that generalship and hunting in all its forms would be affected? What would happen to painting and other representational arts?... What would the world be like if everything worked on this principle, organised throughout according to written laws instead of according to the relevant arts?" Therefore, argues Plato, the man who has mastered the art of politics must be left free to pursue his art on the analogy of his fellow artists - the doctor, the captain and the painter. Professor Skemp remarks² "Sheer intelligent improvisation based on scientific insight and freedom of enquiry is set over against legal regulation....." Professor Skemp rightly points out that "we have to acknowledge a basic

1 299d.

2 P. 48.

difference in thought between Socrates and Plato on the one hand and common humanity on the other". Plato assumes that the ruler is perfect - i.e. will never willingly do wrong. This is a factual matter. But surely there is something wrong with the logic too. The argument runs thus:-

If artists are free of control, then the supreme artist is free of control

It is the task of the supreme artist to rule other artists (i.e. to judge whether their work is for the benefit of the state or not)

Therefore if there is a supreme artist then other artists are not free of control.

Plato uses the argument for the freedom of the artist and having climbed on board, hauls up the ladder. Both in the Republic and in the Laws Plato legislates extensively for the artist. In this passage he apparently opts for creativity where possible, but will accept conservative legislation (300b¹) as a second best (δέύτερος πλοῦς 300c) provided that there is no change: a position worked out in the most thorough detail in the Laws. This passage, I believe, shows clearly a logical flaw in the celebrated "argument from the arts". Legislation for

1 ἐκ πείρας πολλῆς

music in education both in the Republic and in the Laws to some extent rests on this mistake.

THE PHILEBUS

It is no surprise that Plato's principal examination of Pleasure should have considerable bearing on the question of music in education. Socrates sets out the controversy at the very opening of the dialogue:¹

"Philebus says that the good for all animate beings consists in enjoyment, pleasure, delight.....whereas our contention is that the good is not that, but that thought, intelligence, memory and things akin to these, right opinion and true reasoning, prove better and more valuable....." It is soon conceded that there is a wide variety of pleasures (12B-13D) and this brings us to the problem of the One and the Many. This, of course, is still a subject of keen debate.² Socrates has recourse to the Pythagorean doctrine of the Limit and Unlimitedness

1 11B Trans. Professor R. Hackforth, "Plato's Examination of Pleasure."

2 See, for example Professor W.E. Kennick "although the characteristics common to all works of art are the object of a fool's errand, the search for similarities in sometimes very different works of art can be profitably pursued." Apud Fr. Cyril Barrett Collected Papers on Aesthetics. 1965. p. 21.

(πέρας and ἀπειρία 16C): his examples make the meaning clear. We speak of the Sound of speech (φωνή) διὰ τοῦ στόματος and yet these sounds are limitless in variety. A linguist needs to know not just that sound is both one and many: he needs the knowledge of the number and nature of sounds.¹ And so it is in music.

It is not enough to know low, high and intermediate

(βαρύ, ὀξύ, ὁμότονον): "When you have grasped the number and nature of the intervals formed by high-pitch and low pitch in sound, and the notes that bound those intervals, and all the systems of notes that result from them, the systems which we have learnt, conformably to the teaching of the men of old days who discerned them, to call 'scales' (ἁρμονία): and when, further, you have grasped certain corresponding features of the performer's bodily movements, features that must, so we are told, be numerically determined and be called 'figures' and 'measures' (ῥυθμοί and μέτρα).....only then..... have you gained real understanding (τότε ἐγένου σοφός)".²

1 17B.

2 17C-D tr. Hackforth.

Plato makes two interesting assumptions in this passage. First, the men of old discovered (κατισόντες) scales: that is, they found out how the continuum of sound was to be divided. As Hackforth points out¹ these divisions are "not dependent on taste or aesthetic sense, they are just as objectively existent as the real kinds into which Nature falls". Music is subject to the Natural Law.² The second assumption is similar and concerns rhythm: the movements of the body are subjected to number and classification. Plato's analysis takes us to the very heart of music³ and the dance; what makes the passage of such great interest to us at the present time is that much modern music contraverts our norms of tonality and rhythm and the "measurements" are so completely different that a quite novel method of transcription is required.⁴ How far tones and semitones are "natural" and how far it is "natural" that

1 op. cit. p. 25.

2 It is only when there are strong cross-cultural influences that the Natural Law loses its credibility.

3 For the Language of Music see Deryck Cook's book of that name. The language of dance is similarly widely understood; see popularity of even Noh plays in London.

4 See for example the compositions of Pierre Boulez.

quick measures are gay and slow measures are sad - these psychological and aesthetic issues will be discussed briefly later in this essay.

Socrates adds to his two classes a third and a fourth. When the Limit and Unlimitedness are mixed the result is commensurable and harmonious (*σύμμετρα* and *σύμφωνα*¹) And when high and low are mixed and the quick and the slow elements (i.e. *πέρας* and *ἄπειρον*) establish the whole art of music in full perfection.² And from this harmony, too, came health, beauty and strength and the many glorious beauties in our souls.³ The fourth class is the efficient cause of the mixture. Here Cosmic Reason is seen to be the Cause (28E). In this section we see the epitome of higher Western education until quite recent times:

νοῦς ἐστὶ βασιλεὺς ἡμῖν οὐρανοῦ τε καὶ γῆς.

Mind is king of heaven and earth.

Hackforth does well to remind us that this is not our

1 25E.

2 26A trans. Hackforth *μουσικὴν σύμπεσαν τελεώτατα συνέστησατο*. cf. discussion of the mean in the *Politicus*. Certainly the clarity of the *Politicus* on this particular point would suggest that it follows the *Philebus*.

3 26B. paraphrase.

intelligence "but there is the closest relation between this *νοῦς* and our own".¹ As we shall see this intellectual operation militates against practical music (or practical medicine, for that matter) and the phrase *καθ' ὡς οἱ πρόσθεν* "according to the men of old" (28D) occurs as a refrain through Plato's later writings.

Two further passages in the *Philebus* throw much light on Plato's view of the nature of music. The first occurs at 50E et seqq. Socrates enumerates pure pleasures in a section which has some affinity with Kant's formulation of 'pulchritudo vaga'.² Pure pleasures are to be found in colours, figures, most odours, sounds and in "all experiences in which the want is imperceptible and painless, but its fulfilment is perceptible and pleasant" (cf. Kant's purposiveness without purpose). The figures Socrates speaks of are not those of living creatures or pictures but straight lines and curved surfaces and solids which a lathe or a carpenter's square could produce: "Things like that, I

1 pp. 49-50.

2 Critique of Judgement 229.

maintain, are beautiful not, like most things in a relative sense, they are always beautiful in their very nature (ἀεί καλὰ καθ' αὐτά)"¹ It is this kind of argument which gave rise to Hutcheson's formulation of sense of beauty² in the eighteenth century. Michael Ayrton gives us a modern version:³ "The words 'Golden Section' have for me a special and magical significance far in excess of their actual meaning. They are symbols of an especial beauty and describe the deep satisfaction which the idea of a divine and perfect proportion has for me". Today, as we shall see, psychologists are examining the scope of agreement in aesthetic judgements and plotting the width of individual differences.

Music, too, provides pure pleasures:⁴ "audible sounds which are smooth and clear, and deliver a single series of pure notes, are beautiful not relatively to something else, but in themselves, and they are attended

1 51C.

2 An inquiry into the original of our ideas of beauty and virtue 1725.

3 Golden Sections p. 17.

4 50D.

by pleasures implicit in themselves".

The joy of infants striking such instruments as glockenspiels and tubular bells seem to provide ample proof of Plato's point.

The second and last passage which needs concern us constitutes a devastating attack on practical music as a field of knowledge. Despite the universal pleasure in pure sounds Plato cannot acknowledge the actual sounds of music, as opposed to the underlying theory, to have much intellectual value. He is classifying forms of knowledge, an almost perennial task for professional philosophers. The test to be applied is the amount of numbering, measuring and weighing.¹ If one deducts this amount from any craft there is left guesswork (τὸ εἰκάζειν) and the exercise of senses on a basis of experience and rule of thumb.² "Well now, we find plenty of it, to take one instance, in music when it adjusts its concords not by measurement but by lucky shots of a practised finger".³

1 Cf. the criterion employed by the Behaviorists in evaluating the work of our psychologists.

2 55E trans. Hackforth.

3 56A. cf. Milton, Hymn on the Morning of Christ's Nativity

When such musick sweet
 Their hearts and ears did greet
 As never was by mortall finger strook.....

(μελέτης στοχαγμῶ Hackforth's translation is dramatic but not unfair.) Medicine, agriculture, navigation and military science share practical music's lowly position in the scale of knowledge, but building is very much superior (and here we must remember the superb proportions of the buildings in Pericles' Athens and the clean lines of Athenian ships). So measurement is seen to be a primary art (56C), but at the pinnacle of knowledge is dialectic which is the study of changeless being as opposed to the world of change and decay.

It must be conceded to Plato that music is a compromise. Scarcely an interval on the pianoforte is perfectly in tune and stringed and wind instruments are notoriously fickle. Even the most skilled performers can offer us only an approximation of the composer's intentions (hence Neville Cardus' outburst¹). And so we have the paradox. In the Timaeus musical proportions are the very key to the World Soul: yet in the Philebus practical music is accorded a place on only the lowest rung of the ladder. This is of considerable interest.

1 Quoted by L.A. Reid, Ways of Knowledge and Experience p. 94. Cf. Plutarch De Musica 37. "Pythagoras, that grave philosopher, rejected the judging of music by the senses, affirming that the virtue of music could be appreciated only by the intellect".

In the middle ages Music played an important part in the school curriculum - as a branch of mathematics. It is not unknown for harmony and counterpoint to be taught in a mathematical manner today. An H.M.I. once told me that he asked a boy to sing the tenor part he had just written; the boy was outraged for he considered it his sole task to carry out the correct conceptual procedures as listed in the textbook; to sing it was presumably merely to indulge in lucky shots! This intellectual approach to music has until recently been very much the practice of the universities, and the Music Colleges have won only shaky acceptance of their graduate diplomas. The doubts raised by Plato, and they are genuine doubts, remain with us today.

We have not by any means examined all the passages in Plato which are relevant to music in education; we have merely picked out several of the more important aspects. It is in the Laws that we see many of these ideas taken up and discussed with great thoroughness. It is to this dialogue that we must now turn our attention.

MUSIC IN EDUCATION: THE LAWSBOOK I

The principal subject of this long dialogue is proclaimed in the first sentence. "Legal arrangements for the community"¹ are to be Plato's concern. This may seem far removed from our subject, but no less than two out of the twelve books deal substantially with education. Following to some degree the principles enunciated in the Republic, Plato is unwilling to leave music and poetry to the specialists.

A.E. Taylor speaks of the Laws as containing Plato's "latest and ripest thought on the subjects which he had all through his life most at heart - ethics, education and jurisprudence".² Taylor goes on to speak of "an inexcusable neglect" of the very thorough treatment of the theory of education given by Plato "in what he himself regarded as his most important work". To some extent this neglect has been remedied, though in very different ways

1 624A ἡ τῶν νόμων διάθεσις cf. 625A περὶ
 τῆς πολιτείας καὶ νόμων "concerning
 government and laws".

2 Plato, the man and his work, London, 1926 and 1960, p. 463.

by Glenn R. Morrow¹ and Karl Popper.² It is true that the Laws is not predominantly a philosophical work: in the words of Ryle, "The Laws, outside Book X is not even intended for philosophers".³ The community it describes is "a sub-ideal State, near enough to actual conditions to be incorporated readily into actual life".⁴ Ryle sees it, in its first form, as a practicable Code Napoléon for Syracuse.⁵ What we have is a highly detailed treatise on laws for the community, with a wealth of suggestions concerned with the regulation of music both in schools, and in the city as a whole.⁶ It is reasonable to suppose that,

1 Plato's Cretan City, Princeton, New Jersey, 1960.

2 The Open Society and its Enemies, 1944 and 1961.

3 Gilbert Ryle, ap. Encyclopaedia of Philosophy, vide sub 'Plato'.

4 Sir Ernest Barker, Greek Political Theory, Methuen, London, 1918, p. 294.

5 Plato's Progress. p. 257. cf. p. 50. After the defeat of Dionysius in 356 B.C. the Laws were written up in Ryle's view, in literary form.

6 Laws Book III, 702C: the Cretans are founding a Colony, and Clinias has been asked, with nine others, to frame the Laws. It will possibly be known as Magnesia (860E Μαγνήτων Πόλις cf. 704A where the Athenian is unconcerned about its name. For full historical discussion see Morrow, op. cit. pp. 30 et seqq).

despite the failure at Syracuse, Plato hoped that the Laws would be a positive help to those called upon to frame constitutions. This was not an unfrequent task for members of the Academy.¹ This element of practicality should be kept in mind when examining the specific proposals for music.

There are three speakers in the Laws and they are all old men, as we are told at the very beginning (625B). They clearly have a common interest in government and laws. Clinias speaks of Cretan traditions, Megillus of the Spartan way of life. The Athenian Stranger is the leader of the discussion and clearly represents Plato's own view. The Athenian Stranger finds the Cretan and Spartan regimes far too narrowly dedicated to war (626B et seqq): the highest good, we are told, is "peace with one another and

1 Plutarch. *Adversus Colotem* 1126C-D (Loeb, Vol. XIV, p. 304): Seven lawgivers, including Aristotle, are named. Diogenes Laertius, III 23, records that Plato was invited to assist at Megalopolis in Arcadia. Passages discussed by Taylor, Plato, p. 464. Lowes Dickinson writes "In drawing up the institutions of the Laws he (Plato) was, I am convinced, quite genuinely hoping that something might come of it" (Plato and his Dialogues, Allen and Unwin, London, 1931 and 1954, p. 193).

friendly feeling".¹ Plato's general idea in the Laws is that a lawgiver, with the good of the community as a whole at heart, should frame a constitution and then hand over authority to the guardians who shall be "guided some by wisdom, others by true opinion". (632C). This is a quite different arrangement from that envisaged in the Republic. The guardians (οἱ φύλακες) in the present dialogue merely follow the blue-print of society prepared for them by a skilled legislator; in the Republic, the philosophers had direct access to the form of the Good. Now these laws are not to be questioned by the young "while if an older man has any reflexions to make, he must impart them to a magistrate of his own age, when none of the younger men are by".² These are strange doctrines from a pupil of Socrates, the teacher of young men.

Plato returns to the point that victory in war is not enough: education will bring victory, but more is needed if the victory is not to turn sour (641B). We

1 628C. τὸ ἄριστον εἰρήνῃ πρὸς ἀλλήλους ἕμα καὶ φιλοφροσύνη.

2 634E trans. Taylor. See Popper, op. cit. pp. 267-8.

must educate not only to cope with pain, as do the militarists in Crete and Sparta, but to cope with pleasure as well. Plato urges the value of drinking parties in teaching moderation, and points the connexion between drinking, music and education (the good Dionysus being a common inspiration).¹ Ryle considers this "an embarrassingly silly digression"² but drinking can be said to have two functions:

- (1) It can tell us what a man is really like deep down. It was the cheapest and most reliable test available to Plato (649A and 650B).³
- (2) It is a useful social exercise to promote moderation.⁴ It enables a man to cope with pleasure.

1 642A.

2 Plato's Progress. p. 50. Popper, op. cit. p. 269 is scornful too, but admits that the practice is widely in use.....especially in the Universities.

3 For an account of the use of drugs, drinks and dancing in abreactive treatment, see William Sargant, Battle for the Mind. pp. 54-63.

4 Other temptations have been fought in similar fashion e.g. the not unknown mediaeval practice of nuns sleeping with monks. As Alex Comfort laconically observed, sometimes Nature won.

Whatever the value of the exercise might be, it is clear that Plato takes pleasure seriously in the Laws and indeed, as we shall see, he builds it into his concept of education. The first definition is in terms of "right nurture",¹ turning the tastes and desires of children in the direction which will suit them in later life. And this is achieved through play (643C $\delta\iota\alpha$ $\tau\acute{\omega}\nu$ $\pi\alpha\iota\delta\iota\acute{\omega}\nu$). But mere technical training is not education: a point fully analysed by Professor Peters. The educated man is trained in goodness and wishes to become a perfect citizen "understanding how both to rule and be ruled righteously". Those who are rightly educated become, as a rule, good.² Men are puppets and must co-operate with the leading-string of the law. It will be necessary for the community "when it has received an account from a god or from a man who knows, to make this account into a law for itself."³

The assumption here, as in Republic VI, is that this knowledge of the good (as opposed to fallible opinion) can be acquired somehow, though in the present passage Plato

1 643C

2 644B. This last sentence forms part of the motto of the Norwood Report.

3 645B. Trans. R.G. Bury. Slightly adapted.

is notably vague about the source of such knowledge: "from a god or a man who knows" does not take us very far. Morrow,¹ writing in defence of Plato, implies that there is a consensus: "what moral teachers have generally taught.....most of this doctrine is obvious". Surely the history of ethics tells a different story: one has only to mention here Protagoras to counter Morrow's argument. Again, is Plato's view of slavery "what moral teachers have generally taught?"²

It has been necessary to draw attention to Plato's account of the origin of true goodness in the Laws because, as in the Republic, all aesthetic theory flows from moral considerations. The theory of musical education in the Laws rests upon the assumption that the lawgiver has access to the touchstone of truth and falsity.

BOOK II

Plato's second definition of education appears after the long discussion about drunkenness (645D-653A): "When

1 Cretan City, p. 559.

2 See Morrow's own article Plato and Greek Slavery, Mind, Vol. 48, pp. 186-201.

pleasure and love, and pain and hatred, spring up rightly in the souls of those who are unable as yet to grasp a rational account....." This, as we have seen, echoes the phrase in the Republic. Plato is here transforming the militaristic concept of education which consists merely in enduring pain and winning victories in battle. Account should be taken of pleasure - a crucial point when considering music. The definition raises three important questions.

(1) It underlines the psychological fact that children often form attitudes before they are capable of rational choice. This fact to some extent weakens the case for so-called child centred education. The garden analogy of the school breaks down here: no amount of coaxing will change a daffodil into a tulip, but the teacher's guidance can very much shape - for good or ill - the aspirations of the child; and this before he is capable of choosing for himself. The teacher has an influence over his children which extends far beyond that of the gardener tending his plants. Child development is a concept which includes many values - ethical, aesthetic and so on: it is far more complex than the natural growth of plants.

(2) It foreshadows, in one way, modern behaviouristic views of education. B.F. Skinner speaks of "shaping up the behaviour of the organism at will". The picture of Skinner's society is seen in *Walden Two*, a work which he himself describes as a kind of wish-fulfilment dream written at a time when his own scientific work was meeting with little approval. By structuring a programme of reinforcements (pleasures) and aversive controls (pains) one can shape up the desired behaviour in the individual.

(3) The common failing of *Walden Two* and Plato's ideal communities is that both authors assume without question that they hold the key to what is right and good.¹

Without scientific certainty in this field, it might well be more prudent to be more modest in one's "social engineering".

It is not difficult to see the relevance of these points to aesthetic education. With the techniques which Plato was prepared to use and which have been much refined

¹ Popper refers to two kinds of social engineering - Utopian and piecemeal. He distrusts blueprints for society as a whole because (a) it is difficult to judge them and (b) rule will inevitably be in the hands of the few. (op. cit., pp. 158-9). Plato has philosophers, Skinner psychologists.

by modern psychologists it is clearly possible to shape up the required responses to a work of art. But as an action which is not free is not moral, so an appreciation which is engineered by the teacher cannot be called "aesthetic". Kant recognised that the imagination was free - hence the judgement about the beautiful was necessarily subjective.¹ Plato too fitfully saw that the artist must be free,² but his overriding interest in the stability of the community led him frequently to ignore the principle.

The education which consists in right discipline in pleasures and pains does not belong to childhood alone, for there are to be regular feasts of thanksgiving and at these feasts there are the Muses, Apollo and Dionysus. There is to be, throughout life a continual rededication to right principles and at the feasts music is to play a major part. Plato here draws on the Athenian tradition where perhaps as much as one day in five was set aside for festivals of various sorts.³ It is in such a social

1 Critique of Judgement.

2 Politicus 299D-E.

3 Morrow, op. cit., p. 352, quotes E.A. Gardner in Companion to Greek Studies, Cambridge, 1931, p. 406.

context that music can be vastly important. In fact, it is no exaggeration to say that an ancient Greek festival was often to a large extent a festival of drama, dance and song.¹

Plato's purpose in these festivals was political, but this was not a new idea. Nilsson shows how Pisistratus deliberately used festivals as a factor in his dramatic policy. They grew to be important affairs in the lives of the Athenians. Like the Durham Miners' Gala they were both political and religious and also attracted markets and popular amusements. Music, of course, and drinking were important elements. The Greek emphasis on festivals may seem strange to us, but as Guthrie observes, "the contrast is not so much between ancient and modern as between the temperaments of North and South".² The Protestant and Puritan tradition did not want festivals, but modern festivals in the South continue, in Guthrie's words "very much in the same manner as of old".

1 See W.K.C. Guthrie, *The Greeks and their Gods*, Methuen, London, 1950, pp. 268-270. See also M.P. Nilsson. *A History of Greek Religion*, Oxford, 1925, pp. 253-262.

2 op. cit. p. 269.

Plato's festivals are to enable men "to set right again their modes of discipline".¹ Plato had observed how festivals had a powerful effect in drawing the community together. Similarly we read in the Newsom Report (§ 366): "a major contribution of a subject like music lies in the communal life of the school". At this point it may be useful to sketch the principal points Plato seeks to make in the second book of the Laws, for the argument is diffuse. In this book Plato examines in detail the relation between the "musical" divinities and mortal men. The Muses, Apollo and Dionysus give children a sense of rhythm and harmony which order, respectively the natural tendencies to move and to utter cries.² These divinities are companions of human beings and in the festivals men can be reminded of what they learned in childhood. But that is not the end of the matter, for Dionysus as god of wine is the

1 This follows Bury's reading of the text which is supported by Morrow p. 353. England and Taylor understand the text to mean "the Muses, Apollo and Dionysus keep the festivals right", but Plato would surely be the last person ever to suggest that Dionysus 'kept right' his festivals. Whatever sense is taken, the Greek text requires emendation in one way or another.

2 672C.

inspiration for older men who will find much benefit in the practice of drinking together.

With this outline in mind it might be wise to examine the proposals in greater detail. First, Plato asks whether it is true to nature (κατὰ φύσιν) to assert that young creatures always strive to move and cry. This is a purely psychological question and Plato has no doubt about the answer. He then goes on to say that all living creatures apart from men (τὰ ἄλλα ζῶα) are "devoid of any perception of the various kinds of order and disorder in movement". I believe it is worthwhile to look at this statement closely in the light of modern research. There are two reasons for this: first Aristotle the biologist had a much truer picture of the facts, and secondly we must remember that music is physical as well as emotional and intellectual: this is a recurring theme in Aristotle.² The chorus in Aristophanes' Birds boldly proclaims that it was the birds who taught man

1 653D.

2 Plato in the Politicus, 268B, does acknowledge the influence of a countryman over his animals: "no one can console and soothe his own herd better than he can, either with the natural tones of his voice or with instruments".

to sing:

"I, sitting up aloft on a leafy ash, full oft,

tio tio tio tiotinx

Pour forth a warbling note from my little tawny throat,

Pour festive choral dances to the mountain mother's praise,

And to Pan the body music of his own immortal lays;

totótotótotó to tó totinx

Whence Phrynicus of old

Sipping the fruit of our ambrosial lay

Bore, like a bee, the honied store away,

His own sweet songs to mould.

tio tio tio tiotinx"¹

From Aristophanes we turn to Professor W.H. Thorpe writing in "A New Dictionary of Birds" (1964).² "The idea that bird-song is often an expression of irresponsible joy or similar emotion is certainly not without some scientific justification.....it may indeed be true that songs of birds can be regarded as the first step towards true artistic creation and expression; and if so it follows that birds were probably the evolutionary pioneers in the

1 The Birds, 742-752. Trans. B.B. Rogers. Loeb Library.

2 Sir A. Landsborough Thomson, Editor, A New Dictionary of Birds. Nelson. London, 1964. p. 739.

development of 'art', certainly preceding by immense stretches of time the development of artistic activities by the human stock. Amongst present-day song-birds it has been shown, for instance, that individuals of the Blackbird, Turdus merula, and Sprosser Nightingale, Luscinia Luscinia, and probably many other species, do produce new songs by spontaneous recombination of phrases that they have used before, some of which are inherited, others probably learned. "The work of Thorpe is justly celebrated, but as Professor F.V. Smith observes,¹ it is even more extraordinary to read the report given by Aristotle: "A mother nightingale has been observed to give lessons in singing to a young bird, from which spectacle we might obviously infer that the song of the bird was not equally congenital with mere voice, but was capable of modification and refinement".²

Plato dismissed the perception of pitch and rhythm in the animal world, he also tended to ignore its value at the level of amusement. Perhaps it is not too fanciful to see a connexion between these two views. Aristotle, as we

1 In his forthcoming book on Imprinting.

2 *Historia Animalium*, IV. 9. 536b. Translated by D'Arcy Thompson. Oxford Translations.

shall see, approached his philosophy of the community after years of careful biological observation.¹ It is not unreasonable to conclude that Plato's lack of interest in the purely physical world, led him to underestimate the importance of music at this level² although it must be admitted that in his references to Corybantism he showed acute awareness of one aspect of the non-intellectual power of music.

A word should be said about the complexity of bird-song which, says Thorpe, "far exceeds the complexity of primitive vocal folk music". He cites P. Szöke who reported in *Studia Musicologica* that a Wood Lark, Lullula arborea, sang 103 different melodic lines in 5 minutes at a speed of 68 to 80 notes per second. Szöke also demonstrated that by progressively blowing a series of pitch pipes the bird could be induced to sing, in all the keys (through the 'cycle of fifths'). Space forbids a full discussion of bird song but the antiphonal singing of some species of birds

1 For a reference to music and creatures other than man see *Politics VIII. 6. 1341 a 15.*

2 See *Phaedo 85A* for Socrates on the prophetic nature of the swan's song. It is a delightful passage, but unhappily Plato did not seriously consider the possibility that there might be elements of literal truth in his account of the nightingale, the swallow, the hoopoe and the swan.

should perhaps be mentioned: "Two members of a pair sing simultaneously as part of the courtship display or to maintain the pair bond..they alternate with extraordinarily accurate timing, often singing different phrases, so that unless one is actually watching, it may be impossible to tell that the song is not coming from one bird".¹ These birds have a perception of rhythm far superior to that of human beings and it is the spectrograph which has made it possible for us to study the true complexity of antiphonal singing.

From this discussion two conclusions may be drawn. First, to be moved by a sense of wonder and awe one need not necessarily be in the realm of metaphysical abstractions; secondly a study of the world of nature may well tell us something of value about the nature of man. Both these conclusions are implicit in the work of modern ethologists, but both, I believe, are also to be seen worked out in detail in the works of Aristotle.

Plato may have denied harmony and rhythm to the animal kingdom but in the case of human beings he made remarkable claims for music in education. "Shall we postulate", he asks, "that education

1 Thorpe, op. cit. p. 749. The species studied have included pairs of oven-birds, motmots, Central American Wrens and others.

owes its origin to Apollo and the Muses?"¹ This seems an extraordinary claim but it is the logical conclusion from the premisses:

- (1) Education first comes through feeling pleasure and pain aright
- (2) Rhythm and harmony are keenly appreciated by young children.

Logically one might wish to add that there could well be other powerful influences, and empirically it would be worth investigating the nature and extent of musical abilities in very young children. Arnold Bentley says that the child's response to music is spontaneous from infancy onward² and bases this statement on research by Revesz (1953) Farnsworth (1958) and Schoen (1940). Plato goes on to assert that a well educated man will be able both to sing and dance well - but they must be the right songs and dances. And good technique is not so important as correct moral judgement.³ The conclusion of this whole passage must be one of the most striking sentences in the whole dialogue:

1 654A ἄνωμεν παιδείαν εἶναι πρώτην διὰ
Μουσῶν τε καὶ Ἀπόλλωνος.

2 Arnold Bentley. Musical Ability in Children and its Measurement, Harrap, London, 1966. p. 31.

3 654D.

"If we three understand what constitutes goodness in respect of dance and song, we also know who is and who is not rightly educated." This is the kernel of Plato's view of music in education. But of course it turns on what is meant by goodness in song and dance and the Athenian says they have to track this down "like hounds on the trail".¹

The object of the enquiry is to discover goodness of posture and tunes in relation to song and dance.² It is interesting to note that all four terms have passed into English, though the meanings have shifted - schema, melos, ode and orchesis. As we are reminded by Anderson,³ when speaking of Greek music we must bear in mind not only tonal relationships but also timbre and bodily movement. It is much to be regretted that after the early years of the primary school, music and movement are so completely divorced.⁴ The expressive movement of our young people in

1 654E.

2 This is to read *κατ' ὠδὴν.... κ.τ.λ.* and not the *καὶ ὠδὴν* of the MSS. Taylor follows the MSS but England and Bury accept the more elegant *κατὰ*

3 op. cit. p. 11.

4 The Rudolf Steiner schools lay emphasis on music and expressive movement.

discothèques is perhaps a subconscious protest at a divorce which Plato would clearly label "contrary to nature".¹ The evidence for the connexion between music and dance is simply world wide. To Plato it would seem quite extraordinary to seat children in rows of desks for a music lesson.²

How can one define goodness of posture or tune?

Plato avoids a long discussion and says quite bluntly that "the postures and tunes which attach to goodness of soul or body (τὰ μὲν ἀρετῆς ἔχόμενα ψυχῆς ἢ σώματος) or to some image thereof are universally good (εὖμπαντα..... καλὰ), while those which attach to badness are exactly the reverse".³ This is a clear statement of aesthetic principle though at first sight it appears circular: good music is associated with good behaviour so if you wish to find good music, you must look for good behaviour. Plato has given the example of the postures and utterances of the coward: these are easily detected - and so it is with the postures and utterances of music. In the Athenian context there was justification for this view because, as we have

1 See 653D et seqq.

2 There are signs that music, movement and drama are coming together again.

3 655B.

seen, movements both graceful and disgraceful were associated with the music. As we argued in the discussion of the Republic, there is perhaps more truth in Plato's view than is commonly accepted today (consider Stravinsky's extravagant claim: "my music expresses nothing"). The music of a military band has, for example, powerful associations. It is a contingent if not necessary truth that really good military music (the criteria I am using are reasonably objective: pure intonation and steady rhythm) is associated with well disciplined armies. It is not for nothing that Britain currently spends six million pounds a year on her military bands.¹ The band of the Coldstream Guards, to take but one example, is outstanding in its rhythm, intonation and movement. These are precisely the factors Plato has in mind. The enormously popular Edinburgh Tattoo and similar military events illustrate the appeal of music, movement and the ethical qualities of steadiness and instant obedience. On the other hand, a band with poor rhythm and intonation, and of unsteady movement is an object of fun - hence the unhappy reputation

1 In an answer to a question in Parliament.

of some small bands of the Salvation Army.

Having said this, it must at once be admitted that the simple associations of Plato's day are now considerably more complex: we hear music of many lands and of many ages.

Plato, then, has announced a firm aesthetic principle. The first task of any such thinker is to examine the problem of disagreements in aesthetic judgements.¹ "Do we all delight equally in choral dancing or far from equally?" (655B). Clinias of Crete gives a strong negative. Plato then gives him two possible positions:

- (1) We do not all regard the same things as good
- (2) The same things are good, but they don't appear to be.

In (1) X is good for one person Y for another - a subjectivist viewpoint. In (2) X and Y are in fact good, but Mr. A. and Mr. B. simply cannot see it that way. Now no one prefers vice to virtue, so we are safe in Plato's eyes to reject the first position: it is simply not the case that some men like vice and others virtue. So we are left with the second

1 This is the graveyard of many aesthetic theories. Kant, I believe, despite enormous care too easily assumes that aesthetic judgements are universal. Cr. Ju 213. Hume on the other hand takes full account of disagreements and finds their cause in the aesthetic sense of men which is often unsound. But this is only to push the problem one stage back, for we now need a criterion for judging between sound and unsound sense.

position: virtue is a fact and differences of opinion can safely be ascribed to ignorance. This appears to be (and is) purely a moral argument. Plato immediately turns his attention to the obvious objection that music has to do not with vice and virtue, but with pleasure: "But such an assertion is quite intolerable, and it is blasphemy even to utter it".¹ It is impossible to ignore the warmth of Plato's feeling on this topic. He advances the argument a stage further:

Choric performances are representations of character² and it follows that performers find delight in works that are congenial. If a man is right both in natural tastes and in upbringing then all is well, but a defect in natural bent or in upbringing can produce the absurd effect of saying that a work is pleasant but bad (ἡδέα πονηρὰ δέ). Plato here, as so often in the Laws, shows keen psychological insight.³ To take pleasure in bad postures or tunes is harmful

1 655D.

2 μιμήματα τρόπων ἐστὶ τὰ περὶ τὰς χορείας 655D.

3 See C.M. Fleming, p. 64. Rogers and Axline. In Freudian language it could be expressed as the conflict between the super-ego (συνηθεία) and the ego and the id (φύσις). The conflict within the soul causes men to convey the opposite of their real sentiments (οὗτοι δὲ τοῖς ἡδοναῖς τοῦς ἐπαίνους ἐναντίους προσαγορεύουσιν. 655E). G.M. Grube (Plato's Thought p. 133) speaks of this concept of stasis or conflict as "one of the most startlingly modern things in Platonic Philosophy". See E.R. Dodds, op. cit. p. 227).

for it is just like keeping bad company - a man assimilates himself to the habits in which he delights. Such is Plato's solution to the problem of 'good' in aesthetic judgements and his explanation of the causes of disagreements. The objections to the theory may be stated briefly:

(1) In the light of the Hibeh papyrus we may question whether there was such a complete correlation in Plato's day between types of music and types of behaviour.

(2) To translate aesthetic questions into purely moral terms is to postpone, not to answer the problem of defining good and bad.

(3) It is not enough to say that virtue is better than vice - a key step in the argument to demonstrate the objectivity of aesthetic judgements: (655C) one would need to show that men meant the same thing by "virtue".¹

Disagreements in aesthetic judgement were most effectively avoided in Egypt, for there, according to Plato there was

1 cf. Descartes Discourse on Method, Ch. I (Penguin translation Arthur Wollaston, 1960, p. 41). "They (the moral treatises of the ancients) exalt the virtues to the skies....but they do not teach us sufficiently how to recognise them".

legislation to ensure good postures and tunes. In the visual arts there had been no change for literally 10,000 years. Morrow¹ following Schuhl argues that "the models imitated by Saitic art were at most twenty-five hundred years old". The historical detail need not concern us unduly: suffice it to say that Plato's keen enthusiasm and interest suggest that he may have visited Egypt.² "As regards music", he says, "it has proved possible for the tunes which possess a natural correctness to be enacted by law and permanently consecrated".³ Here then is a sound precedent for Plato's practical suggestion. But how does such a scheme get off the ground? "To effect this would be the task of a god or a godlike man".⁴ Plato again uses the somewhat vague formula of 645B where the law is based on a

1 op. cit. p. 355. See Schuhl. *Platon et l'art de son temps*, Paris, 1952, pp. 18-20.

2 Morrow op. cit. pp. 5-6 discusses the probable visits to various countries made by Plato.

3 657A.

4 657B. ΤΟΥΤΟ ΔΕ ΘΕΟΥ ἢ ΘΕΙΟΥ ΤΙΝΟΣ ἄν εἴη.
 cf. ΠΑΡΑ ΘΕΩΝ ΤΙΝΟΣ ἢ ΠΑΡ' ἈΝΘΡΩΠΩΝ ΤΟΥ
 γΝΩΝΤΟΣ ΤΑΥΤΑ 645B. cf. opening sentence of the
 Laws: ΘΕΟΣ ἢ ΤΙΣ ἈΝΘΡΩΠΩΝ624A.

true account received "either from a god or a man who knows". As a basis for a sound aesthetic this appeal to divine sanction is unsatisfactory but once again one can only admire Plato's keen observation. There is no doubt that he was greatly impressed by what he saw in Egypt - "It is marvellous, even in the telling".¹ We can, I believe, enjoy much the same aesthetic experience by singing and listening to the "timeless" plainsong chants of the Catholic church. It is no accident that the hieratic music of the Egyptians inspired not only Plato but also Mozart in his "Magic Flute". The obvious objection to legislation for music is that it makes the artist's work impossible. The argument in the Politicus (299D) in favour of freedom for the artist will be recalled; but, as we saw, Plato only advanced the argument to secure freedom for the supreme artist - the Statesman. The constant desire for fresh music can be satisfied, Plato feels within the framework of consecrated music.

A principal weakness of the account so far is its neglect of pleasure. Plato now considers this in detail.²

1 656D *θαῦμα καὶ ἀκούσας*

2 657C et seqq.

Young people sing and dance for joy but older people are not so nimble and they must sit and watch, and it follows that "he who best succeeds in giving us joy and pleasure should be counted the most skilful and given the prize.....

The prize of victory should be awarded to the performer who affords the greatest enjoyment to the greatest number".¹

This seems an extraordinary statement in view of the earlier rejection of pleasure as a criterion, but the key factor is the age and experience of the judges. If it is merely a case of counting heads, then the age groups would give their prizes in the following fashion:

Children	Puppet Shows
Older Children	Comedies
Educated women, young men and the mass of the people	Tragedies
Old Men	Epic poetry reading ²

The conflicting tastes of the various age groups is an abiding problem of any public broadcasting organisation. How then can we reconcile the claims of popularity and moral

1 657E Τὸν πλείστους καὶ μάλιστα χαίρειν
ποιούντα Both the original and the translation call to
mind the Benthamite principle.

2 B.B.C. Audience Research would probably reveal a somewhat similar picture

excellence? Plato's answer is ingenious: "Thus much I myself am willing to concede to the majority of men, - that the criterion of music should be pleasure; not, however, the pleasure of any chance person; rather I should regard that music which pleases the best man and the highly educated as about the best, and as quite the best if it pleases the one man who excels all others in virtue and education". It is impossible however to reconcile in this fashion the rival claims of the greatest enjoyment of the greatest number and the expert judgment of one man, though we may argue that on occasion they may coincide.¹ By what criteria are the many to judge the virtue and education of the one man? As has so often been said in aesthetics, an appeal to the expert merely opens a discussion on who is the expert. (Admittedly Plato strengthens his position by appealing to a moral standard where it is easier to discuss consequences.²)

From Plato's discussion we might note three historical points:

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- 1 There is no lack of examples in the history of art to show that thorough-going autocrats - both "good" and "bad" - have commissioned great works of art. The glories of religious art and architecture bear witness to this.
 - 2 Cf. shooting a man and shooting a picture. The consequences of the first are immediate and measurable; a photograph or film can have a far reaching effect but it is difficult to measure this and impossible to predict.

- (1) Women attended the theatre in Athens¹
- (2) Young children enjoyed puppet shows
- (3) Recitation of poetry had limited appeal.

The third point is of particular interest for today despite much study of poetry in schools today, drama and music appear to have a much wider appeal. Could it be that in a literate society that poetry readings are held to be de trop?²)

Plato quotes the case of Sicily and Italy where prizes are awarded on a show of hands.³ At Athens judges were appointed: "elaborate precautions were taken to secure fairness in the selection of judges and in the performance of their duties".⁴ According to Plato "the judge sits not as a pupil but rather as a teacher of the spectators". There is no doubt that a music or drama critic today is something

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- 1 See also 817C and Gorgias 502D. References given by England, op. cit., p. 291.
 - 2 The tape recorder and record player could well restore poetry to its former position. Slovenly reading in the classroom is the death of poetry. Cf. Horace's fears.
 - 3 659B.
 - 4 Sir Arthur Pickard-Cambridge. The Dramatic Festivals of Athens, Oxford, 1968, p. 95. The details of selection were complicated but Pickard-Cambridge comments on the general fairness of the verdicts in the fifth century B.C.

of an educator. If one were to take purely a subjective view of art it would be difficult to account for the considerable interest shown in such "expert" opinions.

With this picture of the judge at the dramatic festival, we return once again, says Plato, to the same principle of education (two full earlier formulations have been seen at 643E, "right nurture", and 653B, feeling pleasure and pain aright). At this point Plato is more explicit about how we come by the knowledge of the good: "education is the process of drawing and guiding children towards that principle which is pronounced right by the law and confirmed as truly right by the experience of the oldest and most just". There is here no reference to the Idea of the Good; the appeal is now not to dialectic but to experience (δι' ἐμπειρίαν). But there is similarity in the argument: the criterion of what is truly right (ὄντως ὀρθός) will surely be much the same as the criterion used to judge those who are most just (ἐπιεικέστατοι).

To ensure that young and old feel pleasure and pain at the same things there are "chants which evidently are in reality incantations". There are many references to the

singing of incantations in the Laws¹ and Morrow lays great stress on the rationality of the practice in Plato's scheme: "if there is magic in them (the incantations) it is the magic of meaningful words addressed to an intelligent soul". But this is hardly to deny a strong magical element, because Plato did not recognise that the majority of his citizens had intelligent souls: Dodds² gets much nearer the mark when he cites Burckhardt's³ dichotomy - rationalism for the few, magic for the many. At 660A³ Plato again uses the analogy of nutriment - still much used by those who favour censorship - and in a chilling sentence⁴ says that the good legislator will persuade the

1 Apart from the present passage 659E, see 665C, 666C, 671A, 773D, 812C, 837E, 887D, 903B, 944B. For discussion see Morrow op. cit. pp. 309 et seqq.

2 op. cit. p. 212. See also, loc. cit., "In the Laws at any rate, the virtue of the common man is evidently not based on knowledge, or even true opinion as such, but on a process of conditioning or habituation by which he is induced to accept and act on certain "salutary" beliefs.

3 660A τὴν χρηστὴν πειρώντα τροφήν
προσφέρειν. "they try to administer nutriment that is wholesome."

4 660A.

poet - or compel him (Πείσειν τε καὶ ἀναγκάσει
 μὴ πείθων) to portray good men. The legislator will use
 his fine and choice language (ἐν τοῖς καλοῖς ῥήμασι
 καὶ ἐπιεικτοῖς), but the force of the politician will
 be used where necessary.

Immediately Clinias points out that this approach to poetry is adopted only in Crete, Sparta and, of course, Egypt. Plato, in the voice of the Athenian Stranger, wishes that such censorship would become general.¹ The content of the moral teaching is simple:² good men are happy, whereas bad men are unhappy. He gives as an example the just man who "drives his spear against the foe at close quarters". This might not command universal respect: it is an odd way of illustrating justice. But clearly this is the kind of thing that Plato wants³ and suitable rhythm and harmonies are to be given to the poets to assist them in training the young. The wicked must never be portrayed leading happy lives.⁴ The lawgiver's task is to remove the fog for "no one

1 660D.

2 660E.

3 661C: "This...is what you (like myself) will persuade or compel your poets to teach".

4 662B. This code is today almost universally adopted though it must be admitted that often, despite the dénouement, one's sympathies lie with the villain, e.g. Mozart's Don Giovanni.

would voluntarily consent to be induced to commit an act, unless it involves as its consequence more pleasure than pain".¹ Plato mentions three means at his disposal: habituation, commendation and argument (663C $\epsilon\theta\epsilon\sigma\iota$ καὶ ἐπαίνοις καὶ λόγοις). Even if the ethical doctrine were not true there could be no more useful fiction. Cleinias points out that it may not be easy to persuade men, but the Athenian replies with remarkable candour that people who believe in Cadmus and the dragon's teeth will believe anything.

Plato now turns his attention to the three choirs.² All three choirs shall sing with one accord that the life that is most pleasant is the one that is most just. This is to be given as a religious truth (ὑπὸ θεῶν λέγεσθαι). The three choirs of Sparta are mentioned by Plutarch in his life of Lycurgus.³ The second choir, of those under thirty calls upon Paian - Apollo the Healer.

1 663B. Dodds remarks: "we seem to be back in the world of the Protagoras and of Jeremy Bentham". op. cit., p. 211.

2 664B.

3 Ch. 21. Sparta was called the "City of lovely choirs" by Ion of Samos (c 400 B.C.) Diehl, *Anthologia Lyrica* 1, 1 p. 87. See E.N. Tigerstedt "The Legend of Sparta in Antiquity". Lund, Sweden, 1965. pp. 42 et seqq.

Thus, as in the Phaedrus (244A et seqq), music is linked with medicine. The third choir, of those over thirty and under sixty is somewhat improbably connected with Dionysus.¹ In this curious way the plan at 643A is fulfilled: "our argument requires that we should define education and describe its effects: that is the path on which our present discourse must proceed until it finally arrives at the god of Wine". Cleinias finds the idea of men between thirty and sixty dancing in a chorus very strange (μάλα ἄτοπος) but they complete the scheme - with men yet older who indulge in stories expressed in oracular speech (διὰ θείας φήμης). Thus we have three choirs:-

- (1) The Muses' choir of children

ὁ Μουσῶν χορὸς ὁ παιδικός

- (2) The young men invoking Apollo Paian

ὁ δεύτερος τὸν ... Παιᾶνα
ἐπικαλούμενος

- (3) The older men...The choir of Dionysus

χορὸς τοῦ Διονύσου

¹ Morrow, op. cit. p. 316, is right in seeing this as a serious proposal, though as Plato surely recognised (see the caution of Cleinias) it has its humorous side.

Plato expresses, with great force, his view of the place of music in education and in the community as a whole:¹

"It is the duty of every man and child - bond and free, male and female, - and the duty of the whole State, to charm themselves unceasingly with the chants we have described, constantly changing them and securing variety in every way possible, so as to inspire the singers with an insatiable appetite for the hymns and with the pleasure therein".

Something very like this practice can be seen in the seminaries of the Catholic church. The daily round of sung offices is an example of chanting without ceasing: the regularity and the very austerity of the singing has a profound effect. There is however constant variation, however slight; for all feast days have their "propers" of the Mass, and the antiphons too change daily.²

It is remarkable that Plato - and presumably the Greeks in general - found it odd that men between thirty and sixty should sing in public: we should regard this period as one of rich musical maturity. However, in Plato's community wine

1 665C.

2 One College in Durham sings only two hymns a week in four-part harmony: all the rest of the worship is sung in plainsong.

will be drunk by these men "as a medicine potent against the crabbedness of old age".¹ They will then have the courage to perform "in the presence, not of a large company of strangers, but of a small number of intimate friends". But what are they to sing? At this point the Athenian Stranger somewhat tartly reprimands the Cretan and the Spartan on the grounds that their "civic organisation is that of an army rather than that of city-dwellers". He then (667B-669B) conducts a very careful inquiry into the nature of aesthetic judgements. As so often in the Laws, there is a mixture of practical politics, history and pure philosophy.

The criterion of pleasure shall only be employed in judging when the object "exists solely for the concomitant element of charm". This bears a strong resemblance to Kant's *pulchritudo vaga*.² Plato distinguishes three elements in any pleasing object:

- (1) Charm itself (χάρης)
- (2) Correctness (ὀρθότης)
- (3) Utility (ὠφέλεια)

Food is pleasant, but it is the wholesomeness of food that

1 666B.

2 cf. discussion of Philebus 50E.

is really important (667C). Learning is pleasant but it is truth that matters here. In the case of the imitative arts (Τέχναι εἰκαστικά) size and character will be of greater importance than the pleasure given.

Food				Usefulness
	↘			↙
Learning	—	give pleasure subordinate to	—	Truth
	↙			↘
Imitative arts				Quality

This same pleasure is also play (παίδισι), whenever the harm or good it does is negligible".¹ It is important to note that Plato draws the same line between serious moral issues and play as do others, but he draws it at a different place. Music he would not regard as play. (In education we seem to be faced with a choice of treating music as a serious activity or as pure play. With the first comes censorship and with the second almost total banishment from the school curriculum. I do not believe that the choice is so binding, nor are the consequences.)

The distinction between what is pleasing in itself and that which pleases in addition to its usefulness resembles in some degree Kant's view of free beauty and beauty which is merely dependent. "The first presupposes

1 667E.

2 Ju 229.

no concept of what the object should be; the second does presuppose such a concept and, with it, an answering perfection of the object". As examples of the first Kant gives flowers, many birds (the parrot, the humming bird, the bird of paradise) and a number of crustacea. He adds designs à la grecque, foliage for framework or on wall-papers, and very significantly he says "we may also rank in this ~~some~~ class what in music are called fantasias (without a theme) and, indeed, all music that is not set to words".¹

It will be seen that Kant, like Plato, looked carefully at things commonly called beautiful and his list of objects of free beauty is extremely restricted. We must grant Plato that though art may be for art's sake on occasion, it frequently has further purposes: this is obviously true of applied arts like architecture, but it is also true of music especially when it is set to words - or, in fact, even suggests words.² For Plato, music was well over the borderline between play and serious moral "imitation" and Kant was very careful to exclude from his examples of free

1 Ju 229, trans. J.C. Meredith.

2 Cf. the rousing tune - at first wordless - "Land of Hope and Glory". Elgar grew to detest it.

beauty, music set to words.

The conclusion of Plato's argument is clear. If music is representative and imitative then pleasure cannot be the criterion.¹ "Those who are seeking the best singing and music must seek, as it appears, not that which is pleasant, but that which is correct" (668B). Now Plato leaves us in no doubt as to how to judge this correctness. The judicious critic must possess these three requisites:²

- (1) a knowledge of the nature of the original
- (2) a knowledge of the correctness of the copy
- (3) a knowledge of the excellence with which the copy is executed.

But does this apply to music? "Just because", says Plato, "it is more talked about than any other form of representation, it needs more caution than any". And he then gives a list of blunders which the Muses do not commit (and poets do):

- (1) Assign feminine tunes and gestures to verses composed for men
- (2) Fit the rhythms of captives and slaves to tune and gestures framed for free men

1 668A.

2 Cf. "That painting is the most praiseworthy which is most like the thing represented". Leonardo da Vinci: Quoted by Stolnitz, op. cit., p. 111.

- (3) Generally assign to the rhythms a tune or verses of an opposite style
- (4) Combine the cries of beasts and men
- (5) Put tuneless words (*λόγους ψιλοῦς*) into metre
- (6) Leave tune and rhythm without words
- (7) Use the bare sound of harp or flute - "it is almost impossible to understand by this wordless rhythm and harmony or what noteworthy original it represents".
- (8) Excessive craving for speed
- (9) Mechanical accuracy.

The catalogue throws a flood of light on fourth century musical practice. (Virtually every item can currently be seen in the world of 'pop' music from the girlish falsetto voice of boy singers to the combination of slow church organ chorale with heartfelt cries in free rhythm.) (It is difficult to see how this detailed list leaves open the possibility of solo instrumental playing. Anderson¹ considers that Plato does not make such a flat rejection, even though in the very next sentence Plato writes, "such methods are clownish in the extreme".²) It is a far cry

1 op. cit. p. 102.

2 τὸ τοιοῦτον πολλῆς ἀγρακίας μεστὸν πᾶν. 669E.

from the studied "ignorance" about modes and rhythm in the Republic where matters of detail are referred to Damon. In the Laws it is the Dionysiac Chorus which will be able to judge the correctness of tunes. "It is absurd" says Plato,¹ "of the general crowd to imagine that they can fully understand what is harmonious and rhythmical, or the reverse, when they have been drilled to sing to the flute or step in time; and they fail to comprehend that, in doing each of these things, they do them in ignorance". Plato dismisses as 'knowledge' the kind of rote learning which he presumably advocates in early education. True knowledge is to be found only among the older men. This suggests that knowing in music is a simple concept: in fact, it is extremely complex. To say "I know Mozart's 39th Symphony" bears a host of different meanings.² For Plato, however, knowledge of what is harmonious and rhythmical is to be judged in the light of what is correct - that is, ethically correct. Knowing how to keep time or sing in tune is not knowledge at all. "The

1 670B.

2 For a preliminary exploration see Professor Arnaud Reid, Ways of Knowledge and Experience pp. 24-26. See also pp. 89-100 Musical meaning, Representation and Truth.

fact is," insists Plato, "that every tune which has its appropriate elements is correct".¹ To the elements of harmony and rhythm (the province of the poet) there must be added knowledge of noble representation. If we imagine ourselves at an Athenian dramatic festival the strength of Plato's position is clear. The emotions of the vast audience are swayed by the representations set out on the stage. But even if there were perfect correlation between MUSIC X and BEHAVIOUR Y it still would not follow that X caused Y.² Plato forfeited the chance of discovering this empirically by rejecting purely instrumental music.

The older men must have knowledge of these three things:

- (1) HARMONY
- (2) RHYTHM
- (3) REPRESENTATION

and so they will enjoy innocent pleasure themselves and also serve as leaders to the younger men. This is the defence of the Dionysiac chorus: the good legislator will be able to train and mould (*παιδεύειν τε καὶ πλάττειν*. 671C)

1 670C.

2 One can sympathise in logic with the pop singer who, when being searched for drugs asked, "Why don't they search the Hallé Orchestra?" Manchester Guardian 22nd August, 1968.

the older men softened up by drink (τὰς ψυχὰς
τῶν πινόντων μαλθακωτέρας γίγνεσθαι).

The Law - wardens remain sober and Plato also mentions the officers of Dionysus (ἡγεμόνες τοῦ Διονύσου) who are over sixty years of age.

Plato now recapitulates this account which has elements of education and what we might call "conditioning", of intoxication and medicine, music and dancing. This must seem a curious catalogue but the recent work of anthropologists shows in fact that in many primitive societies - and some not so primitive - there is a close connexion between these elements.¹ Plato emphasises the irrational nature of the young² - "no creature is ever born in possession of that reason, or that amount of reason, which properly belongs to it when fully developed". The child cries and kicks and so we have the origin of music and gymnastic. The sense of rhythm and harmony is the gift of Apollo, the Muses and the god Dionysus. The account of education leads up to the god of Wine for we see that rhythm and harmony for the whole community is to be supervised by a group of older men

1 E.R. Dodds, *The Greeks and the Irrational*, brings together the work of classical scholars and anthropologists.

2 672C.

suitably fortified by Wine. Secure in their knowledge of what is noble, they will sing and dance in private under the watchful supervision of sober Dionysiac leaders. "In our view" proclaims Plato, "choristry as a whole is identical with education as a whole".¹ The second book of the Laws is Plato's most passionate and detailed plea for music in education.

BOOK III

In the third book Plato examines the primary origin of constitutions and the cause of change. After the digression on music and drinking parties (682E περὶ πρῶτον μουσικῆ τε καὶ τοῖς μέθοις) the discussion returns to the central theme of laws and the community. Plato, inter alia, shows how Persia was an extreme form of monarchy, and Athens an extreme form of democracy;² but both had been better

1 Morrow (op. cit. p. 312), following A.E. Raubitschek, shows how this extraordinary statement might have considerable historical truth in the case of Athens: "During the weeks of preparation before the actual performances the words, the melodies, and the dance movements of these choruses must have become familiar not only to the choristers practising them, but to the members of their various households".

2 693D.

in earlier times.¹ As an example of what he means, the Athenian launches² into a long and vigorous attack on popular control in music.

He speaks of the time when music was divided into various classes and styles: hymns of prayer, dirges, paeans, dithyrambs and solemn chants sung to the cithara. In these early days the styles were not mixed. Plutarch in the historical survey contained in the *De Musica* pursues a similar line: "it was not the ancient custom to make lyric poems in the present style, or to intermix measures and rhythms".³ He castigates the musicians of his day as "negligent and lazy",⁴ and speaks with warm approval of Plato.⁵ What Plato wanted to see was a return to the old simplicity: a time when the control of music was not in the hands of the mob but of those, in England's telling translation, "who moved in educated circles".⁶ These educated

1 693E.

2 700A.

3 Plutarch, *Moralia*, trans. by various hands. Simpkin Marshall, London, Ch.6.

4 op. cit. 38.

5 op. cit. 22.

6 op. cit. p. 409. τοῖς γεγούσιν περὶ παιδείῃ.

people listened in silence (μετὰ σιγῆς) whilst the crowd "were kept in order by the discipline of the rod".¹

Then there arose poets of a different kind - Plato does not deny their musical gifts (φύσει μὲν ποιητικοί) but they were ignorant of what is lawful in music. They assumed "that in music there is no such thing as right and wrong".²

The theatregoers became noisy, Plato continues, and he reveals with great clarity his grounds for linking music and law: "If in music and music only, there had arisen a democracy of free men such a result would not have been so very alarming; but as it was, the universal conceit of universal wisdom and the contempt for law originated in the music and on the heels of these came liberty".

It is surely not too wild to argue that the people of Athens came together at these dramatic festivals and as time went by and the religious element declined, the vast crowd began to realise its own strength and gradually to question the credentials of the judges. After this it was a mere step to

1 700C.

2 700E. Their criterion was the pleasure of good men and bad, whereas Plato would pay attention only to the good. Cf. 658E.

the voicing of political opinions.¹ In modern terms this still sounds absurd, but we must remember the size of the population at Athens. A.W. Gomme, in his book on The Population of Athens in the Fifth and Fourth Centuries B.C.² gives the following estimates:

<u>DATE</u>	<u>TOTAL OF CITIZENS</u>
480 B.C.	140,000
431	172,000
425	116,000
400	90,000
323	112,000
313	84,000

Gomme³ arrives at these figures by multiplying the number of men in the age group 18-59 by 4. It will be seen that the city was small indeed. Plato's community in the Laws was very much smaller:⁴ with only 5,040 land-holders the total

1 Republic 424B. The music and literature of a country cannot be altered without major political changes - "we have Damon's word for it and I believe him."

2 Basil Blackwell, Oxford, 1933. Table 1, p. 26.

3 op. cit. Note C, p. 75.

4 737E.

population would be less than half that of Athens in the Fourth Century B.C.¹ The population would be something like that of Durham and with regular festivals and complete self government it is easy to believe that Aristotle's demand would be met: "the citizens should know each other and know what kind of people they are".² There is then, support for Plato's view that the populace of Athens having exercised vociferous control at the musical and dramatic festivals began to become equally restive at political gatherings.³ The very size of the community in the Laws very much lessens the possibility of such a "decline" in Plato's second best State.

What is the liberty which Plato so much feared? We are reminded of the passage in the Republic⁴ "the extreme of popular liberty is reached when slaves - male and female - have the same liberty as their owners". In the present passage in the Laws he speaks of this form of liberty as

- 1 Allowing for male successors, it is safe to double Plato's 5,040. Multiplying again by 4 we arrive at 40,000. Slaves, presumably, would not participate in civic activities.
- 2 Politics VII, 4. 1326 b 16.
- 3 Thucydides gives plenty of evidence for unruly political assemblies.
- 4 562C. For a detailed discussion see Popper, op. cit. p. 43 with accompanying notes.

- (1) Being fearless of the opinion of a better man.
- (2) Refusal to be subject to the rulers
- (3) Refusal to submit to one's parents and elders
- (4) Disregard of the laws
- (5) Lack of respect for oaths and pledges.

The assumption made here is that lawgivers, parents, elders and others in authority have access to an unquestionable source of right and wrong.¹ In the light of fourth century attitudes to such questions as slavery and the exposure of infants this must be denied.² The ethical code which Plato here advances - and it would find support among many teachers of the present day - depends entirely on the integrity of the elders and betters: it can be used as a carte blanche for ignorant or unscrupulous "authorities". It is not within the scope of this enquiry to investigate in detail the ethical proposals of Plato: it is merely necessary to underline the close yet paradoxical connexion between the enthusiastic reception of a musical performance and the questioning of

1 966B speaks of the law wardens "really knowing" (ὄντως εἰδέναι) the truth about all forms of goodness, but despite many similar references there is no logical demonstration of the source of this knowledge.

2 See for example Republic 460C and, already cited, 562C.

political authority. Both the passages in the Republic and the Laws dealing with popular liberty display high emotion, and in fact Plato here in the Laws confesses that the argument has run off like a breakaway horse.¹

BOOK IV

In this book Plato makes reference² to the "preludes" (προοίμια) which are to serve as prefaces both to the laws as a whole and to each individual statute. The models he has in mind are the preludes - described as admirably elaborated - which prefaced harp - songs and musical compositions of every description. Once again we have the play upon the word "name", for this refers either to a song or a law.³ Aristotle⁴ speaks of preludes being known in poetry as a prologue (πρόλογος) and in flute music - and here we have no English derivative - as a "pro aulion" (προαύλιον). Plato claims originality in his proposal for preludes to the laws⁵ and sees as their purpose the docile acceptance of the lawgiver's prescriptions.

1 701C.

2 722D et seqq.

3 Cf. 700B.

4 Rhetoric 1414b 19.

5 Cited by England, op. cit. p. 467.

The musical analogy is not far fetched: in drama and music the purpose of the prologue or overture is to set the scene. This is as true of modern opera as it is, say, of the watchman's speech in Aeschylus' Agamemnon.¹ In music, and in Plato's community it really is a question of emotional preparation.² The legal preambles are not therefore irrational, but rather persuasive. Today unpopular laws (e.g. those to do with drink and driving) are explained by experts in the business of public relations and advertising. In Plato's community every law is to have its prelude and there is to be no "despotic prescription" (τυραννικὸν ἐπίταγμα 723A).

BOOK VI

At 764C Plato turns his attention to the appointment of officials for music and gymnastics. Music, like gymnastic, is divided into two spheres: educational and competitive.

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- 1 Benjamin Britten in "Peter Grimes" set each scene so remarkably that the pieces, (The Sea Interludes) are often now played by themselves. Cf. operatic overtures: Magic Flute etc.
 - 2 Morrow, op. cit. p. 554 refers to preambles in modern English and American legislation and quotes Bentham who supported the idea that law needed "a correspondent body of reasons", in fact, the sort of reasoned prelude which Plato has in mind.

Music competitions, as today, will have solo and choral classes. The judge of the first must not be under thirty years of age, and of the second, not under forty. The election of this "officer and manager of the choirs"¹ is of interest, for it illustrates a major principle in the Laws. The officer is elected from a list of those who are experts and this list is subject to the scrutiny of the authorities. There are to be popular elections, but all the candidates and all the electors are to be subject to political scrutiny. It is, I think, misleading to call this democracy in any way. Aristotle saw it as a mixture of oligarchy and democracy with a bias towards oligarchy.² There can be no doubt that music is to be under the firm control of a few politicians. Having said that one must concede to Plato that in any artistic field there is a tension between the ideas of the artist and the demands of the populace. It is the duty of the schoolteacher to recognise this tension and to be reasonably well informed of both popular and expert opinion.

1 765A ὁ χορῶν ἄρχων καὶ διαθετῆρ.
 2 Politics II. 6. 1266 a 4-7: μᾶλλον δ' ἐγκλίνειν
 βούλεται πρὸς τὴν ὀλιγαρχίαν.

The two are not diametrically opposed: in fact, it has been well said that the 'pop' music of today was the new music of thirty years ago.¹ The same must surely be true of the visual arts.²

From the officers in music and gymnastic Plato turns to the so-called Minister of Education (ὁ τῆς παιδείας ἐπιμελητής 765D). Of the highest offices of state this is by far the most important.³ This is not the place to discuss in detail this visionary proposal: we need only remind ourselves that the Laws is intended as a practical working plan and to realise that few have seen quite so clearly as Plato the close relationship between the quality of education and the life of the community.

BOOK VII

This Seventh Book is devoted to the education of the young, though Plato recognises that this is a field for precept and exhortation⁴ rather than Laws. There is a

1 Professor A.J.B. Hutchings in an unpublished lecture, 1965.

2 Cf. the ubiquitous Mondrian in modern advertising.

3 ἡ ἀρχὴ τῶν ἐν τῇ πόλει ἀκροτάτων ἀρχῶν πολὺ μεγίστη.

4 788A διδασχὴ καὶ νουθέσεις

discussion of the value of movement in early infancy, and Plato cites as a parallel the practice of fondling pet fighting birds.¹ The effects of rocking the baby are linked to those of Corybantic remedies.² Mothers give their sleepless children not silence, but a kind of song (οὐ σιγήν ἀλλὰ τινα μελωδίαν) - "and thus they literally cast a spell upon the children like the victims of Bacchic frenzy".³ As England says,⁴ "this remedial procedure was apparently so well known that the Athenian does not think it worthwhile to describe it". Plato does offer, however, some explanation. Such enchantment dispels fear and brings calm and peace. Once again, Plato's sharp psychological observation has led him to identify an unlikely connexion between a sleepless baby in a cot and a frenzied Corybant. It is altogether a remarkable passage and recent investigations bear out Plato's theory. Professor F.V. Smith in his book to be published on Imprinting says that as a general rule young animals do better if handled or

1 789B.

2 See Discussion of Phaedrus 228B.

3 790E.

4 Op. cit. Vol. 2., p. 240.

gentled.¹ A similar finding is reported in the case of human babies, though as Professor Smith warns us, apparent similarity should not necessarily be regarded as evidence of evolutionary continuity. Margaret Ribble in her book, *The Rights of Infants*,² shows that it is in this early period that bodily contact with another person, gentle rocking and low rhythmic sounds have a particularly reassuring and stabilising effect. In extreme cases of deprivation where the child enjoys no such treatment, 'marasmus' may occur, that is, a state of stupor with the implication of wasting.³ Plato's general outlook would be confirmed by psychologists of widely differing views - not least by Professor B.F. Skinner who has put forward (and put into practice in the case of his own daughter) similar proposals. Plato says "the baby should experience the least possible amount of grief or fear or pain of any kind".⁴ Because of the force of habit it is in infancy

1 C.W. Tolman, *Animal Behaviour*, 1967, Vol. 15, pp. 145-148, reports that rhythmic tapping increases the rate of feeding in three to four day old chicks.

2 Columbia University Press, New York, 1943.

3 Spitz and Wolf. *Psychoanalytic Study of Children*, 1945, No. 1. pp. 53-74.

4 Cf. B.F. Skinner, *Walden Two*, p. 97.

that the whole character is most effectively determined.¹

Plato's concern here is with "unwritten laws" (ἀγραφα νόμιμα) and he speaks of these unwritten laws acting as "bonds in every constitution". William James, in another metaphor, speaks of habit as "the enormous fly-wheel of society". Professor Peters² examines in detail the close relation between training in habits and moral education: there is no doubt that Plato had thought a great deal about the earliest years of the child. Even details (still controversial) are discussed about ambidexterity, if the young child holds his lyre in the left hand and plectrum in the right - no matter, but in matters of war and the like a child should be habituated to use both left and right.

At the age of six, there is to be segregation of the sexes, but boys and girls are to follow a common curriculum. In discussing the actual lessons Plato again follows the customary division between gymnastic and musical. Gymnastic training

1 792E. τὸ πᾶν ἡθὺς διὰ τῶν ἀγραφα νόμιμα Cf. Aristotle
Nicomachean Ethics, II. 1. 1103a 17 ἡ ἡθικὴ ἐστὶ ἐθὺς
See also William James, Principles of Psychology, On Habits.

2 Ethics and Education

proper begins at six years and the movement is of two kinds, one of which might be described as musical (ὄρχησις Μούσης λέξιν μιμουμένων 795E) and the other rather akin to physical training. It is somewhat alarming to think of six year old girls in armour exercising on horseback: one wonders what Lysistrata might have said. But Plato takes this kind of "orchesis" seriously and some headmasters today speak warmly of the value of disciplined movement in cadet forces and the like.¹

At 797A the Athenian hints at another very strange proposal. Even in the Laws, Plato allows sufficient dramatic dialogue to attract attention to proposals of unusual interest. With considerable reticence the Athenian makes his remarkable view known: he wishes to prescribe children's games² and thus ensure that innovation shall never be known. One is reminded here of Popper's attack³ on the closed society where all change

1 The Juvenile Jazz Bands of Durham are a striking illustration. Girls, for the most part under ten years of age, are drilled by former sergeant majors. But Plato would surely not have approved of the music.

2 797A et seqq.

3 op. cit. p. 318.

is arrested: he speaks of "a perfect zoo of almost perfect monkeys". Indeed, the freedom of a monkey at Whipsnade would compare favourably with that of a toddler in Plato's Cretan city. But Plato's argument follows logically from the premises: the Lawgiver knows what is good, and the very early years of the child have great importance. Modern psychology would tend to support the second premise but the first is highly contentious. That Plato realised this can be seen at 889E where the familiar view is discussed that things are beautiful, just and so on by convention, and not by nature. Plato's answer (890C) for people who hold such views is death or imprisonment. In the present passage, to do with children's games, he says that there can be no graver danger to any society than a man who introduces new forms or colours.

The discussion of children's games is followed by a passionate plea to arrest all social change, and, as Clinias the Cretan observes both he and Megillus the Spartan are the most sympathetic listeners possible.¹

1 797D. See Popper *op. cit.* p. 224.

Plato will not accept change in respect of anything at all save only what is bad. In common with many other Utopian planners, Plato assumes that he holds the key to building a successful community and such change as is necessary will be very minor. The human being should not wish to change anything old and "by hook or by crook the lawgiver must devise a means whereby this shall be true of his State".¹ Other lawgivers do not see games as important² but Plato insists that frequent changes in matters involving moral approval and disapproval are of extreme importance. Immediately Plato again turns his attention to music and again praises the example of the Egyptians who consecrate all dancing and all music. He suggests that there should be drawn up an annual list of festivals: each hymn and each dance is to be specified. "If any man proposes other hymns or dances besides these for any god, the priests and

1 798B. The translation of Bury is surely fair: μηχανήν
 δὴ δεῖ τὸν νομοθέτην ἐννοεῖν εὐμόθεν γε
 ποθεν ὄντινα τρόπον τούτ' ἔσται τῆ πόλει.

2 Cf. Froebel, *Die Menschenerziehung*, 1826, paragraph 30. "Spiel ist die höchste Stufe der Kindesentwicklung". Cited by R.F. Deardon, *The Philosophy of Primary Education*, Routledge, London, 1968, p. 93:- Play as an educational process.

priestesses will be acting in accordance with both religion and law when, with the help of the Law-wardens they expel him from the feast".¹ Plato wishes the theatrocracy of Athens to be replaced by the theocracy of Egypt.² The Athenian promises a long discussion but after this they will regard their conclusion as certain, yet surely the certainty of a finding does not depend upon the length of an investigation but, as Aristotle points out at the beginning of the Nicomachean Ethics, it rests upon the nature of the subject matter. However Plato is certain and no one is to utter a note or dance a step outside the regulations.³

Here we see in the Laws the logical consequences of the Republic spelled out in detail. Plato now feels able to pronounce each law of music (801A νόμος μουσικῆς)

(1) The song must be auspicious (εὐφημον)

(2) Prayers should be made to the appropriate gods

(3) Poets must take the utmost care in composing prayers.

1 799B..

2 701A Θεατροκρατία πονηρά Gomperz (Greek Thinkers, Murray, London, 1905, Vol. 2, p. 258) writes of Egypt: "The church, indeed, was the only guardian of the national culture and traditions".

3 800A.

Plato elaborates on this. A poet must not show his compositions (in speech or song 801C) to any individual before he has shown them to the legislators in music (νομοθέται περὶ τὰ μουσικά) and the minister of education (ὁ τῆς παιδείας ἐπιμελητής)

(4) Another law. Heroes may be praised, both men and women; but it is not safe to honour those still living.

This follows the line in the Phaedrus (245A) and the Republic (607A).

As for the repertoire of song and dance, this, says Plato, is to be selected by men over fifty years of age: "Among the compositions of the ancients there exist many fine old pieces of music, and likewise dances, from which we may select without scruple for the constitution we are founding".¹ This is a little puzzling for there is no evidence that music was written down in Plato's day. As Miss Henderson² argues, "since down to the fourth century B.C. no considerable work was composed for more than one public performance, there was no reason to preserve these memoranda".

1 802A

2 New Oxford History of Music, p. 338. Until quite recent times it was the practice of musicians to perform only the work of contemporary composers.

The earliest music we possess is a papyrus fragment of the Orestes of Euripides and this is probably mid-third century B.C. Plato must surely be calling upon the melodies and dances used in religious ritual; these are likely to have been passed on for generations. Again, we must not underestimate the musical memories of "illiterate" singers. Students of the oral tradition - ancient and modern - recognise this to be considerable. Aristophanes too in the Frogs demonstrates that he could rely on his audience to recollect words and tunes heard many years earlier. Of course it would be the professionals who would have the most reliable memory and this may be the point of Plato's remark: "we shall call in the advice of poets and musicians, and make use of their poetical ability, without, however, trusting to their tastes or their wishes, except in rare instances".¹

This regulated music will be "a thousand times better" (ἀμείνων μυσίῳ) than the unregulated. All kinds of music gives pleasure (τὸ ἡδὺ κοινὸν πάντας) so one may as well indulge in what is of real value: "For if a man has been reared from childhood up to the age of steadiness and

1 802C.

sense in the use of music that is sober and regulated, then he detests the opposite kind whenever he hears it and calls it vulgar". This fills out the earlier argument about pleasure - the criterion must be that which pleases the best man in the community¹ - and it is in fact a highly persuasive move:

If all music gives pleasure

and ethically good music can be judged by experts

it follows that ethically good music will give pleasure.

Plato spells out this conclusion : "in respect of the pleasure or displeasure they (i.e. sober and vulgar music) cause, neither kind excels the other; where the superiority lies is in the fact that the one kind always makes those who are reared in it better, the other worse".² This argument about serious music (σάφρων Μούση καὶ τεταγμένη) and vulgar music (ἀνελεύθερος 802 C D) can be heard frequently in the music rooms of our secondary schools. The pupils - often in the third or fourth forms - urge that their choice of music gives them pleasure. What more should they ask? The teacher often gropes along a Platonic line of argument:

1 658E.

2 802D.

without denying that there is pleasure to be found in popular music he asserts that serious music is 'better for them' and this word has strong ethical overtones.

Unfortunately the evidence that serious composers are ethically superior to their popular counterparts is lacking.

It is true that all kinds of music do give pleasure, but that some initiation is required into the more complex forms. The difference between serious and popular music is one of degree rather than ethical validity. As Peter Stadlen has said, "Popular music is just like any other music, only more so".¹ Dr. Bentley indicates possible developmental stages in response to melody:² it is clear that rhythm comes first and accurate pitch rather later. More detailed analysis of musical development is required if we are to sift the claims of serious and popular music in our classrooms.

1 British Journal of Aesthetics, Vol. 2, No. 4, 1962, p. 355.

2 Musical Ability in Children, p. 26.

Plato suggests legal arrangements for the accompaniment of male and female singers.¹ There is to be appropriate music for each sex: noble and manly for the males (τὸ μεγαλοπρεπὲς καὶ τὸ πρὸς τὴν ἀνδρίαν ^{εἰ} ῥέπον) and rather tending to the decorous and sedate for the women (τὸ πρὸς τὸ κόσμιον καὶ σῶφρον μᾶλλον ἀποκλίνον 802E). From 669C we recall that Plato disliked intensely the mixing of male and female styles. It is to be doubted whether there should be this strict division though it has been common enough in our own song collections.

Plato now turns (803A) to the question of teaching for this kind of musical activity. Using once again the "argument from the arts" he likens himself to a shipwright who lays down the keel of a vessel for he says he is "trying to frame the shapes of lives according to the modes of their souls" (κατὰ τῶν τρόπων τοὺς τῶν ψυχῶν). This is a colourful metaphor but it is a misleading one for the teacher. The shipwright bends inanimate material to his will, the teacher is basically of the same material as his pupils.

There follows an outburst which is not untypical of an

1 802D.

old man weary of life: "notwithstanding that human affairs are unworthy of earnest effort, necessity counsels us to be in earnest". This is a familiar and double-edged argument. Plato wishes to legislate for every detail in his community, every note that is sung, every step that is danced, and sensing the faintly ridiculous air about such legislation (788A) he then denies that anything in life adds up to very much: man is a mere puppet of God (803C).¹ Further reflexion on theocracy as a political principle prompts the question of whether it is not God who is the puppet, skilfully manipulated by sophisticated politicians. In the Laws the gods must dance to Plato's tune and not that of Homer or any other poet.

How then is one to live one's life? We note how Plato looks at life as it ought to be lived before writing in detail about the preparation for that life. He rejects war as either play (παίδιά) or as education (παιδεία): "We should", he says, "live out our lives playing at certain pastimes - sacrificing, singing and dancing - so as to be able to win Heaven's favour and to repel our foes and vanquish

1 Cf. 644D and 804B.

them in fight". This ideal is represented on many Greek vases and was first described by Homer.¹

We shall see much more of this kind of theory in Aristotle: music and dance is to be a central activity in the life of the community, far less attractive work will be done by foreigners and slaves. The question of leisure activity is an important one not only for builders of Utopias but for the planners of today. B.F. Skinner speaks of a four-hour day² and this may well be a reality in the more affluent sections of Western society.

Education in Plato's community will be compulsory. Girls as well as boys will follow the full curriculum.³ In this second best state there will be some private life, but the community as a whole will be very fully occupied with the care of bodily and spiritual excellence in general. "So this being nature's law, a programme must be framed for all the freeborn men, prescribing how they shall pass their time continuously, from dawn to dawn and sunrise on each successive day".

1 Homer, Iliad I, 472; cf. XXII, 391.

2 Walden Two, p. 52.

3 804C et seqq.

What at first appeared to be a formula for tiny children - no innovation in play - is seen now to be a principle for the whole community. Professor Levinson¹ supposes that the passage at 942A where every action is to be done at the leader's command refers purely to military life, but here we see in the context of a discussion of musical education the very same principle formulated in a quite unambiguous way. The whole day, without remainder, is to be planned by the lawgivers. Just as sheep cannot live without a herdsman, and slaves without a master, so children cannot exist without a tutor.² "Of all wild creatures the child is the most intractable."³ This is not one of Plato's most quoted educational aphorisms. England, presumably with youth well behind him, sees it as "a semi-humorous tirade against the human boy".⁴ There is a place for humour in education, but we should be on our guard

1 In Defense of Plato,
p. 532. For discussion of 942A see Popper, op. cit.,
p. 333.

2 808D.

3 808D ὁ δὲ παῖς πάντων θηρίων ἔστι
δυσμεταχειριστότατον.

4 op. cit. p. 285.

against semi-humour; throughout this passage Plato's strategy has been to cancel every human freedom and then to quip that, after all, nothing is very serious, man is a puppet of the gods.

There are some detailed directions for the curriculum:

Age 10-13 Study of letters

13-16 Study of lyre

These studies are compulsory. Plato in concentrating in a priori fashion on universal man overlooked the psychology of individual differences. Dr. Bentley says¹ "at the chronological age of ten years.....Musical Ability Ages range from four to eighteen years". Clearly Plato had not the means to speak with such precision, but wide differences in musical ability are apparent to the most casual observer, and in the case of handwriting Plato makes a specific reference to slow learners - "those whose progress in the appointed period is too slow".²

At 812B Plato discusses the lyre-masters (οἱ κίθαρῖσται). This branch of the curriculum will be the

1 op. cit. p. 100.

2 810B

concern of the sixty-year olds in the Choir of Dionysus.

The precise details of the age range in this choir are confused,¹ but clearly these men are expected to be very

keen in the perception of rhythm and harmony (*εὐαίσθητου*
περὶ τοὺς ῥυθμοὺς καὶ τοὺς τῶν ἁρμονιῶν
συστάσεις 812C) and so will be able to judge good and

bad representations and their effects on the emotions (*ἐν*
τοῖς παθήμασιν ὅταν ψυχὴ γίγνηται).

Throwing aside the pretence of musical ignorance seen in the Republic, Plato is quite specific on the relation between voice and lyre - and here we follow Miss Henderson's translation.²

"....The lyre should be used together with the voices, for the clearness of its strings, the player producing note for note in unison. Heterophony and embroidery by the lyre - the strings throwing out melodic lines different to the melodia which the poet composed; crowded notes where his are sparse, quick time to his slow, high pitch to his low, whether

1 Cf. 664D, 665B, 670B. Morrow, op. cit., p. 318, sees this lack of consistency as evidence for "the exploratory nature of the enquiry".

2 812D translated in New Oxford History of Music, p. 338.

in concert or antiphony, and similarly all sorts of rhythmic complications of the lyre against the voices - none of this should be imposed upon pupils who have to snatch out a working knowledge of music rapidly in three years".

We can assume from this passage that heterophony and embroidery (*ποικιλία*) were common. Plato wishes to avoid such complications with young children. Aristotle says¹ "The right rule for the study is not to burden them with anything that is only wanted for professional performances". As Miss Henderson points out the citizen's part on the stage was the choric one, though it is true, as Aristotle observes, that the majority of freemen in the period after the Persian Wars were able to play the flute.² Plato disliked virtuosity in instrumental playing³ and as for the principle of note for note, Aristophanes parodied the lyrics of Euripides (The Frogs, line 1314, cf. 1348)⁴

1 Politics VIII, 6. 1341a 9.

2 loc. cit. line 35.

3 Cf. 669 D E also 700D E.

4 The precise number of syllables varies in the MSS.

"Spiders you twir -r-r-r-rl with your fingers"

εἰεεεε εἰ εἰ λίσσετε δακτύλοις φάλαγγες

It is interesting to note that virtually every composer has been attracted by the spinning wheel: the palm should perhaps be awarded to Saint-Saëns for his portrayal of Omphale.¹ There is no doubt that Plato is extremely severe in his musical attitude but Lippman sees the strength of the view: "the unity of Greek rhythm was further solidified by unison singing and "unison" dancing; thus Greek music is comparable to Greek statuary and architecture in that it possessed a remarkably definite physical nature".² The singing of unaccompanied plainsong today bears witness to the strength of the tradition.

All matters that have been discussed in this section are to be under the supervision of the Director of Music (ὁ περὶ τὴν Μοῦσαν ἄρχων). His work clearly overlaps that of the Director of the Children (ὁ τῶν παιδῶν ἐπιμελητής) who supervises both music and gymnastic.³ Plato writes in detail about gymnastics. In

1 For her story see Ovid's *Metamorphoses*.

2 *op. cit.* p. 54. It is worth noting that the Council of Trent very nearly banned all music except plainsong.

3 813A.

dancing he distinguishes between the warlike and the peaceful. Bacchic dancing (portrayed with vigour on many Greek vases) belongs to neither class, but it is, in any case, unwelcome in the community of the Laws. As in the case of pure music, dancing is to be planned in outline by the lawgiver, and worked out in detail by other officers.¹ Comedy and tragedy are to be controlled, and Plato writes out the kind of address which might be read to foreign poets who wish to put on a performance. They are not barred altogether, but they must prove to the satisfaction of the rulers that their songs are better than those already sung in the community: only then will they be granted a chorus.² Morrow sees this as a retreat from the position in the Republic,³ but surely it is merely a matter of administrative detail. There is nothing in the Laws to suggest a laissez-faire approach to cultural activities in the community.

Further details of musical performance are to be found in Book Eight. Here in a discussion of field-days and

1 816C.

2 817D.

3 op. cit. p. 375

festivals we are told¹ that at the festivals there will be speeches of praise and blame - these will deal with the behaviour of individual citizens not only at the contests, but in life generally. These speeches will be composed by good people of over fifty years of age, and these compositions although not of a musical nature, will be sung.² I presume that this is to give them greater solemnity: again one is reminded of the examinations conducted by the Egyptian priests. There shall be at these festivals no unauthorised music, "not even should it be sweeter than the hymns of Orpheus....."³

An interesting attack on art appears in Book Ten.⁴ We are told that "art begets.....playthings which share little in truth, being images of a sort akin to the arts themselves - images such as painting begets, and music, and the arts which accompany these". Anderson comments "there

1 829C D.

2 τὰ τῶν ποιούτων ἑδέσθω ποιήματα, ἔσθ' καὶ μὴ μουσικὰ πεφύκη.

3 Cf. 858D.

4 888E et seqq.

seems no denying that he puts far too low a value on music here; elsewhere he unfailingly assigns it a place of utmost paedeutic importance and kinship with eternal truth". There are three points to be made here. First it is by no means clear that the quotation represents the considered view of Plato at this point. The Athenian is quoting what "wise men" (σοφοὶ ἄνδρες) say and these are the very men who come under attack in the next paragraph, for they teach that the existence of the gods is a matter of convention and not nature. Secondly, we must not forget that Plato expressed a view not dissimilar in the *Politicus* (288A "None of them (these arts) has a serious purpose: all are performed for pure amusement"). Thirdly, it should be pointed out that, as we have seen, the criterion for music, throughout the *Laws*, has been essentially ethical (all music pleases, only music which pleases the good man is to be allowed). Music, in fact, in the *Laws* fulfils a rôle which it was to assume in later times: it is the handmaid of religion. "The end of the *Laws* is the beginning of the Middle Ages".¹ Sir Ernest

1 Greek Political Theory, Methuen, London, 1918. p. 351.

Barker's aphorism applies, with particular aptitude, to Plato's teaching in this dialogue concerning music in education.

CHAPTER TWOARISTOTLEINTRODUCTION

Aristotle's proposals for music in education are to be found in the eighth book of the Politics. By an interesting coincidence it would seem that Plato and Aristotle each turned his attention, towards the end of his life, to a quite detailed consideration of musical education. What makes it even more interesting is the fact that Aristotle clearly had the Laws before him as he wrote. The view that Aristotle's comments on the Laws are superficial and inaccurate - a view held by many editors after Susemihl¹ - is no longer tenable after Morrow's reappraisal.²

It is perhaps rather bold to speak of the Politics coming towards the end of Aristotle's life, and there are

1 See F. Susemihl and R.D. Hicks, *The Politics of Aristotle*, Macmillan, London, 1894. This is an English revised version of Susemihl's German edition of 1879.

2 Glenn R. Morrow, "Aristotle's comments on Plato's Laws" ap. *Aristotle and Plato in the Mid-Fourth Century*. Symposium Aristotelicum. Edited by I. During and G.E.L. Owen, Göteborg, 1960. pp. 145-162.

here two quite separate problems. First, are the books of the Politics in the correct order? Secondly, when was the Politics written? Sir David Ross examines the promises set out at the end of the Nicomachean Ethics by Aristotle and concludes that the programme there given in outline is the very plan of the Politics as we have it. He adds, "..... if the Politics in its traditional order is not Professor Susemihl's idea of a Politics, it is at least Aristotle's idea of one".¹ As for the second question, it is probable that the Politics was written after the collection of the 158 constitutions and, as Ross argues, this kind of work would require a school of disciples. This would place the Politics in the fourth and last period of Aristotle's life - the headship of the Lyceum from 335 or 334 to 322 B.C.² A similar view is expressed by Sir Ernest Barker³ who rejects Jaeger's thesis⁴ that because the last two books of the Politics are idealistic they are therefore early. Indeed, the dating of Aristotle's works by evaluating the

1 The Development of Aristotle's Thought. Dawes Hicks Lecture. British Academy. O.U.P., London, 1957, p. 70.

2 op. cit. p. 64.

3 The Politics of Aristotle. Oxford, 1946 and later. p xlii.

4 W. Jaeger. Aristotle. Oxford 1934. p. 275.

amount of idealism they contain has been subjected to sharp criticism. As a general policy Professor Kerferd suggests "The right way to present his doctrines is not to begin by attempting to distinguish any general stages or layers in his thinking at different periods but to discuss separately the main positions to which he gives expression".¹ G.E.R. Lloyd argues a similar case in detail.²

It seems therefore not unlikely that Aristotle's sketch of the ideal community and the discussion of musical education in that community belong to the last years of Aristotle's life. As was the case with Plato, I believe it unwise to isolate the proposals for music from their wider political context. It is therefore proposed to begin with Aristotle's examination of the best community and to see how the interesting theory of musical education rests to some degree on these and other earlier investigations.

THE IDEAL COMMUNITY

In Book VII, chapter 13 of the Politics, Aristotle is

1 vide sub Aristotle. Encyclopaedia of Philosophy, Free Press of Glencoe.

2 Aristotle, G.E.R. Lloyd, Cambridge, 1968. pp. 19-28.

looking for the best constitution (1332 a 5 ἡ ἀρίστη
πολιτεία). It is through this constitution that the

community possesses the greatest possibilities for

happiness (καθ' ἣν εὐδαιμονεῖν μάλιστα
ἐνδέχεται τὴν πόλιν). At the beginning of the

Nicomachean Ethics we read that Happiness is the end and

aim of political science (I, 4. 1095 a 15) and in the

present passage we have a summary of that earlier enquiry:

"Happiness is activity and the complete utilization of all

our powers, our goodness" (1332 a 7. φαμέν δὲ
ἐνέργειαν εἶναι καὶ χρῆσιν ἀρετῆς τελείαν).

As John Wilson wrote recently, "Happiness has been a Cinderella

among concepts since J.S. Mill".¹ Certainly it is little

discussed as such in modern educational writing, and yet as

we shall see it is an important idea in relation to teaching

music and the arts in general. Aristotle here repeats the

substance of the argument in Book X of the Nicomachean Ethics.

In the discussion of the value of 'external goods' in

producing happiness, he uses the interesting analogy of the

1 "Happiness". Analysis. October, 1968. pp. 13-21.
Happiness is probably the best translation of εὐδαιμονία.
The concept is as elusive as the quality of life it attempts
to denote.

musical instrument. One would not, he suggests, ascribe brilliant lyre playing to the quality of the instrument rather than to the skill of the player (1332 a 26). This simple analogy tells us something of the rare feats of virtuosity which were so much loved by the Athenian audience. There are few people who do not warm to a Yehudi Menuhin or a John Ogden. Aristotle has important things to say about virtuosity in a later section.

In one of the most memorable sentences in the Politics Aristotle begins his analysis of education. He says that one may pray for good fortune but "it is not in Fortune's power to make a city good; that is a matter of scientific planning and deliberate policy".¹ This notable political principle finds its ethical counterpart in E.N. X 7 (1177 b 31): "We ought not to listen to those who counsel us 'O man, think as man should' and 'O mortal, remember

1 1332 a 31. τὸ δὲ σπουδαίαν εἶναι τὴν πόλιν οὐκέτι τύχης ἔργον ἀλλ' ἐπιστήμης καὶ προαίρεσως. The translation above is by J.A. Sinclair in the Penguin Classics, 1962. Except where stated this will be the translation used throughout the discussion.

your mortality'. Rather ought we, so far as in us lies, to put on immortality". A closely similar view was put forward by Dr. Edmund Leach in the first of his Reith Lectures: "It is not vanity to say that man has become like a god, it is essential to say it and also to understand what it means".¹ This last statement caused a great furore but Dr. Leach was saying no more than Aristotle: - in a scientific age it is possible to plan the quality of life in a community. Professor Dodds writes at the end of his study of the Greeks and the Irrational ".....I have had our own situation constantly in mind..... We too have experienced a great age of rationalism, marked by scientific advances beyond anything that earlier times had thought possible, and confronting mankind with the prospect of a society more open than any it has ever known".² Either we plan our lives rationally or retreat into superstition, as happened in Greece in the second century B.C.³ Aristotle's sketch of the community may be idealistic but it owes much to empirical study - not least in the field of music.

1 The Listener, 16th November, 1967.

2 The Greeks and the Irrational. p. 254.

3 See op. cit. p. 244.

The goodness of a city then does not rest on chance, but on the quality of its citizens. How does a man become good? (1332 a 35). "Men", we are told, "are good and virtuous because of three things. These are nature, habit or training and reason". At first glance this appears to have little to do with music in education, but I believe it provides the psychological foundation for Aristotle's detailed proposals. Music can be of value at any of the three principal levels in the *Scala Naturae*. It would seem that nature, habit and reason correspond to some extent with Aristotle's biological formulation to be seen in the *De Anima* (II, 3. 414 a 29 et seqq).¹ The scheme I have in mind might appear thus: -

NATURE	corresponding to Nutrition	shared by	Plants	Animals	Men
HABIT	corresponding to Nutrition and Sensation			Animals	Men
REASON	corresponding to Nutrition, Sensation and Reason				Men

There is a clear danger in treating Aristotle as a single system of philosophy. It was to attack this kind of error that Jaeger wrote his book on the development of Aristotle's thought.

1 See, for the discussion of biology, Sir David Ross, *Aristotle*, Methuen, London, 1949, p. 129; also his edition of the *De Anima*, Oxford, 1961, pp. 220 et seqq.

At the same time it might easily be unwise to separate Aristotle's work into autonomous fields of study. D'Arcy Thompson wrote, "Aristotle's work in natural history was antecedent to his more strictly philosophical work, and it would follow that we might proceed definitely to interpret the latter in the light of the former".¹ J.D. Monan writing of Aristotle's account of happiness in E.N. X, 7 says, "it is explicitly based on a psychology in the most obvious way".² Care is needed, for there is certainly more than psychology in the E.N. but its influence is everywhere to be seen. A second danger lies in the drawing of modern parallels but here again there is value in seeing how Aristotle's levels can be distinguished in current treatments for mental illness. At the first level we see the use of drugs which affect the chemistry of the body. At the level of habit we see the use of behaviour therapy where emotional attitudes are changed through a carefully programmed schedule of pleasure and pain. At the level of reason we have doctor and patient rationally

1 Cited by Ross, Dawes Hicks Lecture, p. 65.

2 J.D. Monan, *Moral Knowledge and its Methodology in Aristotle*, Oxford, 1968, p. 111.

discussing undesirable and irrational behaviour with a view to its elimination. In the *De Anima*, Aristotle stressed the essential unity of the soul, and in the present passage of the *Politics* he writes of nature, habit and reason: "To make a good man requires all three working concertedly". At morning assembly recently I heard children sing "Let sense be dumb, let flesh retire":¹ any sane biologist would want to ask 'why'? and a musician might go on to say that without flesh there could be no singing, and without sense, no melody.

Aristotle in discussing the ideal state begins with the nature of man. Does he then commit the much discussed fallacy of deriving a statement about duty (an 'ought') from a statement about fact (an 'is')? In arguing about what a man ought to do (that is the question of the best life) he continually raises the point about what man can do. The logical justification for looking at what a man can do before prescribing what he ought to do is that 'ought' implies 'can'.² There is not the slightest value in

1 J.G. Whittier: "Dear Lord and Father of Mankind". One suspects that the popularity of this hymn might be due to Sir Hubert Parry's noble tune.

2 This is a subject of prolonged controversy. For a list of recent articles see John R. Searle's paper ap. *Theories of Ethics*. Edited by Philippa Foot, O.U.P., 1967. pp. 101-114.

constructing a school curriculum (an 'ought' sphere of activity to which Aristotle devotes himself) without first examining the abilities of the children (an 'is' area of discourse). Professor Peters says that practical questions cannot be answered by tests in the laboratory¹ and this is a salutary reminder of the logic of prescription, but one is clearly entitled to ask where such questions can be settled. They are not settled in the philosopher's study, for there (to mix the metaphor) we shall merely find a Lockean under-labourer in the garden of knowledge. There are certainly difficult problems involved but they do not all appear to me to be relevant to the present discussion. When a headmaster says to a boy "you ought to take up German" or "you ought to join the school orchestra", I think there are two implications: first that the boy has the necessary ability and secondly, the benefits of such activities can be demonstrated empirically to a large extent. The moral question of whether the boy ought to pursue these activities or a life of depravity is not in question. In education in this country there is often little disagreement

1 Ethics and Education, p. 17.

about the moral issue: people are usually agreed that the pupils should lead full and happy lives. It is the method by which such an end is to be achieved that causes the difficulty and often the question can be settled empirically. Here, for example, lies the value of educational guidance.

C.L. Stevenson in his article on The emotive meaning of ethical terms¹ examined the place of belief as opposed to interests in arriving at an ethical judgement: "The empirical method is relevant to ethics simply because our knowledge of the world is a determining factor to our interests".² The empirical method is not sufficient for attaining ethical agreement. After all, there are people who couldn't care less about the education say, of working class children or the children of coloured immigrants. At this point this becomes a moral issue, and attempts will be made in a persuasive manner to alter such people's values. This is the kind of argument which Stevenson in fact puts forward. He gives the example (1937) of trying to persuade a person of 'cold' temperament that a public dole would be

1 Mind, Vol. 46, 1937. pp. 14-31.

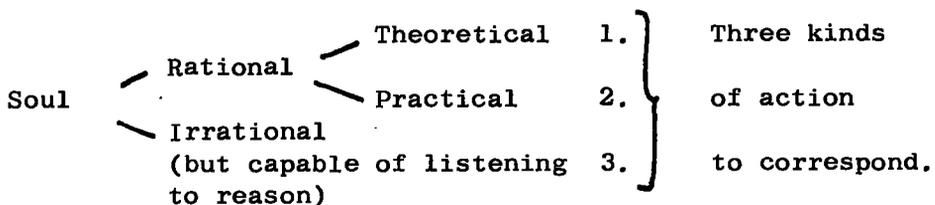
2 loc. cit. p. 28.

good. This he says is a persuasive activity not an empirical or rational one. Aristotle has an obvious interest in the happiness and well being of his pupils and to this extent we can therefore devote our attention to his empirical observations. Where we should part company with him in a moral argument is his insistence on the inferiority of slaves and women. In the case of music in education we may say in conclusion that we need both the psychological facts about the distribution of musical abilities and interests, and also philosophical insights into the nature of education and the pursuit of worthwhile activities.

Arising from his psychology, Aristotle has an hierarchy of values: "For each man, that is to be chosen which is the very best that he can attain (Pol. VII, 14. 1333 a 29

ἀεὶ γὰρ ἑκάστῳ τοῦθ' ἀρετώτατον οὐ τυχεῖν ἔστιν ἀκροτάτον). This follows the psychological

division of the soul into three parts (cf. 1334 b 15).



Having examined the nature of man Aristotle now investigates the nature of his activities. We see some such scheme as this (1333 a 32):-

- (a) Necessary and useful activitiesfor the sake of Good activities
 (τὰ ἀναγκαῖα (τὰ καλά)
 καὶ χρήσιμα)
- (b) Warfor the sake of Peace
- (c) Workfor the sake of Leisure

"These then", says Aristotle, "are the targets at which education should be aimed, whether children's education or that of those requiring it at a later age (1333 b 3 ὥστε πρὸς τούτους τοὺς σκοποὺς καὶ ἔτι παιδευτέον καὶ τὰς ἄλλας ἡλικίας ὅσαι δεόνται παιδείας). After a section devoted to a criticism of Sparta, Aristotle returns to the theme which is dearest to him in his account of the ideal state: it is leisure (VII, 15. 1334 a 13). There is an elitist ring about the term: as we are told in an aside, 'slaves have no leisure'. A fuller discussion of leisure and its close connexion with music appears in VIII, 3.

Aristotle now returns to nature, training and reason (1334 b 6 φύσις, ἔθος, λόγος). Should education proceed by means of reasoning or by the formation of habits? Aristotle's answer is clear: "Certainly these must work together in perfect unison for it is equally possible to make an intellectual error about the best principle and to find

oneself led astray by one's own habits and training". The musical analogy is here again interesting (1334 b 10 *συμφωνεῖν συμφωνίαν τὴν ἀρίστην*) and it is not easy to resist the conclusion that Aristotle had a glimmer of the Freudian subconscious in grasping the opposition between reason and early training. We are indeed fortunate in having in these last books of the *Politics* a full discussion of the nature of education (a threefold process) and a special consideration of the place of music. We may safely conclude that Aristotle's thoughts on psychology and education are all of a piece with his musical theory.

In Book VII, 16 Aristotle turns to the lawgiver's duty in education and, like Plato, he begins his account at birth - or rather, at conception. (Cf. *Laws* 783D). The following chapter opens with a clear echo of Plato's educational discussion in Book VII of the *Laws*. We then hear of censorship: "the officials known as inspectors of children's welfare ought....to pay attention to deciding what kind of literature and stories children of this age are to hear" (1336 a 31..... *ἐπιμελὲς ἔστω τοῖς ἀρχουσιν οὓς καλοῦσι παιδοκόμους*). This is all familiar to readers of the *Laws* but we note an important difference in principle. Although younger persons are not

to be present at comedies or scurrilous iambics (cf. Plato, Laws 816E *περὶ γέλωτος*). Aristotle adds a qualification - they are not to be present "that is to say, until they have reached the age at which they become entitled to recline at banquets and share in the drinking; by this time their upbringing will have rendered them immune to any harm that might come from such spectacles" (1336 b 22 *τῆς ἀπὸ τῶν τοιούτων γιγνομένης βλάβης ἀπαθείς*). This is further than Plato would wish to go and the language used is reminiscent of the account of catharsis, for that too provides harmless pleasure (Pol. VIII, 7. 1342 a 16

παρέχει χαρὰν ἀβλαβῆ).¹

BOOK VIII

Chapter 1

"It is the lawgiver's prime duty to arrange for the education of the young". With this belief, Aristotle launches into a detailed examination of education in general and music in particular. We are told that education must be related to the particular constitution in each case, and

1 Unfortunately the text is corrupt. The MSS have *τὰ μέλη*
τὰ καθαρτικά Ross in the O.C.T. reads *τὰ*
πρακτικά.

here again we need to remember Aristotle's work in collecting the 158 Constitutions. "Since there is", he says 'but one aim for the entire city it follows that education must be one and the same for all'.¹ Even granting that a community may have one aim, it has not been logically demonstrated that all members of such a community will be identical. Aristotle's emphasis however has its counterpart in our own day. Sir Fred Clarke wrote, in 1948, "An 'educative society' is understood here to mean one which accepts as its overmastering purpose the production of a given type of citizen".² A not dissimilar view was expressed by Professor M.V.C. Jeffreys: "The most serious weakness of modern education is the uncertainty about aims Spartan, Feudal, Jesuit, Nazi, Communist educations had this in common, they knew what they wanted to do and believed in it".³ It is not clear to whom 'they' refers in this last

1 1337 a 21 ἔπει δ' ἔν τὸ τέλος τῆ πόλει πᾶση
φανερὸν ὅτι καὶ τὴν παιδείαν μίαν καὶ
τὴν αὐτὴν ἀναγκαῖον εἶναι πάντων.

2 Freedom in the Educative Society, University of London Press, 1948. p. 13.

3 Glaucon, Pitman, London, 1950. p. 61.

quotation: certainly not the vast majority of citizens, for they had no choice in the matter and there is therefore no evidence as to what in fact they did want.¹

The emphasis on singleness of purpose is a theme which runs throughout Aristotle's practical writing. Too easily, perhaps, he assumes that man has but one function.² In the biological concept of growth and development there is a notion of a single ultimate actuality. There is just one tree which an acorn produces and that is an oak tree. This biological model - helpful though it is - does not take into sufficient account the complexity of human development whether in the individual or society. Aristotle was often aware of this - we must remember that in the present passage he was drawing with enthusiasm his picture of the ideal community. In the E.N. he wrote, "The discussion of particular problems in ethics admits of no exactitude. For they do not fall under any science or professional tradition, but those who

1 See also the Spens Report, H.M.S.O., 1939, p. 148: "there is the unformulated but very real demand of the community that the young shall grow up in conformity with the national ethos". See also p. 153 of the same Report: "the national tradition must be the basis of an effective education". Hence, inter alia, the ubiquitous National Song Book.

2 E.N. I, 7. 1097 b 32.

are following some line of conduct are forced in every collocation of circumstances to think out for themselves what is suited to these circumstances".¹ In legislating for education it is necessary not only to possess criteria as clearly conceived as possible but also to know when to apply them. In parenthesis a word might be said about Aristotle's attitude towards exactitude in biological studies: he displays the humility of a true scientist. To give just one example: in the *De Partibus Animalium*² he speaks of the difficulty of classifying accurately lifeless objects, plants and animals: "The Ascidians³ differ but slightly from plants, and yet have more of an animal nature than the sponges which are virtually plants and nothing more. For nature passes from lifeless objects to animals in such unbroken sequence.....that scarcely any difference seems to exist between two neighbouring groups owing to their close proximity". We can see, I believe, Aristotle in three rather different lights: first as biologist recognising the

1 E.N. II, 2. 1104 a 5.

2 *De Partibus Animalium*, IV, 5. 681 a 10. Trans. W. Ogle. Oxford Translation of Aristotle, 1911.

3 Ascidians are sea-squirts. For details see D'Arcy Thompson, *Glossary of Greek Fishes*, p. 261.

difficulty of classifying the complexities of nature; secondly as moral philosopher realising that knowledge of moral concepts was not enough - one required the art of applying the relevant criteria in any given situation; thirdly we see him as the utopian planner. In this third rôle he perhaps understandably overlooks some of the difficulties presented by individuals; we may detect a similar impatience in the Walden Two: the utopia of a modern behavioural scientist.

To sum up, in the opening of this eighth book of the Politics, Aristotle is so eager to formulate the essence of the political and educational process that he tends to overlook the individual. It could well be that some recent work in conceptual analysis displays a similar failing.¹ As Professor Mace² wrote recently, "To say that the essence of so and so is so and so is generally no more than to express a personal interest in one component of a total pattern."³

1 cf. Metaphysics 1044 a 36.

2 For a discussion of the link between Aristotle's essentialism and modern linguistic analysis see Popper Vol. II, p. 274, note 26, and also the later notes 46, 51 and 52 to Chapter 11.

3 Philosophy, April, 1966, p. 163.

Aristotle draws out an important feature of education - preparation for public life in the community - but this cannot be the whole story even for a political animal.¹

Barker helpfully suggests that we should look upon Aristotle's city as being as much a religious community as a political unit: "like Calvin's Church, it exercises a 'holy discipline'"² As far as music in the community is concerned, Aristotle proves to be more tolerant than Plato or, for that matter, Calvin.

BOOK VIII

Chapter 2

Now that Aristotle has established that education is a matter for the lawgiver or politician he turns his attention to the question of the curriculum. In customary fashion, here and in the next chapter, Aristotle begins with a consideration of opinions generally accepted: in the case of curriculum subjects this presents no difficulty but in the question of moral education he notes lack of agreement.

This method of approaching a problem is discussed in the Topics where Aristotle distinguished between a 'demonstration'

1 See Pol. I, 2. 1253 a 7.

2 Sir Ernest Barker, op. cit. p. li.

(ἀπόδειξις) where reasoning starts from premisses which are necessarily true, and a dialectical reasoning (διαλεκτός συλλογισμός) where a start is made from opinions that are generally accepted (ἐξ ἐνδόξων). Aristotle defines 'generally accepted opinions' (ἐνδόξα) as being those "which are accepted by every one, or by the majority or by the philosophers - i.e. by all, or by the majority or by the most noble and illustrious of them".¹ It is through this latter method that Aristotle approaches both educational and musical questions. It need hardly be added that this doctrine is a source of acute modern controversy in education. Whereas the scientist in the laboratory may start from necessary truths, or at least highly probable hypotheses, students of the arts are expected to study the opinions of the experts through the ages. The obvious difficulty here is that there are far more experts to be studied than in Aristotle's day - in philosophy, music, art

1 Topics 100 b 21 ἐνδόξα δὲ τὰ δοκούντα πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς κ.τ.λ.

Trans. W.A. Pickard Cambridge, Oxford, 1928.

and so on. Aristotle's declared purpose in examining the endoxa was to arrive at his own logical position, not to lose himself in the history of the numerous enquiries which he undertook.

"In modern times" says Aristotle "there are opposing views about the practice of education".¹ He elaborates on this, but there is some obscurity in his language: "There is no general agreement about what the young should learn either in relation to virtue (πρὸς ἀρετήν) or in relation to the best life (πρὸς τὸν βίον τὸν ἀρίστον). The distinction between the two is not clear. Newman quotes a parallel from E.N.² and helpfully cites the case of music which Aristotle sees at one level as relating to virtue, and at another, higher level as a principal ingredient in the best way of life. Aristotle raises the question of character training and the education of the intellect: "The problem has been complicated by what we see happening before our eyes"³ and it is not certain whether

1 1337 a 35.

2 X, 1, 1172 a 24 πρὸς ἀρετήν τε καὶ τὸν
εὐδαίμονα βίον.

3 1337 a 39 ἔκ τε τῆς ἐμποδῶν παιδείας
ταραχώδης ἢ σκέψις

training should be directed at things useful in life, or at those conducive to virtue or at non-essentials". This is a familiar controversy and one which is crucial in questions of music education; for music, unlike the fine arts (which contribute to design and the like), has no obvious use at all. In the Hadow Report we read, "There appear to be two opposing schools of modern educational thought, with regard to the aims to be followed in the training of older pupils. One attaches primary importance to the individual pupils and their interests; the other emphasises the claims of society as a whole and seeks to equip the pupils for service as workmen and citizens in the organisation. When either tendency is carried too far, the result is unsatisfactory".¹ The Dainton Report² takes a firmer line: it asks "Are we justified in recommending that there should be a national effort to influence the choice and selection of the individual in relation to his studies and hence his career?" The question posed (§ 164) is, in effect, quickly answered: "We therefore recommend that normally all pupils should study mathematics

1 H.M.S.O. Secondary Education. 1927, repr. 1944, p. 101.

2 H.M.S.O. Council for Scientific Policy, 1968.

until they leave school" (§ 179). Such direction may be given in other subjects - we have noted the case of music in Hungarian primary education.

Aristotle's differentiation of types of training recalls his earlier classification of human activities.¹

Training may be directed towards (1337 b 41):-

(1) Things useful in life τὰ χρήσιμα
 πρὸς τὸν βίον.

(2) Things conducive to virtue τὰ τεύοντα
 πρὸς ἀρετήν.

(3) Non-essentials τὰ περιττά.

Each of these views has found support and Aristotle adds laconically "There is no agreement as to what in fact does tend towards virtue. Men do not all prize most highly the same virtue, so naturally they differ also about the proper training for it". Two points may be noted here. First, music was in fact held by Aristotle to tend towards virtue. Secondly the lack of agreement which Aristotle notes seems to be (as Plato noted) a characteristic of a community which enjoys freedom of speech and a plentiful

¹ See Pol. VII, 14. 1333 a 32.

supply of foreign visitors. Such a community is a springboard for relativist philosophies.

Turning to "useful things", Aristotle makes a distinction between those that are proper for a freeman and those that are not. It is not within the scope of this discussion to examine in detail Aristotle's view of slavery, but there can be no denying that it has an important bearing on his own and many subsequent theories of liberal education. Aristotle's long and elaborate defence of the institution of slavery (Pol. I, chs. 3-8) is, in Popper's view, an indication that an anti-slavery school of thought existed. D.J. Allen thinks it self-deception to consider Antisthenes or Antiphon as modern "liberals"¹ but Aristotle could hardly be more explicit about the opponents of his doctrine: "Others say that it is contrary to nature to rule as master over slave, that the distinction is one of convention only, since in nature there is no difference".² It is no exaggeration to say

1 "Individual and State in the Ethics and Politics." ap. La "Politique" D'Aristote. Fondation Hardt Vandoevres, Geneva, 1964. p. 85.

2 1253 b 20.

that Aristotle, the biologist, appears unhappy with his classification of free and servile body-types.¹ He is quite unable to declare that there is a manifest physical difference, he contents himself with the dubious claim that nature wants there to be one! (βούλεται ἡ φύσις ...)

One interesting musical point may be noted here.

Aristotle, in speaking of the ruler-ruled relationship says that it appears not only among living creatures, but also where there is no life, as in music.² There is a reference to the musical note MESE or Leader (ἡγεμών). It is mentioned in the Aristotelian Problems, Book XIX, ch. 33, 920 a 21 and also ch. 36, 920 b 36. The Mese will be seen as the top note in the tetrachord Meson in both the Greater Perfect and Lesser Perfect systems.³ In modern terms this note is the 'home' note, it establishes the tonality, or frame of references for a melody. We speak of the 'tonic' and this provides the most natural note with which to end a melody - as the vast majority of songs and tunes will

1 1254 b 27.

2 1254 a 32 καὶ γὰρ ἐν τοῖς μὴ μετέχουσι
 ζωῆς ἔστι τις ἀρχή, οἷον ἁρμονίας.

3 New Oxford History of Music, Vol. I, p. 346.

testify. It is not unfair to say that the tonic 'prevails over' all other notes in classical music, though in serial and in other modern techniques of musical composition it has quite lost its 'authority'.

Activities which are not proper for a free man can be distinguished in two ways: they have a deleterious effect on the body's condition and they are activities which are paid for. The first principle is admirable: the misery and degradation of the modern labourer was exposed by the Hammonds¹ and others. The second principle is dubious: it is found in Plato (see Laws 804D where teachers are to be attracted by pay from abroad) and I believe it has had a curious effect on professional musicianship. Musical scholarship has been held to be the reading of books, whereas playing a musical instrument for a fee was not a gentleman's pursuit. Lord Bowden quotes the not unknown kind of man who became a Bachelor of Music and was unable to play 'God Save the Queen' on the piano with one finger. He playfully characterises the University outlook in the following terms: "We teach fundamentals and someone else can

1 J.L. and B. Hammond, The Town Labourer 1760-1832. Longmans, London, 1917.

teach what really matters".¹

Aristotle in effect declares that it does not matter what you do so much as how you do it. To approach a liberal study in too detailed a manner will cause the same degradation of spirit as devotion to an illiberal study. Here we are aware of the Scylla and Charybdis of specialisation and dilettantism. The endless details of ancient rhetoric, for example, became anything but a liberal education: far from 'widening the cognitive perspective' in Professor Peters' phrase, they were purely technical and without relevance to the business of living. One has only to consider Protagoras' outburst against specialisation:² "These young men who have deliberately turned their backs on specialisation (τὰς τέχνας πεφευγότες), they (the Sophists) take and plunge into special studies again".

In Aristotle's view, apart from harmful physical activities the twin enemies of a liberal education are undue

1 Universities Quarterly, March, 1966, p. 151.

2 In Plato's dialogue Protagoras 318D. Trans. W.K.C. Guthrie, Penguin Classics, 1956.

specialisation and the earning of money. As Popper observes¹ the ruling classes in Aristotle's ideal community must not earn any money - but they are supposed to have plenty.

BOOK VIII

Chapter 3

Aristotle lists the four subjects commonly taught to children:-

(1) Reading and Writing

(2) Physical Training

(3) Music

γράμματα
γυμναστική
μουσική

and a fourth subject which some people add:-

(4) Drawing

γραφική

The curriculum is familiar² and one of the clearest outlines of it is given by Protagoras.³ Here we read of an emphasis throughout on good behaviour and of the teaching of morals through literature and music: ".....they set the

1 op. cit. Vol. II, p. 2.

2 See for example Xenophon, Constitution of the Spartans, II, 1. "Parents send them (their children) to a school to learn letters, music and the exercises of the wrestling ground".

3 Plato, Protagoras 325E et seqq.

works of good poets before them on their desks to read and make them learn by heart.....the music-masters by analogous methods instil self-control and deter the young from evil doing..... rhythm and harmonious adjustment are essential to the whole of human life..... Over and above this, they are sent to a trainer, so that a good mind may have a good body to serve it.....". As Protagoras later points out, this is the curriculum for the children of the well-to-do, and as we have just mentioned Aristotle has in mind purely the leisure of the wealthy. Now obviously this kind of curriculum came under sharp attack. In the dialogue Cleitopho - a doubtfully genuine work of Plato - Socrates is reported inveighing against precisely this kind of education.¹ He harangued the people at his lectures, we are told, to the effect that although they were well educated in letters, music and gymnastic they had no idea of right and wrong in their daily lives. He wanted to know why they didn't procure teachers of justice, and so put an end to this 'lack of culture' (*ἀμουσία*): "It is because of this dissonance and laziness,

1 407B .et seqq.

and not because of failure to keep in step with the lyre, that brother clashes with brother and city with city without measure or harmony....." This is a swingeing attack on Greek musical education, and it is not difficult to concede that it probably represents the view of the historical Socrates. He considered that virtue could be taught, and here all about him in Athens the sons of the wealthy were devoting extraordinary attention to the finer points of lyre playing, without learning much about the business of conducting one's life. That Plato in the Republic retained music as a principal part of the curriculum, despite this kind of attack, bears witness, I think, to the strength of music in the Greek tradition.

Aristotle too follows in this tradition but adopts a more flexible approach than Plato. "Most men", he says, "nowadays take part in music for the sake of the pleasure it gives". It is instructive to recall that Plato made a similar observation in the Laws (655C), but whereas Aristotle calmly proceeds with the discussion, Plato in a passionate outburst says "Such an assertion is quite intolerable, and it is blasphemy even to utter it". Aristotle reports a second view which he announces to be similar to his own": "some lay it down that music is fundamental in education on the ground

that nature herself, as has often been said, aims at producing men not merely able to work properly but fit also for the life of cultivated leisure". (1337 b 31

μόνον ἐσχολεῖν ὀρθῶς ἀλλὰ σχολάζειν καλῶς)^{μη}. We are told with Aristotelian forthrightness

"this is the basis of the whole business (αὕτη γὰρ ἀρχὴ πάντων μία).¹ Once again we see the logical

necessity of a teleological argument throwing up one 'telos'

or the 'end'. The principle of the wealthy taking control

of the community (Aristotle says they actually own that for the sake of which the wrongdoers do wrong!) has already been

established in the Politics.² "The mixture of oligarchy and democracy" to which Aristotle refers in that chapter is, in

the words of Richard Robinson, "a phrase more familiar than clear".³ Yet whatever obscurities there may be about the

constitutional proposals there is no doubt that Aristotle saw the life of the leisured class as the purpose of the whole

1 Cf. Book VII, 14 1334 a 4 τοῦ σχολάζειν ἕνεκα. also Book VII, 15. 1334 a 11 where leisure is described as the final end both for state and individual.

2 IV, 8. 1293 b 40.

3 R. Robinson. Aristotle's Politics III and IV, Oxford, 1962, p. 90.

community. And of course music was a pre-eminent way of spending leisure time.

Aristotle, before discussing music, investigates the nature of leisure. This he does by the familiar process of examining ends and means. Play is a means to a further end - work. Leisure is an end in itself. Hardie rightly demonstrates that "the ladder or pyramid of ends can be made to look like a tidy scheme only by ignoring the factthat many activities are attractive both for themselves and for the results they produce".¹ Golf, for example, Hardie considers to be worth while even if the game is lost, and philosophy is similarly worth while even if its problems remain unsolved. Aristotle gives the impression that to arrive is the only thing that matters, whereas, as Hardie insists, to travel may be better. There are, of course, passages cited by Hardie (p.14) where Aristotle recognises that an object may be desired both for itself and for its results.² Hardie might well have quoted the

1 W.F.R. Hardie. Aristotle's Ethical Theory, Oxford, 1968, p. 15.

2 e.g. E.N. I, 7, 1097 a 30: wealth, flutes and tools are seen as ends - but not in the full sense of the word.

Politics VIII, 5, 1339 b 26 where pleasant things (Aristotle is thinking of music) might be thought of belonging rightly not only to the end in view (πρὸς τὸ τέλος) but also to relaxation (πρὸς τὴν ἀνάπαυσιν), a means to a further end.

In the present passage, however, Aristotle dismisses play as an end in life. The doctrine concerning play (παιδιά) has been more fully presented in E.N. X, 6. (1176 b 33): "The maxim of Anarcharsis, 'Play so that you may be serious', may be taken as pointing in the right direction". Despite logical difficulties about means - ends relationships there can be little doubt about the wisdom of Aristotle's psychological teaching about play: "work is inseparable from stress and strain. We must therefore for therapeutic reasons (ὡς προσάγοντες φαρμακείας χάριν) admit the necessity of games".¹

Living for much of his life in Athens, Aristotle saw that in choosing kinds of enjoyment men displayed a wide variety of taste. Even granting the necessity of play or amusement, there must, in Aristotle's view be something

1 1337 b 39.

further, something desired for its own sake. But how may agreement be reached on the nature of leisure in the ideal community? One thinks of the incredible variety of music and poetry presented to the Athenian public in the dramatic festivals. Aristotle, like Plato (Laws 658C) proposes to peg his aesthetic judgements to the values expressed by the finest character in the community.¹ As in the case of Hume² there is here some circularity in the argument: if the quality of goodness can only be established by a good man, how can the good man be recognised? By his judgement of good works? Nevertheless some point of reference is required if a teacher is to choose this work rather than that in the classroom. Aristotle, like Plato, sees that spending time of leisure will require a great deal of learning and education: he arrives at the syllabus by consulting, presumably, the finest characters. It is easy to smile at this proposal, but if the curriculum of a school is to be tailored to the wishes of the school neighbourhood it must be recognised that there will be some extraordinary curricula: after all, Fagin had

1 Cf. E.N. X 6 1176 b 24.

2 Essay XXIII On the standard of taste.

little doubt as to what boys needed to learn.

The subjectivist view which has so much to commend it in that it fosters tolerance, can sometimes give extraordinarily little help to the teacher of aesthetic subjects. Popper for example writes "the fight against suffering must be considered a duty, while the right to care for the happiness of others must be considered a privilege confined to the close circle of friends. In their case, we may perhaps have a certain right to try to impose our scale of values - our preferences regarding music, for example..... This right of ours exists only if, and because, they can get rid of us; because friendships can be ended".¹ This is a noble doctrine, but a child cannot get rid of either his parents or his teachers, and we have good reason to suppose that, consciously or not, they do impose their scale of values. Valentine obtained "very different" results from elementary school and preparatory school children when he investigated their appreciation of musical intervals.² Even at the age of six and seven the

1 op. cit. Vol. II, p. 237.

2 op. cit. p. 219.

difference was marked. Surely it is the duty of any parent or teacher to care for the happiness of the children under his charge, but he would do well to bear in mind the fearful consequences, outlined by Popper, of what happens when people, through love, attempt to build heaven on earth. The music teacher in particular will bear in mind the wide disagreements concerning the value of the music he is bringing to his classroom and it will be salutary for him to remember Popper's condition for "imposing a scale of values". It must be admitted that though children cannot in fact "get rid of" a teacher, in some unhappy music rooms they do make a vigorous attempt.

Music, in Aristotle's ideal community, is a principal occupation in the life of leisure, and leisure is at the summit of the educational pyramid. This is clearly the reason, says Aristotle, why men in the past introduced music into education, regarding it as an occupation of free men (1338 a 12). In support of his view Aristotle quotes the Homeric tradition of the bard being summoned to the banquet. He concludes that this music is at least one form of education (*παιδεία τις*) which must be provided. Tantalisingly he promises to examine whether there is just one education or more than one, but this promise is not kept in the Politics as we have it.

Aristotle goes on to mention other subjects for the curriculum: letters (this will include Greek numbers); drawing - amongst other things a knowledge of design is useful in buying and selling furniture and "it teaches us to be observant of beauty"; and he then in ch. 4 considers physical education.

BOOK VIII

Chapter 5

The rest of the treatise on Politics (chs. 5, 6, 7) is devoted to a discussion of music. Aristotle says that he wishes to pursue the matter further "because I think that what I have to say will provide a key to any future discussion of music" (ἵνα ὥσπερ ἐνδύσιμον γένηται Aristotle playfully suggests that he might provide a prelude or keynote for discussions undertaken by a later person - τις ἀποφαινόμενος). He does in fact, as we have seen, provide a suitable prelude for Mr. John Horton, until recently Her Majesty's Staff Inspector for Music.¹

The opening sentence of the discussion has already been

1 Handbook for Music Teachers. Vol. I.

quoted as a motto at the beginning of this essay: "it is not easy to define what the effect (δύναμις) of music is, or what our object is in learning it". He makes three suggestions - characteristic of Aristotle, two of these are in the form of a question. The question mark (metaphorically speaking) and the word 'perhaps' are two of Aristotle's most used literary devices: in this he shows himself a true scientist. The suggestions are that music may be seen as :

(1) Amusement and refreshment

(2) A stimulus to goodness....
forming the right habits

(3) Intellectual leisure

παιδιά and ανάπαυσις
πρὸς ἀρετὴν
ἐθίζουσα δύνασθαι
χαίρειν ὀρθῶς
πρὸς διαγωγὴν
καὶ πρὸς φρόνησιν

It will be seen that these three suggestions correspond closely to the three levels of soul already discussed (De Anima II, 3. 414 a 29 et seqq) and to the educational doctrine set out in Politics VII, 13. 1332 a 35 et seqq:

(1) NATURE

(2) HABIT

(3) REASON

As Hardie says, in the light of Aristotle's approach, "it

is....reasonable to assume that the study of politics will be based on a methodical study of the human soul".¹ In the E.N. Aristotle actually writes, "the student of politics must study the soul".²

Now the relationship between the De Anima and the ethical and political writings is complex and to some extent controversial. The core of the problem is the dating of the books of the De Anima by noting whether Aristotle localises the soul in the heart, or considers it as an actuality (entelechy) of the body. This method of dating was very carefully worked out by Nuyens³ and supported by Ross⁴ but it has been challenged by Hardie.⁵ Mindful of the fate of Paris, one is hesitant to arbitrate between three such distinguished persons, but as we have argued in the case of "idealism", it is perhaps unwise to date the works of

1 op. cit. p. 68.

2 E.N. I, 13. 1102 a 19. Δεῖ τὸν πολιτικὸν εἶδέναι πῶς τὰ περὶ ψυχῆν.

3 F. Nuyens. L'Evolution de la Psychologie d'Aristote. Louvain, 1948.

4 See the Dawes Hicks Lecture, p. 57.

5 Philosophical Quarterly, 1964. For summary see op. cit. 73.

Aristotle by attempting to distinguish discrete stages. In any case, it is worth quoting Hardie's conclusion in full: "I do not wish to maintain that all the doctrines of the *De Anima* were in Aristotle's mind when he wrote the *E.N.* I wish only to justify the opinion that, as regards the specific nature of the human animal, the two works broadly agree. I am sure also that, in the study of the *E.N.*, it is often necessary to refer to the *De Anima* in order to understand Aristotle's thought and the terms he uses".¹ For us in our musical and educational enquiry we need to note Aristotle's view of man as a member of the animal kingdom: "in most of the other animals there are traces of psychical qualities which in men are more clearly differentiated".² In Aristotle's *Parva Naturalia* we see worked out in detail the view that "all psychological phenomena are essentially psycho-physical".³ It is the soundness of this principle that enables Aristotle to speak with such value about music. A Beethoven symphony may be seen in purely spiritual

1 op. cit. p. 73.

2 *Historia Animalium* VIII, 1. 588 a 18. Cited by Hardie op. cit. p. 68.

3 Sir David Ross, *Parva Naturalia*, Oxford, 1955. p. 14.

terms, but this is not the full story. For some it may provide mere emotional excitement, for others nothing but a pretty tune to pass the time, or a foot-tapping rhythm. It must be confessed that very little is known as yet about the neurological processes which go on in the brain when people listen to music. But there can be no doubt that music has a strong physical and emotional appeal quite apart from its ineffable spiritual beauty.

Aristotle briefly reviews the three suggestions he has made. "It is clear...that we are not to educate the young with a view to amusement (παιδίας ἕνεκα)".¹ Two arguments are brought forward in support of this view. First, learning is hard work. In musical terms of the present day there would scarcely be need in schools to spend much time on the appreciation of 'pop' songs: this kind of amusement, like eating ice cream, comes almost as 'second nature' to most children (Aristotle gives as examples, dozing off or having a drink). Secondly - and this throws light on Athenian educational practice - making music is not a possibility for young children: Aristotle here refers

1 1339 a 27.

to it as a leisure pursuit (διαγωγή). Greek vases testify to the fact that the very young did not spend time in musical pursuits.

But music as amusement is not dismissed by Aristotle, and he quotes Euripides:- music "helps us to forget our worries (παύει μέριμναν)". The quotation comes from a chorus of the Bacchae:¹ "This is his (Dionysus') kingdom: to make men one in the dance, to be gay with the music of flutes, to set an end to cares". This Dionysus is "not the mysterious god of ecstasy" in the words of Dodds, "but the Dionysus whom the Athenian demos knew, the genial wine god of the Attic festivals".² It would probably be no exaggeration to say that both the poet and his sentiments would be anathema to Plato (cf. Republic 568A). For Aristotle the words of Euripides provided one clue in his enquiry about the nature of music.

1 Lines 378-381, Edited by E.R. Dodds, Oxford, 1960.

ὅς τὰς ἔχει,

Θιασεύειν τε χοροῖς
 μετά τ' αὐλοῦ γελᾶσαι
 ἀποπαύσαι τε μερίμνας

2 op. cit. p. 117. cf p. Xii and Pericles on festivals as relief from labours

But even if we were to grant that we should teach children for amusement later in life (Bentham's push-pin) what need, asks Aristotle, to teach children to make music instead of merely listening to it? With the advent of the gramophone in the classroom in the 1930's this argument acquired great force. Music appreciation was sometimes thought of purely in terms of listening. But as Aristotle must have known, it is a dubious educational principle to found the school curriculum on the practices of the kings of the Medes and Persians. Happily in this country the technical revolution which brought the gramophone also brought good quality percussion instruments for boys and girls (the percussion band of Louie de Rusette in France, and Stephen Moore in this country) and also the well-tuned mass produced recorder (Arnold Dolmetsch). But if the recorder is the commonest and least expensive of musical instruments it is also the worst played.¹ Aristotle grasps this nettle firmly. To learn music is a highly professional matter and, as Aristotle points out, the amateur musician who plays an instrument merely to increase his

1 Rowland Jones, Recorder Technique, Introduction.

enjoyment of music will never equal the skill of the professionals. The virtuosity of the instrumentalists in Athens was legendary - as the Oxford Classical Dictionary has it, "individualism was in the air".¹

Roger North made a vigorous plea for the amateur: "Now when Musick was kept in an easy temperate air, practicable to moderate and imperfect hands, who for the most part are more earnest upon it than the most adept, it might be retained in the country. But since it is arrived to such a pitch of perfection, that even masters, unless of the prime, cannot enterteine us, the plain way becomes contemptible and rediculous, therefore must needs be lay'd aside".² A similar difficulty faces young musicians today who wish to perform twentieth century music: but happily major composers have been alerted to the danger and Vaughan Williams and Britten, Bartok and Kodaly (to name but a few) have composed music for the classroom.

To sum up. To learn music for the sake of amusement

1 sub Music p. 589 § 10.

2 Roger North on Music, Essays 1695-1728. Ed. John Wilson, p. 12.

is educationally not good enough. Music for amusement has its uses - it helps us to forget our worries - but it is absurd that one should work hard at it for this reason. Without a great deal of hard work one simply cannot reach an adequate standard. If we think of music as amusement we should merely sit back and listen and leave the making of music to foreigners. Something very close to this view, gave England the title 'Land without Music'.

Having pursued this question of actual performance Aristotle returns to his principal enquiry as to whether music is an education, an amusement or a leisure pursuit (1339 b 12 παιδεία, παιδία, διαγωγή). The reply to this question is the kernel of Aristotle's view and may well reflect his marked insistence on the unity of the soul which we see in the De Anima:¹ "It is reasonable" says Aristotle "to reply that it is directed towards and participates in all three."²

1 See 414 b 20 et seqq.

2 1339 b 14 εὐλόγως δ' εἰς πάντα τὰ τείτα
καὶ φαίνεται μετέχειν.

This must surely be considered as one of the wisest remarks to have been made upon the subject of music in education. Music is physical - so obviously so in our modern discothèques (Aristotle mentions dancing at this first level: 1339 a 21 ἡ ὄρχησις). Music is emotional - hence its use at big public ceremonies. But few headmasters would be persuaded to devote much time to the subject in their schools on these grounds. Cannot children enjoy such music on their own initiative? To jerk about to a 'pop' record or to sing a verse or two of a hymn at a Cup Final match scarcely requires the expensive resources of a modern school.

Aristotle says very little indeed about the third approach to music: "As to the pastimes of a cultivated life, there must, as is universally agreed, be present an element of pleasure (ἡ ἡδονή), as well as nobility (τὸ καλόν), for the happiness (τὸ εὐδαιμονεῖν) which belongs to that life consists of both of these".¹ Here at the very end of the Politics as we have it, we return to the subject discussed at the beginning of the

1 1339 b 17.

Ethics - Happiness. And Aristotle - unlike many modern educational thinkers - is not afraid of the word pleasure:¹ "We all agree that music is among the most delightful and pleasant things whether instrumental or accompanied by singing. The poet Musaeus² says 'singing is man's greatest joy' hence because it makes men feel happy it is very properly included in entertainments (συνουσία) and in the pastimes of social intercourse (διαγωγαί). One might from that fact alone infer that the young should be taught it".

Thus we see both the higher and the lower levels of the soul acting in unison (cf. 1332 b 5 δεῖ ταῦτα συμφωνεῖν ἀλλήλοις and 1334 b 10 συμφωνεῖν συμφωνίαν τὴν ἀρίστην). The next sentence makes quite explicit this process we see in music: "Things that are pleasant and harmless belong rightly not only to the end in view but also to relaxation by the way". This is the passage, already discussed, where Aristotle clearly recognises

1 1339 b 20.

2 cf. Republic 364E. Nilsson describes Musaeus as "thoroughly mythical" in the O.C.D.

that an activity like music may sometimes be regarded both as a means (here relaxation for further work) and as an end (a worthwhile pursuit). To attend any great musical performance - say, The Magic Flute - could well be seen as a rest from hard work and in this it has great value. But there is more to it than that. For a lover of music this performance might also represent the experience of a lifetime. He might well say "this is what makes life worth living". To this extent the music is more than a relaxation (ἀνάπαυσις) it is a purpose in life (τέλος). It is when we begin to speak in these terms that we may reasonably expect to gain the attention of headmasters when planning their timetables. With this argument in mind it is a temptation to offer children in the classroom only the highest pinnacles of musical art, but we are well reminded of Aristotle's principle¹ "each successive term contains its predecessor". That is, even the most sublime music contains elements of lower types: one would not need to look far in Mozart for melodies which had their origins in drinking cellars, and like most of his contemporaries he was

1 De Anima 414 b 30.

bewitched by the rhythm of the Turkish March. Small things amuse great minds. And it may well be these small things that catch the attention of our children and encourage them to explore works of art for other and deeper values.

We may note that Aristotle allows both instrumental music (ψιλή μουσική) and song (μουσική μετὰ μελωδίας). Plato, who laid such complete emphasis on the ethical possibilities of music disliked purely instrumental performance. (Laws 669D). A not dissimilar view is seen in Calvinistic churches where singing is unaccompanied, and I am told that amongst some strict Jewish sects in Israel, instruments are forbidden in worship despite the wealth of Old Testament references to cymbals, harps and so on. Nineteenth century singing classes in this country often had a strong ethical flavour but the absence of musical instruments in most of these schools is doubtless explained best by their high cost.

Once having admitted pleasure as an element in the school curriculum Aristotle is faced with that school of thought - often to be heard in our music room - which is characterised by the expression "I know what I like". Aristotle admits that it is by no means easy to distinguish

between pleasures and true happiness for "there is indeed a resemblance" (1339 b 35 ὁμοίωμα τ). The distinction so clearly set out in E.N. X, 6 (1176 b 27 et seqq) is perhaps blurred here to some extent. It has been said that to achieve lasting happiness through a succession of pleasures is rather like trying to illuminate a dark room by striking a succession of matches. Aristotle would want to insist with J. Newton, the hymn writer, mutatis mutandis,

"Solid joys and lasting pleasures
None but Sion's children know".

In the familiar fashion of a lecturer preparing his notes Aristotle makes yet another attack upon his subject. He grants that music has a universal appeal, but he wants to know its effect on the character (πρὸς τὸ ἦθος) and on the mind (πρὸς τὴν ψυχὴν). In passing it is interesting to note that Aristotle does not question the universality of the pleasure which music gives (1340 a 4 πάσαις ἡλικίαις καὶ πᾶσιν ἦθεσιν - "for all ages and all types"). The percentage of the population who, like the late Dean Inge, take no pleasure at all is indeed limited. That music does have an effect can be seen in the case of tunes composed by Olympus. These make men wildly excited (ποιεῖ τὰς ψυχὰς ἐνθουσιαστικὰς),

and this frenzy is - in J.A. Sinclair's translation - "both a mental and moral condition". The translation is surely fair in that it brings out the significance of Aristotle's teaching about the soul. (ὁ δὲ ἐνθουσιασμός τοῦ περὶ τὴν ψυχὴν ἦθος πάθος ἐστίν). Barker is closer to the Greek: "a feeling of inspiration is an affection of the soul's character".¹ We have already seen that this trance-like condition was apparently quite well known in Athens. Dr. Sargant recently drew attention to a form of group hysteria seen in a crowded dance hall. It was caused by stroboscopic lighting and powerfully amplified 'rhythm' music. It is interesting to note, in the light of Aristotle's analysis, that this kind of music appeals to young people of widely differing educational backgrounds.

Aristotle turns for further evidence to the theatre. Here even apart from the rhythms and melodies (καὶ χωρὶς τῶν ῥυθμῶν καὶ τῶν μελῶν αὐτῶν) all men are affected in a manner in keeping with the performance. The emotions stirred by music can similarly be affected by the drama as it moves forward: this comes close to saying that

1 op. cit. p. 343.

music affects us through association but in fact Aristotle never put forward this important modern doctrine.¹

Having cited the tunes of Olympus and the music of the theatre Aristotle is satisfied that music does have a powerful effect on people. Thus right judgement is essential (1340 a 17 τὸ κρίνειν ὀρθῶς) and this we know to be the business of education - "...to find pleasure and pain in the right things. True education is just such a training".² Though Aristotle accepts Plato's principle formulated in the Laws he applies it rather differently, as we shall see.

Aristotle now offers an explanation for the emotional effects of music and it repays close study: "Now in rhythms and in tunes there is a close resemblance to reality³ - the realities of anger and gentleness etc

1 Instead he put forward the idea of common sense by which we can perceive directly the incidental sensibles. E.g. the white thing we see is, in fact, Cleon's son. See De Anima 425 a 14 et seqq. For the distinction between Aristotle's 'common sense' and modern association see Ross, De Anima, p. 34.

2 E.N. II, 3. 1104 b 2. A reference to Plato, Laws 653A.

3 1340 a 18 ἔστι δὲ ὁμοιώματα μάλιστα
παρὰ τὰς ἀληθινὰς φύσεις ἐν
τοῖς ῥυθμοῖς καὶ τοῖς μέλεσιν ... κ.τ.λ.

To have the habit of feeling pleasure or pain in things that are like to reality is very near to having the same disposition towards reality". Aristotle gives the example of the emotion aroused by a statue and the person who modelled the statue; hence the crucifixes to be found in most Catholic classrooms and the portraits of Lenin in Communist schools (one charitably assumes that they have not been placed there for aesthetic reasons). But whereas Aristotle only with great caution attributes moral qualities to things seen, in the case of music "moral qualities are present, represented in the very tunes which we hear". It is not difficult to see why Aristotle reached this conclusion, even though it may be considered dubious. It is simply that for most people sound is more insistent than light and colour. It is easier to cope with a harsh wallpaper than a blaring radio. The excitement of a theatre audience, or even a concert audience, is far more noticeable than that of a group examining exhibits in a museum or art gallery. I do not for a moment wish to assert that the aesthetic involvement of the latter is any the less real; but Aristotle, like Plato, was very much aware of the great excitement generated by music in the Athenian theatre. Hence his readiness to accept music as directly ethical.

Aristotle speaks of the effect of the various modes - Mixo-Lydian, Dorian and Phrygian. In what must rank as one of the high-water marks of ancient psychology he writes "these are the results of some excellent work which has been done on this aspect of education".¹ Not, I think, until the eighteenth century was there again an inductive approach to aesthetic questions, apart, that is, from the members of Aristotle's own school.

It has been well said that the serious psychological study of the emotions is "a slippery field". It is not difficult to measure emotional excitement through its physiological by-products,² the real difficulty (highly relevant to an investigation of the effects of music) is to

1 1340 b 5 ταῦτα γὰρ καλῶς λέγουσιν οἱ περὶ τὴν παιδείαν ταύτην πεφιλοσοφηκότες λαμβάνουσι γὰρ τὰ μαρτύρια τῶν λόγων ἐξ αὐτῶν τῶν ἔργων.

2 Aristotle discusses the role of the psychologist in the De Anima I, 1 403 27 et seqq. He concludes that the affections of soul are inseparable from the material substratum of animal life and plainly urges the student of psychology to keep an eye on what the dialectician says but to regard himself as a natural scientist. See Ross op. cit. p. 16.

determine which emotion has been registered.

Professor Valentine in his book "The Experimental Psychology of Beauty" reviews a great number of careful experiments carried out to examine the relationship between music and the expression of emotions. This experimental work is in an important sense in direct succession to the work mentioned by Aristotle. This is not the place to write a detailed review of modern experimental findings, but we may briefly note both the strengths and weaknesses of Aristotle's position. Work by Dr. Boris Semeonoff¹ and by P.J. Hampton² showed, in the words of Valentine³ that "some compositions give very similar impressions to most listeners though never the same to all". Valentine continues, "we find that in some compositions joy or sadness is recognised by a large proportion of listeners, and so may be "determination" or "triumph" though a substantial minority find quite different emotions therein. When a composer has a definite image or

1 Dr. Boris Semeonoff. "A new approach to the testing of musical ability" British Journal of Psychology, Vol. 30, 1940.

2 P.J. Hampton Journal of General Psychology, Vol. 33, 1945, pp. 237 et seqq.

3 Both researches are discussed by Valentine, op. cit., pp. 308-312.

picture in mind, listeners go astray as often as they guess the right image". This kind of finding gives limited support to Aristotle, but we should note the stress laid by modern psychologists on the wide range of individual differences. It is also fair to Aristotle to remember that the music used in these experiments was nothing like as clear cut as the music of the theatre and the music of religious ecstasy which he had in mind. A better parallel for Aristotle might be music for the cinema. The pentatonic cowboy tune is instantly recognisable, and an eighteenth century string quartet sets a mood as unambiguously as a howling blues-style saxophone. (It would I think be a valuable experiment to ask children to match music to still photographs: I predict a very high level of success). We may conclude that Aristotle (like Plato) was right to emphasise the characteristic emotional effect of the Greek music of his day, but that he tended to overlook the wide range of individual differences.

Aristotle concludes this section of his argument (Ch. 5 in our modern divisions) by pointing out that if music has the power to induce certain conditions of mind, and if it has the power to give pleasure, then indeed it is "particularly apt for the young". He goes on to say, "there is a certain

affinity between us and music's harmonies and rhythms; so that many experts say that soul is a harmony, others that it has harmony".¹ The very language which Aristotle uses reminds us of the passage in *Timaeus* 47D, "Harmony having her motions akin to the revolutions in our own souls".² The Pythagorean doctrine that the soul is a harmony we met in the *Phaedo* put forward by Simmias and Echebrates.³ Aristotle examines the Pythagorean view in the *De Anima*⁴ and rejects it, although as Ross observes the view is close to Aristotle's own view of the soul as the actuality of the body.⁵ It is perhaps worth recording here that Aristotle also rejects the 'music of the spheres' (See *Republic*

1 1340 b 17 καὶ τῖς εἴκει συγγένεια ταῖς ἁρμονίαις καὶ τοῖς ῥυθμοῖς εἶναι. διὸ πολλοὶ φασὶ τῶν σοφῶν οἱ μὲν ἁρμονίαν εἶναι τὴν ψυχὴν, οἱ δ' ἔχειν ἁρμονίαν.

2 47D ἢ δὲ ἁρμονία συγγενεῖς ἔχουσα φασὶ ταῖς ἐν ἡμῖν τῆς ψυχῆς περιόδους.

3 85E et seqq.

4 407 b 27 et seqq.

5 Sir David Ross, *De Anima*, p. 195.

617B and Timaeus 35B): "in spite of the grace and originality with which it has been stated, it is nevertheless untrue". Thus speaks Aristotle the scientist.¹

Here in the Politics, however, the general idea of the soul having some kind of affinity with harmony did appeal to Aristotle; though here, as often, he will only speak with that degree of certainty which the subject matter allows.

BOOK VIII

Chapter 6

This next section reads more like a chapter from a music teacher's handbook than from a celebrated political treatise. As Grote truly says of Plato and Aristotle, "you would imagine that they were framing a scheme of public education, not a political constitution".² Aristotle discusses here two questions. First, what is the place of musical performance in education? Secondly, what kinds of musical instrument are to be employed?

Aristotle clearly endorses the need for musical performance: "it is impossible, or at any rate very difficult to produce good judges from among those who have never performed".³ This contrasts

1 De Caelo II, 9, 290 b 12.

2 G. Grote, Aristotle, Murray, London, 1883, p. 541.

3 1340 b.23.

with the example of the kings of the Medes and Persians

(1339 a 34), and also of the Spartans who "acquire the art

of right judgement and good taste by listening to others"

(1339 b 1 ὀρθῶς τε χαίρειν καὶ δύνασθαι κρίνειν). Aristotle was there thinking mostly of music

as amusement in adult life. In the present passage the

emphasis is on ethical and intellectual education. A more

serious inconsistency is noted by Newman¹, for the present

view seems to conflict with the principle enunciated in

Politics III, 2 (1281 b 7 et seqq). This might be the case

but there are reasons for thinking otherwise. Certainly the

Book III passage is of cardinal importance in determining

Aristotle's view of democratic processes in general and

aesthetic judgements in particular. It appears in a

discussion of the principle that "the majority ought to be

sovereign, rather than the best, where the best are few".²

To support this view - so completely different from that of

Plato - Aristotle argues, "the general public (οἱ πολλοί)

is a better judge of works of music and poetry; some judge

some parts, some others, but their joint pronouncement is a

1 op. cit. p. 546.

2 III, 2, 1281 a 39.

verdict upon the whole". This whole chapter, with some reservation,¹ gives support to the democratic principle. Aristotle throughout appeals to the various arts - music, poetry, medicine, navigation, house building, ship building and cookery. The last gives us the aphorism "it is the diner not the cook that pronounces upon the merits of the dinner".² As Robinson observes, "The argument, that the user is a better judge of a product than is the maker of it, had been employed by Plato to disparage painters as ignoramuses (Republic X, 601-2). Plato would not have been pleased to hear it employed in favour of letting common people choose and criticise their rulers".³ For us, the principle applied to music and poetry has considerable significance. How far does it conflict with the view that one should have experience of making music before passing judgements? In the period of Aeschylus and later, we have seen that in fact a considerable proportion of the population was involved in some way or other with the singing of choruses and the like. And Aristotle tells us how just before, and

1 1281 b 15.

2 1282 a 22 ὁ δευτεμῶν ἀλλ' οὐχ ὁ μάγειρος.

3 Richard Robinson, Aristotle's Politics III and IV. Oxford, 1962, p. 40.

still more after, the Persian Wars, the Athenians fastened eagerly upon learning of all kinds, and how flute playing was introduced into education,¹ and he says that many, perhaps the majority, played the flute. Thus we can see in the Fifth Century at least the popular opinion expressed in the festival votes rested upon some degree of competence in singing and instrumental performance. To that extent the inconsistency noted by Newman is one of theory rather than historical fact.

In evaluating the use of musical instruments Aristotle recognises what every mother and infant teacher knows: young children like to make noise. He mentions the Archytus rattle and Athenaeus records how the great Pythagorean philosopher loved to have children about him at mealtimes.² (This, despite the fact that he owned many slaves who would, following the usual practice, keep the children out of sight.) Presumably this must have been a special kind of rattle, as earlier ones are mentioned. Pherecydes, (Sixth

1 1341 a 32 τὴν αὐλητικὴν ἤγαγον πρὸς τὰς μαθήσεις.

2 Deipnosophists XII, 519 b. Loeb Vol. 5, p. 336.

Century B.C.) speaks of a rattle being given to Hercules to hit and to scare away the birds.¹ In fact, Hercules seems early to have conceived the idea of using a musical instrument as an offensive weapon. It was later in his career that he killed his music teacher with a cithara.²

From their early days with the rattle children will progress to other forms of music and it is with this sort of thing in mind that Aristotle decides that musical education must include actual performing. He sees little difficulty in finding appropriate music for different ages; one must assume that there was a wealth of music either passed on orally or actually written down, for Plato had made a similar point.³

The performing of music will cease as the citizens grow older. Plato it will be remembered was shy about his chorus of old men. By this age performance will have achieved its purpose - ability to judge beauty (1341 a 38 *δύνασθαι τὰ καλὰ κρίνειν*) and to enjoy good taste (*χαίρειν*)

1 Pherecydes, Müller, *Fragmenta Historicorum Graecorum*. Paris, 1885. Vol. 1. p. 53, No. 61. Cf. Jacoby, *F. Gr. Hist.* Berlin, 1923, p. 80. No. 72.

2 Apollodorus 2 iv 9 Loeb. Vol. I, p. 175.

3 *Laws*. 802A.

ὀρθῶς). In Chapter 7 Aristotle mentions that the old find it difficult to sing the high pitched harmonies,¹ but this must surely refer to the very old. The evidence of Greek vases tells us that singing and playing the lyre were frequently occupations of older men. Indeed "in his old age Socrates learnt to play the lyre, declaring that he saw no absurdity in learning a new accomplishment".² This story of Diogenes Laertius rings true and confirms the impression that Socrates was temperamentally very different from Plato and Aristotle.

Aristotle answers the objection that "musical performance is degrading to a gentleman". Sinclair's translation recalls Locke's unhappy observations on music in education.³ Aristotle makes it clear that this education as a whole is designed for civic excellence (1340 b 42 πρὸς ἀρετὴν πολιτικὴν) and suggests that the problem can be resolved if attention is paid to three factors:-

- (1) The amount of music making μέχρι πῶσου τῶν ἔργων.
 (2) The nature of tunes and rhythms ποίων μελῶν καὶ ποίων ῥυθμῶν.

1 1342 b 20 et seqq.

2 Diogenes Laertius, II, 32. Loeb, Vol. I, p. 162.

3 The Educational Writings of John Locke. Ed. James L. Axtell. Cambridge, 1968, p. 311 § 197.

(3) The nature of the musical instruments on which they learn to play

ἐν ποίοις ὄργανοις
τὴν μάθησιν
ποιητέον.

Again we note that Aristotle is concerned with 'pure' music and not with words. In the remainder of the chapter Aristotle discusses the first and the third of these questions. The second is dealt with at some length in the final section of the Politics (Ch. 7). Learning music must not have an adverse effect on other activities - present or future. Nor must it make the body 'banausic': Barker translates, "a mechanical habit of body which is ineffective for the purposes of the period of military and civic training."¹ We have a glimpse of what this might mean at the very end of this section (1341 b 17) where Aristotle describes the effect of the audience on the performers and their movements. The picture there painted is very familiar in the wilder fringes of 'pop' music. Similar uninhibited movement is to be seen in Mediterranean and South American carnivals. Aristotle does not want such music in his scheme of education; presumably he does not ban it (Pol. VII, 17. 1336 b 14 et seqq), but clearly the young are too easily influenced by such performances. P.E. Vernon,

1 p. 347.

after careful experimental work, concluded that many hear and think of music muscularly. At a concert which he arranged to study the effects of music he noted that over three quarters of his audience acknowledged making considerable or moderate bodily responses to the music. "The more musical", he observes, "seem to respond less overtly, more mentally or implicitly".¹

"What is needed", says Aristotle, "is that the pupil shall not struggle to acquire the degree of skill that is needed for professional competitions, or to master those peculiar and sensational pieces of music which have begun to penetrate the competitions and have even affected education".² Such a protest has been seen in the Laws.³ There was a saying in the Fourth century that "Music is like Libya - it produces a new animal every year".⁴ But what is outrageous today may be accepted as classical tomorrow. Even the daring Timotheus

1 Non-musical factors in the appreciation of music. The Musical Times, 1st March, 1929. Cited by C.W. Valentine, op. cit., p. 242.

2 1341 a 11.... μήτε τὰ θαυμάσια καὶ περὶ τὰ τῶν ἔργων ἃ νῦν ἐλήλυθεν εἰς τοὺς ἀγῶνας, ἐκ δὲ τῶν ἀγῶνων εἰς τὴν παιδείαν.

3 660B and also 812 D - E.

4 Anaxilas (4th cent. comic poet) ap. Athenaeus, 623E ἡ μουσικὴ δ' ὥσπερ Λιβύη, πρὸς τῶν θεῶν, αἰεὶ τι καινὸν κατ' ἐνιαυτὸν θηρίον τίκει.

seems to have been absorbed into Arcadian musical education of the First century A.D.¹ It comes as no surprise to discover that Timotheus was encouraged by Euripides. An Oxyrhynchus Papyrus contains a Life of Euripides by Satyrus (probably Third century B.C.) and it tells us, "When Timotheus was unpopular in Hellas because of his innovations in music and was so exceedingly depressed that he had determined to make away with himself, Euripides alone taking a contrary view ridiculed the spectators and, perceiving the quality of Timotheus in his art, consoled him with the most encouraging words, and even composed the proem of the Persae; and Timotheus owing to his victory soon ceased to be despised....."² It is a moving story and many parallels spring to mind of modern composers taken under the wing of progressive yet established colleagues. It is an unhappy fact that Plato and Aristotle took a poor view of musical innovation and it may serve as a warning. The philosopher in aesthetics is clearly interested in formulating generalisations about art, but he must not overlook

1 Polybius 4. 20. 9. See Professor Walbank's commentary, Vol. 1, p. 467.

2 The Oxyrhynchus Papyri, Part IX, Ed. A.S. Hunt, London, 1912. Gk. text pp. 166 et seqq; translation p. 181; see plate V. Fragment 39, Column 22.

the value of individual works which may not fit into his scheme of things.

Aristotle's sole purpose in musical performance for the young is the enjoyment of good rhythms and melodies, and not just popular music which appeals to slaves, children and even some animals.¹ As we have seen, the perception of music does appear to have a noticeable effect on some animals - in particular domestic ones, and in fact pets sometimes appear in Greek vase paintings depicting music lessons and the like. This passage also is interesting in that it gives us the Greek phrase for popular music - τὸ κοινὸν τῆς μουσικῆς.

Aristotle now turns to the third of the three questions posed at the beginning of this chapter. What kinds of musical instrument are to be employed? He will not admit flutes into education nor any instrument that requires the skill of a professional, like the cithara.² At this stage we can see that these instruments are being rejected on grounds of difficulty.

1 1341 a 14 χαίρειν μὴ μόνον τῷ κοινῷ τῆς μουσικῆς, ὥσπερ καὶ τῶν ἄλλων ἔνια ζῴων, ἔτι δὲ καὶ πλῆθος ἀνδραπόδων καὶ παιδίων.

2 1341 a 18.

As a further reason we are told that the flute is not ethical in effect but orgiastic.¹ This is a curious stand when one considers what Thucydides says² about the Spartans at the Battle of Mantinea (418 B.C.): "The Lacedaemonians advanced slowly and to the music of many flute-players placed among them according to custom, not with any religious motive, but in order that they might march up with even step and keeping time without breaking the order, as large armies are apt to do in going into battle". Plutarch³ refers to the marching songs which they used to the accompaniment of the flute when charging upon their foes. It is difficult in the light of all this to see why Aristotle thought the flute necessarily orgiastic. Despite the admittedly close connexion between sex and violence one would scarcely mistake a Spartan battle charge for a Dionysiac orgy. Neither Plato nor Aristotle saw the flute as a military band instrument despite their knowledge of Spartan practices. Interestingly, Athenaeus⁴ may throw some light on this curious attitude: by about 100 B.C. the pyrriche or war dance

1 ἔτι δὲ οὐκ ἔστιν ὁ αὐλὸς ἠθικὸν ἀλλὰ μᾶλλον ὄργιαστικόν.

2 V, 70. Loeb translation.

3 Life of Lycurgus Ch. 21.

4 Athenaeus XIV 631 a, Loeb Vol. VI, p. 403.

survived only among the Spartans and is described by Aristocles as being "rather Dionysiac in character" and "more respectable than the ancient kind". He tells us that the dancers carried wands not spears: this civilising of war dances can be seen in folk dancing all over the world. Perhaps there may have been a Dionysiac 'feeling' about Spartan flute playing even in Aristotle's day. It is impossible to resist quoting the robust common sense of Aristocles: he observes that as the pyrriche declined, wars stopped.¹

Aulus Gellius (2nd century A.D.) cites Thucydides and suggests that the Spartans used flutes not to rouse and stimulate the soldiers "which is the purpose of horns and trumpets, but on the contrary that the men might be calmer and advance in better order, because the effect of the flute-player's notes is to restrain impetuosity".² Gellius speaks of the flute music as "a quiet, pleasant and even solemn prelude to the battle" (*praecentio tranquilla, delectabilis atque adeo venerabilis*). If, as I believe, the aulos was usually a double

1 loc. cit.

2 Aulus Gellius I, 11. Loeb Vol. I, p. 52.

reed instrument¹ there is little doubt that the Spartan music would be indeed impressive. The plangent tones of massed oboes clearly delighted George II - hence his appeal to Handel to write solely for martial instruments.

Aristotle also complains that the playing of wind instruments prevents one from using the faculty of speech: this again looks curious, but on reflexion it can clearly be seen that a folk singer accompanying himself on the guitar is in some ways in far more direct contact with his audience, than, say a flautist. Having noted these objections to the flute Aristotle says "our predecessors were right in prohibiting the use of wind instruments by the young of the upper classes."² It is at this point that Aristotle discusses the earlier popularity of flute playing, "but at a later date", continues Aristotle, "the flute went out of favour; men became better able to discern what promotes high standards of goodness and what does not". Why did flute-playing go out of favour? Newman suggests³ that it may have been connected with the Athenian defeat of Delium (424 B.C.) at the hands of the Thebans. This

1 See Schlesinger, *The Greek Aulos*, pp. 47 and 89.

2 1341 a 27.

3 *op. cit.* p. 553.

statement looks surprising, but the flute was often thought of as a Spartan or Theban instrument. It was Pronomus the Theban who became one of the first virtuosi and is said to have been able to play all the modes on a single flute.¹ He taught Alcibiades the instrument² but the Athenian felt no gratitude towards his teacher. Plutarch, in his *Life of Alcibiades*³ tells us that he refused to play the flute holding it to be an ignoble and illiberal thing: "'Flutes are for the sons of Thebes', he said, 'they don't know how to talk.'"

The decline of the flute therefore may be partially explained by political feeling. But a stronger factor, I believe, was the growing complexity of the instrument. The recorder was, in the time of Pepys, a popular instrument among gentlefolk, but it gave way to its more powerful and more complex relations - the oboe and transverse flute and these instruments never achieved popular appeal with amateur performers because they were much too difficult. By introducing metal keys and the like, Pronomus probably carried the flute out of the

1 Athenaeus XIV, 631 E.

2 Athenaeus IV, 184 D.

3 Plutarch, *Alcibiades*, II, 4-5.

range of the amateur. "For a time", says Pausanias¹ "flute players had three forms of the flute. On one they played Dorian music, for Phrygian melodies flutes of a different pattern were made; what is called the Lydian mode was played on flutes of a third kind. It was Pronomus who first devised a flute equally suited for every kind of melody". What is so interesting is that in our own day the simple recorder has returned: it has played a large part in schools since the war and the interest engendered now ensures good audiences for professional players. It is also used to good effect on some 'pop' records. Like the guitar, the recorder is extremely easy to play at the level of amusement, but both instruments at a professional level are formidably difficult. Unhappily, Aristotle, his mind clouded by ethical considerations, could not recognise the value of the simple flute. In fact, because of his dislike of professionalism, he did not see that his 'three ways' of approaching the listening of music might also be applied to performance.

"Learning to play the flute contributes nothing to the

1 Pausanias. Description of Greece, IX (Boeotia), 12, 5.

education of the mind".¹ This stark pronouncement - which provides innocent amusement among woodwind players today - may have some psychological justification. As we know from a great number of studies, the correlation between musical ability and general ability is of the order of .2.² This means that not infrequently high musical ability can be accompanied by very ordinary general intellectual ability. Now in the case of the lyre, the poetic element would demand a high level of verbal ability (Aristotle's *διάνοια*) but one can quite see that some good players on the aulos might have had a poor educational background (like some brass bandsmen and jazz musicians). This explanation gains a little support from the delightful story which Aristotle recounts of Athene: she threw away her flute because "she was intelligent as well as nimble with her fingers". Cicero's jibe in the *Pro Murena*³ reveals a similar attitude: "Ut aiunt in Graecis artificibus eos auloedos esse qui citharoedi fieri non potuerint".

Aristotle concludes this section with a brief warning.

1 1341 b 6 οὐθέν ἐστιν ἡ παιδεία τῆς αὐλήσεως.

2 See Bentley, *op. cit.*, also Rosamund Schuter *op. cit.*

3 29 See Théodore Reinach, *La Musique grecque*, Paris, 1926. p. 142.

Having discussed the amount of music making in the curriculum and the nature of the musical instruments he says, "We reject then as education a training in material performance which is professional and competitive".¹ The reason for this is that the aim, he says, of such performances is not improvement of character, but pleasure for the listeners - vulgar pleasure at that (ἡδονὴ φαρμακική). The appeal to ethics is a little questionable, but there is no denying that considerable aesthetic problems are presented by competitive music festivals. The compromise reached today is often to leave the judgement of performances to experts of great authority. These talented men fill the rôle of teacher or scapegoat depending on the success or failure of the choir or band. Aristotle shares Plato's distrust of popular appeal and it is worth recording here, for its perennial truth, an anecdote related by Athenaeus: "In early times popularity with the masses was a sign of bad art; hence when a certain flute player once received loud applause, Asopodorus of Phlius, who was himself still waiting in the wings said, "What's this? Something awful must have happened!"²

1 1341 b 8.

2 Athenaeus, XIV, 631 F. Loeb. Vol. VI. p. 409. Trans. C.B. Gulick.

BOOK VIIIChapter 7

We now turn to the final section of the Politics where Aristotle promises to talk about harmonies and rhythms, but discusses in detail only the first. It should be borne in mind that these "sections" are the work of modern editors: in fact, in this case there is no break at all. Ross in the Oxford Classical Text has merely a comma. "Are we", asks Aristotle "to make use of all the harmonies and rhythms?" The Greek text is obscure at this point because Aristotle goes on to mention a third possibility (ΤΡΙΤΟΝ)¹ which in fact is only the second - a not uncommon sort of hiatus in lecture notes. The sense of the passage is clear. Are we to make distinctions about harmonies and rhythms for the population as a whole; and if we do, will these same distinctions serve those concerned with education? In modern terms a government or an ecclesiastical authority may lay down certain criteria for works of art to be read or seen by the public, but works which have passed such scrutiny are not ipso facto educationally worth-while. In practice censorship seems almost to encourage worthless works of art - they are both inoffensive and insipid.

1 Bracketed by O.C.T.

As we shall see, Aristotle is prepared to cater for a wide variety of tastes, but reasonably he is more demanding in education.

Aristotle divides music into melody and rhythm and asks which of these two has the greater educational value. The relation between the two is complex and perhaps can be illustrated by an over ambitious piece of research reported by Gurney.¹ The researcher found that "the common time expresses the quiet life of the soul, a solid earnestness, an inward peace". The same researcher found that music in the key of E Minor expresses grief and restlessness of spirit. "It would be interesting," observes Gurney, "to hear from this writer what happens when anyone composes a piece in common time and in the key of E Minor". For Aristotle the problem might not be so acute because modes expressing this kind of feeling and that were undoubtedly associated with characteristic rhythms (marching, dancing and so on).

It may be thought strange that rhythm can express feeling but some modern psychological research has been directed to

1 Edmund Gurney, *The Power of Sound*, Smith Elder, London, 1880. p. 327.

the question posed by Aristotle. R. Gundlach¹ using the statistical technique of factor analysis discovered that one principal factor in perceiving the character of music had to do with tempo, smoothness of rhythms and loudness. An earlier research of Gundlach² had shown that many 'rough' rhythms were often characteristic of war songs both in American Indian music and in classical music of Europe. Music with few uneven rhythms expressed victory, and music with many smooth rhythms was associated with love and healing.³

It is not always easy for us with our highly developed melody and harmony to realise the importance of rhythm for the less sophisticated. Farnsworth⁴ speaks of the early missionaries to Africa who reported on the poor rhythmic sense of the natives. Subsequent research revealed that the African rhythms were, in fact, too complicated for the Europeans. A similar finding was reported by C.S. Myers among the Sarawak

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- 1 "Factors determining the characterisation of musical phrases". American Journal of Psychology Vol. 47, 1935, pp. 624 - 643. Discussed by P.R. Farnsworth *The Social Psychology of Music*, Dryden Press, New York, 1958. p. 99 - 101. See also Valentine, op. cit. pp. 295 - 7.
 - 2 A quantitative analysis of Indian music. American Journal of Psychology, Vol. 44, 1932, pp. 133 - 145.
 - 3 Tables reproduced in Farnsworth, op. cit. p. 101. See Valentine, op. cit. p. 245.
 - 4 op. cit. p. 73.

Malays.¹ By devising apparatus to record visually the complex rhythms (an early forerunner of the Spectrograph we saw used for birdsong) Myers was able to perceive the patterns of the performers.

Esther Gatewood carried out an enquiry very similar to that of Aristotle: she tried to assess the importance of four elements of modern music - rhythm, melody, harmony and timbre.² Her conclusions were as follows: "marked rhythm as an element in music is the chief factor in arousing the feeling of happiness and the feeling of excitement or stir..... Melody as a musical element contributes chiefly to two effects, seriousness and rest. Prominence of melody is almost invariably accompanied by slow inconspicuous rhythm. Melody of this type results in feeling of quiet satisfaction and rest". This is precisely the kind of work which would have caught the attention of Aristotle.

Interestingly Professor Valentine writes,³ "The novel harmonies of some modern composers do not disturb me, but the

1 British Journal of Psychology. Volume I. p. 398.

2 An experimental study of the nature of musical enjoyment. Chapter V of The Effects of Music. Essays edited by Max Schoen, Kegan Paul, London, 1927. pp. 104-120.

3 op. cit. p. 232

occurrence of mixed rhythm or the absence of any perceptible metrical beat does". This observation goes a long way to explain the love of Bartok and Stravinsky to be found in many of our primary school children. They enjoy the vigorous rhythms and are not disconcerted by the "new" melodies and harmonies.

Perhaps the best modern summary of the findings on rhythm is given by Dr. Wing:¹ "Of all musical capacities the ability to recognise rhythm is probably the most elementary; it develops early, is the most widely diffused, and, as other inquiries would seem to indicate, may exist in almost complete independence of any deeper appreciation of higher developments of musical art, e.g. melodic pattern and harmony".

As we have seen, the enquiry proposed by Aristotle concerning rhythm is not pursued in this final incomplete section. But we are surely justified in seeing Greek rhythm as immensely important: the audiences at Greek plays were extremely sensitive to the metres of the verse and considerable attention was paid to prose rhythms which might be heard in the

1 A factorial study of musical tests. British Journal of Psychology. Vol. 31, 1941, p. 349.

various assemblies and in the law courts.

Aristotle at this point, just before the discussion of melodies, makes reference to "some modern musicians" (Τῶν νῦν μουσικῶν ἐνίοις) and to others whose approach is philosophical but who have actual experience of music in relation to education.¹ We recall that the writer of the Hibeh papyrus was less than happy with the writers on music from the philosophical side, but Aristotle is warm in approval (πολλὰ καλῶς λέγειν). It is not clear to whom Aristotle refers but we can be sure that music was studied in detail by some members of the peripatetic school; Theophrastus took an interest in music² and Aristoxenus is of course a principal extant authority.

Turning to the subject of melodies Aristotle suggests that he should give a 'broad and general' account (νομικῶς trans. Newman) and simply refer to the usual typology (τοὺς τύπους μόνον εἰπόντες περὶ αὐτῶν). What he does,

1 1341 b 28-30 τῶν ἐκ φιλοσοφίας ὅσα τυγχάνουσιν ἐμπείρως ἔχοντες τῆς περὶ τὴν μουσικὴν παιδείας.

2 Fragment 90. Theophrastus. Teubner Vol. 3. p. 190. He traces the origins of music to the feelings of sorrow, pleasure and excitement.

in fact, is to usher in a new classification of melodies thus:

ETHICAL	τὰ	ἠθικά
ACTIVE	τὰ	πρακτικά
EMOTIONAL	τὰ	ἐνθουσιαστικά

- this classification is attributed to "some of our philosophic thinkers" (*τινες τῶν ἐν φιλοσοφίᾳ*). It is accepted by Aristotle but he goes on to repeat his fundamental assertion: "we say that music ought to be used not as conferring one benefit only but many". It is this view which is urged by Mr. Horton and yet it is a view which does not always find expression in our schools. There one tends to hear talk of the struggle against commercialism with an assumption that the teacher is the one true light in a dark world. But if music confers many benefits it follows that it is misleading to value it with only one criterion in mind. This is, in a way, a plea for situational aesthetics, after the style of "situational ethics". To judge an action it is urged that one should inspect the circumstances: much the same approach, I believe, might be helpful in talking about values in music. To label music "bad" because it is not intended for serious listening is unsatisfactory: for one thing it would presumably include Mozart's Cassations which were written for dinner parties.

Aristotle's new classification is interesting. As Newman says, Plato spoke in the Laws (659D - 660A) as if the ethical use of music was its only use. The practical tunes - we might speak of them as "work songs" - facilitate the rhythms of labour, marching, rowing and so on. Whether the music comes from negroes working on the cotton plantations or from the miners in the Durham coalfield it has an immense richness and immediacy of appeal. Aristotle does not give examples but we have already mentioned the use of the flute in Sparta to keep the rhythm of marching. Another common use of the flute playing practica mele was on board ship. The cox (keleustes) shouted orders, and the flautist (auletes) helped him keep the rhythm. Euripides tells us how even Orpheus performed the task of the auletes - but of course, being Orpheus, he played his cithara.¹ Morrison and Williams² quote other examples. In the Electra of Euripides (line 435) the dolphin is described as 'fond of the flute' (ὁ φίλαυλος δελφίς) as he leaps beside the dark-rammed ship's prows.³

1 Euripides. Hypsipyle 61-7. Denys Page, Greek Literary Papyri, Loeb, p. 86.

2 Greek Oared Ships, p. 196.

3 Cf. Pindar, Fragment 140b lines 15-17 (Teubner Vol. 2 (1964), p. 117.

Demosthenes speaks of a 'trieraules' - a ship's flautist.¹

It requires no great feat of the imagination to grasp the beauty of a Greek ship moving slowly across the Aegean sea to the sound of an oboe playing a modal melody. The third kind of melody which Aristotle mentions - the music of divine inspiration - has already been discussed.

This threefold classification, like many produced by 'people in philosophy' (1341 a 33) is neat and tidy but does not do justice to the wide range of purposes to which Greek music was put. Aristotle goes on to make his own suggestions. In a sense they recapitulate his earlier suggestions but - as is the way with rough lecture notes - they do not tally exactly with the earlier formulation. There is also some textual difficulty, for at first sight it appears as though Aristotle now runs together the ideas of amusement and intellectual pastime. It is wise, I believe, to bear in mind that these rough notes at the very end of the Politics were not apparently revised, and in any case one must not expect perfect finish when dealing with such material.

1 De Corona. Demosthenes 18, 129.

We may construct the following table to illustrate Aristotle's two formulations.

Politics VIII, 5. 1339 a

Amusement and Refreshment

παιδιά ανάπαυσις

Stimulus to goodness

πρὸς ἀρετήν

Intellectual leisure

πρὸς διαγωγὴν....
... πρὸς φρόνησιν.

Politics VIII, 7. 1341 b 36

Relaxation and Refreshment

ἄνεσις ἀνάπαυσις

Education and catharsis

παιδεία κάθαρσις

Leisure

πρὸς διαγωγὴν

The outstanding newcomer to the list is "catharsis".

Aristotle sees that there may be some difficulty with this word: "What do we mean by catharsis? The sense of that term will be explained more clearly in our lectures on poetics, but may be left to speak for itself for the moment."¹ This promise is not kept in the Poetics as we have it, but the description which Aristotle gives in the present passage is extremely clear in the light of what we have read about divine possession or enthusiasm.

1 Trans. after Barker. 1341 b 38 τί δὲ λέγομεν τὴν κάθαρσιν, νῦν μὲν ἁπλῶς, πάλιν δ' ἐν τοῖς περὶ ποιητικῆς ἐροῦμεν σαφέστερον.

We may, in Aristotle's view, use all the modes (*χρηστέον πάσαις ταῖς ἁρμονίαις*), but not all in the same way. In education we must concentrate on the most ethical modes, but where adults are listening to others perform then the modes can be of the work-song type (*πρακτικαί*) or emotion stirring (*ἐνθουσιαστικά*). A parallel (though not a strict one) may be seen in the policy of the B.B.C. In the broadcasts for schools, excellent music is offered: much of it for the children to perform. But in the children's programmes out of school hours often music is offered which is poor even by 'pop' standards. There is a wide gulf between music thought fit for education and music for recreation.

Aristotle writes in some detail about 'enthusiasm'. He lays it down as a principle that 'any feeling which comes strongly to some exists in all others to a greater or lesser degree, pity and fear for example, but also this enthusiasm'. This is a familiar principle in modern psychology. Freud said in 1927, "Psychoanalysis falls under the head of psychology; not of medical psychology in the old sense, nor of the psychology of morbid processes, but simply of psychology. It is certainly not the whole of psychology, but its substructure and perhaps even its

entire foundation".¹ It is a principle which needs great care in its interpretation² but it underlies much recent writing e.g. "The Normal Child and Some of his Abnormalities"³. A good example of the principle at work is to be seen in I.H. Hyde's article on "Effects of music upon electro-cardiograms and blood pressure".⁴ A recording of Tschaikovsky's Pathetic Symphony was played before fifteen subjects. "On persons not susceptible to music the tragic minor tones that characterised Tschaikovsky's symphony were without effect," writes Miss Hyde, but on one subject, described as hysterical, the result was profound. During the playing of the music marked changes were recorded in systolic pressure, pulse rate and so on, and ten minutes later the patient seemed faint. This is the "exaggerated" effect of music of which Plato and Aristotle were aware. There is a continuum in Miss Hyde's study from those not affected at all (the Indian students in the experiment were of a quite different culture) through those moderately affected

1 Quoted from Calvin S. Hall, *A Primer of Freudian Psychology*, Allen and Unwin, London, 1956, p. 12.

2 For a critical review see G.W. Allport, *Pattern and Growth in Personality*, Holt, Rinehart, London, 1963.

3 C.W. Valentine. Pelican book, 1956.

4 ap. Max Schoen, op. cit. p. 184.

to the extreme case of this mental patient. Aristotle notes that this kind of excitement can arise out of religious music (ἔκ τῶν ἱερῶν μελῶν). He speaks of people listening to orgiastic melodies and being set on their feet as if they had undergone a curative and purifying treatment (καθιστάμενοι ὡσπερ ἰατρείας τυχόντες καὶ καθάρσεως). And so it is, he says, with people who feel pity and those who feel fear (οἱ ἐλεήμονες and οἱ φοβητικοί) and other emotions. To these also comes a kind of catharsis and a lightening of the load, accompanied by pleasure. This kind of music should therefore be studied by those concerned with contests in theatrical music (οἱ θεατρικὴν μουσικὴν μεταχειριζόμενοι ἀγωνισταί). Aristotle, like Plato, was clearly impressed by the overwhelming display of emotions to be seen in certain religious ceremonies, and he had seen something rather akin in drama. In both cases music played an important part.

Catharsis is a difficult term: an immense amount has been written about it and it has, of course, with all sorts of shift in meaning, passed into current psychological usage. D.W. Lucas separates out¹ three layers of meaning in the Greek word:

1 Aristotle, *Poetics*, Oxford, 1968. See Appendix II, pp. 273 - 290: "Pity, fear and catharsis".

- (i) Washing away impurities
- (ii) Medical. Evacuation of morbid substances from the human system
- (iii) Partly religious, partly medical. The psychotherapeutic treatment of emotional disorders by ritual and music.

If we give our attention to the present passage in the *Politics*, it will be seen that Aristotle lays emphasis first on its religious connotation and only then speaks of pity, fear and other emotions (1342 b 12). Lucas in fact says "the theory of catharsis put forward by Aristotle can be understood only in relation to a mysterious aspect of Greek life....enthousiasmos". Whilst Aristotle may have applied a new term to the experience, we have seen how the practice of music therapy was at least as old as the Pythagoreans. It is interesting to note that Lucas regards it as "an obvious weakness" of the theory (p. 283) that it applies to all men a treatment which is appropriate only to the unstable". As we have seen, if it is a weakness, it certainly is not an obvious one; for it divides psychologists who take Allport's view and those who follow a Freudian path. The distinction between stable and unstable, though purely logical at first sight, turns out to be empirical and ill-defined on closer inspection.

We may best conclude that 'catharsis' was a new name for

an old experience. In the Poetics (I, 6) it refers specifically to tragedy which is said 'by pity and fear' to bring about the purgation of such emotions. Contrary to what one may suppose,¹ Aristotle wrote very little about catharsis as such: no more than a short paragraph in the Politics in connexion with music, and a mere sentence to do with tragedy in the Poetics.

Both here and in America careful investigations are being undertaken to assess the value of music therapy. Objective measurement is impossible but the case studies reported by the Society for Music Therapy and Remedial Music have reported hopeful signs that music can sometimes produce profound and welcome changes in highly disturbed patients. Some of the work reported by Farnsworth² seems to lack some of the caution which has characterised British approaches. It is astonishing to read of Borodin's Prince Igor as a relief for serious headaches.

In her book on Music and the Handicapped Child,³ Miss

1 See, for example, C.W. Van Boekel, *Katharsis*, Utrecht, 1957, pp. 268. It seems to read such Freudian ideas as repression into Aristotle's theory. Repression was not a Greek concept.

2 op. cit. pp. 258 et seqq.

3 p. 98.

Juliette Alvin writes the following report which seems to lead us to the heart of Aristotle's catharsis in music:

"This is in her own words what happened to a girl of fourteen in a home for badly disturbed children. She was intelligent and thought of herself as 'a horrible and nasty girl not worth bothering about'. She wrote the following lines after attending a concert in which she was enthralled and behaved exceptionally well: 'After the concert when I went to bed, the sweet lovely tunes kept on repeating in my ears. What a lovely day, full of goodness and beauty it had been'". Plato and Aristotle would have known precisely what this young girl meant.

Miss Alvin's book contains an outline of recent work in music therapy. There is no need here to describe the numerous projects which are at present proceeding, but it may be worthwhile to consider what she writes in a moving personal postscript (p. 147): "I wanted to write this book because of the light I have seen in the eyes of handicapped children and the happiness I have watched grow on their faces during a musical experience. Music had created in them a joy that was deeper than fun and a happiness greater than enjoyment". It would be very easy to translate this last sentence into

Aristotle's Greek: for it is this deep experience as opposed to mere amusement to which Aristotle draws attention. It is interesting to note that Miss Alvin is a 'cellist of great distinction, and it is through instrumental music that she breaks down the barriers between patient and therapist. Moreover, it is a highly personal contact. Miss Alvin is not a teacher in the eyes of the children, but the 'Music Lady' - friend and musician to all. Just as Aristotle's careful appraisal of dreams in the *Parva Naturalia* had to wait for a Freud to carry on the work in a scientific manner, so it would seem that his well judged comments on the relation between music and the life of the emotions have not been given their full weight until quite recent years.

Men are not only 'set on their feet' through religious music;¹ similar effects are to be seen in the case of theatrical music. Aristotle's view of providing for popular taste in the theatre differs from that of Plato, though he shared to some extent his low opinion of what Athenian folk liked by way of entertainment. We are told that there are two

1 Lucas (op. cit. p. 280) draws attention to the medical term used: καθιστάμενος 1342 a 10.

classes of theatre goer (ὁ θεατῆς σιτρός) - the first is free and educated and the other is composed of mechanics, hired labourers and the like. This is a conceptual distinction which is very easy to draw but it obscures a complex range of individual differences. Aristotle saw a similar "natural" distinction between freemen and slaves (Pol. I, 5. 1254 b 19) and in much the same style detected a "natural" superiority of male over female (I, 12. 1259 b 3). All such distinctions are highly dubious for the 'overlap' - the qualities held in common - is usually more impressive than the attempted distinction. Newman, commenting on this passage, says "It is remarkable that he (Aristotle) should expect day-labourers to care for music of any kind". It is possible that this comment tells us more about Victorian attitudes to music than it does about Greek theatre audiences. It was, as we have said, commonly supposed that the music of the nineteenth century labourers was of no aesthetic value, but men like Cecil Sharp and Vaughan Williams knew better. It is not true that only the leisured classes can enjoy music.

There is in fact something paradoxical about the Greek theatre audience: it could be both noisy and yet highly attentive. Perhaps a modern parallel might be a football crowd - at times partisan and perverse to an incredible degree, at others displaying a quite remarkable understanding of the finer

points of the game. To continue the analogy, it is clear that the judges of a Greek play had a task quite as difficult as that of a modern football referee. In Andocides¹ we read of Alcibiades actually coming to blows with his rival choregus. The judges on this occasion awarded the prize to the great Alcibiades - partly out of fear, and partly, says Andocides, to remain in favour with the great man. In earlier days too feelings ran very high. Plutarch describes² the tense competition where Aeschylus was pitted against the young Sophocles. He speaks of 'the spirit of rivalry and partisanship among the spectators' (φιλονεικία καὶ παράταξις τῶν θεατῶν). On this occasion the famous Cimon and his fellow generals were called upon to adjudicate in place of the less august judges who had been chosen by lot. Sophocles won, and Aeschylus "was in great distress and very indignant". The Greek audience was not merely concerned with who won the competition: it is clear that they were often totally absorbed in the story and the way in which it was told. Cicero tells us³ that Socrates called for a repetition of the opening lines

1 Against Alcibiades, 21.

2 Plutarch. Life of Cimon. VIII, 7.

3 Tusculan Disputations, IV, 63.

of the Orestes of Euripides (primos tris versus revocasse dicitur Socrates). Pickard Cambridge¹ speaks of these lines containing a "not very profound observation", but the lines in their full theatrical - and musical - setting may well have had a profound effect:²

Nothing there is so terrible to tell,
Nor fleshly pang, nor visitation of God,
But poor humanity may have to bear it.

Perhaps Socrates half guessed his own fate as he heard these lines. Electra's opening words express a cosmic truth. It could be argued that Martin Luther King's speech containing the words "I dreamed a dream" was not very profound, but in the situation in which the words were delivered the effect was overwhelming. The text of a Greek play is only one element of the total production.

Pickard Cambridge argues³ that Aristotle's observation

1 The Dramatic Festivals of Athens. Second Edition, 1968, p. 274. For audiences see pp. 95 et seqq and pp. 272 et seqq. The passages from Andocides, Plutarch and Cicero are there cited and discussed.

2 Οὐκ ἔστιν οὐδὲν δεινὸν ὧδ' εἰπεῖν ἔπος
οὐδὲ πάθος, οὐδὲ συμφορὰ θεήλατος
ἧς οὐκ ἂν ἄραιτ' ἄχθος ἀνθρώπων φύσις.
3 op. cit. p. 277. [Loeb]

(Politics III, 11. 1281 b 7) that the opinion of the multitude is worth more than that of a single critic, was fully borne out in Athens: "If it (the Athenian audience) could follow devotedly the three great tragedians day after day and could enjoy the wit of Aristophanes, it must have possessed on the whole a high degree of both seriousness and intelligence".

We have seen then that the Athenian audience was both noisy and appreciative. Aristotle's distinction between the educated and the labourers was an over-simplification in the light of the evidence we have; nevertheless Aristotle considered that competitions and spectacles should be provided for the latter class¹ by way of relaxation (πρὸς ἀνάπαυσιν). The passage from the third book of the Politics shows clearly that Aristotle could recognise virtue at times in popular judgement: he was perhaps too easily led by Plato in identifying intelligence with aesthetic judgement. He enlarges upon the decay of musical taste: the minds of the labourers become distorted, he says, "removed from the condition of nature".²

1 1342 a 21.

2 1342 a 23 αἱ ψυχὰι παρεστραμμένα τῆς κατὰ φύσιν ἕξεως.

He continues, "and so there are deviations from the norm in their harmonies in the unnatural pitch and tone of their melodies".¹ We can readily understand what Aristotle means by "deviations" (παρεκβάσεις): strange new scale patterns would excite attention. We hear more about "the unnatural pitch" at 1342 b 21, where Aristotle says it is not easy for those grown weary with age to sing the high pitched harmonies (αἱ σύντονα ἁρμονία) and he contrasts these with the low pitched, relaxed scales (αἱ ἀνειμένα ἁρμονία). Though complete certainty is not possible here there is a suggestion that these new melodies are both strained as well as high pitched: the Greek word can mean both. As for the "unnaturally coloured" melodies (Newman's translation of παρακεχρωσμένα) these would seem to be those making use of the chromatic sequences said to have been introduced by Timotheus and Agathon. Plutarch speaks of Agathan bringing in the chromatic scale (παράχρωσις).² We can, I think, infer that these new scales produced melodies which were high pitched, strained or both and which had quite unfamiliar intervals.

1 loc. cit. οὕτω καὶ τῶν ἁρμονιῶν παρεκβάσεις εἰσὶ καὶ τῶν μελῶν τὰ σύντονα καὶ παρακεχρωσμένα.

2 Plutarch. Quaestiones Conviviales III, 1, 1. 645D.

Modern parallels both in 'pop' and serious music are obvious. Aristotle, in these final sentences of the surviving Politics, is willing to make allowances for the uneducated section of the theatre but he repeats his demands for higher standards in education. Here tunes must have ethical value and so must their modes, or scales.¹ Aristotle returns to the ground of Politics VIII, 5. Once again he asserts the value of the Dorian mode. Other modes may be admitted if they pass "the scrutiny of those authorities who combine the teaching of philosophy and musical education". Aristotle criticises Socrates in the Republic for admitting the Phrygian mode but rejecting the flute. "Yet among the harmonies", he says, "the Phrygian has exactly the same effect as the pipes among instruments".² With Gurney's story of the tune in E Minor and in Common time in mind, one would dearly like to ask Aristotle what would be the ethical effect of a melody played by a flute in the Dorian mode, or a lyre tune in the Phrygian. In

1 1342 a 28 τοῖς ἠθικοῖς τῶν μελῶν χρηστέον
καὶ ταῖς ἁρμονίαις ταῖς τοιαύταις.

2 1342 b 1 ἔχει γὰρ τὴν αὐτὴν δύναμιν ἢ
φρυγιστὶ τῶν ἁρμονιῶν ἢ περ αὐλῶς ἐν
τοῖς ὄργανοις.

a way Aristotle does answer this puzzle for he quotes the example of Philoxenus who set his dithyrambs (Dionysiac verse for comedy) to the Dorian mode and was forced back to the Phrygian. Current experiments in setting well known hymns to 'pop' tunes may suffer a similar fate. It is questionable whether the Devil, in the long run, has the best tunes.

The final paragraph of the Politics reads oddly and was bracketed by Susemihl. It is a plea for the more relaxed harmonies - he actually mentions the Lydian and says that because of its power to combine orderliness with educative influence, it is suitable for the age of childhood.

At this point the discussion breaks off. With much to be related about the ideal community and its education, the text comes to an abrupt end. As Barker wisely comments¹ "That is just what happens to a set of notes or a course of lectures, as many lecturers can testify; and there is no more to be said".

1 p. 352.

CONCLUSION

We see that Aristotle describes in some detail the musical life which he would like to have in his ideal community. Like Plato, he devoted much care and thought to the study of music in education. What conclusions may we draw from this examination of their proposals? It must be admitted at once that in a discussion of aesthetics, any value in the conclusions must lie in the process by which they were produced. Any adequate summary of the argument is likely to be as lengthy as the argument itself. Here we must content ourselves with the barest outline of the suggestions - however strong or weak - to be found on the preceding pages.

Historically, we may fairly conclude that music played a very large part in the life of the Athenians. And by 'music' we understand music in its modern sense. Aristotle confines his attention to the qualities of melody and types of instrument, and Plato too, though he considers in detail the words of his songs, has a deep interest in 'harmony' and rhythm. So far as Plato and Aristotle are concerned, the idea that Greek 'music' usually includes all the arts is quite misleading. Admittedly it was "primitive" in many respects,

but there was a wide range of instruments, and the modes and rhythms clearly had all the complexity which we associate with Indian raga music.

The burning question is whether Plato and Aristotle were wrong in laying such emphasis on the ethical effects of music. The doctrine of associationism which has played such a large part in modern philosophy and psychology was never explicitly formulated by the Greeks; yet it is by examining the association between musical mode and emotional mood that we can best grasp the strengths and weaknesses of Plato's and of Aristotle's position. There can be no doubt that in the fifth and fourth centuries B.C., there were associations between music and certain patterns of behaviour that were scarcely ever ignored. Had it not been for the Hibeh papyrus, we might have thought that these bonds were indissoluble. Today, associations are nothing like so strong; for we listen to music from many parts of the world, and from many periods of history. Nevertheless it cannot be denied that there is, in some sense, a powerful and well understood language of music which uses pitch, rhythm, timbre and harmony to impart its message. Modern psychological researches have really done as yet little more than reveal the extent of our ignorance in this field; but even a cursory examination of music in church, on the parade ground, in the discothèque and even in the park on

Sunday afternoon, suggests that associations are still strong. To this extent Plato and Aristotle had sound justification for their views. Though a certain kind of music may not "cause" a particular pattern of behaviour it may often truly be said that it is invariably associated with it.

Turning to their demands for censorship, we can be far less happy. Both assumed far too readily that they had sufficient information about music and its effects to make quite binding proposals. The fact that Aristotle differed from Socrates in the Republic did not lead him to question the basis on which such judgements could be made in the first place. But even if many of us today reject censorship in music (though it is still exercised in some totalitarian regimes) we do well to remember that in education there must be some element of selection. Popper's view that music is something between friends will not do, unless we wish to see music banished from the curriculum altogether. We must recognise the need for selection in the classroom without admitting the principle of censorship.

So far we have spoken about Plato and Aristotle together, but a word may be said about each individually. Plato had an astonishing ability in observing human behaviour and this is

particularly true of his remarks about music. He saw the profound effects of the music of 'enthusiasm' and he also saw the power of music in popular festivals. He accepted the first as a divine blessing, but he wished rigidly to control the second. Provided that one accepts Plato's assumptions concerning knowledge of the good, the censorship of the arts falls into a logical place; but as we have seen, Plato only speaks of the good by way of analogy. And analogy, as Plato recognised, is not science. Music, in Plato's view, has another important aspect: its mathematical beauty. If something as ethereal as the sounds of music could be translated into mathematical terms, surely number must lie behind the cosmos itself; and mathematics and harmony must be basic studies for those who wish to know the world as it really is. This Pythagorean notion was worked out by Plato in all its architectonic beauty, and it influenced educational thought for hundreds of years. Might not music today offer a bridge between the Two Cultures?

Aristotle came to conclusions about music which are not dissimilar from those of Plato, but he arrived at them by a different route. Like Plato, he wrote about music with particular reference to its political context, but this enquiry followed years of careful empirical study in biology.

and kindred fields. He laid rather greater emphasis than did Plato on levels of human behaviour other than the intellectual, and consequently his approach to music is somewhat broader. Several times he draws attention to the view that music should not be used for one purpose only. He sees music as an amusement, as an emotional release, and as an intellectual pursuit. Today also, it can surely be all three. There are, however, dangers in this neat hierarchy of values when we approach the classroom. It is fatally easy to assume that we need only concern ourselves with the 'higher' flights of music, but we must not think that the only music worthy of attention is that written for intellectuals at leisure: songs of work and even the 'pop' world of amusement should be examined from time to time. As Professor Mellers has recently argued, 'pop' music uses very much the same language as 'serious' music. It is sometimes not easy to draw a firm line between the two. As for music therapy, to which Aristotle gives close attention, it is very much to be hoped that we shall learn more about the effects of music on 'normal' children, through a study of the benefits it undoubtedly confers upon the emotionally unstable. Much of the value of Aristotle's writing on music comes from the fact that he is both willing to examine philosophically

such questions as happiness as an aim in life, and also to investigate psychologically the nature of man. The present fashionable divorce between philosophy and psychology makes a nonsense of some writing in aesthetics, and in no field is this more true than music in education. Aristotle accomplishes what he sets out to do: to lay a firm foundation for future enquiries. In particular we need to examine carefully the meaning of the word 'good' in aesthetic judgements and to be wary of its use in the classroom; and secondly we need to know more about musical ability and the nature of musical appreciation.

When we realise what importance Plato and Aristotle attached to music we surely ought to ask ourselves whether we devote enough time to its study. As we approach a new era when the vast majority of the population will have ample leisure time, would it not be wise to reconsider the position of music in the curriculum? Locke may well feel that thereby we are introducing our children to odd company, but he forgets that philosophy is the highest music and that the company of philosophers is possibly the oddest of all.

SELECT BIBLIOGRAPHY

Some attempt has been made to classify this selection of books and articles. A small number of books, e.g. F.M. Cornford's "Plato's Cosmology", appear twice because they are as much an edition of a dialogue (in this case The Timaeus) as they are a treatise on Platonic philosophy, The divisions are as follows:-

1. TEXTS
2. EDITIONS AND TRANSLATIONS (a) Plato
(b) Aristotle
(c) Other ancient authorities
3. MODERN WRITERS ON CLASSICAL SUBJECTS
4. MODERN WRITERS ON MUSIC, PHILOSOPHY, PSYCHOLOGY AND AESTHETICS.

1. TEXTS

Plato, Oxford Classical Texts, Ed. J. Burnet, 1899-1906.

Aristotle, Politics, O.C.T., Sir David Ross, 1957.

2. EDITIONS AND TRANSLATIONS(a) PLATOGeneral

JOWETT, B. The Dialogues of Plato, Fourth edition. Oxford University Press, 1953. Four Volumes.

Phaedo

Ed. R.D. Archer-Hind, Macmillan, London, 1894.

Ed. John Burnet, Oxford University Press, 1911.

Ed. R.S. Bluck, Routledge, London, 1955.

Symposium

Ed. R.G. Bury, Heffer, Cambridge, 1932.

Trans. W. Hamilton, Penguin Classics, 1951.

Protagoras

Ed. J. Adam and A.M. Adam. Cambridge University Press, 1893 and 1962.

Trans. (with Meno) W.K.C. Guthrie, Penguin Classics, 1956.

Republic

Ed. J. Adam. (Second edition, D.A. Rees) Cambridge University Press, 1902 and 1963.

Ed. B. Jowett and Lewis Campbell. Oxford University Press, 1894.

Trans. H.D.P. Lee, Penguin Classics, 1955.

Phaedrus

Ed. R. Hackforth, Cambridge University Press, 1952.

Ed. W.H. Thompson, Bell, London, 1868.

Timaeus

Ed. R.D. Archer-Hind, Macmillan, London, 1888.

A Commentary by A.E. Taylor. Oxford University Press, 1928.

Plato's Cosmology, F.M. Cornford, Routledge, London, 1937.

Trans. R.G. Bury, Loeb Library, London, 1929.

Philebus

Plato's Examination of Pleasure, R. Hackforth, Cambridge University Press, 1945.

Politicus

Plato's Statesman, J.B. Skemp, Routledge, London, 1952.

The Laws

Ed. E.B. England, Manchester University Press, 1921.

Trans. R.G. Bury, Loeb Library, 1926 and 1961.

(b) ARISTOTLEGeneral

ROSS, Sir David. Complete works translated into English under the editorship of Sir David. Oxford University Press, 1928-1952. Twelve Volumes.

De Anima

Ed. Sir David Ross, Oxford University Press, 1961.

Nichomachean Ethics

Trans. J.A.K. Thomson, Penguin Classics, 1953.

Ed. John Burnet, Methuen, London, 1900.

Poetics

Ed. D.W. Lucas, Oxford University Press, 1968.

Trans. T.S. Dorsch, ap. Classical Literary Criticism, Penguin Classics, 1965.

Politics

Trans. Sir Ernest Barker, Oxford University Press, 1946 and 1961.

Ed. W.L. Newman, Oxford University Press, 1902. Four Volumes.

Books III and IV. Trans. Richard Robinson, Oxford University Press, 1962.

Trans. J.A. Sinclair, Penguin Classics, 1962.

Books I to V (in our numbering, I, II, III, VII and VIII)
Ed. F. Susemihl, F. and R.D. Hicks, Macmillan, London,
1894.

(c) OTHER ANCIENT AUTHORITIES

(The suggested dates are taken from the Oxford
Classical Dictionary)

Athenaeus (fl. c. 200 A.D.)

Deipnosophists. Trans. C.B. Gulick, Loeb Library, 1937.
Seven Volumes.

Aristides Quintilianus (probably 3rd or 4th century A.D.)

De Musica Libri Tres, Ed. R.P. Winnington-Ingram, Teubner,
Leipzig, 1963.

Aristoxenus (born between 375 and 360 B.C.)

The Harmonics, Ed. Henry S. Macran, Oxford University Press,
1902.

DIELS, H. (Ed.)

Die Fragmente der Vorsokratiker. Sixth edition, Ed. W.
Kranz, Berlin, 1952.

Diogenes Laertius (3rd century A.D.)

Lives of Eminent Philosophers. Trans. R.D. Hicks, Loeb
Library, 1925 and 1950. Two Volumes.

GREENE, G.C.

Scholia Platonica, American Philological Association,
Pennsylvania, 1938.

HIBEH PAPYRI

Ed. B.P. Grenfell and A.S. Hunt, Egyptian Exploration Fund, London, 1906. (No. 13, Discourse on Music).

MUSICI SCRIPTORES GRAECI

Ed. Karl von Jan. Teubner, Leipzig, 1895, also Hildesheim, 1962.

Philodemus (c. 110 - c. 40/35 B.C.)

De Musica, Ed. J. Kemke, Teubner, Leipzig, 1884.

Plutarch (c. A.D. 46 - after 120)

Moralia, translated by various hands, Loeb Library, 1927 - 1967. Fifteen Volumes (proceeding). See especially Volume 14 which contains "On music".

PTOLEMY, Claudius

The Harmonics, Ed. Ingemar Düring, Grotteburg, 1930.

Xenophon (c. 430 - c. 354 B.C.)

Symposium, Trans. O.J. Todd, Loeb Library, 1922.

3. MODERN WRITERS ON CLASSICAL SUBJECTS

ALLAN, D.J. Individual and State in the Ethics and the Politics ap. La "Politique" d'Aristote, Fondation Hardt, Geneva, 1965.

ANDERSON, W.D. Ethos and Education in Greek Music, Harvard University Press, 1966.

ANDERSON, W.D. The Importance of Damonian Theory in Plato's Thought, Transactions American Philological Association, Vol. 86, 1955, pp. 88-102.

ARDLEY, Gavin The Role of Play in the Philosophy of Plato, Philosophy, July, 1967, pp. 226-244.

- ARIAS, P.E. A History of Greek Vase Painting, Thames and Hudson, London, 1962.
- ARMSTRONG, A.H. (Ed.) The Cambridge History of Later Greek and Early Mediaeval Philosophy, Cambridge University press, 1967.
- BAMBROUGH, Renford (Ed.) New Essays in Plato and Aristotle, Routledge, London, 1965.
- BARKER, Sir Ernest Greek Political Theory, Methuen, London, 1918.
- BECK, F.A.G. Greek Education, 450-350 B.C., Methuen, London, 1964.
- BURNET, John Aristotle on Education, Cambridge University Press, 1912 and 1966.
- BURNET, John Early Greek Philosophy, Black, London, 1930.
- BUTCHER, S.H. Aristotle's Theory of Poetry and Fine Art, with essay by John Gassner, Dover Publications, U.S.A., 1951.
- CORNFORD, F.M. Plato's Cosmology, Routledge, London, 1937.
- CROMBIE, I.M. An Examination of Plato's Doctrines, Routledge, London, 1962-3. Two Volumes.
- CROSS, R.C. and WOZLEY, A.D. Plato's Republic, Macmillan, London, 1964.
- DODDS, E.R. The Greeks and the Irrational, California University Press, 1951 and 1956.
- DÜRING, I. Impact of Greek Music on Western Civilisation Acta Congressus Madvigiani, Copenhagen, 1954. Vol. 1, pp. 169-184.
- GRUBE, G.M.A. Plato's Thought, Methuen, London, 1935.
- FOX, Adam Plato and the Christians, S.C.M., London, 1957.

FREEMAN, Kathleen, *Ancilla to the pre-Socratic Philosophers*, Blackwell, Oxford, 1948.

GOSLING, J. *Republic V*:

Phronesis, Volume 5, 1960, pp. 116-128. τὰ πολλὰ καλά κτ.

GUTHRIE, W.K.C. *The Greeks and their Gods*, Methuen, London, 1950.

GUTHRIE, W.K.C. *A History of Greek Philosophy, Volume One*. Cambridge University Press, 1962.

HACKFORTH, R. *Plato's Examination of Pleasure, The Philebus*, Cambridge University Press, 1945.

HANDSCHIN, Jacques *The Timaeus Scale, Musica Disciplina*, Vol. IV, 1950, pp. 3-42.

HARDIE, W.F.R. *Aristotle's Ethical Theory*, Oxford University Press, 1968.

HAVELOCK, E.A. *Preface to Plato*, Blackwell, Oxford, 1963.

JAEGER, Werner *Paideia*, Blackwell, Oxford, 1945.

KERFERD, G.B. *Aristotle*. Article in the *Encyclopaedia of Philosophy*, Macmillan and Free Press, New York and London, 1967.

KIRK, G.S. *Heraclitus: The Cosmic Fragments*, Cambridge University Press, 1954.

KIRK, G.S. and RAVEN, J.E. *The Presocratic Philosophers*, Cambridge University Press, 1957.

LEVINSON, R.B. *In Defense of Plato*, Cambridge, Massachusetts, 1953.

LINFORTH, Ivan M. *The Corybantic Rites in Plato*, University of California Publications in Classical Philology, Vol. 13, No. 5, 1946, pp. 121-162.

LINFORTH, Ivan M. Telestic Madness in Plato, Phaedrus 244DE, University of California Publications in Classical Philology, Vol. 13, No. 6, 1946, pp. 163-172.

LIPPMAN, Edward A. Musical Thought in Ancient Greece, Columbia University Press, New York and London, 1964.

LLOYD, G.E.R. Aristotle: The Growth and Structure of his Thought, Cambridge University Press, 1968.

MARROU, H.I. (trans. George Lamb) A History of Education in Antiquity, Sheed and Ward, London, 1956.

MARTIN, E. Trois documents de Musique grecque. Librairie C. Klincksieck, Paris, 1953.

MONAN, J. Donald Moral Knowledge and its Methodology in Aristotle, Oxford University Press, 1968.

MORROW, G.R. Plato's Cretan City, Princeton, New Jersey, 1960.

MOUNTFORD, J.F. Greek Music and its relation to Modern Times, Journal of Hellenic Studies, Vol. 40, 1920, pp. 13-42. Cromer Greek Prize Essay, 1919.

MOUNTFORD, J.F. The Musical Scales of Plato's Republic, Classical Quarterly, Vol. 17, 1923, pp. 125-136.

MOUTSOPOULOS, Evangelélos La Musique dans l'oeuvre de Platon, Presses Universitaires de France, 1959.

MURPHY, N.R. The Interpretation of Plato's Republic, Oxford University Press, 1951.

PICKARD-CAMBRIDGE, Sir Arthur The Dramatic Festivals of Athens, Second edition revised by J. Gould and D.M. Lewis, Oxford University Press, 1968.

POPPER, Sir Karl The Open Society and its Enemies, Routledge, London, 1944 and 1962.

POWELL, J.V. and BARBER, E.A. New Chapters in the History of Greek Literature, Oxford University Press, 1929. Contains "Greek Music in the Papyri and Inscriptions" by J.F. Mountford.

- REINACH, Théodore, *La Musique grecque*, Paris, 1926.
- RICHTER, Gisela M.A. *Attic Red-Figured Vases*, Yale University Press, 1958.
- RICHTER, Gisela M.A. *A Handbook of Greek Art*, Phaidon, London, 1959.
- ROSS, Sir David *Aristotle*, Methuen, London, 1923 and 1949.
- ROSS, Sir David *The Development of Aristotle's Thought*, British Academy, London, 1957.
- ROSS, Sir David *Plato's Theory of Ideas*, Oxford University Press, 1951.
- RYLE, Gilbert, *Plato*, Article in the *Encyclopaedia of Philosophy*, Macmillan and Free Press, New York and London, 1967.
- RYLE, Gilbert *Plato's Progress*, Cambridge University Press, 1966.
- SACHS, Curt *The Rise of Music in the Ancient World*, Dent, London, 1944.
- SAMBURSKY, S. *The Physical World of the Greeks*, Routledge, 1956.
- SCHLESINGER, Kathleen *The Greek Aulos*, Methuen, London, 1939.
- SKEMP, J.B. *Plato's account of Divinity*, *Durham University Journal*, December, 1967.
- SKEMP, J.B. *Plato's Statesman*, Routledge, London, 1952.
- SKEMP, J.B. *The Theory of Motion in Plato's Later Dialogues*, Cambridge, 1942 and 1968.
- STANFORD, W.B. *The Sound of Greek*, California University Press, 1967.
- TAYLOR, A.E. *Plato: The Man and his Work*, Methuen, London, 1926 and 1960.

WEGNER, Max Das Musikleben der Griechen, Berlin, 1949.

WEGNER, Max Musikgeschichte in Bildern, (Herausgegeben von Heinrich Bessler und Max Schneider) Griechenland, Leipzig, 1963.

WELLESZ, Egon (Ed.) The New Oxford History of Music, Volume I, Ancient and Oriental Music, Oxford University Press, 1957.

WELLESZ, Egon A History of Byzantine Music and Hymnography, Oxford University Press, 1961.

WINN, Cyril and JACKS, Maurice, Aristotle, Methuen, London, 1967.

WINNINGTON-INGRAM, R.P. Mode in Ancient Greek Music, Cambridge, University Press, 1936 and 1968.

WINNINGTON-INGRAM, R.P. Ancient Greek Music, 1932-1957: A survey, Lustrum, 1958, Gottingen.

WINNINGTON-INGRAM, R.P. The Pentatonic tuning of the Greek Lyre, Classical Quarterly, 1956, pp. 169-186.

WINNINGTON-INGRAM, R.P. Aristoxenus and the Intervals of Greek Music, Classical Quarterly, 1932, pp. 195-208.

4. MODERN WRITERS ON MUSIC, PHILOSOPHY AND PSYCHOLOGY

ALVIN, Juliette Music and the Handicapped Child, Oxford University Press, 1965.

AYRTON, Michael, Golden Sections, Methuen, London, 1957.

ALLPORT, G.W. Pattern and Growth in Personality, Holt Rinehart, London, 1963 and 1966.

BAMBROUGH, Renford Plato's Modern Friends and Enemies, Philosophy, April, 1962, pp. 97-113.

BENTLEY, Arnold Musical Ability in Children and its Measurement, Harrap, London, 1966.

CARRITT, E.F. An Introduction to Aesthetics, Hutchinson, London c. 1949.

CARRITT, E.F. The Theory of Beauty, Fifth edition revised, Methuen, London, 1949. (First ed: 1914).

FARNSWORTH, P.R. The Social Psychology of Music, Dryden Press, New York, 1958.

GROVES Dictionary of Music and Musicians, Macmillan, London, 1954.

GURNEY, Edmund, The Power of Sound, Smith Elder, London, 1880.

HELMHOLTZ, H.L.F. On the Sensation of Tone, Trans A.J. Ellis, Fourth edition, London, 1912, Dover paperback.

HUME, David Essays Moral Political Literary, Ed. T.H. Green and T.H. Grose, Longmans, London, 1898. Essay XXIII Of the Standard of Taste.

KANT, The Critique of Judgement, Trans. J.H. Bernard, Macmillan, London, 1914.

KANT, The Critique of Judgement, Trans. J.C. Meredith, Oxford University Press, 1928 and 1964.

HUTCHESON, Francis An Inquiry into the original of our ideas of Beauty and Virtue; in two treatises. London, 1726.

LASZLO, Erwin Aesthetics and Live Musical Performance British Journal of Aesthetics, July, 1967.

LONG, Noel, Music in English Education, Faber, London, 1959.

MYERS, C.S. A Study of Rhythm in Primitive Music, British Journal of Psychology, Vol. 1, 1905, p. 397.

PETERS, R.S. Ethics and Education, Allen and Unwin, London, 1966.

NORTH, Roger, Roger North on Music, Ed. John Wilson, Novello, London, 1959.

RAINBOW, Bernarr, (Ed.) Handbook for Music Teachers, Novello, London, 1964.

REID, Louis Arnaud Ways of Knowledge and Experience, Allen and Unwin, London, 1961.

SARGANT, William Battle for the Mind, Heinemann, London, 1957, Second edition, Pan Books, 1959.

SAW, Ruth and OSBORNE, Harold Aesthetics as a Branch of Philosophy. The British Journal of Aesthetics, Vol. 1, No. 1, November, 1960.

SCHOEN, Max The Effects of Music, Kegan Paul, London, 1927.

SCHOLES, P.A. The Concise Oxford Dictionary of Music, Oxford University Press, 1952.

SKINNER, B.F. Walden Two, Macmillan, New York, 1962 and 1968.

SMITH, F.V. Explanation of Human Behaviour, Second edition, Constable, London, 1960.

STOLNITZ, Jerome Aesthetics and Philosophy of Art Criticism, Cambridge Massachusetts, 1960.

TAYLOR, C.A. The Physics of Musical Sounds, English Universities Press, London, 1965.

VALENTINE, C.W. The Experimental Psychology of Beauty, Methuen, London, 1962.

APPENDIX

A tape recording of some of the intervals of Greek music, together with a recording of the Seikilos inscription.

(1) THE TIMAEUS SCALE

One octave, descending. Two disjunct tetrachords as follows:-

$$\frac{8}{9} \times \frac{8}{9} \times \frac{243}{256} = \frac{3}{4}$$

Let A = 440 cycles per second.

A	440	440 c.p.s.
G	$440 \times \frac{8}{9}$	391
F	$440 \times \frac{8}{9} \times \frac{8}{9}$	348
E	$440 \times \frac{3}{4}$	330
D	$440 \times \frac{2}{3}$	293
C	$440 \times \frac{2}{3} \times \frac{8}{9}$	261
B \flat	$440 \times \frac{2}{3} \times \frac{8}{9} \times \frac{8}{9}$	232
A	$440 \times \frac{1}{2}$	220



(2) ARCHYTAS: DIATONIC SCALE

Düring, Die Harmonielehre des Klaudios Ptolemaios,
p. 73.

One octave, descending. Two disjunct tetrachords as
follows:-

$$\frac{8}{9} \times \frac{7}{8} \times \frac{27}{28} = \frac{3}{4}$$

A	440	440 c.p.s.
G	$440 \times \frac{8}{9}$	391
F	$440 \times \frac{8}{9} \times \frac{7}{8}$	342
E	$440 \times \frac{3}{4}$	330
D	$440 \times \frac{2}{3}$	293
C	$440 \times \frac{2}{3} \times \frac{8}{9}$	261
B \flat	$440 \times \frac{2}{3} \times \frac{8}{9} \times \frac{7}{8}$	228
A	$440 \times \frac{1}{2}$	220



(3) ARCHYTAS: CHROMATIC SCALE

During, op. cit., p. 71.

One octave, descending. Two disjunct tetrachords as follows:-

$$\frac{27}{32} \times \frac{224}{243} \times \frac{27}{28} = \frac{3}{4}$$

A	440	440 c.p.s.
F #	$440 \times \frac{27}{32}$	371
F #	$440 \times \frac{27}{32} \times \frac{224}{243}$	342
E	$440 \times \frac{3}{4}$	330
D	$440 \times \frac{2}{3}$	293
B	$440 \times \frac{2}{3} \times \frac{27}{32}$	247
B b	$440 \times \frac{2}{3} \times \frac{27}{32} \times \frac{224}{243}$	228
A	$440 \times \frac{1}{2}$	220



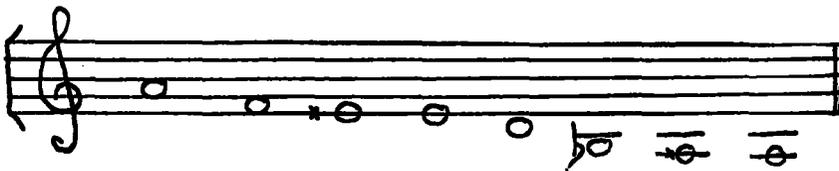
(4) ARCHYTAS: ENHARMONIC SCALE

Düring, op. cit., p. 70.

One octave, descending. Two disjunct tetrachords as follows: -

$$\frac{4}{5} \times \frac{35}{36} \times \frac{27}{28} = \frac{3}{4}$$

A	440	440 c.p.s.
F	$440 \times \frac{4}{5}$	352
E _a	$440 \times \frac{4}{5} \times \frac{35}{36}$	242
E	$440 \times \frac{3}{4}$	330
D	$440 \times \frac{2}{3}$	293
B \flat	$440 \times \frac{2}{3} \times \frac{4}{5}$	235
A _b	$440 \times \frac{2}{3} \times \frac{4}{5} \times \frac{35}{36}$	228
A	$440 \times \frac{1}{2}$	220



The modern staff is here even more inadequate than in the preceding examples. The summary (p. 396) perhaps gives the clearest picture.

Summary of Intervals

Numbers denote cycles per second

Let A = 440.

	Timaheus	Archytas Diatonic	Chromatic	Enharmonic
Doh	440	440	440	440
	391	391	371	352
	348	342	342	342
Soh	330	330	330	330
Fa	293	293	293	293
	261	261	247	235
	232	228	228	228
Doh	220	220	220	220

(5) THE SEIKILOS INSCRIPTION

Théodore Reinarch, *La musique grecque*, p. 193.

Ὁσον ζῆς φαί- νου, μη-δὲν ὀ-λως σὺ λυ-πού ,
 πρὸς ἄ-ί-ων ἔσ- τὶ τὸ ζῆν, τὸ τέλος ὁ χρόνος ἀ-ποιτεῖ .

Translation¹:

"So long as you live, be radiant, and do not grieve at all. Life's span is short and time exacts the final reckoning."

If the transcription is correct, the melody is in the Phrygian diatonic mode. The date of the epitaph is not known: it probably lies between the second century B.C. and the second century A.D.²

1 By E.M. Hooker, ap. *The History of Music in Sound*, Oxford University Press and His Master's Voice, 1957 and 1961.

2 See Henderson, *New Oxford History of Music*, pp. 369 et seqq.