Hearing the Past

Essays in Historical Ethnomusicology and the Archaeology of Sound

Edited by **Ann BUCKLEY**

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But imitating with the mouth the liquid notes of birds came long before men were able to repeat smooth songs in melody and please the ear. And the whistling of the zephyr through the hollows of reeds first taught the men of the countryside to breathe into hollowed hemlock-stalks. Then little by little they learned the sweet lament, which the pipe pours forth, stopped by the players' fingers, the pipe invented amid the pathless woods and forests and glades, among the desolate haunts of shepherds, and the lovely places of their rest. [So little by little time brings out each several thing into view, and reason raises it up to the coasts of light.] These tunes would soothe their minds and please them when sated with food; for then all things win the heart. And so often, lying in friendly groups on the soft grass near some stream of water under the branches of a tall tree, at no great cost they would give pleasure to their bodies, above all when the weather smiled and the season of the year painted the green grass with flowers. Then were there wont to be jests, and talk, and merry laughter. For then the rustic muse was at its best; then glad mirth would prompt to wreathe head and shoulders with garlands twined of flowers and foliage, and to dance all out of step, moving their limbs heavily, and with heavy foot to strike mother earth; whence arose smiles and merry laughter, for all these things then were strong in freshness and wonder. And hence came to the wakeful a solace for lost sleep, to guide their voices through many notes, and follow the windings of a song, and to run over the reeds with curling lip; whence even now the watchmen preserve these traditions, and have learnt to keep to the rhythm of the song, nor yet for all that do they gain a whit greater enjoyment from the pleasure than the woodland race of earthborn men of old. For what is here at hand, unless we have learnt anything sweeter before, pleases us above all, and is thought to excel, but for the most part the better thing found later on destroys it and changes our feeling for all the old things

Lucretii De rerum natura, Liber V, 1379–1415
Translation C. Bailey

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ABBREVIATIONS

D–K	*Fragmente der Vorsokratiker*, edd. H. Diels and W. Kranz, 3 vols, Dublin and Zürich, 1971[15]
Grove	*Grove's Dictionary of Music and Musicians*, ed. Eric Blom, 10 vols, London and Basingstoke: Macmillan 1975
MGG	*Die Musik in Geschichte und in der Gegenwart*, ed. Friedrich Blume. 17 vols, Kassel, 1949–86
MM	Musée de la Musique, Paris
New Grove	*The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie, 20 vols, London: Macmillan 1980
New Grove MI	*The New Grove Dictionary of Musical Instrumemts*, ed. Stanley Sadie, 3 vols, London: Macmillan 1984
NHM	*Neues Handbuch der Musikwissenschaft*, gen. ed. Carl Dahlhaus. Laaber: Laaber Verlag, 1989– (in progress)
OCD	*The Oxford Classical Dictionary*, edd. N.G.L. Hammond and H.H. Scullard, Oxford: Clarendon 1970

CONTENTS

ORGANISED SOUND AND TONAL ART IN LONG-TERM PERSPECTIVE

ANN BUCKLEY

The essays in this volume were initially prepared for a colloquium hosted by the editor in December 1991 at Darwin College, Cambridge. The purpose of the meeting was to bring together an interdisciplinary group of scholars interested in a comparative study of music in past societies, with a view to sharing ideas on specific questions and methods of approach. The task we set ourselves was to explore ways of developing the study of music in prehistoric and early historic societies from materials which rarely if ever include music notation, yet provide a rich array of evidence for the existence of music-making, in the form of sound tools, hieroglyphs, epigraphy, and in some cases literary references and iconographic representations, which together yield information on aspects of performance and on many issues relating to the socio-cultural study of music. The aim was thus to reach 'beyond the artefacts' by assembling them in coherent ways in order to establish common ground and prepare the way for further investigation.

The meeting was informed not so much by an 'area studies' approach nor by artificial division into chronological blocks or types of data; rather, in an attempt to traverse these often mutually exclusive boundaries, the following coordinating themes were addressed:

1. Rites of rulers: music as expression of material and spiritual power

2. Evidence for culture contact in music-archaeological sources

3. Music and gender

4. Music and its physical contexts: instruments, materials, architecture, theory, and sound science

Given the rarity of opportunities for open-ended encounters of this nature, engagement was inevitably exploratory, here and there quite tentative, yet all the time identifying and following through ideas which will hopefully be considered insightful, and useful for subsequent development and application.

WHAT IS MUSIC?

Organised sound has been part of human expression since the development of the species. Sounds for communication, signalling, and reinforcement of group identity became absorbed and developed into more organised rituals associated with the recognition of a spirit world—hence the use of sound in religious ceremonies and as an apotropaic device; and in social activities for leisure, pleasure and relaxation (cf. Buckley 1994, *passim*).

When we employ terms such as 'sound', 'music', 'noise', in our own societies, we do so on the presumption that the nature of their distinction is agreed. However, music is different things to different people. Not all of what musicologists study is classified as 'music' in the societies concerned. Not every society has a word for music; and some have individual terms for various kinds of music, determined usually according to social function. The study of music, like any other form of human behaviour, is a study of society. We cannot separate them. To focus on the sound product, or the sound tool, is a

starting point; but its existence depends on how and why it is used, what social purpose it serves. One of the greatest difficulties at times is to ensure whether an artefact with sound-producing potential may actually have been intended for that purpose.

Music is tonal art. It is performance art and spectator art: some play instruments, sing, or dance, while others constitute an 'audience'. Depending on the kind of occasion, an audience may be more or less actively participant, vocally (e.g., with cries of approval, or joining in by singing or beating time), in terms of gesture (e.g., intermittent or concluding applause, moving to the rhythm), or attending in silent concentration. But this silence is not inaction or non-participation. What takes place emotionally, psychologically, socially in every sense, is intrinsic to a performance and is essential to explaining the entire event which is comprised of the various communicative levels between performers and audience.

An audience may be present because the performer is liked, in other words, in order to satisfy leisure needs, and to experience emotional excitement in a controlled environment, what the sociologist Norbert Elias has termed the 'controlled decontrolling of emotional controls' (see Elias 1986). On the other hand, an audience may comprise members of an élite such as at a court, or members of the crowd who have to be impressed by imperial grandeur in an exercise of conspicuous consumption, legitimation of authority, and display of power, as in the so-called 'theatre states'. Or they may be more equal participants in a public or private ritual, such as a funeral, a wedding, a religious ceremony. In each case they are also taking part in a ritual of group-cohesion, their presence underlining their membership of a social group, and their status within it.

Some of these issues are being addressed in the development of multidisciplinary approaches to the study of music. One of these is what has come to be termed 'Music Archaeology', 'Archaeomusicology', 'Archaeology of Music', or 'Palaeomusicology'; occasionally 'Historical Ethnomusicology', though this usually has more limited chronological, and regional, implications. In some ways it is distinct from ethnomusicology as currently practiced by many, in that the latter form of investigation commonly depends on the presence of contemporary, living musicians, on making recordings of performances, and on participant observation within a given culture (often one which is foreign to the investigator). However, in other ways ethnomusicology promises closer engagement with the concerns of music archaeologists in that scholars in both fields share an interest in the wider implications of musical activity: the social significance or meanings of what they study, and its cultural symbolism. But the hodiecentric thrust of much ethnomusicology (indicated not least by the use of the term 'historical ethnomusicology' to denote exceptions to the rule), and the positivism of much that is conducted in the field of music archaeology—which is often little more than (palaeo-)organology, the identification and classification of sound tools—indicate the extent of the breach which still hinders development of common ground. Increasingly too, many historical musicologists are engaged in the development of more context-sensitive approaches to the study of music. However, although the compartmentalisation of all of these branches of the discipline is becoming increasingly less rigid, the broadening of the base can only be achieved by focusing on common conceptual frameworks (such as questions of social and mental processes) rather than on particular time periods or regions (see Blacking 1991, Buckley 1991, Chadd 1991).

It is beyond dispute that extensive close-focus work will always remain essential. Identification, classification, and analysis of primary source materials are fundamental to any further study. But to draw a parallel with medical science, for example, identification and mapping of chromosomes or viral activity can be ends in themselves, but they serve no purpose beyond basic data-gathering unless approached from a perspective of how they affect the individual human body, and groups of bodies in interaction, i.e.,

people's behavioural responses to one another. Similarly, compartmentalisation of the human body according to medical specialisation (eyes, ears, brain, heart, nervous system) has been shown to lead only to certain kinds of understanding. To exclude consideration of the whole person, lifestyle, (interpersonal) behaviour, attitudes, may be to overlook vital information in explaining patterns of illness, disease, and wellbeing. How much more does an overspecialised, isolationist approach exclude vital elements in our efforts to understand wider and more complex social activity, activity which cannot so readily be broken down into tangible, separately functioning components?

There are many ways of studying music, and many aspects to be considered. The most common is to investigate how it sounds or may have sounded, the details of its technical structures, and how to reproduce it or bring it to life as performance. But there are few repertories accessible to us in notated form from the long history of human music-making. And even where there are, we know so little about the past, for sounds have not been preserved until very recently, and in any case, reproduction is largely dependent on, and determined by, what is acceptable to us, what we know, and of what we are capable.

My purpose here is not so much to engage in a critique of modern reconstruction (which is dealt with at some length in the paper by Catherine Homo-Lechner) as to point out its severe limitation as a main criterion in the historical study of music. Apart from the fortuitous survival of manuscripts which are now preserved in research libraries, very little of the world's musics are or ever were committed to notation or to any form of written description. It is therefore unfortunate that alternative emphases such as organology, archaeology, literary references, tend commonly to be viewed merely as resources *faute de mieux*—remnants of lost civilizations whose faint tracks we study because of lack of any other kind of evidence. This is a fundamental error. Hierarchies of evidence are misplaced, as Moses Finley reminds us in his critique of artefact-centred enquiry with respect to the false separation of archaeology and history in the study of Ancient Greece: 'There can ... be no question of the priority in general or of the superiority of one type of evidence over the other; it all depends in each case on the evidence available and on the particular questions to be answered' (Finley 1985, 20). In other words, history is everything we have at our disposal: all evidence tells us something and is part of a greater whole. Furthermore, whatever our enquiry, if we are not comparative we are not going beyond the first step.

It is of course self-evident that we cannot study what is not there; if we had notations relating to performances at a Greek *symposion* or a Carolingian court, we would of course be all the richer. But we would not thereby necessarily be richer in circumstantial information sufficient to reconstruct or understand the dynamics of a performance event. And this is where the absence of notation has sometimes incorrectly been viewed as an absence of useful evidence for music of the past. To return again to Finley: 'I see no reason for distinguishing the "evidence" ... and the "background of what we know" from other kinds of sources. What ties them all together in the end is the conceptual framework' (Finley 1985, 26).

None of the more traditional areas is broad enough to embrace what is the unique contribution of an Archaeology of Sound: the investigation of intentional sound produced by human beings for others in all kinds of contexts; and not unrelatedly, the wider issue of the 'natural' and 'artificial' soundscapes in which people live and by which they are affected at multiple psycho-emotional levels. While much of the work to date among music archaeologists does indeed focus on ancient cultures, and on the evidence for music-making among oral-tradition societies, or societies whose notated heritage was partial or may have disappeared in the course of time, the field does nonetheless serve to draw attention anew to questions which may be applied to all music cultures, regardless of time

or place, by highlighting types of data which can yield important, context-sensitive information for comparative study of the history of not alone music and performance, but of patterns of behaviour fundamental in the long-term history of humankind.

A persistent problem which limits more open engagement with the study of the history of music, and the fine arts more generally, is the predominance of a legacy of engagement with aesthetic and moralising evaluation, to which many seem to feel obliged to contribute. So deeply ingrained is the western inheritance of concern for moral and civic order that the struggle for more scientific detachment is still singularly underdeveloped when compared with achievements in the natural sciences. This problem is indeed worthy of study as part of western intellectual history in general, but it is also one with which each of us needs to reckon, if we are to engage dispassionately in the research enterprise.

Because it is more difficult to draw distinctions within music-as-sound-structure such as exist, say, between prose and poetry, or between the contents of account books, political speeches, or mythological tales, there is commonly a tendency to view the study of music (as also dance, painting, sculpture) as primarily motivated by aesthetic concerns—shape and style, moral tone-setting, art object, rather than serving as 'functional craft', used to meet social needs of many different kinds. The medium as perceived today tends to distract attention away from its multiple historical (and contemporary) messages. We would not really be concerned with the beauty or finesse of language in civil service documents, or wage bills, for example. Though there may be appreciation and evaluation of levels of scriptorial competence, their content and purpose will be of more interest as historical evidence. But music, painting, sculpture are usually discussed, at least in part, in terms of whether they may regarded as 'beautiful', in other words, as invariably having a high cognitive value (for us moderns, by implication), rather than in more appropriate terms of whether we may establish whether they were fitted for their intended purpose according to those whose cultures they represent.

Coupled with that is the difficulty of consciously distancing ourselves from a medium, the form of expression that is music, which is so powerful in its psycho-emotional and physiological effect. Whether we wish it or not, sound—perhaps in some ways even more than vision—arrests our attention, making a direct impact upon our associative memory before we have had time to choose whether or not we wish to respond to its source or give it our undivided concentration. Sounds are immediately pleasing, soothing, alarming, summoning—whether signals, as in the case of a fire alarm, an ambulance siren, a church bell, a military bugle, or in the more developed, mimetic medium of a brass band, a symphony orchestra, an Indian sitar, Buddhist chant, or an Indonesian gamelan orchestra. And so, when we wish to make a study of any of these, our subjective responses as audience are also involved. Even if our responses may be different from those for whom the sounds and structures were first intended, this quality of 'relative autonomy', the capacity for the arts to be transferred in time, place, and indeed meaning, makes it even more difficult to undertake cooler investigation unless we take cognizance of our emotional responses. Archaeology brings us down to earth, literally as well as conceptually, and investigation of the nature and uses of rather mundane artefacts can indeed help give a balance to the overall picture.

THE SCOPE OF THIS BOOK

The contributions which follow are grouped under three main headings, beginning with a critique of research methods in music archaeology and in performance of what is usually nowadays called 'early music' (most of which is exceedingly 'late' when compared to the perspectives under discussion here!).

Cajsa Lund reflects on the problem of why mainstream archaeologists continue to ignore the work of music archaeologists. Her comments are addressed mainly to Scandinavian research which tends in this regard to be more global or wholistic than applies in the English-speaking world. Lund's criticism of music archaeologists is that they do not engage in an exploration of the wider implications and potential of their research, usually limiting themselves to organology rather than raising questions about the people behind the artefacts. In her view, the scope of music would be better understood and seen as more relevant to archaeology if those who study the subject were more context-sensitive: 'we should view the [sound tools] as mirrors and on no account as an end in themselves'.

Catherine Homo-Lechner focuses on ways of 'reading the past' in the reconstruction of performance. Beginning with an historical overview of French activities in this field since the eighteenth century, she discusses the gradual transformation of attitudes, and addresses a number of questions, including limitations arising from subjective aesthetics, and problems relating to choice of material in instrument manufacture, playing styles, performance contexts and mentalities. She challenges many of the usually unspoken assumptions embedded in the use of the term 'authenticity'. In pointing out that every experiment is also an act in the present time, and hardly a leap into the past, she argues for the value of empirical testing, but preferably in an atmosphere of openness, admission of the details of decision-making processes, and their attendant doubts and uncertainties.

In the next section, three essays are devoted to materials from different parts of Asia from a long-term historical perspective. Inge Skog tests the historical soundness of myths of origin, and of recent scholarship, in an enquiry into the use of gongs and gong repertories among the Lotud peoples, rice-farmers of northern Borneo. Exploring the hypothesis that the gongs were introduced from Java, where they were believed by several scholars to have existed for some 2000 years, Skog rejects this theory which, in his view, was based on an incorrect assumption about the dating of certain Javanese court documents. Skog's conclusion is that a myth grew up about the great antiquity of Gamelan Munggang because of its sacred symbolism and association with the power of political rulers. Thus it represents a not unfamiliar procedure in exercises of power legitimation: in stressing its role as a symbol of long-term continuity, the presumed antiquity of the object became a 'cultural necessity'.

With regard to the supposed Javanese origins of Borneo gongs, Skog suggests that the former are not likely to be much older than the latter, and that while suspended gongs may date back some 500 years in both regions, gong chimes and ensembles are unlikely to predate the seventeenth century in either case. Pursuing an examination of linguistic terminology, archaeological finds, anthropological data, and recent as well as current performance practices, he demonstrates the value of medium- and long-term study, not only in pursuit of the particular questions at issue, but also as an index of the nature of changing patterns of use, in this case, from the signalling and military function of gongs to their more elaborate transformation into 'musical instruments' in sacred royal ceremonial, and court and village orchestras. In a sense, this paper constitutes a micro-survey of what is a universal long-term process of human-musical behaviour. But it is important to bear in mind, however, that later developments do not necessarily or

invariably replace older practices: for example, military signalling continues to exist alongside more complex music structures in the world at large. This point is often overloooked in historical surveys.

Using examples of groups of artefacts from two sites from the Chinese Neolithic, Jiahu (5000 BC) and Dawenkou (2500 BC), Kenneth DeWoskin explores different interpretative strategies available to music archaeologists. Implicit, and eventually explicit, in his criticism of the limitations and shortcomings of contextless organology and 'mere description', DeWoskin illustrates how materials, artefacts, and find contexts can be explored to shed light, variously, on patronage, political power structures, shamanism, numerology, and other aspects of mentality. Drawing also on the evidence of inscriptions on the giant bell set from Hubei, the tomb of the Marquis Yi of Zeng (*c.*433 BC), he shows the value of comparative work in reconstructing the past, not least because of long-term continuities in so many aspects of Chinese culture. In the process of setting out the arguments, DeWoskin demonstrates how musical instruments may be read, like any other 'thing', as products of particular social configurations and as indicators, 'texts', from which we can 'read' about interdependent relations between people.

Materials from the Indus, or Harappa, civilization (*c.*2400–1700 BC) are rich and appear to include all organological categories, as well as providing some information on dance and social contexts of performance (religous cults in particular). The evidence for culture contact between the two peoples is consistent with other sources which attest to their active trading links. In addition to what may be termed 'indigenous' instruments associated with the Indus peoples, Reis Flora's paper demonstrates the scope of iconographic sources which include Sumerian types (from southern Mesopotamia); he also investigates music instrument terminology in surviving Indus script. However, the question remains open whether these sources reflect transmission of actual sound tools or only of cultural symbols from Sumer.

The concluding section is focused on European Antiquity. The value of the iconographic medium as music archaeological data is highlighted in two papers on Ancient Greece. In a survey of Attic vase paintings (6th and 5th centuries BC), Jane Snyder demonstrates their usefulness as a source of information on amateur domestic music-making among high-born women of the Classical world, which fills serious gaps in the literary record. Since women were not permitted to practice reason (*logos*), their musical literacy and communication through song represented an important means of expressing their own ideas and passing on their cultural values. Analysing representations of Sappho, amateur women musicians at home, female professional players, and mythological figures (Muses and maenads), Snyder suggests that, while allowing for a certain 'gender bias' on the part of the male painters responsible for those images, all such scenes may be regarded as images of 'real' women in contemporary settings.

Jon Solomon's paper deals with pre-Classical Hellenic pottery. He explores materials from the Middle and Late Geometric periods (*c.*800–700 BC) for their potential as an information resource on attitudes, ideas, and perceptions of music, as well as on the existence of certain instruments, such as lyres, in the pre- and early literate periods. In raising the question of realistic representation versus the demands of Geometric serial design, he concludes that while groups of dancers are likely to be related specifically to occasions of ritual celebration for which some of the vases were intended, we cannot be certain that series of musicians unequivocally represent realistic ensemble playing.

In an analysis of the *De musica* by Philodemus of Gadara (b. *c.*110 BC, d. 35–25 BC), Daniel Delattre discusses his recent research on the surviving papyrus fragments from Herculaneum and their importance as insight on what we might nowadays call 'cultural

capital'. (And to return to a point made above—one also acknowledged by Delattre—they involve issues which are still relevant on the eve of the third millennium). Delattre's analysis deals with an examination of the differences between the Classical Greek and Republican (and Imperial, after 27 BC) Roman views of music; the Greeks believed that musical harmony affected the body (by virtue of its healing and curative properties) and the soul (through its effect on mood and moral behaviour), hence they were unquestioningly accepting of direct correspondences between melodic modes and psychological states, as is attested from the sixth to the second centuries BC from Plato and Aristotle to Heraclides Ponticus: 'He who learnt to play a stringed instrument simultaneously learnt a sense of measure (in all senses of the word)'. Hence, when addressing the topic, Greek writers always had a clear idea of the *kind* of music they were discussing, being intensely concerned with its implications for good and bad model-setting, and with its high cognitive value in the education of the young. The Romans, however, had a different attitude, commenting on empirical, even subjective, experience, and this may be related in turn to their correspondingly low level of interest in the uses of music in education: the question of ethics was not crucial, and so some Roman writers expressed interest in their subjective responses to music without fear or threat to the social order. Delattre points out that while the strictness of the Greek attitude predominated for several centuries, there were other voices expressing scientific curiosity and an interest in individual feelings and sensations. There is evidence of tension between championing the preeminence of the *logos* on the part of the Stoics, and the Epicureans who believed in inherent truth of sensation and the variability of individual responses; yet ethics remained a central issue for both. Delattre concludes that Philodemus' commentary represents an attempt to reconcile the dominant ideas of the Greeks with the demands of an increasingly Hellenized Roman high society by elevating the (Greek) Epicurean viewpoint above that of the Stoics.

These essays represent one set of investigations into the role of music and humanly-organised sound in long-term history.[1] They demonstrate the positive benefits of interdisciplinary collaboration, of cross-cultural surveys which are also cross-temporal, and of the value of such approaches in elucidating any number of questions relating to social processes and mentalities, based on a wide range of evidential types. They are offered as a collection of ideas and observations which will hopefully be tested and further developed in the future, not just with respect to prehistory and the Ancient world, but in any processual investigation of music and human behaviour.

I should like to take this opportunity to thank the Master and Fellows of Darwin College for assisting with the administrative costs of the colloquium, and to Marcel Otte, Université de Liège, for his generosity in accepting to publish the resulting materials. I also thank Jane Snyder for suggesting the appropriate quotation from Lucretius (see p.5), and Paul Nixon who as ever provided boundless support and encouragement at all stages of this project. Above all I wish to express my appreciation to those colleagues who participated in the meeting, and who were so willing to undertake a considerable amount of extra work and co-responsibility: in submitting their papers for advance circulation, in accepting the not inconsequent task of reading and preparing formal responses, and in subsequent revision of their papers for publication. Their unanimous spirit of cooperation, good humour, and generosity have, for me at least, enriched this project with both enjoyment and stimulation in equal measure.

1. Other contributors to the colloquium (not included in this publication) were Andrew Barker, Maurice Byrne, Edward Ho, Ernest McClain, Magdalena von Dewall.

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WHAT IS WRONG WITH MUSIC ARCHAEOLOGY? A CRITICAL ESSAY FROM A SCANDINAVIAN PERSPECTIVE INCLUDING A REPORT ABOUT A NEW FIND OF A BULLROARER

CAJSA S. LUND

Music archaeology in Scandinavia is on friendly terms with its legitimate parents, musicology and general archaeology. However, their interest in and attitudes toward their child, music archaeology, are divergent. Musicology seems to have no doubts about considering music archaeology its legitimate offspring. Archaeology, on the other hand, is apparently having some difficulties in accepting its part of the parenthood.

The Norwegian archaeologist Arne B. Johansen gives voice to this way of archaeological thinking in an article in the journal *Fornvännen*, here freely translated into English: '[music archaeology] ... has seldom met with any serious understanding on the part of us "general" archaeologists. We accept it, to be sure, but retain so many doubts that a safe distance is maintained between it and "true archaeology"' (Johansen 1984, 278.)

And so while present-day musicology in Scandinavia frequently discusses music-archaeological research and its results in reference books, manuals and other relevant literature, this is not the case with archaeology. Generally speaking, modern archaeological literature very rarely includes music-archaeological reports or makes reference to them.

Let me give an interesting example. A few years ago, the Swedish journal *DIK-forum* (a union publication for employees within the sector of documentation, information and culture, enjoying a wide circulation) started a series of articles written by established archaeologists, aiming at giving a presentation of *all* branches of archaeology (such as prehistoric, medieval, Mediterranean, industrial, maritime, aerial archaeology, etc.). But not a word about music archaeology!

How come? Are not archaeologists in Scandinavia generally aware of the existence of music archaeology? Yes, they probably are. There has been a considerable output of information over a ten-year period,[1] and there are papers published in standard archaeological journals. I should mention, too, that I myself am a *bona fide* archaeologist, educated in that discipline. And there is a general network of archaeological contacts. So archaeologists here in Scandinavia should indeed be aware that music archaeology exists.

The above-mentioned archaeologist, Arne B. Johansen, has expressed the opinion '... that general archaeology does not regard music archaeology as a *true* archaeology... because sounds cannot be physically excavated from the earth... But we archaeologists forget, he continues, that neither social organisation nor economy, nor *types* of arrows, can be physically excavated; they are as reconstructed as a flute sound!', Johansen says (1984, 278).

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1. The Study Group on Music Archaeology of the ICTM was founded in 1981, in Seoul. The ICTM (= The International Council for Traditional Music) is a music-anthropological organisation (a UNESCO body). This means that the ICTM's printed information on its music-archaeological Study Group will primarily reach musicologists. In Scandinavia, however, this information has been distributed also to archaeological departments, museums, libraries etc. The first meeting of the ICTM Study Group on Music Archaeology took place in Cambridge in December 1982, hosted by Graeme Lawson. Among the participants were Ann Buckley, Ernst Emsheimer (†), Frank Harrison (†), Ellen Hickmann, Peter Holmes, Catherine Homo, Gunnar Larsson, Wendy Lawson, Jeremy Montagu, Laurence Picken, Joan Rimmer and Lothar Siemens.

According to Johansen, it is really an archaeological problem: namely, what archaeology is, what it can and should consist of, based on its own premises. Johansen's conclusion, even though implicit, is that there must be something wrong with archaeology (*ibid.*, 278ff)!

For my part, however, I would like to turn the question around and ask: Can there be anything wrong instead with music archaeology?

PALAEO-ORGANOLOGY

Let us have a critical look at the content of music-archaeological work thus far in Scandinavia. What are the problems and questions? what are the issues being discussed? Taken as a whole, but at the risk of being perhaps too incisive, it is primarily a matter of organology, or—using a more relevant term—palaeo-organology.[2] The sound tools themselves are of main interest. The archaeological aspect, however, is many times confined to such information as location and context of the find, and dating. Let me elaborate on this.

Questions of music archaeology often have to do with whether or not an individual archaeological find of a possible sound tool (or a group of similar finds) is a sound tool beyond any doubt: is the bronze tube with a hole perhaps a flute rather than a hanging ornament? the saw-toothed bone or flint implement a scraper used for sound production? or the wooden plug a tuning peg from a stringed instrument? And what about tubes of bone with bevelled ends? Are they whistles or are they something completely different? If so, were they also used occasionally as whistles?

It is certainly necessary for music archaeology to try to reach answers to such questions. As is well known, we have a paucity of source material and must continually work to enlarge it. I refer here to a discussion about the lack of data in an article entitled 'On Animal Calls in Ancient Scandinavia: Theory and Data' (Lund 1988, 295 and 303).

The main question in that article is whether a certain category of neolithic artefacts of bone may be identified as buttons, belt adornments, beads, amulets, textile tools, flutes, or something else. The same paper contains a preliminary table of hitherto known flutes and possible flutes dating from Scandinavia's antiquity (*ibid.*, 293). The table is reproduced below (fig. 1), and as can be seen, there are only four artefacts which are clearly identifiable as flutes (= Probability Group 1) but there are eighty-five possible flutes (= Probability Groups 2–5).[3]

A BULLROARER (?) OF SHALE, RECENTLY FOUND IN NORWAY

It was reported to me in the summer of 1991 that a bullroarer was found in an archaeological excavation in northern Norway. The field archaeologist in charge, Hein Bjartmann Bjerck, intends to publish the find, but has kindly given me permission to discuss it here.

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2. The term organology is used here in the sense of the study of musical instruments.

3. See also Lund 1984/1991, a gramophone record (LP and CD) where forty-seven artefacts are recorded but of which only fifteen for sure can be regarded as sound tools!

The bullroarer is of reddish-brown shale and resembles a little propeller blade. It is 6.4cm. long, 2.7cm. wide and weighs 9 grams. It has a triangular cross-section 0.4cm. thick at the most. As can be seen (fig. 2), three notches have been cut into one end.

The find was made in the spring of 1991 in a cultural layer with shale objects at a site called Tuv at Saltstraumen in Bod Municipality. Near the bullroarer was found a spearhead of greyish-green shale. The site can be dated to the Neolithic period, *c.*3500–5000 BC. We are now awaiting the result of a C–14 dating.

When the find was made, the field archaeologists discussed various interpretations. It might be the blade of a knife, but in that case how did one fasten the handle to the end? Could it be a piece of jewellery? Possibly; but what function then did the middle notch have? Would not a piece of jewellery hang better if it were fastened only in the notches on the sides? Eventually Hein Bjartmann Bjerck hit upon the idea that it could be a bullroarer, and in that case unique for its type in Norway. He fastened a fishing line (see fig. 3) and swung the object around in the air. 'It was a fantastic experience to hear the shrill, powerful sound that was made', he writes to me.

Hein Bjartmann Bjerck's interpretation is entirely plausible; and perhaps he has further criteria up his sleeve such as, for example, traces of wear and tear in the notches from the string that could only have come about if the piece of shale was used as a bullroarer.

It would indeed be a significant advance for music archaeology if we could, in some way, at some time or other, verify that a possible bullroarer really is a bullroarer (or that a possible buzz-bone really is such, or that a potential rattle is a rattle, a potential 'phalange flute' a phalange flute (fig. 4), etc.). However, that an artefact can produce sounds—as in the case of the Norwegian artefact under discussion—does not prove that this artefact was actually used as a sound tool. One can fasten a string to the end of a ruler, a reflector tag, an empty yoghurt container, a spoon-bait, a key, a rubber eraser... and get these objects to produce perfectly good whirring sounds. But neither their primary nor their secondary function is that of a bullroarer!

One question that I ask myself in this context is: To what extent can one describe and explain the society where this bullroarer of shale was used? Are there ethnographic parallels for this society? If so, can we, on the basis of these, come up with any ideas regarding the use of bullroarers at the Norwegian site: who can have used such sound tools? when did they do it? and why?

THE BULLROARER (?) FROM KONGEMOSEN, DENMARK

In 1955, Danish archaeologists excavating at Kongemosen on Zealand in Denmark found a *c.*8500-year-old object of bone in the form of a propeller (fig. 5). The function of the object was unknown. Was it a fishing tool? or a utensil for weaving? Almost as a matter of chance, someone tied a string to the end of the object and swung it around in the air. Then, according to those who witnessed it, there came a noise, a strange kind of rising and falling buzzing—they had discovered Denmark's oldest musical instrument; it was an organological sensation! (*Skalk* 1968/2; see also Jorgensen 1956).

The Kongemosen bullroarer has become world famous both on the music side and on that of archaeology. One of a number of reasons for this would seem to be that music archaeology in Scandinavia has had this bullroarer 'in the repertoire' for a long time, in scientific publications as well as in lectures. It had been uncritically presented as Scandinavia's oldest-known sound tool. On being viewed in a wider context, it acquired a music-ethnographic character. Archaeology of the Kongemose bullroarer has usually been restricted to information about the findplace and dating. Is that perhaps why the

archaeology side seems to consider (uncritically) the Kongemose bullroarer, as well as other bullroarers, to be more of a musicological than an archaeological issue?

In this context, there is another interesting aspect to report. In 1981, I conducted practical experiments with the Kongemose bullroarer, using an exact casting of the original, as well as a reconstruction made of bone. My purpose in doing so was to attempt to ascertain what type of string or cord could have been used with it.

The experiments yielded some bewildering results, and for certain reasons (see Lund 1981, 256) I had to conclude that '... the possibility also exists that the Kongemosen find is not a bullroarer at all!' (See also Lund 1984, 13 and 1991, 40–42.)

At the same time, I conducted practical experiments with a selection of original objects—so-called buzz-bones (fig. 6). The results of these, too, were instructive. This was because not all of the original objects could have functioned as buzz-bones; the holes were quite simply wrongly placed on the bones: 'The archaeological buzz-discs of bone, like the Kongemose bullroarer, are examples of how apparently valid theoretical interpretations begin to give way when they are tested in practice. The examples mentioned also illustrate the importance of constant, critical scrutiny of the sources and a reconsideration of theories and hypotheses, not least one's own' (Lund 1981, 257).

The music archaeologist's situation is thus paradoxical: the more we carefully analyse and critically examine our source material with the aim of trying to answer the remaining questions, the more questions we arrive at instead!

'OLD PALAEOLITHIC TRUTHS'

As is well known, there is a large number of 'classical' finds of possible bullroarers, scrapers, whistles and other types of flutes from Palaeolithic times (especially from France). These objects have been discussed by different generations of palaeo-organologists. I shall mention here only a few names: Piette (1874), Wilson (1898, 524ff), Rutot (1906), Passemard (1923), Seewald (1934), Absolon (1936), Allain (1950), Megaw (1960), Moeck (1967), Meylan (1974), Brade (1975), Harrison (1978), Biebuyck (1980–81), Fages and Mourer-Chauviré (1983), Scothern (1986), Popławska (1994).

The discussions have for the most part concerned only the objects themselves, for instance, whether the hole in a phalange was made by human hand for acoustical reasons (e.g., whistle) and/or whether someone wanted to get at the marrow, or whether it happened by mechanical means (while lying in the earth), or from an animal bite.

Another example from several that have been discussed for more than a century is the 'antler flute' found at Poitiers (see, for example, Fétis 1872, Moeck 1967, Brade 1975). Is it really a flute? How old is it actually?

What one *can* point out is that different opinions about the 'old' Palaeolithic sound tools have billowed back and forth over the years. And it would seem, at the present time, very difficult to introduce any new, revolutionary organological ideas to this problem.

At the time of writing, I am not aware of any studies treating of these Palaeolithic sound tools where the questions are not solely organological, or in any other way artefact-oriented, but also deal with the society and the human beings behind the sound tools! (But perhaps there are—and here I ask for assistance from my international colleagues.)

CONCLUSION

Is it perhaps this which is 'wrong' with music archaeology in the eyes of general archaeology: that the organological and thereby the musicological aspects predominate, and that 'archaeology' is often treated mainly as a synonym for the concept of Antiquity, or as a kind of stock of finds?

In that case we who are looking for a response from modern archaeological research must try to be more 'archaeological' than we have been. We should, for example, try to see the sound tools in a broader social perspective; indeed, in a word, we should try to devote ourselves more to the people behind the sound tools, '... we should let the latter be mirrors and by no means, as sometimes happens, an end in themselves'. These last two lines were formulated by the archaeologist Carl-Axel Moberg (who died in 1987) at one of the many seminars where he critically discussed all kinds of so-called find-Positivistic archaeology.

Finally, I also want to emphasize that music archaeology must try to establish increasingly closer contact with the archaeology side. Ultimately, it is a matter of archaeology and musicology together and on a more institutional basis, formulating problems and working to try to solve them. Music archaeology would in this context be like the span of a bridge, a link between its two legitimate parents.

In conjunction with this I will refer to the following lines of the Polish archaeologist Tadeusz Malinowski (1988, 340): 'Permanent cooperation between individual archaeolo gists and musicologists apparently already exists in various countries—but this is quite a different question from that of *institutional* cooperation'.

What I have said above is, to be sure, more easily said than done, and perhaps not of very great interest to each and every music archaeologist (there are about 130 'registered' so far internationally).[4]

But this paper should not be taken either as a literal proposal of a concrete programme of action for music archaeology as a whole. It is rather food for thought for one who is self-critical, the gist of which can be summarised as follows: If archaeology does not come to music archaeology, then music archaeology must come to archaeology!

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4. The figure gives the approximate number of members in The Study Group on Music Archaeology of the ICTM. See further in n.1 above.

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Flutes and possible flutes.

Types	Probaility groups 1	2	3	4	5
a BONE					31
b BONE		10			
c BONE (FRAGMENT)		1			
d BONE			3		
e BONE	2	3			3
f BONE	2				8
g BONE					7
h BOAR'S TUSK					6
i HORN		2			
j ANTLER					7
k CLAY		1			
l FLINT		3			

Fig. 1. Flutes and possible flutes in Scandinavia. (Diagram after Lund 1988, 293)

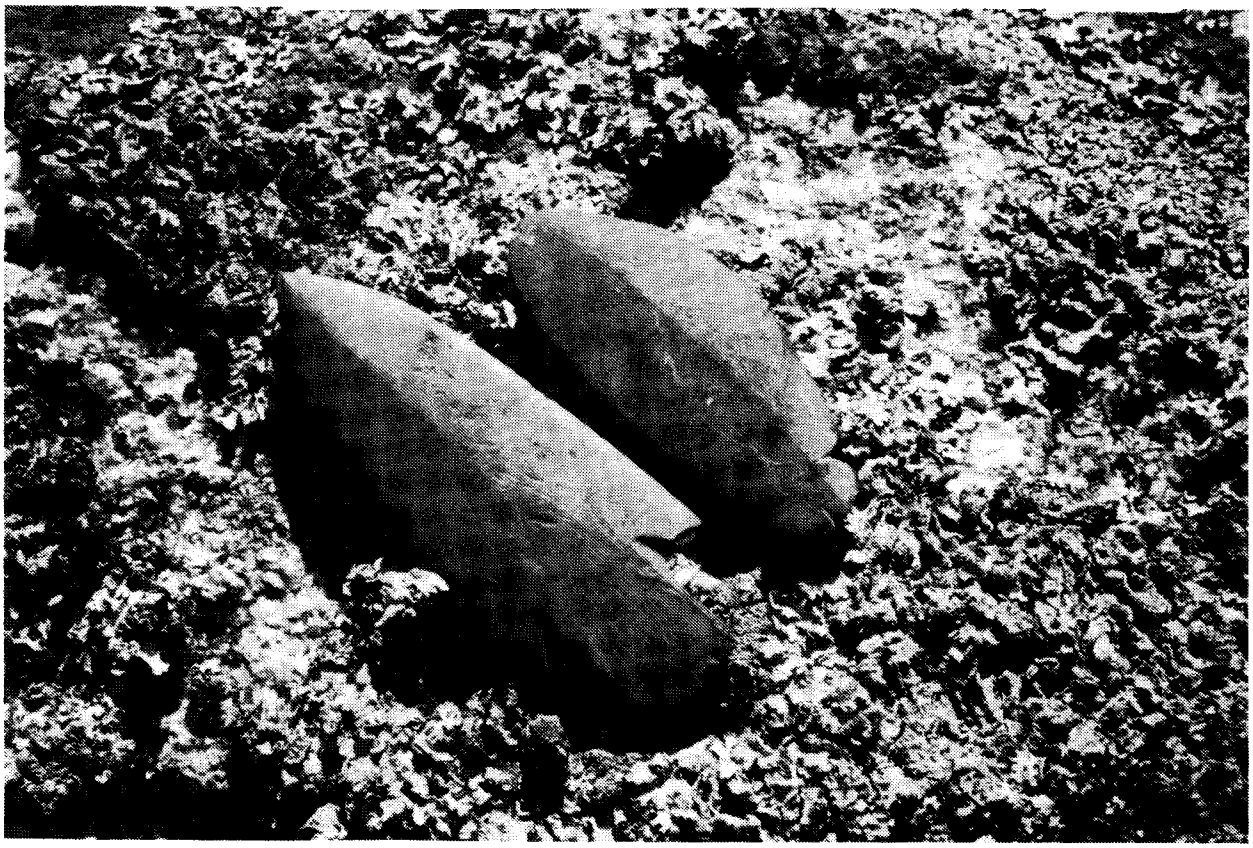

Fig. 2. A spearhed (left) and a bullroarer (?) (6.4cm. long, right); both made of shale, and found at Tuv, Norway, *c*.5000–3500 BC. (Photo: H. Bjerck)

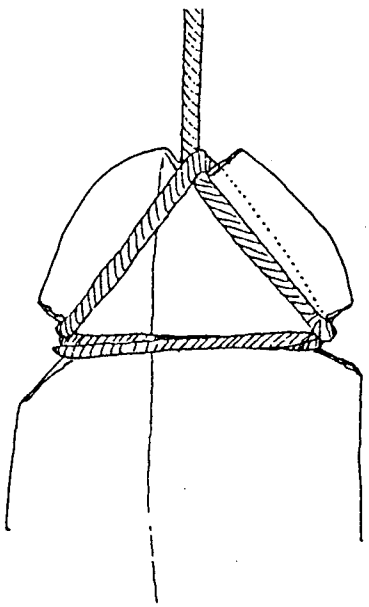

Fig. 3. This is how the string is fastened to the possible bullroarer from Tuv. (Reconstruction and drawing: H. Bjerck)

Fig. 4. 'Phalange flutes'. Type models made from phalanges of present-day deer (*cervitoe*). (Photo: L. Gölén)

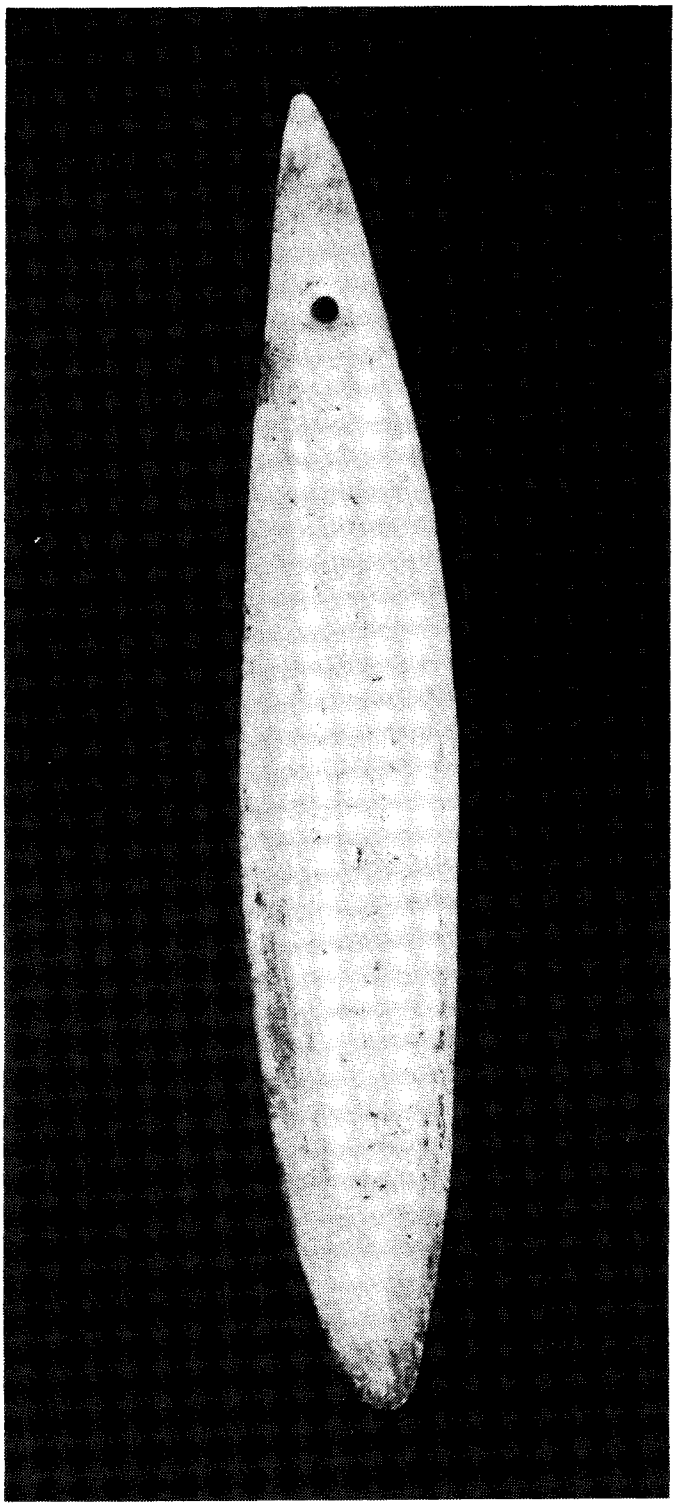

Fig. 5. A replica of the bone bullroarer from Kongemosen, Denmark, *c.*6500 BC. Length 11.1cm. (Photo: L. Gölén)

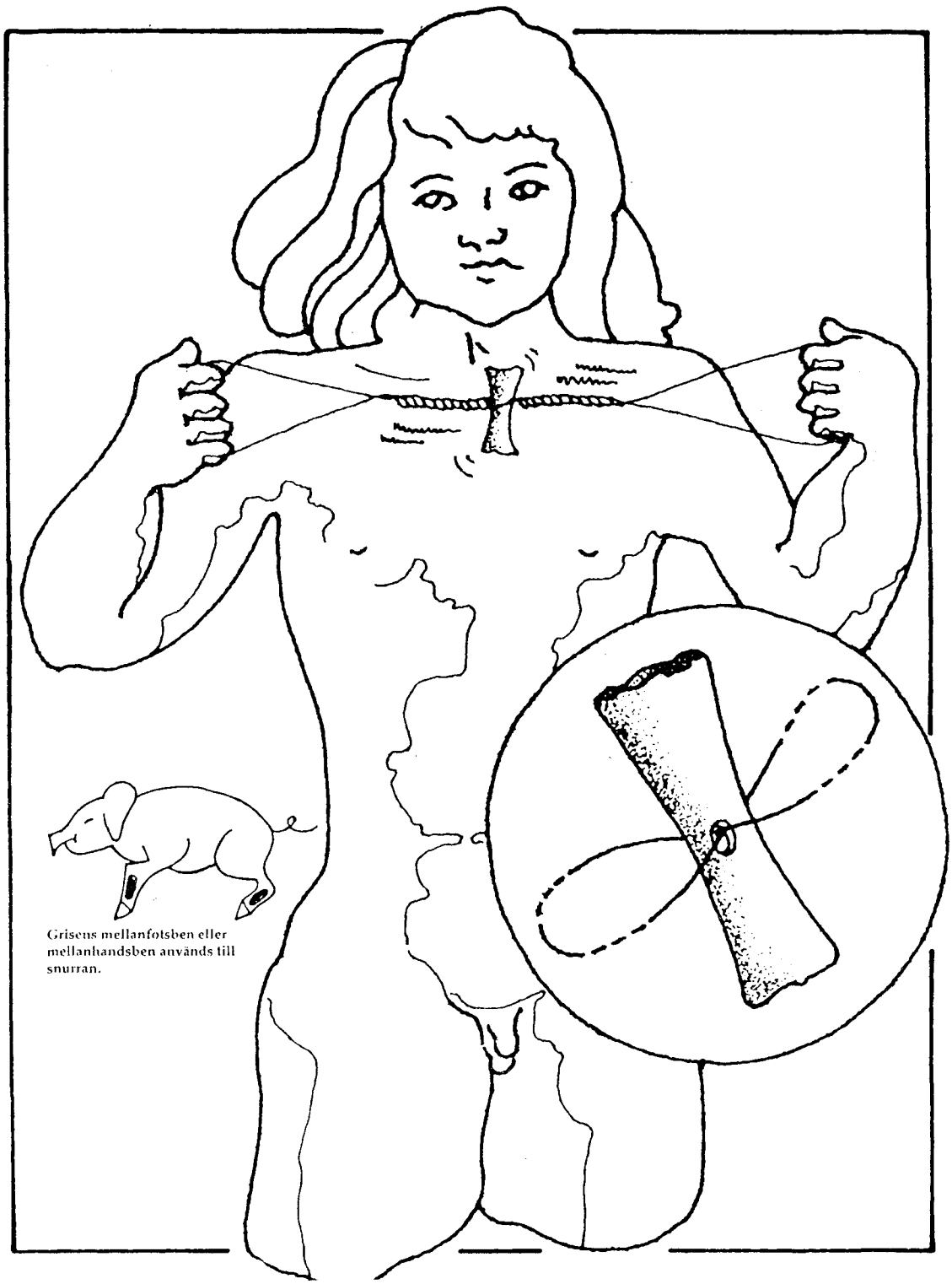

Fig. 6. A buzz-bone in operation. (Drawing after Lund 1984, 22)

FALSE. AUTHENTIC. FALSE AUTHENTICITY. CONTRIBUTIONS AND FAILURES OF EXPERIMENTAL ARCHAEOLOGY AS APPLIED TO MUSIC INSTRUMENTS*

CATHERINE HOMO-LECHNER

The attempt to revive a music whose traditions have been lost seems hardly a reasonable challenge. Nonetheless, for more than a century now, makers, interpreters and composers have traced the first outlines of 'ancient music': Camille Saint-Saëns (1835–1921) directed the monumental edition in eighteen volumes of the work of Jean-Philippe Rameau (Paris: Durand, 1895–1914);[1] Louis Diemer, Wanda Landowska and Pauline Aubert brought the harpsichord back from oblivion with the aid of well-known firms such as Pleyel and Gaveau. By dint of criticism, contradictions and discoveries, they restored to Baroque music its letters of noble credentials and attempted to revive it in its 'authenticity', with the aesthetic which is proper to it, and which at times still baffles aficionados of 'classical' music. They thus rediscovered the uses and diversities of old diapasons (e.g., 412, 401 or 392hz),[2] of lost timbres and sound qualities, which they interpreted with *their* sensibilities.

Likewise today, there are people who recognise the utopian nature of attempts to create an exact revival of the past. David Lowenthal entitles one of his publications *The Past is a Foreign Country* (Lowenthal 1985). André Souris (1899–1970), who republished the *Premier livre de tablature de luth (1551) d'Adrien Le Roy* (1960), declared with justification: 'La musique ancienne n'existe pas, qu'il n'y a qu'un état présent de la musique ancienne'.[3] The desire for authenticity still dominates in the preoccupation with audiovisual systems and the competitive market, 'period' sounds are subjected to the constraints of marketing and of the *average* music-lover. Thus was born the 'Baroque' sound, clear and sanitised in recent years, without any doubt very different from the original. It is also regrettable that the publicity organised around this music occludes—at least as far as the general public is concerned—the existence of musics still more 'ancient'.

With respect to music archaeology,[4] this question of authenticity presents a paradox as well as a dilemma because it requires not only experimentation to test hypotheses but also re-invention (quite often in error) of missing elements. Historical research necessarily produces errors to the extent that it is connected to individual and cultural subjectivity.

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* Translated by Ann Buckley in consultation with the author.

1. Revised by himself, by Vincent d'Indy, Paul Dukas, Reinaldo Hahn and others.

2. A pitch-pipe (registration no. E.493) housed in the Musée de la Musique, Paris (in future abbreviated MM) provides evidence of two tones used in Versailles in 1789: that of the chapel and that of the opera, the latter a quarter-tone lower. This object drew the attention of G. Chouquet who selected it for his first catalogue (Chouquet 1884, 189, no. 744).

3. A remark reported by me in Autumn 1992 by his disciple, Jean-Michel Vaccaro, professor at the Centre d'Etudes Supérieures de la Renaissance, Tours.

4. The term 'archaeology' is intended here in a broad sense. It applies to all enquiry on 'ancient' instruments, i.e., those concerning which direct knowledge, including knowledge of practical performance, has been lost, irrespective of the distance in time. However, the majority of my examples will be taken from the Middle Ages and from France.

It produces *its* truth. Michelet, for example, successively imagined four Middle Ages, each one reinvented, 'awakened', 'restored', as he himself liked to say in true romantic fashion (Le Goff 1977, 20, 33, 43). The search for authenticity, which provokes numerous debates, is thus complicated by the subconscious effects of taste and mentality on the part of those who make experiments. How would it in fact be possible for them to observe the distance necessary to analyse their own cultural reflexes, to eliminate the susceptibility which often accompanies their research, and to un-learn or to 'decant' their academic formation? Uncontrollable by its protagonists, the precise originality of the work cannot be captured. The question of error in historical reconstruction encroaches upon that of technical acculturation in the domains of music instrument-making and the practice of music. How to reconstitute the instruments and their playing techniques? In which context to play them? And why? Indeed, does one know how they sounded and by whom they were made and played?

Stimulated already by the establishment of human sciences such as the history of art and archaeology at the end of the eighteenth century by Bernard de Montfaucon (1655–1741), the Count de Caylus (1692–1765) and Jean-Jacques Winckelmann (1717–68), by the romantic current which drew its epic and sublime inspiration towards an historical and geographical Other, and also by the first ethnographic missions, those of an enquiring turn of mind in the last century developed all manner of experimental techniques. In the sixth year of the French Republic (1798), General Bonaparte and his scientific commission brought back monuments of ancient Egypt;[5] at the dawn of the twentieth century, Lord Elgin returned with his acquisitions of Greek art. Since the Revolution, France also rediscovered its own history. People became increasingly aware of social, democratic and patrimonial issues. Alexandre Lenoir (1761–1839) established the Musée des Monuments Français in 1796 and an Académie Celtique (from 1814, called the *Société des Antiquaires de France*) was founded in 1805 (Year XIII of the Revolutionary calendar) which brought together all of the discoveries of French archaeologists. Auguste de Forbin (1777–1841), director of the Musées royaux in 1816, reorganised the Louvre under Charles X and placed an emphasis on the new Egyptian collections but also on the European Middle Ages (then considered the period of 'the origins of France'). In 1833 Prosper Mérimée was appointed Inspector of Historic Monuments (Fermigier 1986) at the same time as Jules Michelet commenced publication of his *Histoire de France* (1833–69). 'Troubadour' painting was in fashion (Chaudonneret 1980, 1995). The first collectors appeared: Pierre Revoil (1776–1842) who sold his collection of *gothicités* to the Louvre in 1828; Alexandre du Sommerard (d.1842) who established his collection and his museum in the Hôtel de Cluny; Charles-Alexandre Sauvageot (1781–1860)—whose personality was surely the inspiration for Balzac's Cousin Pons—presented his collection to the Louvre in 1856.[6]

The Universal Exhibitions contributed also to this growing awareness. They developed sections of an historical nature, such as that on the history of music composition in 1867 which was placed beside the famous gallery on the history of work, or copies of old

5. Music was represented by G.-A. Villoteau (1759–1839). See his various works published by Jomard, who was a collector of musical instruments (Villoteau 1809–22).

6. It is interesting to note that these collections brought together all categories of objects, music instruments included. Only their utilisation varied. Revoil found there documentation which enriched his 'troubadour' paintings; Du Sommerard attempted to restore the objects to their real-life situations, in fact to *reconstitute* a use. It would also be worthwhile to make a study of casts and their documentary use; or of *reconstructions* of music instruments—in particular casts commissioned by the Louvre under Napoleon III or those deposited in the 'Musée des Etudes' at the Ecole des Beaux-Arts in Paris over a period of one-hundred-and-fifty years (now housed in Versailles). For this proposal see Pinatel 1992.

picturesque districts such as that of Old Paris at the Paris Exhibition of 1900 (Exhibition 1983, 327), or that of the Bruxelles-Kermesse at Brussels in 1910, or indeed those reconstructions of 'historic' instruments presented in 1889 and 1898 by A. Tolbecque,[7] the Erard company and Victor-Charles Mahillon. These same exhibitions also exploited, if not the comparative musicology propounded by Fétis in 1867 (cf. Haraszeti 1932), then a musical exoticism represented largely by colonial possessions from 1878 and 1889. Each of these explorations echoes the sincere appeal of that unusual adventure which is the study of lost civilizations and of 'exotic' peoples.

Beginning in 1832, the first 'historic concerts' were organised in Paris by F.J. Fétis (1784–1871)[8] with thematic programmes devoted to musics of the fifteenth and sixteenth centuries (see Wangermée 1948, 185ff). At the same time Niedermeyer (1802–61) developed *L'École de musique religieuse* (founded by Choron in 1818), which bore his name,[9] and the Prince de la Moskova (1803–57) founded the *Société des concerts de musique vocale, religieuse et classique* which published the eleven-volume *Receuils des morceaux de musique ancienne* (Paris: Pacini 1843–[1845]) devoted to works from the Renaissance and the seventeenth century. At the end of the century and following the success of his harpsichord recitals at the 1889 Universal Exhibition, Louis Diemer (1843–1919), together with his friends J. Delsart, L. Grillet and L. Van Waefelghem, founded the *Société des instruments anciens* which was inaugurated in Paris at Salle Pleyel in 1895 before visiting London in 1897 (fig. 1). Théodore Reinach (1860–1928), however, was the first to organise a concert of ancient Greek music which he presented before Pierre de Coubertin at the Sorbonne in 1892 and before the King of Greece at the French School in Athens in 1893. The programme included the Delphic Hymn to Apollo harmonised for the occasion by Fauré for voice, chromatic harp, Boehm transverse flute and two Boehm clarinets![10]

Bringing together their interest in history and manufacture, Tolbecque, Dolmetsch, the Erard company, A. Wolff-Pleyel and L. Tomasini resolved to manufacture reconstructions of Medieval and Baroque instruments. Today, with the distance of a century, their methods can be clearly assessed. What were their guiding principles? Which elements appeared to them in need of modification? What did they take unquestioningly for granted? How was the transformation made?

The figure of August Tolbecque (1830–1919) occupies an essential place in this research. Enquiring and passionate, this musician-performer-collector who, in the same year that saw the publication of his *Art du luthier*, presented himself unsuccessfully as

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7. In his preface to *L'Art du luthier* (1903, II) Tolbecque recalls his own efforts in this area: 'Celui-ci [Charles Mahillon] me commanda les reconstitutions de lyres et de cytares [*sic*] de l'antiquité et des crouths, rebecs et autres instruments du Moyen Age et de la Renaissance qui figurent dans ce musée [they remain there still today]. J'ai également construit une série de ces types d'instruments anciens pour mon regretté ami Eugène Gand, qui les fit figurer dans le vieil atelier de luthier qu'il avait reconstitué dans la galerie du travail, à l'Exposition universelle de 1889. Enfin, en 1892, je présentai à l'Exposition de Tours un ensemble de 30 instruments qui me valut le grand prix. Plus récemment (en 1898), à l'Exposition du théâtre et de la musique, au Palais de l'Industrie, j'obtins également le grand prix pour une collection d'instruments disparus, depuis la lyre antique montée sur une carapace de tortue [reproduced on p. 1 of the book] jusqu'aux violes du XVIIIe siècle aux formes si élégantes et si variées'.

8. For further discussion of this movement, see Gétreau 1990 and 1995.

9. He engaged Saint-Saëns to teach there. Gabriel Fauré was one of the first pupils of the Ecole Niedermeyer.

10. *Hymne à Apollon (chant grec antique) harmonisé pour chant et harpe, flûte et 2 clarinettes. Op. 63bis.* Paris: Bornemann 1894.

candidate for a post of curator at the Musée Instrumental of the Paris Conservatoire, settled in Niort, Fort-Foucault, at the beginning of this century. He associated with the intellectual circle of Niort which included eminent local figures such as H. Clouzot, bookseller and later valuer,[11] J.-C. Formigé (1845–1926), architect,[12] and Rev. Camille de la Croix (1832–1911), organist and archaeologist.[13] The last-named discovered the Hypogée des Dunes at Poitiers in 1879 and was responsible for casting its model for the Musée du Trocadéro.[14] Better than most, he probably knew how to direct Tolbecque towards works of the first order such as Moissac or Chartres. In the same way as Proust's work benefited from the contacts which he had with Berenson and Emile Mâle,[15] it would be interesting to know whether Tolbecque, whose associates (among whom Saint-Saëns, Mahillon) had a great interest in 'ancient' music, was in touch with the great archaeologists of his time. Did he know Prosper Mérimée (1803–70), who saved the paintings of Saint-Savin-sur-Gartempe (eleventh century) while Tolbecque resided at Niort? Viollet-le-Duc (1814–79), who restored the basilica at Vézelay and who, towards the end of his life, devoted a large chapter to music instruments in his *Dictionnaire raisonné du mobilier français* (1874)? Bottée de Toulmon (1797–1850), who in 1844 published a *Dissertation sur les instruments de musique employés au Moyen Age*? or Coussemaker (1805–76), who published his *Essai sur les instruments de musique du Moyen Age* towards the middle of the nineteenth century? How did he find and choose his models? Archival research is not sufficiently advanced to answer these questions, but it is important from this moment onwards to broaden the field of specialist enquiry to include this type of exchange of ideas.[16]

Examination of three of Tolbecque's reconstructed medieval instruments (MM E.980.2.625, E.034 and E.0636) allows access to the process of his discovery of instrument-

11. Father of the French film-maker, Henri-Georges Clouzot (1907–77), also born in Niort.

12. He constructed the Palais des Beaux-Arts for the Universal Exhibition of 1889 and also restored the abbey at Conques and the Gallo-Roman theatre at Orange. His son, Jules (1879–1960), was Inspector General of Historic Monuments and participated in the restoration of the Saint-Denis Basilica. He supervised the great Gallo-Roman excavations of the Midi (Arles, Glanum) and partly restored the La Turbie trophy.

13. I thank Christian Gendron, curator at the Niort museums, for information on de la Croix, who engaged in correspondence with great French intellectuals such as the archaeologist, J. Quicherat, the archivist-palaeographer, R. de Lasteyrie, with L. Courajod, curator at the Department of Sculpture, the Louvre, and S. Reinach, curator at the Musée des Antiquités Nationales, Saint-Germain-en-Laye, brother of Théodore Reinach, specialist in ancient Greek music. See also Rérolle 1978.

14. These casts have remained at the Poitiers museum because the Trocadéro was ultimately not able to pay him. It is interesting to note that Rev. Camille de la Croix lived in an old casting atelier which he called the 'château de bois'. He would similarly have cast monuments of the region such as Notre-Dame de la Couldre at Parthenay the plaster-casts of which *should* always be preserved at the Poitiers museum; a detail of this portal is reproduced in Tolbecque 1903, 6, fig. 7.

15. Rotily (1990, 50, n.30) remarked as follows: 'Proust utilisait les études d'Emile Mâle sur l'art religieux du XIIIe siècle jusqu'à y puiser les éléments pour la description des fameuses tapisseries de Combray'.

16. A study group (*Itinéraire Tolbecque*), formed on the intiative of Camille Aubéry, grandson of Tolbecque, exists to bring together various individuals from the Musée de la Musique, the museums of Niort, as well as several instrument makers.

making.[17] His precise style, organised, deliberate, and hardly spontaneous, also bears witness to the puritanical and mechanistic character of his time.

He reconstructed two viols represented on the portal at Moissac (*c.*1120). The first (E.980.2.625) is very 'rustic' and probably represents his early attempts when still a Conservatoire student receiving instruction from the instrument-maker, Rambaud, in his spare time. For this item he did not use instrument-makers' wood but oak for the body (thick and bulging), pine for the soundboard (flat), five 'rudimentary' frontal tuning pegs for the double courses and the drone. The string-holder is very ornate and fastened by a solid leather thong, without a knot. This instrument, undoubtedly copied from a cast in the museum's deposit (E.1205), is of interest only when compared to a second one which must have been made much later when Tolbecque was already well-known as a specialist in ancient instruments and after he had acquired an academic training.

In the case of the second fiddle (inspired by another instrument in the porch, more lozenge-shaped—E.034, see fig. 2), Tolbecque did not hesitate to make a soundboard of Norway spruce and a back of wavy maple quarter-cut in two pieces, to arch them both, to fit a soundpost as well as a mobile saddle of ivory, to choose industrially-manufactured gut strings, to close the pores with a wooden base and to apply a supple varnish to the whole body. He knowingly chose partially rotted wood for the back in order to simulate age.[18]

His originality resides in the fact that he did not introduce a bass-bar and that he sawed the sides and neck as a single piece. He also appears to have invented, on occasion, a type of blind 'archaic' bridge, thick and without an underneath arch or rosette, simply pared and curved at the sides and on the upper edge, justified in his view by the action of the bow.

Similarly in the case of the fiddle copied from the Royal Portal at Chartres (*c.*1145; MM E.0636—see fig. 3) one recognises the locating pins, a vaulted back, a button and varnish like those on the violins, traces of thumb-plane on the belly, industrial gut strings. Once again he did not use a bass-bar and dared to make an instrument from a single block of wood (monoxylous). The bridge this time has rectangular sides, with a curious little eye for an opening, and rests on a quadrandular base in line with the vault, mounted on a semi-circular moulding.

When the Erard company decided to display a thirteenth-century harp at the Universal Exhibition of 1889 (MM E.1263; see fig. 4), it conceived it as an assembled body, a belly of pine, and nuts to hold each string. Its maker, believing that manufacture in those times should be very different from that which he normally observed, took some courageous steps. He chose to cut the forepiller and neck out of oak. The choice of this wood, heavy and dense, astonishing to us today, bears witness to a desire to break with classical traditions, or at least to create a distance from them. This construction must have appeared very strange.

Finally, the *aulos* (MM E.781), evidently made during the same period, by Victor-Charles Mahillon (1841–1924), keeper at the Musée Instrumental in Brussels, was

17. I am obliged to Anne Houssay of the technical conservation laboratory of the Musée de la Musique for information and advice which she kindly gave me concerning Tolbecque and his instruments.

18. In this respect it is justified to raise a question as to the purpose for which he intended his work. See also Eudel 1907, 296ff.

modelled on artefacts from Pompei deposited at the Naples museums.[19] It no doubt caused some surprise with its sophisticated system of sliding keys enabling the player to stop or open a total of twenty-four soundholes (fig. 5)!

These pioneers suspected the existence of other traditions of manufacture of 'ancient' instruments. Since the documents had barely begun to be assembled and their diffusion remained very limited, they forced themselves to innovate and to contravene the regulations of academic instrument-making without systematically being able to justify their choices, innocent or foolhardy. It is interesting to note also that even if they knew folk and exotic instruments reported by explorers, they rarely thought to compare them and to use the evidence in their own work of reconstruction of what were at times very similar artefacts. It is equally true that ethnographic collectors have for a long time ignored the issue of instrument-making. Only those less commonplace and 'archaic' instruments appear to have benefited from particular attention. This was the case with the medieval lyre for which we have original material evidence[20] as well as ethnographic avatars (e.g., the Welsh *crwth*). Their strangeness attracts attention, and appropriate 'traditional' techniques, such as monoxylous carving, were in time exploited (MM E.2035). As a consequence, the evident link supposed between the fiddle and the violin caused the respectable ancestor to be endowed with the same characteristics of manufacture as its prestigious descendant. Technical authenticity appears not to have been much of a preoccupation among researchers of that time.

The development of nationalisms and of archaeology in the second half of the nineteenth century contributed to an even greater interest in reconstruction of music instruments, whether Scandinavian *lurs* (Højring 1986) or instruments from ancient Rome (MM E.755;[21] *lituus* by Mahillon, E.923; nineteenth-century *cornu*, E.924). But these exercises were guided not so much by a concern for objectivity as by the appeal of novelty, the spectacular and the promotion of social values associated with strength and justice. The revolutionary period had already bestowed honourable status on the reconstruction of 'ancient' instruments; hence the *tuba curva* of Cormery, developed around 1789 for Gossec's *Marche lugubre*, written on the occasion of the translation of Voltaire's ashes to the Panthéon (see Tiersot 1894, 33, n.1; Pierre 1893). It is therefore not appropriate to analyse these products in terms of authenticity but rather to attempt to decode the meaning of these diverse interests in the ancient which often were (and could still be) the consequence of doctrinaire manipulations (Thuillier and Tulard 1990, 22). Similarly the galvanoplasty presented today in museums of casts are neither more nor less authentic

19. Four *auloi* were discovered on 10 December 1867 at Pompei in the house of Caius Vibius (see Schlesinger 1970, cap. 10, pl. 12). One of these was reconstructed and played in Brussels during a lecture by François A. Gevaert on 25 May 1896 to the *Société pour le progrès des études philologiques et historiques*. The performer was M. Poncelet, professor of clarinet at the Conservatoire Royal de Musique de Bruxelles (Gevaert 1965, II, Appendix, 645–7). Three of the reconstructions are still housed in the Brussels museum (Mahillon 1978, I, 431, no.416; III, 391–2, nos. 1971–2). See also the 'Egyptian flute' which Fétis made after the original preserved in Florence (Haraszeti 1932, 100).

20. For example, two lyres from Oberflacht found, respectively, in 1846 and at the end of the nineteenth century; also the Kravik lyre, discovered in the middle of the last century (see Panum 1905).

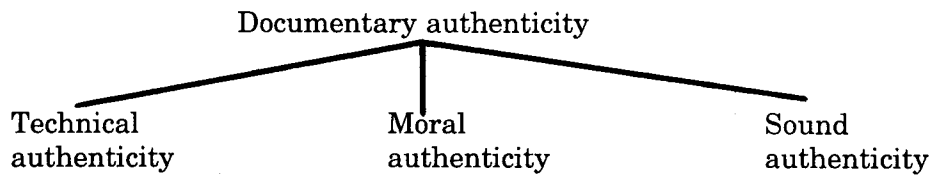
21. The preparation of this copy of a lur was entrusted to Adolphe Sax by the Danish government, based on an original found in a Danish bog and shown at the Universal Exhibition of 1867. See Gétreau 1990, II, 124.

than the experimental casting carried out by Peter Holmes (Holmes and Stanbury 1986). Their objectives are simply different.

Research on harpsichords for over a century provides testimony of an extremely varied range of historical and aesthetic approaches. Of the following four instruments, which could be considered as the most faithful to musical authenticity that it is possible to achieve? Wanda Landowska's Pleyel with a cast-iron frame,[22] the Neuperts of the 1960s, Gustav Leonhardt's Skowronek (a copy of a J.D. Dulcken dated to 1745), or the Ruckers made in Antwerp in 1646 refurbished in Paris by P. Taskin in 1780 (MM E.979.2.2)—that is with a 'double' historic integrity—and recently restored to playing capacity by the Musée de la Musique in Paris?

Generally speaking, work carried out in the last century suffers from premature judgement and qualities of obsolescence, outmodishness, incompleteness or fantasy produced by the history of our century. Present-day researchers, who have a large amount of documentary and technical information at their disposal and who are motivated by the wish to perform better and more systematically, seem after all to be proving less imaginative than their predecessors. No longer appropriating the ancient, they appear more humble in their attitudes towards the past; but does not it proceed rather from a kind of cowardliness only to leave the responsibility of interventions to their colleagues or successors? Research of objectivity and authenticity, constantly refined and subjected to questions, ends also by paralysing the historians and one might question the scientific limitations of so much caution.

For some decades, however, prospection and analysis in archaeology (in the broad sense) develop and reveal unpublished and accurate organological and musical information (in the form of repairs of a structural or decorative nature, materials, thickness, function, etc.). Tangible information, fundamental (*stricto sensu*) for developing research, which helps to confirm or correct observations in plastic and literary sources, necessarily has repercussions—if it is not subjected to rigorous checking—on concealed errors in the more abstract domain of documents, that is to say, of a technical, sociological or musical nature. We could summarise it in the following way:



DOCUMENTARY AUTHENTICITY

To research forgery requires first of all an assurance that the documents upon which one relies have not been deliberately falsified by badly-intentioned dealers. Such items exist

22. According to reports, having seen 'Bach's' harpsichord with sixteen-foot stops in Berlin, Landowska requested the Pleyel company to make a copy for her. Specialists in piano manufacture, this firm did not know how to meet the request except by use of a cast-iron frame. The keyboard of one of this celebrated harpsichordist's instruments, now housed in Berlin, bears the following inscription: 'Le jeu grave (dit par les Anciens 'de 16 pieds') fut introduit dans les clavecins Pleyel à partir de l'année 1912 sur la demande & les suggestions de Wanda Landowska' (Mercier-Ythier 1990, 120).

among countless public and private collections. In 1861 L. Clapisson, at the time keeper at the Conservatoire museum, believed he was acquiring a bone Roman *tibia* (MM E.159; see fig. 6). It turned out that this item comprised articulations of certain antiquity, but very much re-worked to produce a false reed instrument (Bélis 1987). The temptation of profit or the simple pleasure of misleading institutions and amateur collectors is often the cause of such falsifications (see Eudel 1907).[23]

An instrument-maker can add false information in order to increase the value of his product. Some liked falsely to use the name of a renowned master. Thus Jean-Claude Goujon added the date of 1590 to the name-bar of his harpsichord next to the name Ruckers. He also placed the famous initials 'HR' on the rose of the instrument. Yet he also inscribed his own name in pencil underneath the four-foot hitchpin rail of the case (Robin 1982). Does the invocation of Ruckers represent an act of homage? Was its purpose to 'antiquify' or to sell the instrument more easily? Does it make the instrument more 'respectable' and hence more 'valuable'? Where does the forgery begin? As for the instrument restored to playing condition under supervision of the museum in the 1970s, was it altered in its integrity by this treatment?

Certain collectors also wish to recreate false antique instruments. That is probably the case with the neo-Gothic ivory harp which was offered to the Louvre in 1892 by the Marquise Arconati-Visconti. Badly documented, this object was dated by Koechlin in 1924 to the fifteenth century (with some reservation, admittedly), and was classified as a medieval piece by Crane (1972, 18, no. 342.2; cf. Homo-Lechner 1987). We can also refer to a twin pair of lutes manufactured in the nineteenth century and passed off as relics from the fifteenth or early sixteenth centuries. One of them is preserved in the Witten II collection of the 'Shrine to Music' Museum at Vermilion, USA. Its 'brother' is in Paris at the Musée de la Musique (depôt of the Musée des Arts Décoratifs, no. 23.456). They bear the same initial mark, 'AF'. Even if conceived as reconstructions, this was 'forgotten' and manipulated by a dishonest salesman.[24]

However, certain instrument-makers specialised in ancient copies, and, while not introducing any whims of fancy of the forger's art, were sometimes manipulated by those who were selling on. This is the case with the violin by Hargrave—well-known for the excellent quality of his copies—which, after an illicit removal of the label, was recently sold in Vienna under the name of Joseph Guarneri filius Andrea, 1714, at a price of £400.000 (a third of its estimated value) with certificates of authentification delivered unanimously by all the experts at the auction.[25]

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23. There now exists heavy and sophisticated equipment for detecting forgeries, for example, the instrument known as Aglaé (*Accélérateur Grand Louvre d'analyse élementaire*) which was installed in the research laboratory of the museums of France at the Louvre, but its cost still limits its use to important art-historical works.

24. For discussion of related matters, see Prynne 1961.

25. See (anonymous) article in *The Strad*, May 1992, 103, no. 1225, 396. Another case of falsification was denounced briefly by Matthieu J.R. Besseling in the July issue of the same year (no. 1227, 589). On these same questions of forgeries, see further the communications of Brian Harvey, Hamilton Caswell and Roger Hargrave 1992, 28–38; also Harvey 1992, *passim*.

The questions of facsimiles and analysis of copies (ancient and modern) is currently giving rise to much discussion in museum and instrument-making circles. In this connection see Köstler (Exhibition forthcoming) for an account of an exhibition and round table held in Stuttgart in 1990; also the debate held at the Antverpiano meeting in summer 1993 devoted to the museographic pertinence of music instrument copies; as well as Exhibition 1988 and Exhibition 1990.

Complexity of interpretation leads one to question what is the 'realistic element' contained in the image, the text or context, and to endeavour to disentangle the authentic from the truthful (Wanegffelen 1992, 489). Which elements may one retain? How does one verify the original function of the instrument? Is its dating trustworthy? Which semantic values ought to be accorded the terms employed in the text? Which truths are represented by the size or the colour of instruments in artistic representations of the High Middle Ages (e.g., fig. 7a)? How to reproduce them in three dimensions (fig. 7b)?

OBJECT

In addition to the enormous amount of work still necessary on the 'unidentified' archaeological materials preserved, including those in the smallest local collections, it may serve to identify two types of error involved in the definition and dating of material evidence.

The 'Music' case in the large Gallo-Roman room of the Musée des Antiquités Nationales in Saint-Germain-en-Laye serves as a good example in this context. The bone 'flute', the 'trumpet' (both from Garenne-du-roi in the Forêt de Compiègne) and the 'sistrum' from Berthouville appear on preliminary examination to be, respectively, a joint articulation,[26] a drinking horn and an item of ornamental furniture.

It can also happen that scholars participate involuntarily in the transmission of false information. Such is the case with the piriform board (fig. 8) discovered at Charavines in a submerged settlement of the eleventh century which the present author has described—with some expression of doubt, it is true—as possibly a soundboard of a music instrument (Homo-Lechner 1993). As soon as it was discovered, the artefact, soaked with water, was measured, photographed, immediately sealed and then sent for treatment. The preparation of a technical drawing and examination of the object after it was released from the laboratory contradicted the initial identification.

In the case of clearly identified instruments, their function can be more subtly implied by context, the study of which reveals customs and 'morals' *stricto sensu* (see section on intellectual authenticity below). Did jew's harps found in graves or in river-beds have an identical function, however similar their appearance? Further, before even using one's imagination to reconstruct and play them, is it useful to enquire into their original use? Were grave goods exclusively symbolic? Were they played? If so, how were they distinguished from contemporary homologues? In the absence of answers to such questions, one is led to misinterpret these unknown objects and to propose uses undoubtedly never witnessed in history.

On the other hand, and for want of method or configuration of the site, countless objects have been separated from their stratigraphic data. Only the overall context of the site seems to provide the basis for their dating. This is the case of the jew's harps once thought to be Roman but which, according to the results of recent research (Ypey 1976, Buckley 1986), cannot be anterior to the Middle Ages. It has been systematically established with material examined in Belgium and Ireland, as also with certain 'Gallo-Roman' artefacts from France (Cimiez, Rouen, Levroux) housed in the Musée des

26. These 'flute-hinges' are found in abundance in archaeological collections in the museums of Besançon, Melun, etc. This mistake also proved profitable to the individual who sold the false Roman *tibia* to Clapisson mentioned above. Cf. chapter on methods by the present author in the Exhibition Catalogue from Besançon et al. (Exhibition 1993a, 11–25).

Antiquités Nationales, Saint-Germain-en-Laye, that no stratigraphic levels were ever documented.

To continue in this vein, we shall also consider stratification of information on the object itself in the course of handling. It is true that historical integrity is respected more frequently in the case of the materials of current archaeology than in that of 'valuable items' preserved in museums and private collections. In other words, to say 'a Stradivarius violin' leads to error because that obscures all the interventions which have followed the work of the master, in particular those requisitioned by owners concerned to maintain the instrument in active playing condition, thus involving modernisation. The 'Strads' are rarely found in their original state like the 'tenor violin' from Florence. In the nineteenth century they were transformed as soon as they were rediscovered since, in order to continue to sound, the instrument had to be adapted to contemporary exigencies. Vuillaume or Hill did not hesitate to graft, lengthen or reverse the fingerboard or to introduce modern fingerboards or tail-pieces of ebony. Neither did they intend to falsify or compromise the integrity of the instrument, because they viewed them with the eye of a musician playing a contemporary repertory,[27] because they regarded the object as a utilitarian item which conformed to practice and thus evolved over time, without regrets or a desire to fix its conventions according to the perceptions of the historian (see Gétreau 1993, 32).

Today the consciousness is otherwise. The idea of improvement is disappearing and as far as possible people are by preference sparing in their transformations of old artefacts. The curator-restorer of today is an archaeologist. He systematically records all of the markings and characteristics of an artefact (e.g., with photographs, technical drawings, x-rays) and endeavours to reconstitute its history by means of the readability of its elements. But his work is above all appreciated in the degree to which he neutralises processes of deterioration and bequeathes intact to future generations the patrimony for which he is responsible, and furthermore, his intervention must be *reversible* and reparable—as distinct from the forger whose aim is to mask or the Far Eastern restorer whose deontology does not demand reversibility.

In conclusion, let us instance reconstructions which, because of very incomplete or deformed material evidence, are mistaken even in the shape of the object. This was the case with a Gallo-Roman frame drum found at Koenigshoffen which Jean-Jacques Hatt (1970, 324–6, figs 14–15) reconstructed in square form, a type never recorded to this day in an antique context, as confirmed by textual and iconographic sources (Exhibition 1993a, 25, item 20). A similar case in point was the instrument from Sutton Hoo, first conceived by Arnold Dolmetsch in 1948 as a 'quadrangular' [*sic*] harp before he suggested some years later, with the assistance of Rupert Bruce-Mitford, that it was a lyre, in keeping with the iconography of the period (see Bruce-Mitford 1970, especially pls 1–3). It is nowadays on display at the British Museum.

Shifting interpretations are thus common; but besides becoming fixed in the memory more readily than their subsequent corrections, they above all endanger historical hypotheses.

27. This is similar to the painters who unhesitatingly retouched the frescoes of the Sistine Chapel, or Veronese's *Wedding at Cana*. See Exhibition catalogue 1992b, and especially the article by Gétreau, 'La musique dans les Noces de Cana', included therein (Gétreau 1992).

TEXT

Texts should also be examined with care because they contain numerous falsifications. At the level of the history of music, I might first of all mention the case of the famous forgeries of scores of Pindar written in the seventeenth century by Athanasius Kircher (1601–1680),[28] and also that of a medieval text on the organistrum (*Quomodo organistrum construatur*) which, by virtue of its proximity to a treatise by Odo (d.942) in the work of Gerbert (1784, I, 303a, 177), remained incorrectly dated for a long time. The text, now in the Österreichische Staatsbibliothek in Vienna , is in fact from the thirteenth century.[29] One can also cite that Mozart concerto which would have continued to lead musicologists into error if R. Casadesus had not admitted responsibility for the hoax. Excessive reconstructions, whether in error or in jest, these forgeries give rise to the most incongruous historical hypotheses.

Philology, for its part, reveals certain snares peculiar to ancient languages and places one on guard against readings which are too literal, and thus naïve: contradiction of occurrences and effects of polysemy, concurrence of usage (polymorphism, actualisation), literary effects, etc.

In the Middle Ages the term *lira* designated a harp, a fiddle and a hurdy-gurdy. The *De proprietatibus rerum* by Bartholomew the Englishman (*c.*1260), translated into French by Jean Corbechon in 1372 (Paris, Bibliothèque Nationale, MS fr. 16993, for example), produces as equivalents of *lira, cithara et sistrum* the words *harpe, guiterne et luth*! Similarly, one might ask which instruments correspond to the *citharas* of the Apocalypse (5:8, 15:2), the *organum* of Psalm 136, or the extraordinary figural illustrations which hardly contribute to disentangling this web.[30]

The variety of lexical forms used to describe the same object also contributes to the confusion: *vièle/viole* in Old French and Occitan, *rebec/gigue* in Romance and Germanic languages, etc. This was noted by Virdung in 1511 in his treatise, *Musica getutscht* (1511 / 1970, D.iij *verso*): 'Welches einer ein Harpfen hat genennet / das heist der ander eyn Leyr'—'One calls harp what the other calls lyre', as stated already by Abbot Cuthbert in the eighth century: Cythara teutonica quam nos appelamus rottam (Gérold 1931, 184).

Medieval vernacular languages, latinised or not, but in a constant state of evolution (*giga, rotta, harpa*), competed with academic Latin which had often by then lost its original meaning (*cithara*). This is particularly evident in the *Musica enchiriadis* from Saint-Amand (tenth century; now Valencienne MS 337) where the revisor, concerned not to alter the original text, erased the term *bracia* freely chosen by the first copyist and replaced it with the word *cithara* (Huglo 1984, 8).[31]

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28. This document is featured in Kircher's celebrated work, *Musurgia universalis* [1650], 541–2 (including transcriptions). It is also reproduced in Pöhlmann 1970, 47, ills. 2–3 (no. 16).

29. This error was revealed by Bachmann in his book on the origins of bowing (Bachmann 1969, 105).

30. For example, the numerous copies of the letter of pseudo-Jerome to Dardanus and the instruments cited therein (see Hammerstein 1959, Seebass 1973, 565); the thirty-first capital of the cloister at Moissac (south gallery); or the Circle of Philosophy and the Liberal Arts in Herrad von Landsberg's *Hortus deliciarum* (see Green et al. 1979, fol. 32r, cat. no. 33).

31. For discussion of the wider contexts of language evolution, in particular that of Latin, see Banniard (1992) who analyses its transformations according to different socio-political purposes: clear and simple in Late Antiquity in connection with the mission of evangelization, leading to vernacular use (oral as well as written), and a distinctive concern from the ninth century onwards with issues of grammar, style and social position.

Medieval literature emphasises numerical statements and excessive enumeration of instruments in a given situation. It is pointless to attempt to trace any accuracy of description, for example, in Guillaume de Machaut's *Remède de Fortune* (cf. Bec 1992b, 128) where some forty instruments are listed in the space of twenty-five lines.

IMAGE

Every aesthetic presupposes a specific attitude and decoding. An understanding of past images in the present requires knowledge of stylistic and iconographic conventions proper to each respective era and the effects of perspective and of copies, as well as enquiry into their intellectual meaning.

The phenomenon of copies, a feature of medieval art, permits of a better understanding of the place occupied by 'models' and traditions. It also implies a very active circulation of documents which reflects other exchange structures, whether economic or political.

The Utrecht Psalter (Reims *c.*810; Utrecht University Library MS 32 [*olim Script. eccles.* 484]), copied from an antiquitising manuscript of the fifth century, was itself recopied many times up to the end of the twelfth century (eleventh-century England—London British Library MS Harley 603; twelfth-century Canterbury Psalter—Cambridge, University Library MS R.17.1; France *c.*1190—Paris, Bibliothèque Nationale MS lat. 8846).

In these three manuscripts the 'organ' of Psalm 150 is faithfully depicted according to its antique (hydraulic) model, although the pneumatic organ was introduced to the West in the eighth century. Which part of 'reality' do these manuscripts transmit? Is it still that of the fifth century? Did it not become gradually deformed? On the other hand, certain instruments were brought up to date where the copyists knew 'modern' equivalents of the models, as in the case of the harps in the London and Cambridge sources. Every copy constitutes a sort of recasting more or less faithful to the model. There are countless examples of this process: *Psychomachie* of Prudentius (copies from the ninth to thirteenth centuries, see Stettiner 1905), *Beatus* (fifteen copies, see Cid and Vigil 1964–5), *Liber floridus* (copies from the twelfth to sixteenth centuries, see *Liber floridus* 1973), astronomical treatises (Panofsky and Saxl 1933), etc. However, the strong infatuation with Antiquity during the Middle Ages put a brake on the process of bringing representations into line with contemporary artefacts. Certain details were probably preserved by these imitations in order to signify Antiquity. This applies in the case of the 'antique' lyre which has eluded every attempt to imitate it and which became increasingly stylised over the course of the centuries.

The net of copies assists in the establishment of iconographic stereotypes. That of King David became the emblem of music for Judeo-Christian culture during the Middle Ages. He had necessarily to be represented with a music instrument in order to be recognised. For this reason, his attribute was treated in a very uneven and varied manner, with instances of harp, lute, psaltery, lyre. The same applies to other less internationally well-known figures such as Gunnar in Scandinavian mythology (e.g., Johansson 1979). In sum, it is essential to take account of the laws governing (i) the profession of the *ymagier* as well as the personality of the artist (skill, conceptual grasp, fantasy and what one might term general culture); (ii) the nature of the material, in particular, which does not necessarily permit of the reproduction of identical images (glass, parchment, mural painting, ceramic, stone, ivory, metal, wood, etc.), the effects of transparency, proper to the painter, being incompatible with the material volume handled by the sculptor; (iii) the space accorded to the document, its size and form, its placement in relation to the

spectator (distance or height generating constraints of perspective), the aesthetic of the time (isocephaly, frontality, spiritual hierarchy), all admit of a certain bias.

Finally it is necessary to consider the appropriateness of the colours applied to instruments,[32] the coherence of instrumental ensembles, the symbolic purpose of the image; at the same time to assess the alteration, indeed amputation, of the document due to 'restorations' and/or aging of the materials (erosion, corrosion, blistering, migration of pigments, etc.), and to relate all of this information back to the internal (therefore invisible) structure of the instruments (a snare at the back of a drumhead, the barring of a lute, etc.), the expectations and requirements of those in positions of power at the time, whether religious, lay, traditional or academic.

It falls thus to the spectator, before beginning the work of reconstructing the (supposedly) original object, to take into account in advance an appreciable number of adjustments and corrections.

TECHNICAL AUTHENTICITY

It is also the responsibility of the experimenter to recover information on the materials, stock of tools and contemporary construction techniques of the instrument to be reconstructed, i.e., including also gestures, craft skills, a work rhythm, a patience, a time when mechanisation was non-existent. Research on materials takes place in the workshop: which types of wood were used? how was wood cut, dried and worked at the time? which pigments coloured or protected the instruments? was the object finished in a hard, half-hard or soft wood? was it made with a gouge, trimmed, pegged, nailed or glued? painted, waxed or varnished? is the soundboard necessarily vaulted on a bowed instrument? is it made of skin or of wood? Taking account of the historical context, which tools should we use today in the manufacture of this instrument: an electric drill, a wood-turning lathe, a plane, a saw or hot glue? Numerous instruments of the High Middle Ages were worked with a simple adze, a drill, or a tool for making notches. To reconstruct them by using 'traditional' tools does not have any relevance whatsoever at an historical level.

The study of markings and micro-traces enables experimental archaeology to revitalise perceptions and to understand bodies of knowledge (of which even experimenters are ignorant) which could not have been described in any written source. Jean-Claude Condi has attempted one of these experiments by reconstructing an ancient Greek lyre under the guidance of Annie Bélis. Rather than cutting branches necessary to set the arms of the lyre, he did not hesitate to seek out natural branches in the forest and even to shape them on the trees in his own garden. These branches are in fact more resistant than those shaped by the human hand. Such a simple detail as that implies acceptance of, and sometimes learning anew, how to work at the rhythm of the trees.[33]

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32. Old French and other medieval texts often contain references to silver instruments (i.e., presumably plated), including transverse flutes, bows, rebecs etc. For example, '[Merlin] joue j lai breton ... ot une harpe a son col qui toute estoit d'argent (Merlin, *c.*1270); archets d'argent des vieleurs entretenu par le jougleur anglais Raher, ayant fait fortune lors de Puy (quoted in Faral 1910/1987, ...); flahutes d'argent traversaines (Adenet le Roi, *Cléomadès* (*c.*1270), l. 7255).

33. For example, it is known that in the south of France trees such as the *Micocoulier de Provence* (*Cettis australis* L.) were used traditionally for fashioning forks.

INTELLECTUAL AUTHENTICITY

To these questions must be added others which have a bearing on the function and context of music instruments. Sites of habitation, for example, yield up degraded, fragmentary sources consigned to rapid disappearance: culinary waste, latrines, scoria, decayed materials, are the precious tools of archaeology. Beginning from these rejects, the scholar applies himself to reconstituting the image and activities of a precise moment. That explains the vigilance with which the material is examined. A flute, a tuning peg or a bridge discovered in a latrine or a waste-pit are first of all refuse. They were perhaps thrown there by chance, but chiefly because they were damaged or worn. They are not models, or are no more so. On the other hand, material discovered in the grounds of a house or a river-bed may perhaps have been mislaid, and material abandoned in panic following a natural catastrophe (such as the volcano at Pompei,[34] the flood at Charavi nes) undoubtedly indicate current usage. The little elderwood recorder from the end of the fourteenth century found in February 1991 at Serris (on the site of Euro-Disneyland) was discovered intact—with its block—in a water-logged ditch close to the entrance of a fortified dwelling. This object appears to have been mislaid. What music might one perform today on the replica of this instrument?[35] Is it correct to refer to it as a 'music' instrument or a signalling instrument, for which evidence is also provided in contemporary texts?[36]

Funerary archaeology of the High Middle Ages also produces exhumation of deposits which should be studied with great attention. Is the celebrated Sutton Hoo lyre an actual lyre constructed in order to be played? Could it also represent not so much evidence of a funeral ritual but rather the attribute of the music of the dead? In which case, why are accessories such as bridges made of less perishable materials such as amber (Elisenhof, Broa), antler (Birka) or bronze (Concevreux)? The bridge of the lyre from York, found in an urban secular context, is made of wood, which appears to confirm the theory that the manufacture of durable sound materials was for the purpose of accompanying the deceased to the other side. Similarly, one might ask if the position of the object in the grave was of some significance. The majority of medieval funerary lyres were found to the right of the body. Should one conclude from this a right-handed technique or a more subtle meaning connected to the universal valuation of the right? Such caution permits of greater attenuation in conclusions drawn from artefacts discovered in graves. These deposits of instruments are found in numerous civilizations as shown, for example, in the arched harp from the second royal tumulus at Pazyryk in the Altai Mountains (Rudenko 1953, 324, pl.86.1), the coptic lute in Grenoble found in fragments in Antinoa in the grave of a woman prophet (Gayet 1909), the trumpets from the tomb of Tut-an-khamun

34. The *auloi* discovered in the house of Caius Vibius were placed on a bed ready to be played. See note 19 above.

35. Reconstruction is being carried out by Jeff Barbe, a maker of traditional flutes.

36. The *gaite* (watch) of medieval texts refers to the wait as well as to his signalling instrument, horn, flute, etc. See, for example, the accounts of the Duc de Berry: 'Devant lui, un *bonhomme de gaite* vint *flûter* à Lézignan le 7 mai' (Pirro 1930, 5, B.389); or the *Roman de la rose* by Guillaume de Lorris (*c.*1240), l. 3875: 'Quant il set / qu'il doit la nuit fere le *guiet*, / il monte le soir as quarniaux / et atrempe ses *chalumiaus* / et ses *buisines* et ses *cors*; / une foiz dit chanz et descort / et sons noviaus de controvaille / as *estives de Cornuailles* / autre foiz dit a la *flaüte* / c'onque ne tova fame jute' (my emphasis). For iconographic representation see, for example, the thirteenth-century French manuscript of *L'Histoire de la Guerre Sainte* by Guillaume de Tyr (Paris, Bibliothèque Nationale, MS fr. 2824, fol. 21) where three men sound the watch with a trumpet, a flute and a drum.

(Hickmann 1961, 121, fig. 88; Hickmann and Manniche 1989, 56) or the Chinese bell-set and mouth organ (without reeds—which is surely significant!) buried in the tomb of the Marquis Yi of Zeng (von Falkenhausen 1991; see fig. 40 for an illustration of the mouth organ). The find contexts of excavated instruments is of essential importance to understanding and experimentation.

Another aspect of this enquiry concerns the 'ceremonial' surrounding performance of music. The contemporary western custom of listening in silence, usually within an enclosed space, to music performed before a large audience without the active participation of the latter (save in applause) is totally incongruous for the Middle Ages. Secular music generally took place out of doors, in the courtyards, in the *parvis* of churches, and on any raised area (*podium*) such as a platform, gallery, table, tree or hillock (*puy*) in front of a very attentive public which often participated in the event by dancing. In monasteries, on the contrary, sacred music was required to be (but was it in fact the case?) prayed in fervour and peaceful contemplation, thus excluding the faithful from the abbatial church. These chants were accompanied by processions and stations which varied according to the Proper and Ordinary of the Mass and Office, and evolved freely because chairs did not yet encumber the naves of churches.

How could one not react, under these conditions, against static concerts of plainchant in churches filled with a seated public, passive and oblivious as to its original function as prayer, or against the sanitised character of the recordings of pilgrimage songs such as that of the *Llibre vermell* by the Ensemble Hesperion XX,[37] which suffers from too much purity, and by the Caillard-Hayward Ensemble,[38] which is (perhaps) too agitated?

Recent experiments have been conducted in order to confront the public with an original-type situation. Curators and archaeologists from the Audois recently took the initiative of opening a medieval tavern at Villerouge-Terménès where the guests participated in a medieval feast at large communal tables while watching a spectacle inspired by fourteenth-century texts and iconography. Acrobats, musicians, fools and dancers entertained the diners who, in due course, relearned to talk, drink and laugh at will while listening to the music.

At another level, Ensemble Organum lent themselves on three occasions to experiments proposed by Pro Lyra (Centre Français d'Archéologie Musicale). They reconstructed various liturgical processions during concerts organised at Maguelonne Cathedral near Montpellier (Département Hérault), in five Cistercian abbeys, and in the chapel of the château at Saint-Germain-en-Laye on the occasion of the Fourth International Meeting for Music Archaeology. In the first two cases, these concerts formed part of festivals (respectively, Montpellier and Année Saint-Bernard), the audience was large and unfortunately seated and apparently very disconcerted by these unaccustomed perambulations. On the other hand, those in attendance at the last-named concert were reserved and aware, and were from the outset interested in the movement of the singers between reconstructed ambo and chancel (Homo-Lechner 1994). But if they accepted the absence of seats in the chapel, nobody became involved (perhaps through timidity?) in the historic proceedings which were directed at a standing public, as is still the case in the Orthodox church, but did not hesitate to sit even on the floor or lean against the walls.

37. Recorded July 1978; EMI/Reflexe 1C 065–45 641 (1979).

38. ERATO ECD 88 04 47, 1984– (CD version); ERATO MCE 75 122, 1984– (cassette version).

SOUND AUTHENTICITY

Far from being limited to questions of context and conduct, historical research is taken up to the point of discovering the sounds of instruments, because this exercise has little sense unless it responds also to research on sound. How to make an instrument live? Beyond the visual object, music archaeology extends to research on impalpable information which techniques of reconstruction (provided that they have been 'correctly' observed) can assist in their turn—but only to a certain limited extent. The low string tension of medieval instruments or the sound produced by hand-made gut strings represent some of these possibilities.

Nevertheless, in each period people subconsciously recreate the sound which is acceptable to them and which they wish to hear. Old recordings of Baroque music enable observation of noticeable changes in sound characteristics and aural pleasure. In the 1950s, Roger Désormière was not ready to hear what Jean-Claude Magloire could propose in the 1970s, even less the recent interpretations by Christopher Hogwood or William Christie. The 'Baroque sound' has such a varied history that one could well question the validity of certain hypotheses. Will we ever know its original colour? When will anyone dare to introduce those nasal timbres (tromba marina, musette de cour, hurdy-gurdy) which are still too disturbing to be of interest to musicians or to be appreciated by the general public?

The situation of the 'Medieval sound', with an even more acute absence of documentary information, is similar. The sound of the 1970s, in keeping with the movement of returning to traditions, was imbued with Celticising and Arabising flagrancies. Numerous ensembles accompanied their performances with *'ūd, rebāb, santur and zārb*, with Breton *bombarde*, 'Celtic' harp or instruments of much later date.[39] The temptation was great at that time to take a model—but without distancing oneself greatly—from ethnographic or 'art' instruments and to presume a direct relationship with the medieval period which, as we have shown above, is exactly the opposite position to that adopted in the nineteenth century when inspiration was rarely derived from ethnographic examples.

These amalgams and rejects ('impure' sounds, 'snorting' timbres) result from the modern education of the ear which perpetuates the immutable deafness of historians and, what is still more serious, the prejudice of musicologists and musicians. The same applies to the volume of sound (the 'absence' of power) which academic teaching still sometimes promotes.

When at Puivert the musicians tested instruments reconstructed in imitation of the sculptures on the castle, they quickly expressed their dissatisfaction because the material sounded 'bad'. In spite of being advised that they would be working on 'experimental' reconstructions, certain musicians could not prevent themselves from asking the makers to increase the sonority of their instruments. The sound which they discovered was indeed exotic, perhaps historic, but disappointing rather than conforming to the expectations of their modern ears. This experiment had the value of demonstrating clearly that even when collaborators were informed and aware of the purpose of the research, the sound, if cut off from a familiar auditory system, produces quite strong reactions, indeed

39. Compare the recordings of Les Ménestriers, Ensemble Guillaume de Machaut from Paris (e.g., *Le chant des troubadours*, 1979, ARION 38503), Florilegium Musicum from Paris, Studio der frühen Musik and their famous *estampies* (*Estampie: Instrumentalmusik des Mittelalters*, 1974, EMI/Reflexe, C063–30122), the Clemencic Consort with Chemirani playing the *zārb* (*Les Cantigas de Santa Maria* 2, 1976, Harmonia Mundi 978), Capella Antiqua of Munich with Renaissance instruments and a trombone by Ehe from 1690 (*Guillaume de Machaut, Messe de Nostre Dame und Motetten*, 1970, Das Alte Werk/Telefunken–Decca, 6.41125 AS), and so on.

obstructions. It has also revealed that when an instrument is reconstructed (thus inauthentic), its historical sonority is bypassed because it is considered as necessarily arbitrary. It is true that timbres are alterable at will, lose their pertinence, become 'innocent' and—if they are not recorded—leave no tangible compromising traces. The restored (recreated) medieval instrumental sound has still no definition and perhaps there also we should extend our efforts so that makers and scholars may become alive to the problems of perception and the irrationality of taste, so that they may attempt to justify the identity and influence of the sounds which they are reinventing.

Paradoxically, questions of accuracy offend only those detractors of ancient music who favour the big romantic sound, and who cannot withstand this craze for playing a repertoire on old instruments which do not keep in tune (or do so badly) and which sound poorly (i.e., inadequately). They are irritated by natural instruments (trumpet, horn, cornet, trombone), cross-fingering (transverse flute, oboe, clarinet), gut reeds which generate flexible sonorities, not powerful, not normalised, not virtuoso; ultimately they refuse this grain of sound, less regular and less sure, which contributes to the charm of such music in the same way as do the various unequal temperaments.

But if one controls Baroque *coloris* quite well today, what does one propose for the ancient popular traditions which were contemporary with it, and what of more 'ancient' epochs? How to regulate the reconstruction of instruments originally made by peasants? Did they know the different temperaments and, in the Middle Ages, the Pythagorean system? How to apply the precision of an interval described in an ancient Greek music treatise?

The historian regards himself as obligated to take liberties with these works, to transcribe, to translate, to deceive, to invent by the lights of his own incomplete knowledge and his culturally different sensibility. How to distance oneself from those transcriptions and their inherent authenticity? Or more precisely, in which instance and in what way are those transcriptions inauthentic, since there exist several types?

Transcriptions of works composed by their own author (e.g., *Les Indes galantes* by Rameau, transcribed for harpsichord in 1735), or with his approval, are here of course outwith our consideration. It is those 'transcriptions' established without the author's consent which we are concerned to document. To what extent do the substitution of one instrument for another (such as Bach's *Goldberg Variations* transcribed for accordion[40], or Vivaldi's *The Four Seasons* performed by a Japanese koto ensemble[41]—which would appear to stretch the possibilities to the limit), the reduction of a work (e.g., the Countess's Air from Mozart's *The Marriage of Figaro* for wind ensemble, remarkably transcribed in the eighteenth century by the Czech professional transcriber J.-N. Wendt),[42] the arrangement or orchestration (such as Rimsky-Korsakov's of Mussorgsky's *Boris Goudounov*), and the 'free' transcription (in the sense of Bach's transcriptions for organ or harpsichord—BWV 593, 972, 1065—of Vivaldi's opus 3 concerti for violin(s) or

40. Stefan Hussong, accordion: Compact Disc Thorofon CTH 2047, 1988. This recording constitutes one of the richest versions of this work in terms of phrasing and articulation. If it is totally anachronistic and somewhat provocative, it is perhaps more real than reality—as is sometimes said of imaginative literature when compared with documentary accounts.

41. The New Koto Ensemble.

42. It is not known if Mozart supervised Wendt's transcriptions. Meanwhile Josef Triebensee, Wendt's son-in-law and director of the Prague Opera for twenty years, played under Mozart's direction at the première of *The Magic Flute*.

Schoenberg's marvellous Strauss waltzes), alter the musical integrity of a work or its authenticity?

In substance, two criteria seem pertinent: the discretion of the transcriber and fidelity to the spirit of the work, the author and the period. The personality of the transcriber can in fact transform the character of a work. In other words, Bach's transcriptions have become Bach's work and Schoenberg has deprived Strauss's waltzes of their heady seductiveness. But to the extent to which the character of the work and its musicality are not misrepresented, in what way is the transcription to be condemned? In earlier centuries more tolerance has been shown towards revision of work established by colleagues and predecessors. The exigency of a 'pure' identity is recent but beyond realisation. The issue of transcription is a limited one in our enquiry here, sensitive and problematic though it is, since historians regard it with a certain scorn.

However, the historian too transcribes facts with unequal talents. It is within his province to examine and verify the integrity of the sources, but also to respond to the options chosen in the specifications to compensate for lacunae and to attend to those gaps in synchronic or comparative evidence of an aesthetic, functional, material, technical, repertorial or intellectual nature essential to the functioning of the instrument. Hypotheses may thus be elaborated and selected with a view to reconstruction. This moment is rendered particularly delicate because invention intervenes to enhance historical work.

As observed in the case of these 'ancient' musics, the transition to practice gives rise to questions which go beyond strictly musical considerations. How ought one to play these instruments? What is known of their playing techniques and their timbres? Are our crystal-clear notations and our sound instruments inherited from the eighteenth century suited to the spirit of that age? How ought we to revive the ancient rhythmic modes? Are nasalizing effects appropriate to all periods of the Middle Ages? How to tune the instruments? What temperament to choose? Should stringed instruments be used for melodic or percussive resources? What were the different left-hand positions (if such a concept existed)? How should the bow be held? Of what are the strings made, for which hardly any information exists for Antiquity and the Middle Ages? What repertory can one choose for secular instruments of which one does not, so to say, know the repertory? How to constitute ensembles? How, finally, should one interpret the music?

To this burdensome list of anxieties is added that of poor transmission of information. In fact it appears that, for want of curiosity, numerous makers of instruments perpetuate out-of-date models. The study made in 1988 of the instruments of the Porch of Glory at Santiago de Compostela again proposed systems of assemblage with bass-bar and soundpost little suited to the twelfth century (Jansen 1988, 126, fig. 6). An error is simultaneously a form of ignorance and also—and this is more serious—a conviction which is fixed, unjustified or simplistic (as in the case of superficial ethnographic analogy), or an old hypothesis which has not maintained pace with subsequent developments. Research involves regular revision of hypotheses by recourse to reconstructions. Thus it is now known that in the Middle Ages curved bridges could be adapted to flat bellies, that instruments are often monoxylous and made from local materials, and that they have no trace of a soundpost. One nevertheless deplores the fact that the increase in information of this nature does not reduce in similar proportion the role of subjectivity and invention, since it is evident that new information generates new ignorance by means of new questions.

Archaeological experimentation reaches out to specific musics but can never restore them to their past atmospheres and realities. It is difficult today to defend the idea of an advancing, linear progress towards historical truth. If the methods of approach assume

an increasingly interdisciplinary character, they remain imperfect, and no matter what the circumstances, they will remain subject to the mentality and the taste of their time. Who would now dare in our day to interfere with Notre Dame de Paris in the manner of Viollet-le-Duc? or extend[43] a harpsichord as in the eighteenth century?

Much effort is still necessary to analyse better and to correct our historical views as, for example, in the cleavage between maker and musician now completely abandoned in Europe. It would be desirable for musicians to learn once more how to work the wood before playing on their instruments, as was often the case up to the sixteenth century. In that way they would acquire better mastery and more intimate acquaintance with them. Similarly, instrument-makers should take the risk of performing music. Some lute-makers set an example some few years ago, but in due course chose one speciality or the other. And above all it is necessary for researchers, who are often scholars as in the case of the present author, to cease to play the role of intermediator of scientific information in the service of executants because the real control, on the one hand, depends on the practitioners, and the future, on the other hand, depends on multi-skilled researchers. It is desirable that they systematically complement their historical and theoretical training with instrumental practice, both in terms of musical performance and craft skills, in order to avoid the peril of exclusive knowledge.

Archaeological experimentation, in my opinion, represents a necessary and salutary route for everyone to test working hypotheses, both technical and musical. One would like to see the protagonists of these experiments engage in open discussion of the choices which have guided their results. These instances are unfortunately too rare and, whether from pride or fear of criticism, the protagonists flee from comments even if these last are an excellent means of avoiding error and pursuing the task of reflection. Today this fault is more evident among medieval music ensembles than among those for Baroque music where competition—and therefore the standard—is too keen to perpetuate such a weakness. Few medieval ensembles seek out occasions of public performance to develop their ideas openly and rigorously on questions of organological technique or of musical context.[44]

Up to quite recently, performing medieval music was a profitable enterprise which permitted of many liberties in interpretation and execution but which abused the general public because this music remained shrouded in mystery. With the prop of improvisation, admitted as a technique common in the Middle Ages, it also provided the possibility of inventing the music. By this subterfuge such activity became united with the demands of traditional music groups: denunciation of Eurocentrism and its consumer society, escape from its art musics (including Gregorian Chant) to replenish oneself in the exoticisms of other musics, to revive and re-introduce the existence of other cultures within and without Europe. Is it by pure chance that medieval instruments are often manufactured by specialists in traditional instruments? Examination of French directories of instrument-makers is revealing. Manufacture of an *épinette des Vosges* is frequently associated with

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43. I.e., in the sense of *ravalement*, involving the extension of both keyboard and body of the instrument, including the soundboard.

44. However, new structures are progressively being provided, such as the ARIMM (*Atelier de Recherche et d'Interprétation des Musiques Médiévales*) managed by Marcel Pérès at the *Fondation Royaumont*, which has organised and published conferences since 1982 (see Bec 1992a), or the recently-established *Centre de Musique Médiévale de Paris* under the scientific direction of Marie-Noël Colette.

that of rebecs, psalteries and dulcimers.[45] These ensembles in search of roots or soil have served to 'revive' traditions which never in fact existed, as is confirmed by those courses with suspect titles such as 'Folklore and Ancient Music' or the new 'Celtic' harp in Brittany with its clever hybrid structure of Irish, diatonic, 'Gothic' (following Pleyel's term) and Latin-American of Spanish origin.

This recent historico-traditional folklorism is characterised by a lack of cultural identity and therefore by nostalgia. It developed alongside the somewhat desperate and morbid collecting of popular arts in danger of extinction. It produces images of Epinal, of the myth which exalts the picturesque, ignores the contingencies of history and seduces the public, like the folklore troupes organised by totalitarian régimes in order to portray a false image, quite out of keeping with present-day reality.

In so doing, the links with mainstream musicology were, if not altogether avoided, very slack, unlike the contact with ethnologists. During the 1960s collaboration between archaeologists and ethnologists was strong, but a concomitant coming-together of musicologists and ethnomusicologists did not occur, due to too great a difference of attitude. Today, music archaeology appears to have learnt some lesson, and is interested in associating with developments in history and ethnology with a research emphasis angled towards ethnohistory. Like the ethnologist, the music-archaeologist practices similar methods, being interested in the sound and gestural context of music performance. The ethnologist, however, has the advantage of direct observation of behaviour in its totality, human behaviour in the presence of sound production, which permits of anthropological and sociological perspectives. Only temporal thickness separates the two researchers. The one explores the past while the other remains in the present. The music-archaeologist who 'transposes' certain ethnological methods into the past is deprived *only* of the actual sound. The ethnologist collects the sound at first hand; the archaeologist recreates it.

Archaeological folklorism of the last century, the result of romantic nostalgia linked to the heroic and the grandiose, constitutes the antithesis of this approach. The example of Ludwig II of Bavaria, patron of Wagner, is perhaps the most striking. He re-invented Versailles at Herrenchiemsee and Linderhof, medieval knighthood, Tannhäuser and Lohengrin at Neuschwanstein and Hohenschwangau, in huge castles constructed by theatre designers, but heated and provided with running water. History is here the pretext of a dream in which neither authenticity nor objectivity may be found.

Chateaubriand also blundered with candour in his historical whims. Visiting Charles X in Prague in 1833 he gave a brief description—with several errors—of some great figures of its past (Jan Hus) but made no reference to the Baroque splendours of that city which reminded him nevertheless of Rome. How could he have seen them when he was firmly convinced that that land was a land of the Reformation, of magic and alchemy? Bohemia is *un pays de sorciers*, he concluded (Chateaubriand 1849–50, IV, Book 4, 254–7). To what is our eye drawn today and by what will it be attracted in a hundred years' time?

At each stage in this article I have chosen examples to illustrate the reflexes and clichés of our perception of the musical past and its technical, moral, sound and historico-ethnic

45. See *Catalogue de la facture instrumentale française*. Paris: AREFI [*Association pour le Renouveau et l'Expansion de la Facture Instrumentale*]/Ministère du Commerce et de l'Artisanat 1982. Addresses of instrument-makers may be found in *Cahiers de l'animation musicale* 22, April 1983, and in the Guides published by the CENAM [*CEntre National d'Animation Musicale*]: *Annuaire de la facture instrumentale*, Paris 1987, and *Guide des instruments de musique*, Paris 1990. See also Dimet 1985 where the 'rebec' is associated with a dulcimer, an *épinette des Vosges*, and a bowed psaltery!

acculturation in order to explore the way in which we *consume* and fashion music history. I shall in conclusion address the question why we behave thus.

Our civilization idolises the ancient, finding in it values which are regarded as fixed and certain. This tendency explains the nostalgia of folklorisms discussed above, a venal taste for the picturesque which endeavours to flee the present, but also the guilt: fear of mistreating the old; fear of deciding the benefit of such and such an intervention and therefore fear of interfering; fear of spoiling; fear of destroying; fear of dissonances within the heritage of the present which might risk distorting the traces of the past; finally, fear of having confidence in the future. The ancient is no longer integrated within the present. It is voluntarily demarcated, isolated and placed on the pedestal which up until the last century was occupied by religion and the sacred. In this connection the case of contemporary music is a good example. For the first time in history, serious music of the present is situated far down on the list of public preferences. The educated public flees towards the old and the none-too-new, in music as in architecture (restoration methods, apartment blocks in false freestone) or furniture (the fashion for the pseudo-rustic, copies of old masters). Today's public is disoriented by the acceleration of life and the use of dehumanised, disquieting technologies. People are searching for reassuring landmarks. Taste for the old counteracts the course of the present. We are tortured by authenticity, the return to the true, in imitation of the Utopian 'back to nature'. For each of those movements there are corresponding new propositions, new visions. In this instance it generates a nostalgia for 'genuine', non-synthetic objects (neither concrete, nor formica, nor plating), but gives rise to the sale of artificially 'genuine' materials such as façades of reconstituted marble made up of sized marble-dust, or cladding in imitation of carved stone and applied to the outside of buildings. Where is the genuine? Where the artifice?

This general survey is not intended to be exhaustive or polemical. Its purpose is solely to encourage scholars to reflect and face practical questions, undoubtedly to some extent 'Byzantine', but often overlooked. We have seen to what degree history is perhaps invented (Thuillier and Tulard 1990), acculturated, adapted to contemporary use and confused in the vision of each epoch. It would appear preferable not to give priority to questions of authenticity but to seek out other methods of analysis. The history of history,[46] on the one hand, almost always subject to the perverse effects of interpretation, can assist towards better understanding of the issues and expediencies of each era; on the other hand, experimentation, which *de facto* calls for and brings about a creation, may perhaps also reconnect with the past in another way.

46. The recent development of this field of enquiry raises again the history of mentalities, as in the case of the history of collections. Cf. Boilès and Nattiez 1977; Chartier, Duby and Fèbvre 1987; Thuillier and Tulard 1990; also Exhibition 1992a, which is to a great extent devoted to the presentation of past research on Etruscan civilization; the lecture series organised by the Louvre entitled *Histoire de l'Histoire de l'Art* (October/November 1991, January/March 1993; publication forthcoming). See also Exhibition 1993b.

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Fig. 1. The *Société des instruments anciens* *c.*1895 with Louis Diemer, harpsichord, Laurent Grillet, hurdy-gurdy, Jules Delsart, treble viol and L. van Waefelghem, bass viol. The harpsichord by which Diemer is standing is now housed in Berlin. It was constructed by Pleyel, Wolff, Lyon et Cie between 1888 and 1891. It is fitted with a lyre supporting six pedals, but does not have a metal frame. Cf. Catalogue 1991, 289–93, pl. 40. (Photo: Publimages)

Fig. 2. Reconstruction of a fiddle from the portal at Moissac by A. Tolbecque, Niort; end of the 19th century. Paris: Musée de la Musique, E.034. (Photo: J.-C. Billing)

Fig. 3. Reconstruction of a fiddle from the Royal Portal at Chartres by A. Tolbecque, Niort; end of the 19th century. Paris: Musée de la Musique, E.0636. (Photo: J.-C. Billing)

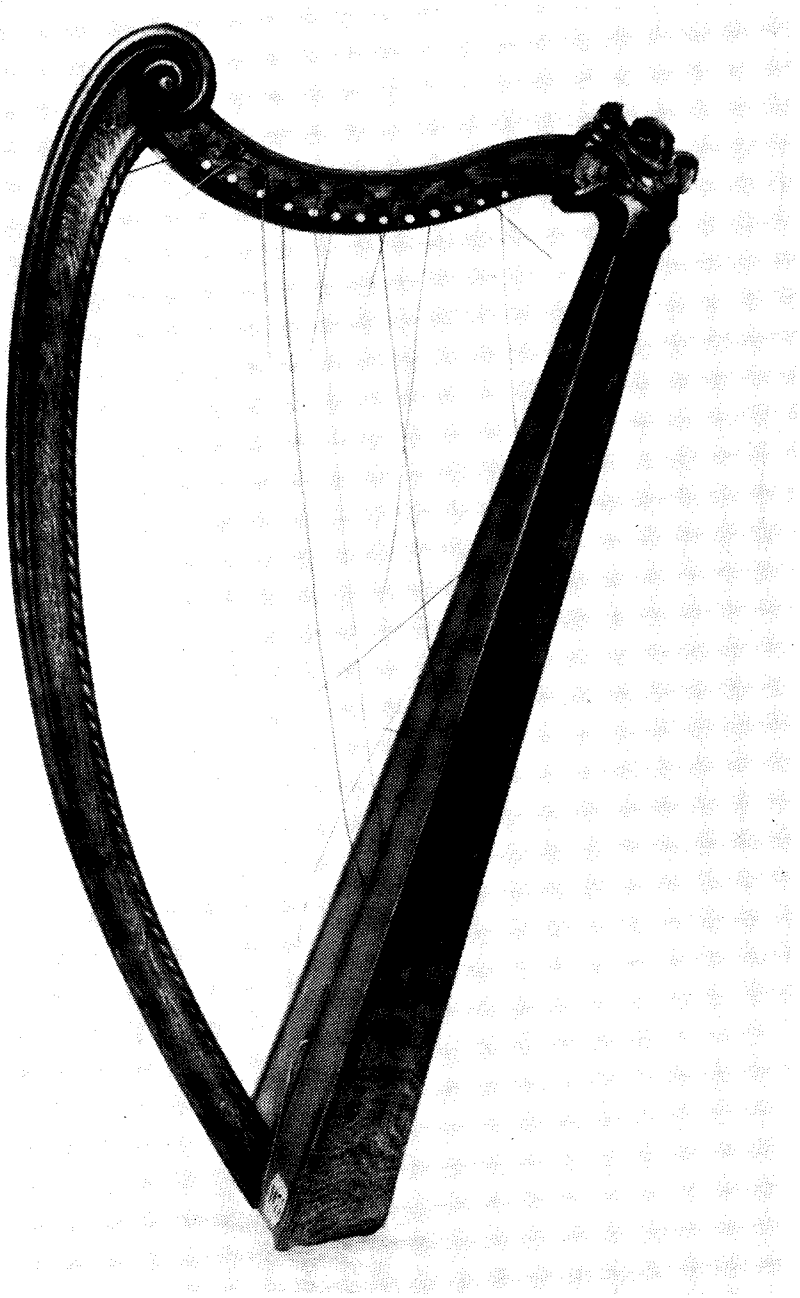

Fig. 4. Oak reconstruction of a 13th-century harp by Maison Erard, Paris 1889 (shown at the Universal Exhibition of that year). Paris: Musée de la Musique, E.1263. (Photo: Publimages)

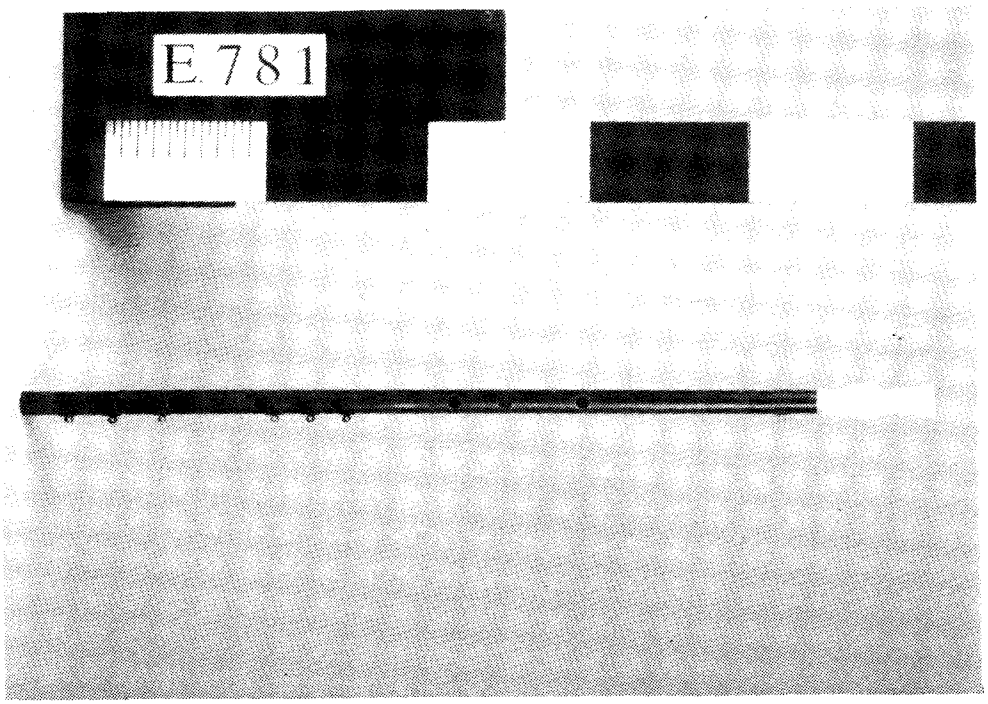

Fig. 5. Reconstruction of a Greek *aulos*, Victor-Charles Mahillon, Bruxelles, end of the 19th century. Paris: Musée de la Musique, E.781. (Photo: J.-C. Billing)

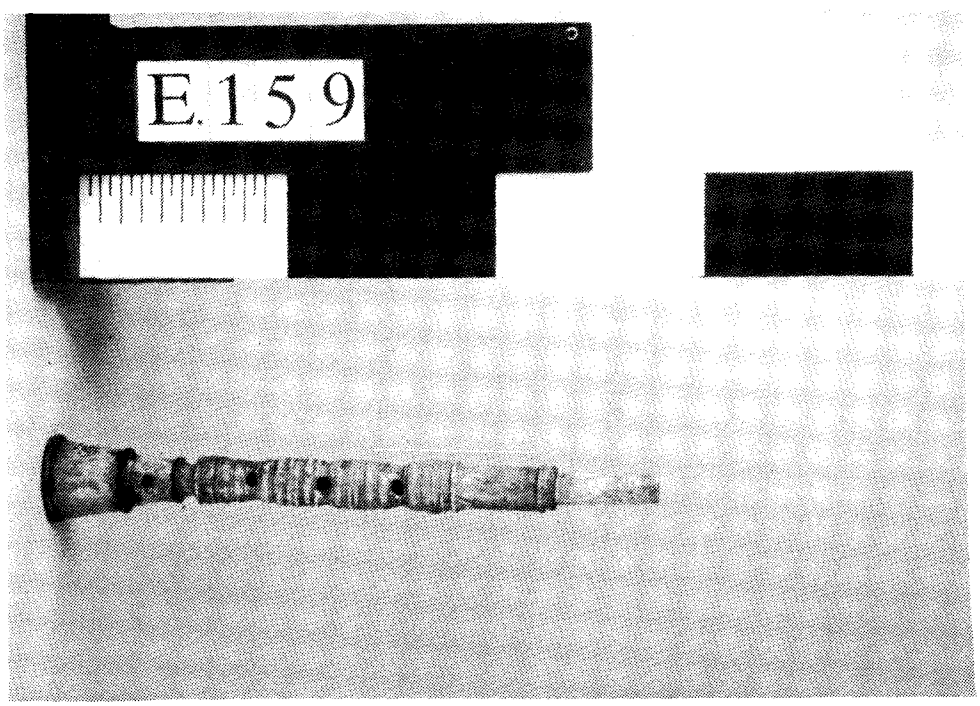

Fig. 6. False Roman *tibia* of bone. Paris: Musée de la Musique, E.159. (Photo: J.-C. Billing)

Fig. 7a. Stuttgart Psalter *c.*830, Saint-Germain-des-Prés. David playing a *cithara*. Stuttgart: Landesbibliothek, Bibl.fol. 23, fol. 55 [Psalm 42]. (Photo: after Bischoff et al. 1968)

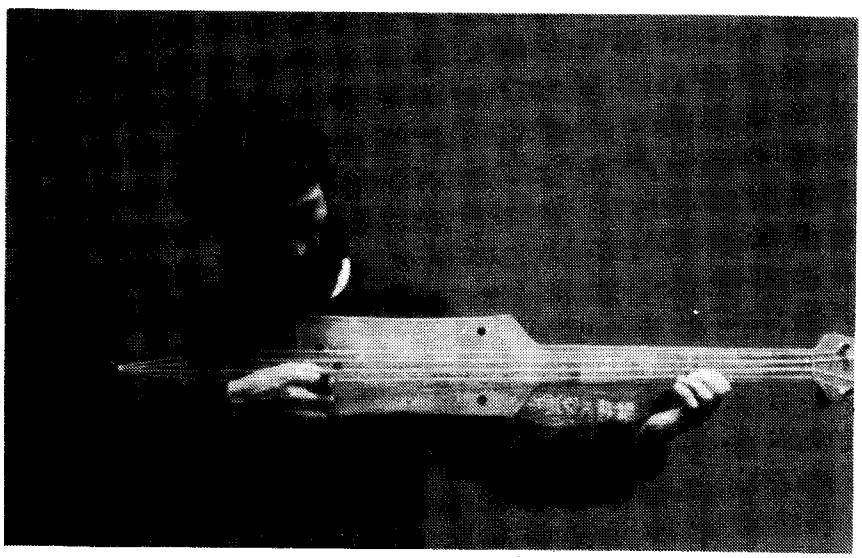

Fig. 7b. Reconstruction by Christian Rault of the instrument represented on the preceding miniature, 1983. (Photo: Chr. Rault)

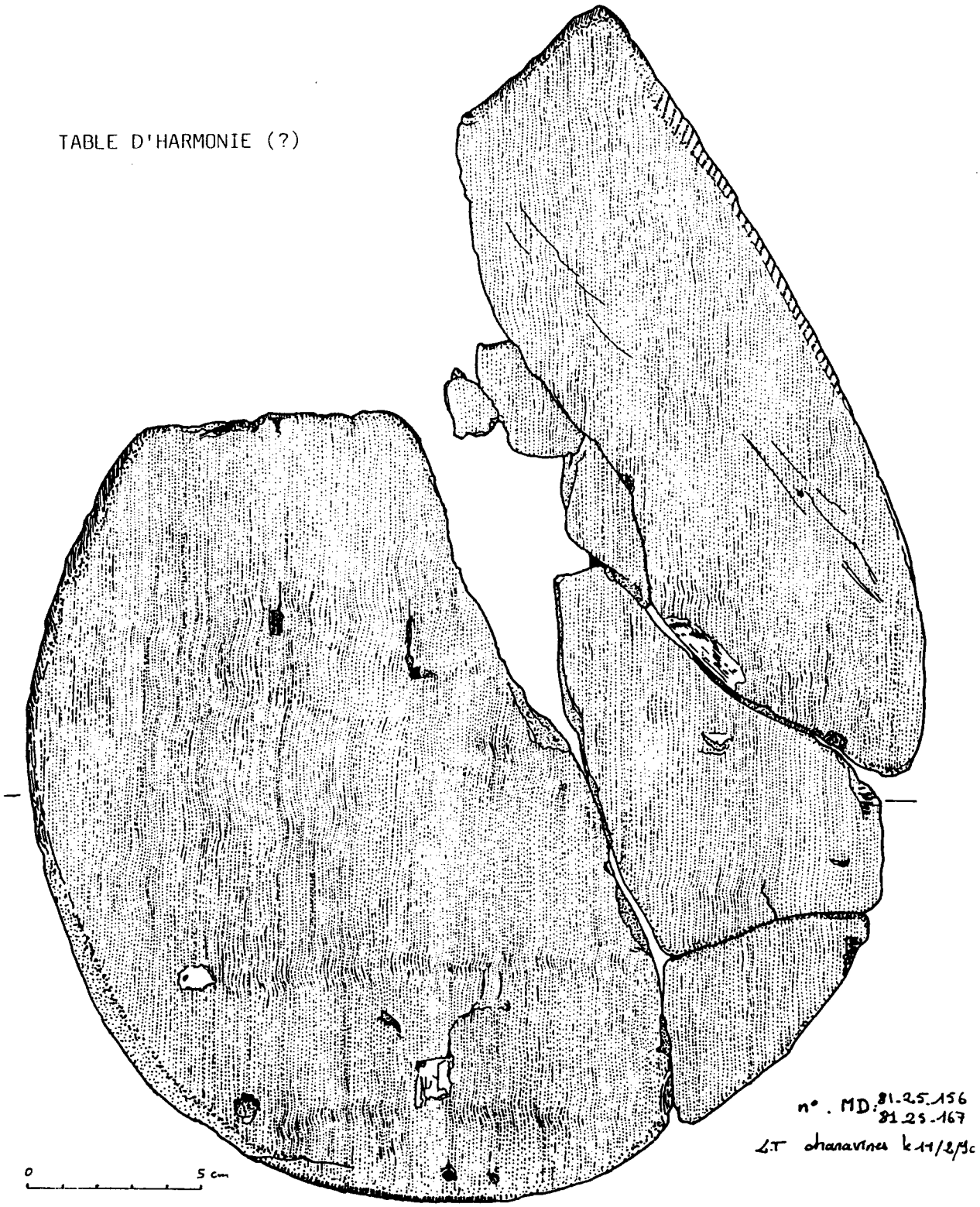

Fig. 8. Piriform wooden artefact discovered at Charavines on an 11th-century submerged site. Grenoble: Musée dauphinois. (Drawing by the Charavines Excavation)

NORTH BORNEO GONGS AND THE JAVANESE GAMELAN: A NEW HISTORICAL PERSPECTIVE

INGE SKOG[1]

> ... anatypical historiography, historiography going against the pattern of the culture under study ... [should be replaced by] syntypical study of the history of a people, in which its own historiography is viewed as one of the elements of its cultural pattern.
> Berg 1951–2, quoted in Zoetmulder 1965, 329

1. INTRODUCTION

This contribution takes as its starting point the gong[2] ensembles of Sabah, north Borneo. These gong ensembles fall into two categories: suspended gongs only, and gong-chimes with suspended gongs as 'accompaniment'.

During ethnomusicological fieldwork among the Lotud people[3] in the Tuaran area on the west coast of Sabah, I also became interested in the historical perspective. From where did these rice-farmers (and former headhunters) get their gongs? Who were the agents? And how old is the tradition?

The first questions seemed simple to answer. The gongs were said to come from the Philippines and from Brunei. Many were inherited and others were bought somewhere, often in the little town of Kota Belud not far to the north. But before that?

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2. In the present paper, I distinguish between 'gong' and 'bronze drum'. There is a marked difference in appearance and construction between the two instruments. 'Gong' is here used in the ordinary sense of 'a circular metallophone with a comparatively narrow rim and thick walls', whereas the latter has a rather thin 'membrane' and a comparatively long 'body'. The difference between 'gong' (in the above sense) and 'bronze drum' is thus a *morphological* one.

Acoustically speaking, however, both 'gong' (in the above sense) and 'bronze drum' are gongs and in this sense differ from bells: 'the gong's vibrations issue from its center while its rim is virtually dead, whereas the bell, on the contrary, is most resonant on the soundbow and dead at the vertex' (Marcuse 1975, 46).

'Bronze drum' is a translation of the Chinese *tonggu* and is often used in Western literature with apologies, since everybody of course acknowledges the fact that the instrument is not a drum (having no membrane) but an idiophone. (Today, Kempers (1988, 56) seems to be the only one to seriously defend the name 'bronze drum'.) Thus since a 'bronze drum' is in no sense a drum, Curt Sachs suggested already in 1915 (Sachs 1915, 38) the more appropriate term 'kettle gong'. In sum: within the acoustical category 'gong' we should distinguish between the morphological sub-categories 'gong' and 'bronze drum/kettle gong'. The term 'bronze drum' is used here in preference to 'kettle gong' for the sole reason that it is used by the authors and translators discussed below.

3. Lotud is what these people call themselves. They are one of the numerous ethnic groups of northern Borneo which are collectively known as *Dusun*, an exonym. The latter term is, however, nowadays used by some of the groups as a designation of themselves (and resented by others, who prefer the term *Kadazan*). I use it here for practical reasons. Similarly, several other ethnic groups further south are lumped together under another exonym, *Dayak*. For the following discussion, these groups must be distinguished from the Muslim (former) sea-dwellers along the coast (*Bajau, Illanun*, etc.).

On the one hand, small ensembles with similar gong-chimes can be seen as stone-reliefs on Angkor Wat in Cambodia and are, maybe, eight hundred years old. On the other, most musicologists take it for granted that gongs in the archipelago are Javanese. In that case, they would belong to a tradition with very deep roots. In his standard work, *Music in Java*, Jaap Kunst does not protest against Javanese traditions, asserting that the first gamelan, 'the three-toned Munggang' was 'put into service in 347 AD' (Kunst 1973, 260). In his book *Hindu-Javanese Musical Instruments* (Kunst 1968), he referred to historical information describing a 'gong-culture' in Java since at least the seventh century.

Mantle Hood goes even further back in time. According to him, the gong instruments developed from the so-called bronze drums (i.e., kettle gongs). These were imported to Java in sets 'sometime around the first century' (Hood 1970, 157)[4] as the original *Munggang* or *Lokananta* (Hood 1984, 33).[5] In due time the bronze drums were transformed into gongs and the little ensemble became the first gamelan: This 'first three-tone gamelan Munggang of the type housed in the palace of the Sultan today' was produced 'shortly after 300 AD'. Thus, the oldest gong ensemble (*gamelan Munggang*) is almost 1700 years old. The so-called Gamelan Majapahit (Tenggarong, eastern Borneo) 'probably dates from the 6th or 7th century'.

From this starting point Hood attempted to trace the evolution of the gamelan. The result was that, according to himself, most intermediate stages from *gamelan Munggang* to today's full-fledged gamelan were 'documented by extant archaic ensembles found in Java' (Hood 1984, 33): *Kodok Ngorèk* in the fifth or sixth century, at least four other gamelan in the seventh and eighth centuries, *gamelan Sekati* between the twelfth and fourteenth centuries, and so on.

Professor Hood's datings of the various Javanese gamelans seem to be accepted in the literature; for instance, they are used in the authoritative *New Grove Dictionary of Music and Musicians*,[6] and they form the basis for the chapter on Java in Hans Oesch's recent volume on non-Western music in the *Neues Handbuch der Musikwissenschaft* series (Oesch 1987). In his review in *Ethnomusicology*, Bruno Nettl regarded this chapter as 'a stellar performance of scholarship' (Nettl 1989, 148).

If the north Borneo gong ensembles originate in a Javanese tradition (I will argue below that they do), and *if* Jaap Kunst's and Mantle Hood's datings are correct, then there is a possibility that the Borneo gong ensembles are almost as old as the Javanese ones. Or, in practice, they may belong to any century of this huge time-span.

Below, I shall attempt to reduce this time span somewhat, in order to find a *terminus post quem* for the Lotud and north Borneo gong traditions. I will, basically, ask two questions: what evidence do we have concerning the early history of Javanese gongs and gong ensembles? What does the available evidence tell us of the spread of gongs and gong ensembles in the area?

Naturally, in a few pages, it is not possible to discuss in detail all the evidence that has been adduced on the subject by various scholars. Still, by examining a few key aspects, it seems possible to suggest a historical scenario that is rather different from the current one.

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4. Cf. the timetables in 1970: foldout facing p.167, and in 1984, 186.

5. Elsewhere, however, Professor Hood states that the bronze drums were imported already 'shortly after 300 BC' (Hood 1980, 57, 66, 122, 131, 132ff).

6. S.v. *Indonesia*, 169ff.

2. JAVA

2.1. THE HISTORICAL AND ARCHAEOLOGICAL EVIDENCE

For practical reasons, the source material will be divided into four groups: Chinese, Javanese, and Western literary records, and archaeological finds.

2.1.1. CHINESE SOURCES

Jaap Kunst uses several Chinese texts[7] (in translation) to show that Java had gong music already during the Tang dynasty (*c.*618–906). His oldest record of a 'gong' (Kunst 1968, 65) is found in Groeneveldt's translation (Groeneveldt [1880], 84) of the 222nd book of the Tang annals. Here, we learn that when the king Hu-lu-na-po in Poli sits in his chariot drawn by elephants, 'music is made by sounding gongs, beating drums and blowing conches'.

Our first problem concerns the general reliability of the descriptions. Below (fig.1) are three brief excerpts from old Chinese historical records, describing official, ceremonial occasions. All give information on music. The excerpt above on king Hu-lu-na-po comes from the third one (New Tang History), quoted by Kunst; I have added the other two for comparison.

Tongdian, 8th cent. — On 'Tan-tan'

吹	螔	擊	皷
chui	*li*	*ji*	*gu*
blow	*conch, caleb.*	*strike*	*drum*
1		*2*	

Suishu (Annals of the Sui Dynasty, 581–618).— On 'Chitu'

吹	螔	擊	皷	以	樂
chui	*li*	*ji*	*gu*	*yi*	*yue*
blow	*conch caleb.*	*strike*	*drum*	*make*	*music; joy*
1		*2*		*3*	

7. In the transcriptions the *pinyin* system is used, but in quotations I keep the original author's spelling.

Xin Tangshu (New Tang History) 222:3:2r. — On 'Poli'

鳴	金	擊	鼓	吹	螔	爲	樂
ming	*jin*	*ji*	*gu*	*chui*	*li*	*wei*	*yue*
make sound	*gold; metal*	*strike*	*drum*	*blow*	*conch caleb.*	*make*	*music; joy*
4		*2*		*1*		*3*	

First, a caveat on these ancient texts in general. When judging the contents of the old Chinese records, we must remember that the latter cannot be regarded as journalistic, one-hundred-per-cent reliable descriptions of reality. In a typically Chinese way they also relied on literary conventions, which affected both the way the author arranged his material and his choice of words. On top of that came the copying and re-editing process before the final version was included in, for instance, the dynastic histories.[8]

As exemplified by the above quotations, the authors use a limited number of stock phrases to stress how music (among other things) mirrors, or symbolizes, the glory and power of the king and the state in various countries. *Tongdian* uses two phrases, *Suishu* uses the same ones plus one, and *Xin Tangshu* has added a fourth phrase (which here precedes the other three). Thus, the descriptions do not change as often as the place-names.

The fact that contents and wording are influenced by standard patterns does not mean that the information is all wrong. The impetus behind these descriptions was economic and political; they should be seen as instrumental in China's attempts to establish trade contacts and amass political knowledge about the surrounding countries. In general, the sections on import and export wares are conceivably rather reliable; the passages with another function, to stress the sumptuousness of foreign governments, are probably less so, at least in their particulars. They should not be taken at face value without supplementary evidence.

Now, the translations. The word [金] *jin,* which Groeneveldt translates as 'gong', is ambiguous. Its basic meaning is 'gold', but it can also refer to metal in general, or various metal objects. It is one of the eight categories in the traditional Chinese classification of musical instruments. When a Chinese author had to mention an instrument with which he was not familiar and thus lacked the terminology, he probably simply indicated the category instead—'metal instrument', 'gourd instrument', etc. Which particular word we should use in a translation (if we try to be more specific than 'metal instrument') is thus largely a matter of judgement and conjecture. In older periods, *jin* often refers to 'bell', but—in later records in particular—it may also stand for 'gong', 'metal flute', and so on. Let us consult two sinologists who are also musicologists. For the Chinese Classics, Walter Kaufmann judiciously translates *jin* as 'metal instruments' (Kaufmann 1976, 56, no. 295); and Maurice Courant (1924, 122) translates the phrase *jin sheng* into 'le son du métal', a phrase which refers to the sound of 'les carillons "quand on les frappe fort"'. When he details the instruments of the Ming period (some 600 years later than New Tang history) orchestras, however, Courant interprets *jin* as 'gong' (*ibid.*, 24f). However, to what extent the word might really refer to a gong and not to a bell already during the Tang dynasty

8. See the example with Chang Sheng and Ma Huang below.

is not at all clear. A combination of bells and drums was often used in ritual orchestras in old China. Against this background, it is misleading to render *jin* into 'gong' in the translation of a single source from the Tang dynasty.

Finally, modern research is far from a consensus as to where Poli was to be found, but everybody seems to agree that it was not in Java. To state, as Kunst does, that the gong certainly existed in Java because it (possibly) was used in a country some 1000 miles away from that island[9] is hardly a scholarly conclusion. With the same methods, it is easy to 'prove' that the keyed harp is used in England, the kantele in Denmark, the Hackbrett in Sweden, and so on.

The next example of Groeneveldt's misleading use of the word 'gong' occurs in his quotation on Pahang from Fei Hsin's *Xingcha sheng lan,* which appeared in 1436. We read that 'Articles of import are ... gongs, boards, etc.' (p. 137). However, for these two nouns Fei Hsin uses the expression: [鼓 板] *gu ban;* the two characters mean 'drum' and 'clapper', respectively (Rockhill 1915, 121).[10] They have nothing whatsoever to do with gongs.

Our third record comes from the early fifteenth century. Here Kunst finds his first evidence for the existence of the gamelan in Java, including instruments like *bonang* and *gong*. From Zheng He's travel stories, as recorded by Ma Huan (1937, 164ff), he is able to cite 'a statement ... to the effect that "the gamelan consisted of a set of copper drums (of course bonangs [J.K.]) and a large brass gong ..." ' (Kunst 1968, 89).[11]

Let us begin with the gong. The Dutch translation of 1937 that Kunst used was not made from Ma Huan's original text. Groeneveldt's translation ([1880], 51) of the same passage suffers from the same deficiency ('the relations ... beat copper drums and gongs ...'). The original mentions only the bronze drum, but no gong (Rockhill 1915, 243f). However, several years after its appearance (not earlier than 1436), the original edition from *c.*1425–32 (?) (see Rockhill *ibid.*, 61) was rearranged, changed, and amplified by a Mr. Chang Sheng (*ibid.*, 71). This is when the gong,[12] which was not mentioned in the first edition, entered the text. It is most likely that Groeneveldt did not have access to the original version of Ma Huan's work, since it seems that only one copy of it is extant and this copy, moreover, was in private possession.

Still more interesting than the dubious gong are the 'copper drums'. Mr. Kunst states flatly that they are bonangs. But the Chinese language does not distinguish between

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9. Groeneveldt and Kunst guess that Poli was situated in northern Sumatra.

10. *Gu* is the generic name for drum, and *ban* is a synonym for *pai ban* (a compound that refers to the important clappers that are used for beating time in much opera and chamber music). Mathew, like Rockhill, regards *gu ban* as a compound meaning 'musical instruments' (M. 3479, no.8). To transform a drum into a gong is, unfortunately, no unique case of mistranslation. Van Gulik (1940) insisted on calling the venerable *qin* a 'lute'; and even as erudite a sinologist as Bernhard Karlgren (1950), in his translation of the Chinese classic *Shi jing*, rendered the names of the antique zithers *qin* and *se* as 'lute' and 'guitar', respectively. Legge (1960), in his translations of the Chinese classics, chose 'lutes big and small' for the same instruments. Mathews, in his dictionary, renders *se* as 'lute' (M. 3479 no. 14). And so on.

11. When he mentioned the same record a decade earlier in his great work on Java (*Music in Java* 1973, 112) he was not yet fully convinced; here the parenthesis reads: '(perhaps *bonangs*)'. (The last edition of *Music in Java* that Jaap Kunst saw to print was the second one, in 1949. The third, posthumous, edition from 1973 contains only very minor revisions in the text. When the second, English, edition of *Hindu-Javanese Musical Instruments* was published in 1968, it incorporated the very extensive revisions and additions that Jaap Kunst was working on during the fifties. Jaap Kunst died in 1960.)

12. *Tongluo. Tong* means bronze, brass or copper; *luo* is the normal term for the common, flat Chinese gong.

singular and plural, and there is no reason to assume that several objects were involved. Second, the words used in the Chinese text are [銅 鼓] *tonggu*. This expression is sometimes translated by Groeneveldt as 'copper drum', sometimes as 'gong', and sometimes as both (see for instance p. 107: 'a small copper drum (gong)'—for some reason in the singular this time!). However, *tonggu* is simply the normal and common term in Chinese for 'bronze drum', and has nothing whatsoever to do with gong-chimes (like bonang) or gongs.

Finally, we may comment upon Kunst's interpretation of a quotation from *Ying ya sheng lan* (in Groeneveldt [1880], 51), where 'we again [*sic*; besides *Cheng-Ho's travels* in the Dutch translation (Ma Huan 1937)] read of the occurrence in Java of brass drums and gongs, the blowing on coconut shells, and the beating of bamboo drums' (Kunst 1968, 89).[13] But *Cheng-Ho's travels* and *Ying ya sheng lan* are only different titles for the same text, as already touched upon above; Jaap Kunst has read slightly different translations of the same original. Consequently, instead of two independent sources confirming the existence of bonangs and gongs, we have none.

Although it is always dangerous to draw conclusions *e silentio,* it is striking that none of the available Chinese descriptions of Java before *c.*1500 actually mention gongs, an instrument which after all was well known in China by the time. To give another example: in the section on Java, the *Song shi* (Sung dynastic history) mentions that 'of musical instruments they have the flute, the drum and the clapper; they are furthermore skilled in dance'. (The Chinese text has *di, gu* and *ban,* respectively.)[14] The point is that such a conspicuous phenomenon as gong ensembles is not mentioned here either.

In sum, the support in the Chinese records for the early existence of gong ensembles and gong-chimes in Java is exploded. It depends entirely on mistranslations.

2.1.2. JAVANESE SOURCES

In a few cases, gongs are mentioned in Javanese written sources which purport to have deep roots in history.[15] Most of these texts are only extant in comparatively late versions. (The *kakawins,* for instance, survive mostly as nineteenth-century copies, having existed for centuries in oral tradition.) Since many of them—like the famous Paraton, which

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13. Kunst suggests that 'bamboo drums' in reality refers to bamboo zithers; he states that 'such bamboo idiochords are often called 'drums', and supports his interpretation with a concrete example from Nias. But the word that Groeneveldt correctly rendered as 'drum', *gu* (Courant 1924: *koù;* see for instance p.226, no.629), never means 'zither' in Chinese. (It is a different matter that, according to Mathews, the word *gu* may mean 'strike' (the zither), for instance *gu se,* 'play the *se*'; M. 3479 no.14.) Besides, these 'bamboo drums' are again no part of Ma Huan's text, but another later addition by Mr. Chang Sheng. In his earlier book on Java, Kunst (1973, 112) still makes allowance for the possibility that the two texts may be identical.

14. This text was copied into the dynastic history from a book by the traveller Zhau Rugua (Chau Ju-kua). Zhau, in turn, built his section on Java on information from other authors and travellers. The above quotation from *Song shi* was translated into English in Groeneveldt 1880, 17; a slightly misleading English translation of Zhau's text is found in Chau 1911, 77.

15. In many countries, a kind of romantic wishful thinking has allured scholars to try very hard to interpret various cultural phenomena to be as old as possible—a cultural attitude that in itself is worthy of an anthropological analysis.When the historian is bitten by this bug, the symptoms are usually that his writing temporarily becomes highly speculative. The change in his vocabulary is quickly noted by the perceptive reader.

contains many references to music—should be regarded as 'more a tale than history' (Soekmono 1965, 37), their reliability as witnesses with respect musicological detail of some 800 years ago is doubtful. There is reason to believe that, during their long life, they have not always been immune to changes of various kinds: explanations, additions and substitutions in order to make them more intelligible to the public.[16] But even if we presuppose that no copyist during the centuries has ventured to substitute a modern instrument (like 'gong') for an older one which was becoming obsolete (like, for example, 'bronze drum'), we can only be reasonably sure that the word 'gong' first turns up sometime around the twelfth century—and then in extremely few sources. It is remarkable that in the large, detailed and very informative manuscript, Nagara-Kertagama, from 1365, which is by far our best and most reliable source on early Majapahit, there is nothing that could be suspected as referring to gongs at all.

Jaap Kunst admits (1968, 67) that it is striking that gongs are rarely mentioned in the Old Javanese literature. To account for this fact, he postulates that the gong was also known under other names; the problem is to find out what these names are. True, there are several unidentified terms which seem to stand for musical instruments. Kunst singles out a few of them as possible synonyms for 'gong'. A case in point is the Sanskrit word *bhèri* which is mentioned in *Adiparwa*, *c.*1010 (Kunst *ibid.*, 94). Today, it is the name of a small gong.

There is no doubt (*ibid.*, 66) that *bhèri* originally referred to a drum, and that this was the case at least as late as the eleventh century. But on the evidence that *Adiparwa* uses the word *tabeh*, 'to strike', in connection with this instrument, and considering the fact that nowadays this verb is used 'primarily' (*sic*) for idiophones, Kunst draws the conclusion that in olden times (at least in the eleventh century), *bhèri* might also mean gong.

However, the verb *tabeh* was used for membranophones as well, for example *manabeh ta kendang* (Ramayana 22.3)[17] or *kendang gending gubar ghurnitatara tinabeh* (Hariwangsa 36.7). Kunst adds (*ibid.*, 67) that 'when the word [*bhèri*] is used in combination with *mrdangga* we must bear in mind that it might mean a kind of drum'. True enough; but when this combination occurs in the Old Javanese literature, the same verb may be used: *mrdanga bheri tinabeh* (Udyogaparwa 101.7). The basis for the hypothesis that *bhèri* might also mean 'gong' in the Old Javanese literature, vanishes. (And we may, of course, also ask: if the word *bhèri* can change its meaning from drum to gong, why cannot *tabeh* change from 'beater of idiophones and drums' to 'beater of idiophones?)

For reasons of space, it is not possible here to discuss the other words (*gubar, mahasara, munda* and *saragi*). Suffice it to say that with the possible exception of *gubar,* these cases are still less convincing. (In a later chapter in his book, Kunst himself (*ibid.*, 88) seems to have changed his mind since he now states that *mahasara* and *munda* are drums). But no real basis is given for this guess-work, and in the case of *mahasara* Kunst himself admits that he is just speculating.

It has been argued that the Old Javanese word *gendhing* refers to a kind of gamelan ensemble; *ergo* such orchestras existed already some 600–1000 years ago. But the meaning of the word *gendhing* in the Old Javanese literature seems to be anybody's guess. Kunst (*ibid.*, 5, 72f) for instance, believes that the word may be linked to 'gamelan'

16. For an example of the result when a manuscript was copied and altered several times, see Winstedt 1939, 32ff.

17. This and the two following quotations from primary sources are taken from Zoetmulder 1982.

because *tukang gendhing* was recently reported to mean 'gamelan smith'; also, a nowadays rare Balinese gamelan ensemble was, in the 1850s, referred to as *gendhing luwang*. However, he also states clearly that (in the Old Javanese literature) 'nothing can be found out about the nature of the ensemble meant' (*ibid.*, 5). Professor Hood (1970, 151) offers a very different interpretation and insists that *gendhing* meant 'rebab', a bowed instrument originating in the Middle East.

However, a review of the way the word was used in Old Javanese literature (see Zoetmulder 1982, 515) suggests that *gendhing* was a generic term, used before the development of various particular terms for percussion instruments (both idiophones and membranophones): *gendhing gong, gendhing kendhang, gendhing bheri*, etc.[18] It tells us nothing of either the number of instruments involved or of the relation between the instruments. 'Gamelan', on the other hand, is not a generic term for percussive groups, but refers to a very particular category of music ensemble. Consequently, to translate *gendhing* by 'gamelan' is misleading and can only cause confusion. Zoetmulder points out that the word 'is frequently found in descriptions of armies', which suggests that *gendhing* was used more for signalling than for making 'music' in the Western sense. By metonymic extension the term got the meaning 'organized sound made on such (percussion) instruments', and finally, as the modern gamelan developed from the small percussion ensembles, the present sense of 'melody' or more specifically 'gamelan composition'.

We conclude that there is very little evidence of gongs in Java in Javanese and Chinese written sources before the fourteenth century. After an examination of the sources, the remarkably few examples—in Javanese texts—that still remain mention single gongs only, mostly used for military or signalling purposes; there is no information on gong ensembles or gong-chimes.

2.1.3. WESTERN SOURCES

Around 1515, in an extraordinarily interesting note, the excellent observer, Tomé Pires, provides the first description of a Javanese gong ensemble:[19]

> ... tem musyca de synos tamJem como orgaõos o som de todõs de todas vezes.

The English translation reads: ' ... they have the music of bells—the sound of all of them playing together is like an organ' (Pires 1944, I, 177).[20] But again, this is probably a mis-translation; there is no need for any far-fetched comparisons with organs here. *Orgaõ* conveys the meaning of 'each of the parts in a mechanism or organism, working together',[21] and *synos* (mod. Port. *sinos*) means bell. In other words, the author gives a good description of an ensemble with (suspended) gongs, playing together in an interlocking pattern.

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18. Compare the way words like *burung, bunga, ikan* etc. are used in Indonesian and Malay, for instance: *burung badak*, 'bird hornbill', *bunga melur*, 'flower jasmine', *ikan lemuru*, 'fish sardine'.

19. Kunst's statement (1973, 5) that the rather uninteresting and trivial remark by Francis Drake in his logbook of 1580 is the oldest European record of Javanese music is wrong by sixty-five years.

20. The Portugese text is in vol. 2, 419.

21. I am indebted to Dr Lars Hedin, Stockholm, for this translation.

The word 'bell', for 'gong', was used by many subsequent writers during the next centuries, for lack of a suitable Western term. This should not make us think of some high-pitched, tinkling sound. Peter Mundy, in one of the first Western records to use the word 'gong', writes from Sumatra in 1637:

> another Copper Instrument called a gung, wheron they strike with a litle woodden Clubbe, and allthough it bee butt a small Instrumentt, not much More than 1 Foote over and 1/2 Foot Deepe, yett it maketh a Deepe hollow humming sound Resembling thatt of a great bell.
>
> Mundy 1919, 123

We have seen that the asserted first record of a bonang in the written sources (Ma Huan, above) was due to a mistake. According to Kunst's standard work, the next description of a bonang is found in a report from 1602:

> Their drums are high-pitched pans of some metal called Tombaga, and which generally make a hellish noise ... This music consisted of ten or twelve Tombaga pans, carried upon a handpole, between two men. Each was tuned a note higher than the other ...
>
> Kunst 1973, 155

But this text, translated by Kunst from the eighteenth-century work, *Historische Beschrijving der Reizen,* is corrupt. The original (which actually describes an event in Banten in June 1605) was published by Edmund Scott in 1606, and begins: 'Their drums are huge [not 'high-pitched'!] pannes ...' (Scott 1943, 154–5). It is perfectly clear from Scott's choice of words that he is not describing a small gong-chime of the bonang family (which is 'high-pitched' but can hardly produce 'a most hellish sound'), but a set of large, hanging gongs. The ensemble witnessed by Tomé Pires may have been something similar.

These 'huge pannes' are also represented in a picture from a visit to the same west Javanese area in 1596 (Rouffaer and Ijzerman I, pl. 24).[22] It shows four large, suspended gongs, which here play together with two small sets of horizontal gongs; in one of these, four small gongs are visible. This is, to my knowledge, the first visual representation of gongs in Western sources, and the first record of Javanese horizontal gongs anywhere. In the oldest report from the expedition, both the large suspended gongs ('groote beckens'), the loud noise ('een groot gheraes'), and the female dancers are mentioned:

> ende hebben oock groote beckens daer zy op cloppen, ende weten so een groote melodye te maken daer de vrouwen na dansen ... dese danserye ghebruijcken zy al des nachts, so datter snachts een groot gheraes is van Beckens end Instrumenten ...
>
> Rouffaer and Ijzerman II, 30

2.1.4. ARCHAEOLOGICAL FINDS

There are no old archaeological finds of gongs or gong-chimes to help us establish a chronology. The excavated bonang-kettles mentioned by Kunst (1973, 159) do not prove that gong-chime instruments existed during Majapahit or earlier. These instruments are, as far as I am aware, discussed for the first time by Kunst in the 1920s (1924, 6) when he mentions 'een aantal in den grond of in rivier-beddingen gevonden gongs, bonangketels

22. Reproduced in Kunst 1973, 2, ill. 62; the bibliographic reference is misleading.

en gendirtoetsen, die mogelijk nog van Hindoe-Javaanschen en, op zijn laatst van vroeg-Mataramsche herkomsts zullen zijn'. Thus, according to Kunst, these 'bonang-kettles' could well be from the seventeenth century. But since we know from the above-mentioned picture that at least some kind of rudimentary gong-chimes existed in Java by then, these finds do not add much to our knowledge. Furthermore, in his 1968 study, Kunst now states of these gongs that 'there is no way of determining to which period they belong' (Kunst 1968, 65; cf. 62).

It was pointed out above that the records of gongs in the Old Javanese literature mention single specimens only. This is illustrated as stone-reliefs (all from eastern Java) from *c.*1370 on. The oldest picture shows one *gong agung* suspended from a pole carried by two soldiers (like in the description by Edmund Scott, above; see Kunst 1968, 66, figs. 54 and 55–9; Kunst 1973, 109). For the rest, the few pictures show small, handheld gongs used possibly for signalling purposes.[23] However, in this context we must mention the *réyong:* two small gongs, each attached at the end of a horizontal stick which lies across the player's lap. The oldest record (a stone sculpture) may, it is guessed, be as old as 'about 1200?' (Kunst 1968, fig. 47); the next one is from *c.*1300. They always show one musician only, playing his réyong with one beater in each hand, much as he would play a two-headed drum. This set-up is noteworthy, since the artists would have no difficulty in reproducing whole musical ensembles if they wanted to.

Only at the end of the fourteenth century (1375) do we encounter the first little group of several réong players.[24] No similar ensemble seems to be mentioned in the Old Javanese literature.

2.1.5. CONCLUSION

Let us sum up the observations so far. During several centuries, gongs are only recorded sparsely and as single specimens. One small réong ensemble turns up around 1375, and groups of suspended gongs are described from *c.*1515 onwards. Around 1600 we find the first Javanese small gong-chimes, perhaps better described as stands with four small horizontal gongs. This is not much on which to play melodies and it is debatable whether the designation 'gong-chime' (if the term connotes 'device on which to play melodies') is justified. We shall return to this subject below. An informed estimation, then, is that ensembles with suspended gongs developed only around the fifteenth century, and that small horizontal gongs did not carry much importance before the end of the sixteenth century. There seem to be no records at all that they were used in the fifteenth century.

23. Hood (1970, 160) attempts to prove his 'working hypothesis, namely, that instruments of the gong-chime cultures of the Orient become smaller in size through time, and individual units multiply to form sets, the sets in turn being combined to form increasingly large ensembles'. The latter part of the hypothesis is no doubt true, although it seems that this development mainly took part during the last few centuries. The first part, however, is probably wrong. The first records of gongs show that the instruments were rather small. Groslier (1921, 126) estimates that the largest gong in the stone-reliefs of Angkor Wat *'d'après la taille des porteurs ... peut mesurer 0.50 [metres]'*, and the first representation of a Javanese gong (on Kedaton) confirms this. A few extraordinary large, prestigious court specimens should not be taken as representative for a general development.

24. On the pendåpå-terrace of Candi Panataran in Kediri Residency, East Java (Kunst 1968, fig. 62).

2.2. GAMELAN MUNGGANG

The difficulty with the series of datings of the various gamelans in the contemporary literature is that there is no evidence to discuss. When we try to find out why a particular gamelan is said to be from, say, the ninth century, the whole argument ultimately turns out to rest on the statement that gamelan Munggang was created in 347 AD.[25] Our task now will be to examine this statement. Two questions will be asked: first, why should the historian believe at all that it is correct? second, what is the function of the statement in the context of Javanese culture?

2.2.1. THE EVIDENCE OF THE MANUSCRIPTS

We turn first to Professor Hood's starting point, a quotation from Jaap Kunst, who 'without specific documentation' (Hood 1980, 155) reports that gamelan Munggang 'is said to have been put into service in Çaka 269 = 347 AD' (Kunst 1973, 260; cf. Hood 1970, 150).

This information is found in Groneman's book on the Yogyakarta gamelan traditions (Groneman 1890, 48),[26] and we may speculate that Kunst, as a student of Javanese music, first came across it here. In his book, Groneman cites the section on the early history of Javanese music in R.Ng. Rangga Warsita's *Pustaka Raja Purwa* from the Surakarta (Solo) kraton (Rangga Warsita 1884), where the mythologic chronology of early gong ensembles is reproduced. This chronicles purports to treat the kings in the period of Mahabharata; Rangga Warsita is considered to be the last of the official chroniclers (the *pujanggas)* and died in 1873. (A perusal of Kunst 1973, 15ff, however, shows that Kunst has gone to the sources and studied both the original text of Rangga Warsita's chronicles and the Yogyakarta kraton gending collection, which is so central to Hood's discussion; see below.) Besides the evidence from Kunst, Hood supports his hypothesis with reference to a seven-volume manuscript in the Yogyakarta kraton. This manuscript, which gives the notation of the balungan part of more than 700 gamelan melodies (*gendhing*) was written in 1888 (Hood 1980, 159). The introduction begins with the story of the creation of the first gamelan Munggang.

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25. One representative example will serve to illustrate this point. Hood (1980, 174) writes as follows: 'By the 13th century, as we have pointed out, Gamelan Munggang already was regarded as an ancient and sacred type of ensemble to be reserved only for very special occasions'. This sentence, which states both that the gamelan Munggang existed and what particular functions it performed during a particular century, refers to another sentence two pages earlier: 'As early as the period of the Majapahit empire (thirteenth to sixteenth centuries) gamelan Munggang already was reserved as an ancient and holy gamelan used in connection with the religious rituals of Javanese Hinduism'. This time, we get a footnote referring to Kunst 1973, 260. When we turn to this page for proof, we are treated to the information that Batara Guru (= Shiva) created gamelan Munggang in 347 to be able to call the gods for consultations, and some pure guesswork: 'The position which it occupied in the kraton of Majapahit corresponded, it appears, to that which is reserved to-day for the gamelans sekati ...'. New references lead us to Stutterheim's *De Kraton van Madjapahit*, Goens' *Reijsbeschrijving van den weg uijt Samarangh nae de koninckIijke hofdplaets Mataram...* and Hood's own article of 1970. But the information given on gamelan Munggang in Stutterheim's little book (1948, 51, 68) is limited to observations on contemporary practice (he does not refer to any records that it existed several centuries ago), Goens's extensive report is about Mataram in the middle of the seventeenth century (and tells us nothing about Munggang—see Goens 1656), and Hood's own article has nothing to add.

26. Groneman, in turn, refers to p. 253 in the first volume of the printed version of Rangga Warsita's manuscript.

Professor Hood finds that gamelan Munggang, and also a number of other musical instruments, are mentioned in both the section on the early history of Javanese music of *Pustaka Raja Purwa* and in the corresponding section of the introduction to the Yogyanese gendhing collection. He takes the fact of the existence of the same information in two different sources as confirmation that these instruments in fact had an early existence, the rationale being that the two sources are independent (since they come from two competing courts) and therefore support each other.

For reasons of space, we cannot reproduce the contents of the two texts. But it is possible to demonstrate the close parallelism of the two manuscripts in tabular form:

	Groneman (*Pustaka Raja Purwa)*	Hood (*Yogya gendhing collection*)
		tetabuhan Lokananta or gamelan Munggang
162/240[27] Shiva		Sang Hjang Batara Guru = 'the godlike king of
	Sri padoeka rådjå Måhådéwå Boeddå	Medang Kamulan, Sri Panduka Maharadja Déwabuddha'
created		
	taboehan Lokanåntå	tetabuhan Lokananta
269/347 Shiva orders Indra to make	Giri Nåtå Endrå gamelan Lokånåntå	
279/357 Indra created	Endrå	Sang Hjang Héndro
	taboehan soerèndrå	tetabuhan Suréndra
out of:		
	gending (rebab) kålå (kendang) songkå (gong) pamatoet (ketoek) sahoeran (kenong) gamelan soerèndro	gending, now called rebab kala, the modern kendang sangka, a type of gong pamatut, ... the ketuk sahuran, ... the kenong
326/404 Indra presents it to	sangjang Endrå	Sang Hjang Héndro
	Sri måhårådjå Kano	Sri Maharadja Kano
of		
	Poerwåtjaritå	Purwatjarita
who adds		
	saloendi (kempoel) garantang (gambang)	Salundi, ... the kempul garantang, ... gambang
after which		
	het gebruik van den gamelan	he then allowed his people

27. Chronology acording to the traditional Javanese *çaka* and the Western system.

	sedert dien tijd op Java algemeen is geworden	to make copies
328/406		
	vorst Kano	Sri Maharadja Kano
	in navolging	imitating
	van de bewoners van 't land	the inhabitants of the country
	Adjam, ... Joden en Hindoe's	of Hindu-Arabic-Jewish origin
	oorlogs-taboehan ...,	war instruments ...
	mardånggå genoemd	Tetabuhan Mardangga

Kunst (1973, 15) lists the musical instruments that are mentioned in the Solonese *Pustaka Raja Purwa* (and above), and Hood (1970, 152) compares this list to the instruments in the introduction to the Yogya kraton gending collection. Considering Surakarta and Yogyakarta's 'past history of open or smoldering hostility' (1970, 153), Hood finds it significant that the two lists are so similar. In his view, this similarity testifies to the two manuscripts' credibility also on historical events of very long ago. He states that both sources 'represent the summation of a long oral tradition' (1970, 153) and (with reference to the Yogya manuscript) he maintains that 'it is possible that some of the traditions recorded in this source stretch back into proto- and prehistoric times' (1980, 158). This, in turn, makes it possible for him to regard the story of the creation of the first gamelan in the fourth century as a true statement of a historical fact, notwithstanding his occasional use of expressions like 'semi-mythical' and the like. For Mantle Hood, this assignment of the Munggang to the fourth century is an indispensable starting point; the datings of the other 'archaic' ensembles are then arrived at by a kind of interpolation.

As is clear from the above, the two texts are indeed very similar; probably more so than Hood apparently is aware of, since he has himself obviously not consulted neither *Pustaka Raja Purwa* nor Groneman's summary.[28] Not only are the Javanese terms for the musical instruments the same in both sources, but the historical narration is strikingly similar both as far as basic structure and particulars are concerned.

This similarity between the two manuscripts, then, is the exact opposite of a proof that the tradition is old and reliable. What we have is not two independent lines of tradition which mutually support each other. Instead, the very similarity between the two accounts indicates that they are interrelated; most probably, the introduction to the Yogya kraton gending collection simply used the historical information in the prestigious and authoritative *Pustaka Raja Purwa*. In doing this, the compiler of the Yogya collection is part of a by now well-established tradition. A comparison with the introduction to *Noot Gendhing lan Tembang* and with Prajapangrawit's *Wédha Pradangga*[29] shows that these two works have used the same information as in the table above, and even retained the same wording. The explanation is given by Prajapangrawit himself in his introduction: the sources to his book 'included selections from *Pustaka Raja*' (Karawitan 1987, II, 33). This close connection between *Pustaka Raja* and the Yogya collection is further underlined by an observation on the former work which was made in the article *'Vokalia dan Instrumentalia pada Gamelan'* (cited Karawitan 1987, II, 309) concerning the five instrumental terms mentioned under the year 279/357. The author, from the editorial staff of Udan Mas, states that

28. Otherwise, he would not have used the expression 'without specific documentation' (see above).

29. Both reprinted in English translations in Karawitan 1987, vol. 2.

> Ranggawarsita probably has mistranslated these terms (except for *kala* and *parmatut*), and that the most likely correct translation is: *gendhing* means 'gamelan', *sangka* means 'a kind of trumpet', and *sahuran* is not a term for an instrument.

These corrections appear to be largely in order, as confirmed by Kunst (1968, 5, *gendhing*,[30] and 1968, 30ff, *sangka*). And the point here is that Rangga Warsita's mistranslations in *Pustaka Raja Purwa* turn up also in the Yogya gendhing collection (as may be gathered from the table above). Consequently, the text in the Yogya gendhing collection is dependent upon the version in *Pustaka Raja Purwa*. Contrary to Professor Hood, we must conclude that the existence of the gamelan Munggang myth in two different manuscripts does not support any statements that the actual ensemble came into being almost 2000 years ago.

Finally, a few words on the source and only remaining basis for the accepted chronology, in much contemporary literature, of the history of the Javanese gamelan, Rangga Warsita's *Pustaka Raja*. In the eighteenth and nineteenth centuries there was a renaissance of classical Javanese literature. This renaissance arose in the central Javanese courts with Surakarta as its main centre. The works of the Surakarta authors, the *pujanggas,* spread all over Java and were considered as models to be imitated; in the words of Pigeaud, who has mapped this development for us, 'in the nineteenth century, Surakarta renaissance literature was considered as the Javanese literature *par excellence*' (Pigeaud 1967, 7). Thus it was no remarkable phenomenon that the compiler of the Yogya ghending collection copied parts of a recent Surakarta text in his introduction.

As noted above, Rangga Warsita was the last of these *pujanggas*. He collected traditions and old stories which he arranged chronologically. However, his chronology and the exact years assigned to each event were products of his imagination only; he simply made it all up. Because of this, the impression he gives of being historically reliable is entirely spurious (Pigeaud *ibid.*, 170). This fact, of course, is a death-blow to the hitherto accepted chronology of the gamelan. And two questions arise: why did Rangga Warsita embark on this, from the outsider's point of view, almost bizarre undertaking of making up dates for the entries in his great collection of tales? And why did he put the creation of the gamelan as early as 347 AD? Pigeaud formulates the answer to the first question: 'His, at first sight preposterous, idea of dating all tales is to be considered as a consequence of his thoroughly Javanese belief in an all-pervading Order, which should be visible in myth and ancient history (*ibid.*, 170)'.

The second question merits closer investigation.

2.2.2. GAMELAN MUNGGANG IN JAVANESE CULTURE

Rangga Warsita's assertions that gamelan Munggang was created in a distant past should be regarded as an aspect of its particular position in central Javanese court culture rather than as well-founded testimonials of its historical development.

In Western writing, the role of gamelan Munggang in Kraton culture has been badly misunderstood. For instance, Groneman (1890, 45) tells us that its music on the *siti inggil* 'verhoogt den luister der *garebeg*-feesten', and in Hansen Raae's free translation of Tirtokoesoemo (1931?, 57) we read that what the Munggang plays on this occasion is a 'song of welcome'. In reality, its functions are to be found on a much deeper level.

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30. But cf. on gendhing in the section on Javanese sources above.

First of all, the gamelan Munggang case may be regarded as a classic anthropological instance of legitimization of authority. A myth is not an historical record, but neither is it just a story. Instead, it may be regarded as a statement of events in the remote past that are seen as the justification of existing institutions or validation of social arrangements. The myth, then, becomes a 'social charter' which defines the rights and privileges of groups and persons to particular positions of social power and to particular property rights; it has to be interpreted by reference to its connection with other extant institutions in society. For instance, 'one requisite for the establishment of kingship is often some claim to a specially close relationship with supernatural beings. This claim may rest on the belief that the king is actually descended from the gods' (Mair 1970, 214; cf. Firth 1951, 239f; Gluckman 1965, 26; Mair 1974, 204).

In Java, new dynasties and kings always tried to present themselves as the rightful heirs of the realm and the perpetuators of the existing order, not as the inaugurators of a new era. To stress this, several means were used. The most important, to be considered here, are genealogy and *pusaka*.

2.2.2.1. GENEALOGY

The basic claim to authority was that the kings were actually descended from the gods. The seminal text on myth, seen in this light, is Malinowski's 1925 Frazer lecture in which he states that myth 'is not an explanation in satisfaction of a scientific interest, but a narrative resurrection of a primeval reality, told in satisfaction of deep religious wants, moral cravings, social submissions ...' (Malinowski 1954, 101; cf. also 144). Instances could easily be multiplied from the ethnographic literature.

In the course of Javanese history, we find this standard pattern constantly at work. One of the first documented cases is the so-called Erlangga poem (dated 1041 AD), discussed in this light by Berg (1956, 172ff). Another example is Angrok (twelfth century), the founder of the kingdom of Singasari. In Pararaton,'The Book of Kings (from Singasari to Majapahit)', he is called the son of Brahma, the (adopted) child of Bhatara Guru [= Shiva], and an incarnation of Wisnu (Schrieke 1957, 9; cf. Berg 1951–2, 6ff). And so on, throughout the following centuries.

2.2.2.2. PUSAKA

The next technique is merely an extension of the previous one. Pusaka are sacred heirlooms, a category of objects that are inherited from previous generations. Their role in this context can hardly be overestimated.

When new rulers and dynasties appeared on the scene, there was always a danger that the sacred continuity would appear to be broken. The point is brought forward by Schrieke (1957, 9) who continues: 'Cogent proofs had therefore to be brought forward showing that the new rulers were really regarded as legitimate sovereigns. Hence the emphasis [was] laid on their *kesakten* [magic power], on the passing of the mystic light of royalty to the new rulers'. He mentions as one case in point that the imperial crown of the Hindu kingdom of Majapahit was worn for years by the rulers of Mataram as outward sign of the continuity of power. Another example is the name 'gamelan Majapahit' which is more easily explained by similar claims rather than as a kind of historical testimony.

Thus, belief in divine origin, as well as genealogy, myth, and supposedly age-old *pusaka* were invoked in legitimizing the position of the ruler. Powerful objects like gamelan

Munggang, surrounded by a mythical aura, fulfilled the important task of visualizing the link with the divine past, thereby reminding the citizens of the ruler's right to his elevated position.

2.2.2.3. COSMOLOGICAL ASPECTS

A deeper insight into the role of gamelan Munggang in the context of Javanese culture is possible by examining in some detail the cosmological aspects of kingship in Central Java. In this respect, kingdoms like Madjapahit, Mataram and the later sultanates are largely representative of the religious and philosophical pattern that we also find in the other Indianized states of Southeast Asia (Coèdes 1971, 100f, 119f).

The basic tenet in the Javanese conception of the world is the idea of universal harmony. In central Java, the human realm was constructed to mirror this cosmic balance, because 'humanity is constantly under the influence of forces emanating from the directions of the compass and from stars and planets ... Harmony between the empire and the universe is achieved by organizing the former as an image of the later, as a universe on a smaller scale' (von Heine-Geldern 1956, 1). In practice, both the physical lay-out of the capital and the organization of the formal administration of the state were arranged to reflect this cosmic harmony.

The magical centre of the capital and the kingdom is the palace itself, the *kraton* (von Heine-Geldern 1956, 11; Geertz 1980, 109ff; Mulder 1978, 14; Magnis-Susento 1981, 93ff). Like everything else, it is designed to replicate the cosmic balance and symmetry. In the middle of the microcosmos, under Mount Meru in the kraton, which is the magical centre of the kingdom, is the king, *ratu*; his sacred energy, *sakti*,[31] is so great that even his finger-clippings are saved for their inherent power. He is the point where macro- and microcosmos meet, and his seat is the axis of the world. He is the lens, the prism, through which the divine grace radiates all over the kingdom (Anderson 1972, 8), gradually getting weaker the farther away it reaches. With the king rests the main responsibility for upholding the unity and equilibrium between the human and the cosmic orders; his inner harmony mirrors the balance of conflicting powers in the universe.

How does the king become a 'prism', capable of attracting this cosmic power? To explain this, we must introduce the twin concepts *halus* and *kasar*. *Halus* may be translated, roughly, as pure, refined, controlled, soft, and *kasar* as coarse, crude, uncontrolled (cf. Geertz 1964, 232ff; Anderson 1972, 38; Magnis-Suseno 1981, 87ff). The *halus-kasar* axis is a conceptual scheme that can be applied to most aspects and products of human life, including batik, dance, music, and behaviour in general; every Javanese is familiar with it (Peacock 1967, 65).

The *halus* behaviour is not only the sign of a good upbringing and one of the symbols of a high status group in Javanese society (Cohen 1976, 74f). Through his politesse and self-control, each gentleman is a microcosm of the heavenly order (Peacock 1975, 170). The goal is to be able to control one's human emotions and passions; it is this inner maturity that shows in the outward composure. A *kasar* person lacks inner balance; he may be capricious, unpredictable, even potentially dangerous. This contrast between *halus* and *kasar*, between the spiritual control and the lowly passions, is dramatized in the shadow-play, *wayang kulit*.

Here, the most central of all the puppets is not one of the living creatures at all, but the *gunungan* or *kayon*. This is a large and very versatile puppet, which performs a variety

31. Cf. Magnis-Suseno 1981, 85 and *sakti* in Zoetmulder 1982.

of functions during the play. Its shape is that of a mountain (hence the name *gunungan*); on one side it pictures a tree growing up from a small building. The tree is the Tree of Life, possibly derived from the well-known Indo-European symbol. Various animals are playing in its foliage: monkeys, birds or serpents are usually present, sometimes even tigers, buffaloes, etc. Its roots are within the house, and to pass through its doors is, in fact, to enter *Surga*, Heaven. But the door is guarded by two hideous *raksasa*, giants, armed with swords: the twins Hyang Cingkarabala and Hyang Balaupata. They represent the two strongest of all human powers: hunger and sexuality (Ulbricht 1972, 5f). Man can hope to enter through the gate of Fulfilment and meet God only on condition that he has purified his soul and mastered his longing for food and his carnal desires. In the world of the wayang, it is stressed that the way to purify the soul and to attain complete self-control is to meditate (Hardjowirogo 1965, 49).

The role of meditation in generating power is a common theme in Javanese culture. In Javanese yogaistic traditions, divine power is absorbed with the help of techniques such as fasting, going without sleep, sexual abstinence, or other kinds of *tapa*, or asceticism (Anderson 1972, 8; Mulder 1978, 23). However, in this quest for insight and power, meditation seems to be the most efficient tool.

Power, in the context of Javanese culture, is not equivalent to brute, physical force. Instead, it emanates from an inner quality, the *kebatinan*. To have this power, *kasektèn*, is to be *sekti*. Meditative concentration means contact with the divine, a mystical union with God, and accumulation of spiritual energy. The more the mystic can concentrate on his union with God, and the more he can turn away from chaos, *lahir*, the *kasar* aspect, the more he becomes a receptacle for the spiritual powers (Magnis-Suseno 1981, 90); indeed, the most obvious sign of the man of Power is his ability to concentrate (Anderson 1972, 13). And this is the way the ruler, in his position at the very centre of the microcosmos, and in the extraordinary concentration of deep meditation, becomes a mediator between the mundane world and the world of God.

It remains now to assign gamelan Munggang its proper place in this cultural context. Kunst (1924, 27f; 1973, 259) lists several occasions for playing the Munggang. Against the above background, one of them is of particular interest, namely, its use during the *garebeg*. This is a state ritual which is celebrated three times a year. The basic structure of all garebegs is the same. The details need not be described here, but one central aspect is that the Sultan and his attendants move from his private quarters to the *Siti inggil lor*, a raised area with a large hall in the northern part of the kraton. The route of this procession is rich with symbolism.

Within the *Siti inggil* there are two small halls, *Bangsal Witono* ('Seat in Heaven', the place of the Munggang gamelan during the ceremony) and—adjacent to it in the north—*Bangsal Mangantur Tangkil*, which symbolises a soul within the body. The latter is the place of the Sultan's throne, the centre of the whole ceremony.

The Sultan's ceremonial walk from his private quarters to the throne is not only a movement from one building to another. This time-space process corresponds to the separation phase in van Gennep's analysis of the rites of passage (van Gennep 1908, 21). The procession passes through a number of symbolic barriers, stages in the Sultan's increasing concentration. He approaches and ascends the throne, and sits down to meditate; this is the moment when his mind reaches its highest state of concentration, the liminal stage, the point of contact with God and the Macrocosmos. And at the same moment gamelan Munggang begins to play.

Most schools of Hinduism accept that there are eight steps in the practice of yoga, leading up to liberation from the world and a realization of the self as a transcendent spirit. They are, in brief: (1) purity of mind, (2) cultivation of good habits, (3) adoption of

suitable postures for meditation, (4) breathing exercises, (5) restraint of the senses, (6) keeping the attention fixed on some object during meditation, (7) meditation on the object of attention, (8) perfect concentration of the mind on the object of attention. All these points are relevant during the *garebeg*. For the present discussion, however, the most interesting one is (4).In Yoga practice, these breathing exercises 'conduce to the steadiness of the body and the mind. They consist of deep inspiration, retention of breath and expiration, with measured durations in the proportions of one to four and four to two time units, respectively. The practice of breath control enables one to suspend breathing for a long time and thereby prolong the state of concentration' (Chatterjee 1953, 223). Another and more general function of breath control during meditation is that, like correct posture, it helps to control the body and keeps it from distracting the mind (Bhattacharyya 1953, 166).

The only authoritative report on the way the Munggang is played on this crucial occasion seems to be the one by Brongtodiningrat (1978, 16): '*perlahan-lahan dan tidak keras, menurut rhythme keluar masuknya nafas*' ('soft and not hard, following the rhythm of breath expiration and inhalation').[32] For the argument, this information is highly pertinent, considering the importance of breath control during meditation.

We are now in the position to assess the function of gamelan Munggang in this context of kraton ceremonialism. It is not only the tangible (and audible) symbol of the ruling group in society, but also a most important part of the liminal rite, a tool in the communication between the Micro- and Macrocosmos. To utilize an image by Anderson (1972, 8f), it is part of the mechanism that, during the phase of transition, makes the burning-glass (i.e., the king, the eternal meeting-point between heaven and earth) perform its function of concentrating the divine light to an extraordinary degree in the centre, only to let it pour out over the realm to give prosperity and happiness.

2.2.3. CONCLUSION

This analysis of gamelan Munggang viewed in the context of Javanese society has shown that it was a cultural necessity to assign its origin to a very distant past. One of its functions was to validate the Sultan's claim to be the legitimate ruler of the realm; another was to serve as a tool during the rite when he attained his mystic unity with the cosmic powers. It was inconceivable that a 'sacred' ensemble, fulfilling a vital function in the mediating process between the divine cosmos and the human world, could be of recent manufacture; and the fact that it was a *pusaka* with a legitimizing function meant, virtually by definition, that it was created sometime in the mythical past. In other words, to equip gamelan Munggang with a very long history was a cultural necessity, not the result of a reliable historical tradition.

From this point of view, the mythology around gamelan Munggang performs its function well. Rangga Warsita stated that the first gamelan was created by Sang Hjang Batara Guru (= the Indian god Shiva) in 347, a date of his own invention. The name of the ensemble was Lokananta, 'heavenly music played on invisible instruments'. From this mythological context, Professor Hood picks one item, the year 347, and uses it as the only, and somewhat fragile, basis for his entire series of datings of Javanese gamelans.

This insight is a good starting-point for a reconsideration of the historical evidence concerning the early gong ensembles on Java, such as the one carried out in the first section of the present paper. Since such an analysis does not give any support to the

32. This observation, like many others of a more technical character, is omitted from the English version.

theories of early gamelan ensembles in the area, it conforms well to what we have learned of the real character of the gamelan Munggang myth.

3. THE DIFFUSION OF THE GONGS

Many independent sources, the first of them being Tomé Pires around 1515 (see Pires 1944) and Duarte Barbosa in 1518 (Barbosa 1921, 198), confirm that Javanese gongs were in demand in the archipelago during the sixteenth century: 'They have enough copper bells and *fruseleira*[33] bells for the needs of these parts. It is great merchandise' (Pires 1944, 180). Some of these gongs were exported to Malacca and then distributed over the whole archipelago in return for cloves and other export wares (Barbosa 1921, 174f); others were sold directly to the customers.

The first description of a gong ensemble in the archipelago (outside of Java) was made by Pigafetta, who took part in Magellan's circumnavigation. It was located in Cebu, central Philippines, in early April 1521. The ensemble consisted of one drum, two small and one large gong, and one pair of cymbals (?). Pigafetta states that the 'metal drums' are Chinese, but there is reason to believe that he is in error here; the character of the little ensemble, his description of its soft sound—'*elles sonnans daccord / qui rendoyent vng son tres doulx*' (Pigafetta 1969, fol. 40r), and the name *Aghon* (Jav. *agung*), for the gongs, makes it more likely that they represented the knobbed, Javanese tradition.[34] He was followed by a swarm of subsequent writers who witnessed the increasing trade in Javanese gongs over the whole area. It is noteworthy that when these writers give information on prices etc., they invariably talk about single gongs, never about sets of gongs or gong-chimes. It is clear from the source material that these gongs are luxury items. We find them occasionally in rituals, but primarily as status symbols and investment objects among the affluent nobility:

> The Kings and great men set great value on these and keep them both great and small as a treasure and estate.
>
> Barbosa 1921, 203

In sixteenth- and seventeenth-century reports we find several statements to the same effect. These products, manufactured from rare and expensive bronze, by skilled craftsmen, were economically out of reach for ordinary people. As today, wealth was very unevenly distributed among the population; the expression *orangkay* (Malay *orang kaya,* rich man) is repeatedly met with in travellers' reports from the whole archipelago up to the present day. In 1521, Pigafetta found that one gong was worth approximately 130 kg. of cloves. This equalled, roughly, 100 knives, or 30 pairs of scissors, or 10 axes, or 30 kg. bronze, or about 25 glasses. Pigafetta (1969, 118, 169) adds: 'And the king had all that'. No wonder that the numerous sixteenth-century reports detailing the kind of merchandise traded between the islands of the northern archipelago hardly ever mention gongs. Here, they were obviously too rare to be of much importance.

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33. Bronze, or a mixture of copper and lead (much inferior to bronze).

34. Although, due to the rise of Malacca as the dominant trade centre, Chinese trade contacts with Java were not as extensive as they had been a century earlier, the Chinese still played a considerable part in Javanese trade (see Meilink-Roelofsz 1962, 26). The strong possibility that the gongs were transported on Chinese junks may account for Pigafetta's mistake.

The second factor which contributed to the maintenance of gongs within narrow social bounds was the trade pattern which was to develop and become firmly established in the whole area during the next few centuries. With the growing spread of Muslim preachers/traders and the expanding spheres of influence of the Malay states (like Brunei), Malay petty rulers seized control over local trade. The result was that the locals, 'Dayak' and others, were 'compelled to sell their produce to some neighbouring raja or rich Bugis for what he thinks proper to give them... These are all pirates who paralyze the exertions of thousands of individuals who would be otherwise active...' (Dalton 1837). These circumstances may at least partly explain the observations on the 'Dusuns' relations with the outside world' (or, rather, lack of such contacts) that were made by several western visitors. For instance, in 1775 Jesse was told by informants from Brunei that the Dusun rice-farmers had 'no purchaser for their commodity but the Borneyans [= people from Brunei], who treat them very indifferently, the intercourse, of consequence, is not carried to any extent' (Jesse 1794, 5); and Dalrymple confirms a few decades later that the Idaan (as the Dusun were called by then) 'from their want of foreign Communication ... are less addicted to Commerce, than the Value of their Country would make it imagined' (Dalrymple 1792, 535; *ibid.* 1806, 58). Since they were thus to a large extent cut off commercially from the outside world, the Dusun had few possibilities to buy gongs, even if they could afford to.

Still, little by little, gongs eventually penetrated into the Dusun and Murut societies. This seems to have happened in two waves: first the suspended gong ensembles, and later the gong-chimes. Generally speaking, the suspended gongs are found among practically all ethnic groups, and then in both ritual and profane contexts. The gong-chimes have a more limited distribution and are often (for instance among the Lotud) only used for entertainment, dance accompaniment, etc. The two should preferably be discussed separately, so let us distinguish between the *suspended gong complex* and the *gong-chime complex.*

3.1. SUSPENDED GONGS

The suspended gong complex has a wide distribution in all societies in the area under discussion (north Borneo and Mindanao). It is well integrated in ritual life everywhere; important ceremonies in the life cycle and the rice year are (or were until recently) normally accompanied by gongs. The antiquity of these traditions as a widely distributed phenomenon should not be exaggerated, but the development started early. We find the first observations on ritual gong music (in the southern Philippines) in the sixteenth century. As we noted above, these gongs were of the Javanese kind. This does not necessarily mean that they were all manufactured in Java. Already during Majapahit, some six hundred years ago, Brunei was part of the Javanese empire; and when the Indonesian gong ensembles developed and became integrated in ceremonies of state as symbols of its power (both in the divine and the worldly sense of the word), it is natural that this music and the ritual dances spread to the vassal states. However, when the famous Brunei bronze craftsmen began to make gongs is not at all clear. Pigafetta observed brass cannons there in 1521,[35] but it is believed that gong manufacture belongs to an unspecified, later phase of the Brunei bronze industry (Huyser 1929, 129). Forrest

35. In translations, 'brass' is the term generally used (for instance, Pigafetta 1969, 101; Lim and Shariffuddin 1976, 142). The French manuscript has *'artillerie de fonte'* (Pigafetta 1969, fol. 60r).

(1779, 176) states flatly that the knobbed gongs he observed in Sulu (southern Philippines) in 1775 come from Cheribon, Java.

There are several facts that link Javanese music and dance to north Borneo. For instance, with respect to ritual dance, the very informative *Nagara-kertagama* from 1365 tells us about a dance of crucial importance Pigeaud 1960–2, I, 51; my emphasis):

> çrí rajya rikanang witana *mangigel* bini bini juga tang maninhali mark

in Pigeaud's translation (*ibid.*, III, 78):

> The Illustrious Kings in the *witana* (great hall) there danced with *binis* (women), *binis* (women) only were the onlookers, entering into the Presence

From his commentary (*ibid.*, IV, 517):

> The dance of a male performer in front of a female dancer (*mangigel*) is repeatedly mentioned in the texts. Dances of that kind were often performed on the occasion of religious festivals. Probably they were connected with the idea of fruitfulness and the cult of an ancient chthonic Mother Goddess [...].

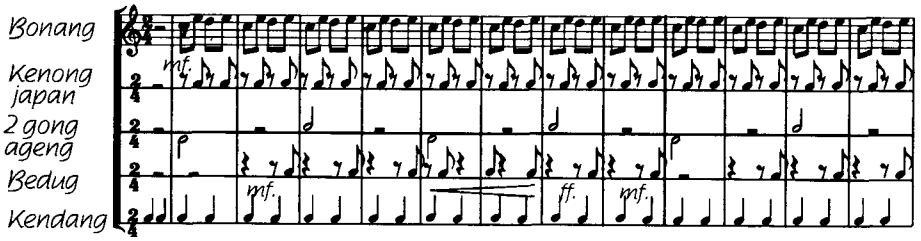
This word, *mangigel*, is also found in the chronicles *Sejarah Melayu*, in the oldest version from the sixteenth century. The Malay Sultan Mansor Syah visits Majapahit in Java to marry the beautiful princess Raden Galuh Cendera Kirana, and as part of these state celebrations there is music and dance (Shellabear 1981, 89):

> memalu segala bunyi-bunyian, daripada gong, gendang... giring... ada yang mengigal...
>
> made all kinds of music, on gong(s), drum(s)... giring... some people danced...

Mention is made also of several other instruments. The text deserves an extended analysis, but it is striking that the little foot-bells, *giring*, are found in this context. One of the most important ceremonial dances among the north Borneo Dusun is called *mengigol*; it features little foot-bells, called *giring-giring*. This dance is closely associated with the head-hunting complex, an extremely important institution in Dusun culture which was intimately associated with rice cultivation. The rice economy of the Dusun is a cultural focus (in Herskovits's sense—see Herskovits 1964, 542–3), and head-hunting was crucial to obtaining a good harvest, understandably an extremely important concern in a peasant society.

It is also possible to establish links between Java and the Dusun gong music. Again, consider gamelan Munggang. Its music was transcribed thus by Jaap Kunst (1973, I, 259; cf. Hood 1980, 167):

Gamelan Munggang

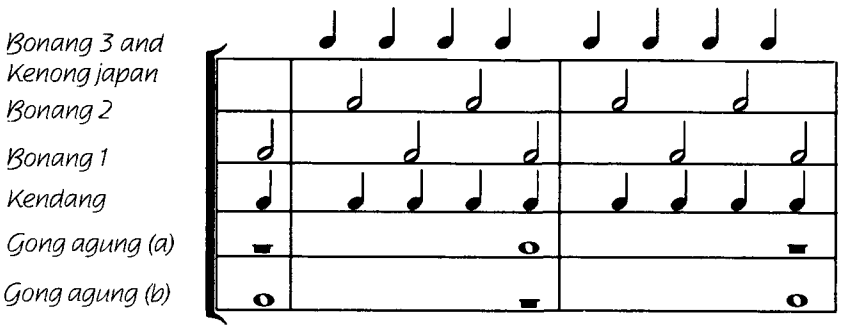


But this conception of the Munggang music as a three-tone melody, accompanied by a few other gongs and drums, is ethnocentric and misleading. As Hoffman (1975, 8ff) points out, 0the different pitches in *all* of the instruments actually mark subdivisions of the temporal cycle. There is no essential difference in musical function between the three bonang kettles and the rest of the instruments, no Munggang 'melody', only interlocking rhythmic patterns; and it would be wrong to impose irrelevant musical concepts (like 'melody') upon a music which obeys a very different musical grammar.

If we now return to the picture of a small, west Javanese gong ensemble from 1596, we realize that it depicts a Munggang-type of ensemble—which, after all, consists of both horizontal and vertical gongs!—rather than an ensemble with two melodic instruments (gong-chimes) with a somewhat limited range.

When we transcribe the Munggang music informed by this insight, we get the following:

Gamelan Munggang

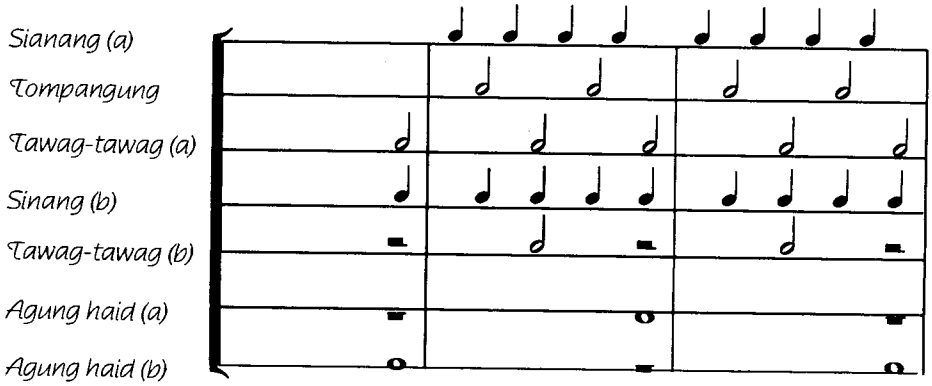


In this rhythmic interplay, some parts are performed on suspended gongs, others on horizontal ones (the *bonang*). It turns out to be virtually identical to the *Magagung* music, another of the most important pieces of the north Borneo gong music repertory. It accompanies a variant of the ritual *Sumazao*-dance, and again we are at the very heart of the old head-hunting ceremonies. (*Azau* denotes a war attack (to take heads), the prefix *sum*, I was informed, signifies violence.)

The music is performed on suspended gongs of different sizes, hanging in a row from a horizontal beam. Pitch is not critical, and there is no set tone system; but since the gongs become increasingly larger, one gong is always somewhat higher than the next. It is quite

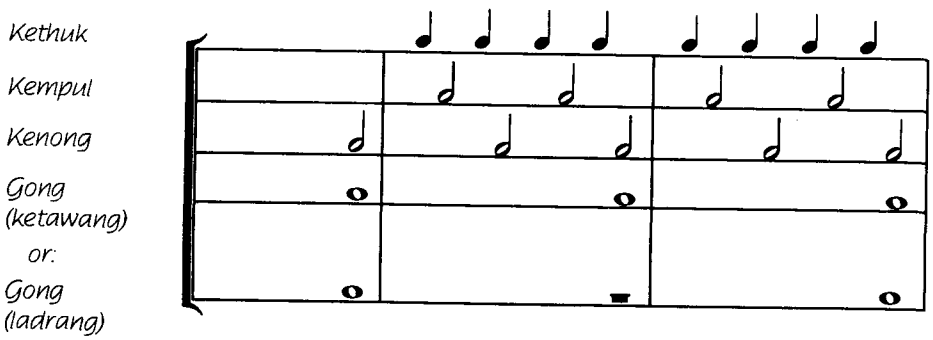
probable that this is the kind of ensemble heard by Tomé Pires in Java around 1515, and observed by Edmund Scott in west Java almost a century later.

Magagung



For comparison, the third example reproduces two closely-related and very common colotomic structures in the current standard repertory of the central Javanese gamelan: *Ketawang* and *Ladrang*. Obviously, gamelan Munggang is alive and well, not only in north Borneo but also in the 'ordinary' gamelan repertory.

Central Javanese gamelan, colotomic structure



To round off this part of the discussion, let us briefly return to the west coast of Sabah. Now, we are able to find the solution to a problem of which every gong-player in north Borneo is aware, but cannot answer: why is a particular category of Sabah gongs, of the highest quality, known as *Chanang Kimanis*?[36] Answer: Brunei exercised an indirect control over its northern Borneo territory through its control of the coast, in particular the

36. Cf. Rutter (1929, 113f) on the *Chanang Kimanis* from his stay in Sabah some eighty years ago.

mouths of the rivers (Brown 1978, 136f, 143f). Kimanis, a small place on the coast in southwestern Sabah, was the northernmost outpost of the Brunei sphere of influence, and an important port for the import of Brunei gongs—instruments that had the reputation of being of very high quality. And these were obviously not the only instruments to enter Sabah *via* Kimanis: according to Dalrymple's report from the early nineteenth century, the locals here also carried on an extensive trade and travelled as far as Java in their own boats (Dalrymple 1806, 59).[37]

3.2. GONG-CHIMES

3.2.1. THE MIDDLEMEN

For this instrument, the above-mentioned pirate centres were, if possible, of still more importance. Some of them had nothing to do with any local ruler at all, but were simply pirate villages and nothing else. At the same time, they had established contacts with more distant political powers. It was primarily the Brunei nobles who, trying to increase their wealth and political power and revolting against the Sultan, formed various alliances with the pirates (Tarling 1978, 119 and 122). Thus, there were close relations between the pirates of the Tuaran and Tempassuk (Kota Belud) area and Brunei, with its bronze industry and gong forgeries (Hunt 1837, 24).

These two places were among the most notorious pirate nests on the west coast of Sabah. The pirates were Muslims of the Illanun and Bajau groups;[38] in Tuaran, the latter was by far the most important. For them, trade and piracy were, so to speak, an integrated whole (cf. Meilink-Roelofsz 1962, 102), and an observation on a similar pirate community (at the southern tip of the Malay Peninsula) probably applied here as well: 'Everything the inhabitants of Tumasik possess is a product of their plundering of Chinese junks' (*ibid.*, 19).

José Maceda (1963, I, 62f) has suggested that the gong-chime complex probably spread with Islam since on Mindanao it is found mainly among Muslim groups. And true, the general opinion among the Dusun is that the Bajau are excellent musicians on the *kulintangan* (which is the name for the gong-chime in north-western Borneo and the southern Philippines). But the rice-farming Dusun/Kadazan communities on the west coast of Borneo where the *kulintangan* is common, such as Tuaran and Papar, are not Muslim. On the contrary, the historical records agree that the relations between the slave-taking Bajau (Hunt 1837, 13) and the head-hunting Dusun have for very long been extremely tense—two socio-cultural systems that clash on every imaginable point. Marauding and open warfare were common. Some time in the eighteenth century, the Dusun finally succeeded in driving the Bajau out of Tuaran; instead, the latter settled in the nearby 'water village' of Mengkabong.

Considering the open hostilities between the Bajau and the Dusun, it appears to be a rather problematic hypothesis that the former would act as intermediaries in the gong trade between the outside world and the Dusun. As late as 1862, the Bajaus of

37. It is difficult to believe that this otherwise very careful and trustworthy observer is correct when he gives the impression that it was the Idaan (= 'Dusun' rice-farmers) that sailed to Java. Most probably, the Javanese products were instead imported on Bajau prahus. Enriquez (1927, 117) learned in Tempassuk in the 1920s that gongs were also made by the Malays (= Brunei people) in Kimanis. This information is not confirmed by any other source. Most observers agree that gongs have never been manufactured in north Borneo.

38. Letter from James Brooke to J.C. Templer 1845, quoted in Tarling 1978, 124.

Mengkabong are described as 'a very lawless people'; they are 'bold seamen, and will venture anywhere in search of wealth' (StJohn 1962, I, 293 and 291); and Enriquez (1927, 136) maintained in 1927 that no one seems to love the Bajau'.

But the fact remains that the Dusun learned the music from the Bajau. In the *kulintangan* traditions of the Lotud, three 'melodies' (*lagu*) are used: *Ayas*, *Kudidi*, and *Tidung*. These are not melodies in the western sense of the word. Rather, they refer to the kind of rhythmic modes that are used; like in blues, this provides a basis upon which the musician may improvise, or (if he lacks the imagination and creativity) play a more or less personal, set version.[39] Now, a visit to Mengkabong shows that they use exactly the same three *lagu*. And the Lotud agree that the best *kulintangan* music is the one performed in Bajau style. How did the Lotud Dusun and the Bajau get come into friendly contact with one another?

One important solution to this problem lies in the *tamu*, the traditional market. Since the first half of the nineteenth century, piracy faced a stiffening resistance. This was to a large extent due to 'the white Raja', James Brooke himself, who was firmly determined to use all his powers to suppress it; he even burned down several of the pirate villages (for instance, Tempassuk in 1846). But at the same time he noted (as did several other observers) that the pirates also needed 'a market for the sale of their slaves and plunder'.[40] And parallel with the decline of piracy, the Bajau turned little by little to another way of life. They became more settled, depending upon the *tamu* for barter with the farmers: fish, and goods like salt and gongs, in exchange for rice and vegetables. At some places along the coast, more expensive export products were also sold. Thus, camphor and cinnamon were important articles in the above-mentioned town of Kimanis, for instance; this partly accounts for the fact that the locals could afford the expensive Brunei and Javanese gongs. (Eventually, for these people who had led their whole life on boats, it even became a status symbol to own a house; see Nimmo 1968, 56f). At the other end of the trade exchange were the jungle groups, like the Murut and (further south) the Punan, who provided forest products such as rattan, etc. (Hoffmann 1981).

Also the cash economy contributed to entice the Bajau gongs and gong-chimes away from their traditional functions as investments and prestige goods. In the 1920s, Enriquez (1927, 117) saw 'literally hundreds of gongs and brass pots' in the pawn shop in Kota Belud.

3.2.1.1. PROVENIENCE

It could be argued that the gong-chimes of north Borneo were originally exported from mainland Southeast Asia. On the stone reliefs of Angkor Wat, there are a couple of representations of gong-chimes with nine small gongs (Groslier 1921, 126–7). These may possibly be as old as the twelfth century. Can the gong-chimes of the Dusun be eight hundred years old?

It is quite possible that these Khmer gong-chimes eventually spread to Java and, a few hundred years ago, developed into the Javanese bonang. But, except for the basic idea, there are few similarities between them and the Borneo type. The shape is different

39. So far, the only ethnic group known to use rhythmic modes as the basis of their kulintangan melodies has been the Magindanao of Mindanao, southern Philippines (Maceda 1980).

40. In the above-mentioned letter (n. 40).

(circular vs. straight); the terminology is different; and the music on the Borneo instruments bears no similarity to their counterpart on the mainland.

On the other hand, both the shape of the instrument and the basic traits of Lotud *kulintangan* music are identical with that of the *engkerumong* or *kromong* gong-chime of the Iban people further south. Here, as for instance in the Lotud area, the gong-chime is part of a small ensemble which includes a few gongs and one drum. Snelleman finds its music '*zeer welluidend*' (Snelleman 1918, 830—another indication that the 'hellish noise' that Edmund Scott heard in Banten 1605 came from a very different set of gongs).

The *kulintangan,* then, is originally a Javanese instrument that became diffused not only to the north but also eastwards: Bickmore reports in 1868, from the small island of Nusa Laut in the Moluccas (east of Ambon), a single-row gong-chime called *bonang* or *kromo*. Several informants told him that 'this instrument ... was introduced here from Java by natives of these islands who were taken there by the Dutch to assist in putting down a rebellion' (Bickmore 1868, 140).[41] Nowadays the instrument is known as *kromong* in Indonesian.[42]

3.2.1.2. MUSIC

It is of course difficult to discuss the style of the gong-chime music in north Borneo a few centuries ago. Today, it is a rhythmically driving, motivic music built upon rhythmic modes, and idiomatic for the instrument. In some ways, it resembles the music on the one-row gong-chime of the West Javanese village ensemble *Goong Rèntèng.* This archaic ensemble was analyzed by Ernst Heins who called it 'a gamelan frozen in time' which has 'survived three centuries of change' (Heins 1977, 136 and 143). In *Goong Rèntèng* we may hear the gong-chimes play the characteristic syncopated, motivic rhythms of the Lotud *kulintangan,* but also sometimes a rather even succession of tones (transcribed as quavers by Heins). There is a possibility that this latter way of playing represents an older style of *kulintangan* music. In January 1776 Thomas Forrest heard:

> some tunes they had played on their musical gongs, called Kalintang. These instruments had little or no variety: it was always one, two, three, four, common time; all notes being of the same length, and the gongs were horribly out of tune. Now and then a large gong was struck by way of bass.
>
> Forrest 1779, 296ff

It may also be compared to the music that François Valentyn heard in Amboina, Moluccas, in the early eighteenth century. It was played on a gong-chime with five or six kettles accompanied by two gongs. The gong-chime played semiquavers, and the large gong twice in every bar '*zodaanig, dat ieder slag op de groote Gongen in een halve maat net, en 't speelen op de kleene Gongetjes als in een maat van 16 deelen (zoo de Musicanten spreken) bestaat*' (Valentyn 1724, 162)—in both cases, then, a regular succession of tones.

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41. The Dutch restored control over Indonesia in 1816 and soon faced several disturbances over the next few decades. In Java the most important of these was the so-called 'Java War' of 1825–30. Naturally, this does not prove that the gong-chime never existed in the eastern archipelago before the early nineteenth century; on the contrary, the instrument was described by Valentyn in Amboina some 145 years before Bickman (see below). But it does suggest that in local opinion the instrument was considered to be a comparatively new addition.

42. Soeharto 1978, *kromong*.

Such a general historic development from simple to more complicated rhythms in the music is compatible with the distinction made between two styles of performance of *kulintangan* music among the Magindanao in southern Philippines. There, 'the ancient style' is generally slow, stereotyped and conservative in its improvisations; the modern manner of playing is faster, more experimental, and offers much more freedom in employing different rhythmic and melodic formulae (Maceda 1963, I, 74). Against this background, the Lotud *kulintangan* music clearly represents a relatively modern style.

3.2.1.3. THE SOUNDSCAPE

A final category of evidence should be briefly considered. Particularly in the nineteenth century, foreign visitors often complained about the incessant noise of the gongs. To take two random examples, in the 1850s Spencer StJohn had difficulties with 'the beating and clanging of these earsplitting instruments' (StJohn 1862, I, 180), and in 1896 Wilder had to endure a ceremony in a longhouse 'with the most awful banging of gongs ... at both ends of the house' (Appell 1969, 321).

This is valid also for visitors far into the jungle, although the gong ensembles they describe usually are rather small. The travellers of the sixteenth and seventeenth century, however, had no problems in sleeping undisturbed at night. One gets the distinct impression that the soundscape of the archipelago changed during the eighteenth and nineteenth centuries. The reason is that, during the first centuries, the few gongs found by the western travellers always belonged to the rich people and the upper class; only much later are there descriptions of gongs in the longhouses and villages.

4. SUMMARY AND CONCLUSION

We have travelled far, from the Chinese dynastic histories to the complaints of modern travellers. A variety of methods has been used: historical, anthropological, linguistic, musicological. But from this diverse evidence, a coherent picture emerges.

Contrary to what is commonly stated, no reliable historical records point to the existence of early gong ensembles in Java. The statement that the first gamelan was created almost two thousand years ago belongs to the same category of myths as the statement that it was made by Sang Hjang Batara Guru (= the Indian god Shiva). Individual gongs were probably used more than a thousand years ago for signalling and military purposes, but gong ensembles are a much later phenomenon. In the archipelago, suspended gongs were the first to spread and become integrated into ritual life in the area under consideration. The sixteenth century was an important time in the development and diffusion of gong instruments and gong traditions (this is probably linked to the intensification of the spice trade because of European interest). Gong-chimes were used in the sultanates of Brunei and (later) Sulu; with 'sea-nomads' like the Bajau as middlemen they eventually spread to the Dusun through the established trade channels.

Further south, in Sarawak for example, they may have been imported via Chinese and Javanese trade junks. Also, according to Iban (Dayak) traditions, gongs were brought with the ancestors when they spread from south Borneo northwards.[43] This may account for

43. I have myself tried out gongs in Iban longhouses far into the Sarawak jungle which clearly were of Javanese manufacture.

the difference in terminology between Bajau/Dusun *kulintangan* and Javanese/Dayak *engkerumong*.

To sum up: it seems that most gong traditions of the Lotud and other Dusun people are hardly more than two or possibly three centuries old—a substantial reduction of our initial time span of almost two millennia.

Glossary

bonang	Javanese double-row gong-chime
gamelan	Javanese ensemble, mainly composed of percussion instruments
gong agung	the deepest gong in the gamelan
kakawin	Old-Javanese epic poetry
kraton	court; palace
kulintangan	one-row gong-chime in Borneo and southern Philippines
pusaka	heirloom
Siti inggil	a raised courtyard before the entrance to the Kraton
Solo	Surakarta
tonggu	kettle gong, often called 'bronze drum'
Yogya	Yogyakarta

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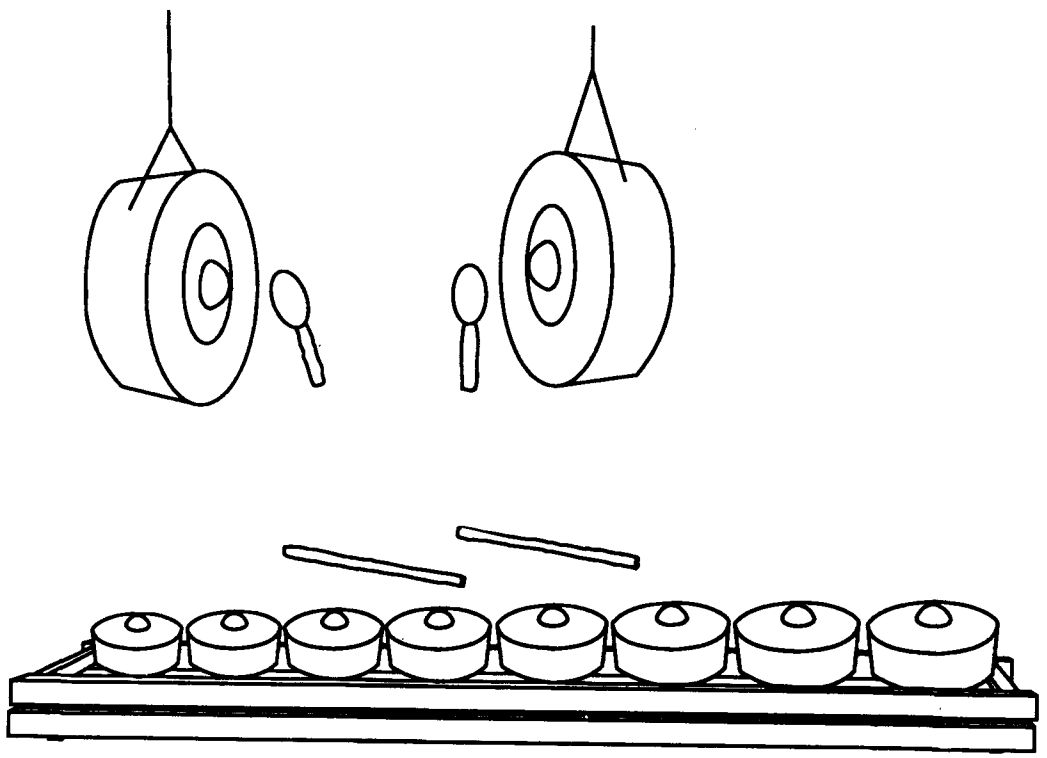

Kulintangan (gong-chime) and two tawag (suspended gong with broad rim)

SYMBOL AND SOUND: READING EARLY CHINESE INSTRUMENTS

KENNETH J. DEWOSKIN

INTRODUCTION

In his marvelous turn-of-the-century compilation of information and misinformation known as *Things Chinese*, J. Dyer Ball made three points about Chinese music: 1) '... ancient music was of an extraordinary character—for Confucius was so ravished on hearing a piece, composed by the great Shun 1600 years before his time, that he did not taste meat for three years'; 2) this ancient music is indeed lost, for present-day Chinese music is 'deliciously horrible', like cats trying to sing bass with sore throats; 3) all that remains of early music are some abstruse theories, for musical instruments suffered the same fate as the great books, they were destroyed like any object that could give rise to remembrances of past times (Ball 1926, 408–9). Ball was probably not right about the extraordinary character of the ancient music Confucius heard, and what he says about Chinese music of this time must be considered a matter of understanding and taste. But he is certainly wrong on the third claim, for so much has been recovered of ancient instruments, graphics, and texts, that we are not entirely certain what to do with it all.

MUSIC ARCHAEOLOGY

One response has been the emergence of the small field of music archaeology which, to distinguish it from groups of archaeologists digging in the sun with walkmans on, some prefer to call 'palaeomusicology'. My discussion here turns on a particular understanding of the goals of this field. These goals are not to reconstruct music for analysis and performance, but to reconstruct contexts in which musical activity and associated objects had significance. Things found in tombs are things of value, and they have not only a social life, to borrow Appadurai's metaphor, they have an ideational and symbolic life as well.[1]

Without adding the special considerations due music, the question of archaeological evidence and cultural meaning is vigorously debated today. The overall process of writing cultural history from archaeological evidence is a departure from material and processual analysis because it must attempt to reconstruct symbolic systems of the societies in question. These symbolic systems cannot be fully measured in terms of objective conditions and functions, but have to be studied 'from the inside', on their own terms. Such systems are crucial because they define the cultural contexts in which material evidence can be associated with human behavior, that is, the distance between the object and the behavior that was associated with it. These cultural transforms can be related to various contexts— intellectual, social, geographic, genealogical, political, and so forth. We can attempt, for example, to analyze musical instruments in any of these, intellectual (as

1. Arjun Appadurai in *The Social Life of Things* defines what he calls 'an anthropology of things' by reference to the values of commodities, their roles in exchange between individuals, and the avenues and constraints on exchange. Missing in this analysis of an anthropology of things is the relationship between things and their owner-users outside the exchange context. There is obviously much to be said about a crafted bone flute, perhaps made by and owned by an individual musician, or a magnificent bell-set, commissioned by a royal patron, two kinds of objects which play no role in commodity exchange but have discernible private and public functions.

I will do below with Jiahu flutes), geographic (as I will do below with Zeng Jou Yi bells), social, economic, political, and so forth. On the individual and community level, each context derives from an affiliation and the role it shapes for an individual.

A certain level of abundance in material residues and data on contexts makes possible a move toward the reconstruction of subjective meanings, the ideational sub-systems of the cultures under examination, meaning structures and ideology. We have to take material residues as texts, in that they have a material existence and serve as well as signs. Turtle plastrons with inscribed number patterns that we associate with hexagram divination provide evidence for many interesting queries into the material culture and deployment of resources (e.g., tribute systems, distribution of wealth, diet). They also provide for queries on ideology and symbolic systems that we understand existed in the culture, apart from any particular physical realization of them, among them things we can talk about as numerologies, hierarchies, cosmologies, and correlations.

But how do we get at these latter issues? In addition to scientific examination of the material, what other means do we have, especially when reaching back to times prior to extensive written records? The common tactic is to work backwards through cultural sequences, backwards from times when explicit, written records spell out various characteristics which, by analogy, illuminate the earlier cultures. A step beyond that is the use of the direct historical approach, studying living cultures (and extending by analogy back to extinct ones). K.C. Chang has identified this possibility as a unique strength of archaeological evidence in the Chinese cultural sphere, combining several kinds of data not available elsewhere, in an interactive sphere continuous to the present day (Chang 1989, 155). This is what most interpretative archaeological reporting from China does, sometimes self-consciously and sometimes self-critically. We would be able to say much less about the number symbolism and divinatory function of the Shang trigrams from Sipanmocun if the culture subsequently terminated and we did not have the Eastern Zhou and Han texts in the *Book of Changes* textual sequences.

Establishing musical contexts from scant material residues, the working backwards from much later materials, requires inference and speculation, arguments that have been called 'accommodative' because we use coherence and correspondence to seek historical meaning in early times rather than positive proof (Hodder 1991, 100). With China, 'much later materials' are largely textual materials that reside in a descendant cultural family, including the oracle bone records from the thirteenth to eleventh centuries and the received textual canon, originating around the ninth/eighth century BC. The construction or reconstruction of early historical meaning from analogy is where judgement is most crucial and where discipline need be strictest. It is also, not just coincidentally, where lies the clearest prospect for advancing our understanding of China in the Neolithic and pre-Imperial age.

In the course of this essay, I will look at proposed symbolic functions of certain sets of flutes, shakers and bells. To talk about something like music culture requires a full deployment of the two tactics suggested here: a careful look at archaeological evidence excavated under scientific conditions; and a disciplined reading back. This is not remarkable in itself, but I will argue that laying out an area called 'music culture' and looking with special care—I should say 'listening' with special care—at material residues associated with it, can be particularly productive. As evidence, the musical objects and representations have certain inherent strengths for this project.

One such strength has to do with the nature of the objects themselves, another with the nature of music. Musical objects, unlike many other ritual objects recovered from prehistoric and early historic Chinese graves, encode significant information about their use which distinguishes them from the many recovered things typed with the default

name 'ritual object'. We at least know that instruments were played. We know what to do with a bone flute we pick up; but we do not know what to do with a jade *cong* or *bi*. We do not know what a jade *cong* or *bi* was, although we have hundreds of examples. We cannot say that this is a good *cong*, except to comment on its general craftsmanship. We can say that the man buried at Situn near Lake Tai with fifty-seven finely made jade *cong* was enormously powerful (Chang 1986a, 255), but we have no idea why he was shrouded in *cong*, what they meant to him in life or in death, or what their designers and makers sought in creating them.

Fabrication of musical instruments was always related to certain technical acoustical ends, and we can know something of those ends from biophysics and acoustical science. If we know the desired musical capabilities of an instrument, we have knowledge of the ideal outcome of an object-making investment. That permits us to assess the level of success that technology and fabricating skills attained. We can know something of the music performed, from the physical features of the instruments, the ensembles in which they are found, other objects associated with them spatially and temporally in burials, and graphic depictions on the instruments, on tomb walls, and on other objects. The material residues of interest to us stretch from dust to dust, from the time the instrument was shaped and fired, carved, cast, or drilled, to the time it was interred in the tombs we discover. As we move from the very earliest period into the historic eras where first brief inscriptions and eventually lengthy texts are available, there is a sizeable corpus of texts that discuss music and relate closely to the objects, providing another very significant kind of evidence. Again, this differs from *liqi* ritual objects like *cong*, which have little or no presence in later textual records. In the case of China, there is cultural continuity always, since there was never a total ethnic or cultural replacement of the settlements that originated on the northern Chinese plains from the Neolithic to the state that is centered there now. Some instruments become extinct in Imperial times, but many others survive.

We assume certain universal things about music as an aesthetic and as a symbolic organization, making aspects of it a bit like astronomical data. Music itself, as the Pythagoreans demonstrated in their systems, and philosophers as widely dispersed as Plato, Xunzi and Walter Pater stated, is the most purely formal art; it is the realm of human behaviour in which significance is most fully encoded in structural relationships. At the same time, it links handily the conceptual and the empirical; through music numbers become pipes and strings and sounds. It renders concrete, both visible and audible, what in formal terms is purely abstract. A bone flute, set of graduated bells, and geometrically cut chime stone may be the closest we can get to a record of concepts in a prehistoric and preliterate culture. Because of this linkage, musical instruments directly preserve important vestiges of conceptual systems. Musical systems are inherently periodic and 'radioactive', by which I mean they operate according to a clearly rendered logic, and their materializations in things like flute holes, pipe lengths, string lengths, bell sizes, etc. are systematically incremental. Each materialization of a musical system has a ratio-defined series. The inquiry into systems of symbolic classification itself is inherently formal and highly structured (Needham 1979, 58), and it is clear in later historic China how central musical schemes like the *wuyin* and *shi'er lü* were structures that extended to broad symbolic systems of five and twelve. In time, rhythm is a strongly periodic feature. In space, instrument dimensions and placement, and dance choreography, encode significant geometries, geographies, and meterologies. Therefore, what is reconstructable from recovered instruments and representations is a music culture that we can call the symbolic organization of sound and space. Dance is integral to early music,

making it a kinesthetic activity as well as aural and oral, making it a geometric activity as well as temporal.

I want to explore the use of evidence and the interpretation of symbolization with two different periods and sites, two different aggregates of archaeological and textual data, that attend to different aspects of cultural history. Because this is cultural history, I am interested in culture in specific historic settings, and how specific manifestations might be related to other times and places. One discussion looks at continuities across a vast time span, the other at differences within closely proximate cultures.

A STUDY OF CONTINUITIES: JIAHU

Jiahu is a Neolithic site, dated as early as the seventh millennium, that was excavated between 1984 and 1987 at Wuyang in Henan, near the lower reaches of the Yellow and Huai rivers. It was identified by Zhang Juzhong (1989, 1) as belonging to the Taihao clan of the Eastern Yi tribes.[2] In the Jiahu burial complex, from a cluster of over 300 graves, several were found distinguished by a set of grave goods and the decapitation of the corpse. These graves are dated to the third period, which by carbon dating is put at 5017 BC +/– 131 years, and the material discussed here comes from two graves, M282 and M344. Among the distinct burial goods are two types of musical instruments or noise makers. These are bone flutes and turtle-shell shakers. The flutes were found in pairs, each member of a pair always of slightly different length, tuned to a major second apart. Nine pairs have been found.

The flutes are carefully crafted and well tuned, showing a tuning precision that indicates sophisticated divisional measurements were done to position the fingering holes prior to drilling. The flutes are seven-hole, eight-tone vertical instruments. The example pictured M282 at Jiahu (fig. 1) has a small tone adjustment hole over the lowest fingering hole. The hole-to-hole measurements are precise divisions apparently made by applying a measuring algorithm or through the use of a template. The adjustment made by the small addition of a tuning hole over the lowest fingering hole responded to variations in pipe diameter and shape and suggest that some kind of water-level tuning process was used empirically after the primary holes were laid out and drilled.[3]

The pairing of the flutes is uniform from tomb to tomb, one larger and one smaller, consistently a major interval apart. The pairing was designed for certain musical considerations, or at least the parameters of the match make possible certain musical uses. Each flute consists of a primary triad and a set of accompanying notes. The accompanying notes of one fit the major triad of the other. The persistent pattern of the pairing of flutes and the structured nature of the pairing reveal more than a nascent dualism in the conceptual stores of the Jiahu people.

The other sounding objects in the Jiahu tombs under investigation are turtle-shell shakers, rattles made by stringing on thongs eight turtle-shells filled with a number of pebbles. The pebbles are of assorted color, and appear to have been selected for four basic colors. Such shakers were already known from later sites, but this find now stands as the

2. For additional information on the Yi and their relationship to the Shang and Sandai history, see Chang 1983, 298.

3. Details of this technique are in Wu Zhao 1991b, 187–90. The complex process proposed by Wu is far from proven, and it is possible that something much simpler was employed.

earliest evidence for them discovered to date. The shell pictured in fig. 2, M344:18, has an inscription that resembles the character *mu* (eye).

The occupant of M344 at Jiahu is a young male buried supine extended. The burial goods were distributed around the skeletal ornament remains in an organized manner. The sketch of the burial arrangements in fig. 3 shows the skeletal remains, the pair of flutes at the left hand of the corpse, and the eight turtle-shell shakers replacing the missing head. In addition to the flutes and shakers, a number of bone arrows and fishing harpoons were at the feet, and below the left shoulder were found drilled bone ornaments that are thought to be headdress fittings.

Certainly many questions are raised by the objects and burial context. What was the purpose of the decapitation? What was the purpose of the hunting and fishing gear? Were these actual implements or were they props utilized in mediumistic rituals? Do the bone ornaments found in proximity to the top of the corpse attest to a shamanic headdress of some sort? Is there significance in the coincidence of the eight pitches and eight shell shakers?

The fullest interpretation of Jiahu musical culture provided by Wu Zhao involves a considerable spread from the Jiahu era, approximately 7000 BP, to the mid–late Zhou, roughly seventh–sixth century BC, when our texts codifying and interpreting the hexagrams were probably assembled. The texts in question here are part of a tradition called the *Zhouyi* (Book of Changes), which scholars believe has very ancient roots but was continually modified and expanded well into the Imperial period. The questions to be answered not only involve how compelling a case the Jiahu materials make, and what kind of evidence might secure the argument. They invite broader consideration of the status and durability of indigenous conceptual systems generally and rules we need consider in discussing them.

ANALYSIS

On the basis of these remains and other tomb goods, the burial context, comparative materials from outside, and analogous practices in later history, Wu argues that the Jiahu tomb holds a person who served a mediumistic and musical function in the society, and his decapitation was part of a burial ritual aimed at disempowering him prior to burial (Wu Zhao 1991b, 192). The persistent pairing of the flutes with a reliable intervallic relationship, the eight pitches of the flutes, the four colors of the pebbles, the assembly of the shakers in groups of eight, and the tentative identification of the inscription constitute evidence Wu uses to support the construction of a conceptual system in Jiahu culture and relate it to traditions of divination and numerology known from texts millennia later.

In Wu Zhao's work on Jiahu, the claim for ritual function of burial objects derives from the claims about the social function and status of the man who occupies Jiahu M344 and graves of similar class. Wu Zhao refers to him as a shaman, although the social organization of Jiahu equinoctial map on the jade plaque culture in particular, and the Neolithic anywhere in China in general, are not at all clear. Certainly, the notable features of these nine burials (decapitation, paired flutes, turtle-shell shaker headpiece) suggest a social context, at least for them as a set of features. In other words, they are close enough to each other in their salient features to rule out the possibility that M344 is an individual case. The only texts of certain value on early Chinese mediumistic cultures are those of Chu represented in the *Chuci* (Songs of the South); we have evidence that mediumistic flights involving trance and music were part of the Yangtze River

cultures of the first millennium BC. There is evidence for shamanic activity in Shang culture, including the interpretation of the character often read as *wu* (shaman), but it is inconclusive. In Chu culture the association of shamans and musical activity with birds is well-attested in decor on silk and bronze, instrument inscriptions and stands, and other forms of representation. But there are questions about extending this analogy to northern Henan.

The decapitation and apparent replacement of the head with the turtle-shell shakers is provocative in this context. The general speculation about decapitation burials falls into three classes, two of which relate to a possible social role as a medium or spiritual leader. The first argues that decapitation is done to reduce the chance that a person specially empowered in life will do mischief in death, that his post-mortem being could disturb or pollute the world of the living. I believe this fits closely with the conception of the post-mortem existence documented in texts from the late Bronze Age on and relates well to widely represented themes in later culture, themes about ghosts, avenging spirits, and other manifestations of dead who were not securely ensconced through proper ritual in proper physical facilities. The second explanation of decapitation argues that it is done so that something of a person specially empowered can be retained as an instrument by which the power itself is in some sense retained above ground and in the world of the living. This does not reflect any practices I know from later China. The third explanation suggests decapitation is a ritual of conveyance to speed the deceased on his way to a post-mortem abode. This also does not relate to any conceptions of death I know from subsequent textual or graphic materials.

For the Chinese Neolithic, we may be very far from resolving issues that turn on the social, political, economic and ritual roles of tomb masters like Jiahu M344. Does this mean we have to overlook this very appealing evidence? Can we talk about the ideational and symbolic life of the objects, apart from the role of the owner? The most serious conceptual issue is raised in connection with numerologies and their implied symbolic classification systems. Can we infer from the appearance of number systems, especially when reflected in several related but distinct manifestations (e.g., eight pitches, eight turtle-shells in a set of shakers) that the count itself was mapped to a classification scheme for a larger set of phenomena?

Dualism in China as we know it from the fourth century BC was most often codified as *yin–yang* and expressed as various pairs—white and black, male and female, hot and cold, heaven and earth, and so forth. The pairing and sizing of the Jiahu flutes has led Juang Xiangpeng and others to refer to them as male and female members of the set, although there are no claims made as to which is which. In the fifth century BC, there are paired *chi* flutes of the Warring States Marquis Yi of Zeng tomb, and there are paired *di* flutes in the Mawangdui finds from the second century BC. Jiahu is to date not only the earliest example by many millennia of the paired flute tradition, it is also the earliest site yielding finely crafted eight-tone instruments.

The existence of these pairs accords nicely with a mythological account that has a sage hero named Ling Lun tuning his bamboo pipes to the voices of the male and female phoenix. Ling Lun fashions twelve pipes, making six pitches of each gender, interlocked in a twelve pitch scale.[4] This is reminiscent of the conceptual framework for the Jiahu paired flutes, although the Jiahu scheme includes eight pitches, not twelve. Interestingly,

4. *Lüshi chunqiu* (Spring and Autumn Annals of Mr. Lü), 5.8a–9a.

an early Han work, the *Huainanzi* (The Book [of Natural Philosophy] of Prince Huainan, *c.*120 BC) is quoted as defining an alternate received scale in eight pitches.[5]

The effort to interpret the dualistic or dyadic evidence raises questions about the cultural breadth of the structures and contexts at Jiahu. A highly systematized correlation scheme, involving much of the phenomenal world, was in use by the early centuries of the Han dynasty, and records of it are voluminous. The division into *yin-yang* is fundamental to these correlations. But this is already some five thousand years after the Jiahu strata that yielded the flutes, and the first textual mention of paired flutes is not found with trigram design until the medieval period, in the *History of the Jin*, compiled in the seventh century AD. Yet, there is little doubt that a symbolically rich dualism did attach to the sun and moon, and other central *yin–yang* metaphors much earlier. When we refer to the flutes as 'male' and 'female', is this categorizing a terminological convenience for us? or is it an argument that there was at Jiahu the genesis of a concept, whatever it was, that evolved into the dualism encoded in *yin–yang* thinking millennia later? or is it a claim that Jiahu villagers associated these paired instruments with a dualism that was already explicit and gendered as opposed to one that was gender neutral (as in a basic Marxist description of social moieties) (Needham 1979, 7–8).

In seeking evidence for a conceptual link beyond the numbers, Wu Zhao turns to the inscribed character on the turtle-shell shaker, arguing that it is a version of the graph *mu* (eye) as it was later used and can be related to the association made between the trigram Li and its reference to eyes in the 'Shuogwa' (*Shisanjing*, 185). This is obviously a highly speculative association, but it does invite us to consider what kinds of conceptual continuities can be soundly argued.

We have to start with what symbolic content can be objectively discerned from the recovered objects, and here this means the numbers themselves. In the Jiahu find, we can argue for the importance of certain numbers, especially two, four, and eight. We have to ask what indicates a meaningful level of uniqueness. Dualism, after all, is so universal that some anthropologists have identified binary opposition as a natural proclivity of the human mind (Needham 1979, 57). What endures in a numerological conception, the number, the broadened network of associations, the classificatory, analogic, or hierarchical extensions? To begin, it seems to me that the number itself is more important than a particular manifestation or manipulation of it. In other words, the appearance of eights is more significant than the casting of coins to derive them as opposed to the drawing of yarrow stalks to derive them. Eightness is more important in itself than its representation in a set of trigrams, or an eight-part equinoctial division of a compass, eight eyes on a *cong*, or an eight-pitch division of an octave. To argue the early emergence of an interest in eight is significant; we would have to find evidence that it continued over a certain stretch of time, and also evidence that it was not widely prevalent outside the Chinese cultural sphere.

In 1989 an interesting find was published from Hanshan in Anhui, the stratum datable to approximately 2000 BC and identified as a late Dawenkou culture site. Two finely fabricated jade pieces were recovered, one a jade turtle, the other a jade 'compass'. The compass, an oval disk approximately 11 x 8.2cm. had a very well developed directional vane based on an equinoctial division of the circle into eight and four parts. This discovery has been hailed by Chinese scholars as the earliest example of the *bagua*, eight trigrams composed of all combinations of three broken or unbroken lines, the basic building block of the complex numerological system later encoded in the *Zhouyi*. Since various geometric projections of the *bagua* are familiar from much later times, the Dawenkou plaque is

5. in *Yühai*, 483.

easily related by the authors of the analysis to a circular projection of the *bagua*. It bears a striking resemblance to Shipan well attested by the Western Han dynasty.

In one scholarly study of the plaque that attempts to unveil the symbolism and epistemology of this stratum of Dawenkou culture, the authors claim that circular projections represent the universe, and the equinoctial marking the changes of the seasons. Through this rendering the connection is forged to the numerology of fours and eights in the *Zhouyi* itself, which is itself explicitly linked to cyclicity in nature, especially seasonal changes (Chen Jiujin and Zhang Kingguo 1989). Although like Wu Zhao's analysis of the inscription on the Jiahu turtle-shell shaker, this set of connections reveals a lot of exhuberance. The plaque is in fact a rich piece in this regard. It is a basic square shape, what in later Chinese culture is widely recognized as the symbolic representation of earth, within which is incised a circle, the symbolic representation of heaven. A multiple nesting of four- and eight-pointed forms leaves no doubt that the plaque records a numerologically significant system of symbols.

There are other pieces among Dawenkou relics that indicate an interest in eight. Among these are some simpler items, including a piece identified as a sharpening stone, pictured in fig. 5. Dawenkou culture is extensive, spanning the geographic range of Anhui, Jiangsu and Shandong regions. It is also durable over time, from 4300 to 1900 BC, with the latest strata associated most closely with complex inscribed pottery marks that are being examined as a possible clue to the origin of writing (Cheung Kwong-yue 1983). They are reminiscent of the lunar diaries and mobiliary art catalogued by Marschack and call for a study of patterning (Trigger 1989, 350–1).

At the very least, the Hanshan site makes a good case for bridging the late Neolithic to numerological traditions written into the major canon in the late Zhou, traditions very well known in the *shi* or *shipan* diviner's compass of the Han, which it resembles most markedly. The numerology is very close to that of Jiahu—eight shakers, eight tone pipes, four color pebbles, paired flutes, and turtle-shell motifs are central to both cultures; but how good is the case in that direction? We will need to look at other connections between Jiahu and Hanshan, or Dawenkou culture generally. A great number of turtle-shell shakers have been discovered in Dawenkou sites, which helps establish the continuity (Shandong 1974).

Eight is arguably a somewhat unique number, different from a gendered 'two', a natal 'three', an anatomical 'ten', or an astronomical 'twelve' or 'twenty-eight'. Rodney Needham in his *Symbolic Classification* does not record an eight in his chapter 'Forms of Classification', although he makes no claim to completeness. He includes 'two', 'three', 'four', 'five', 'seven', and 'nine' (Needham 1979, 6–15). As a hypothesis, I propose that eight derives from a skill in number manipulation itself, as opposed to an observation of cyclicity in nature, the convenience of fingers for counting, and the like. This skill can be constructed as a concept skill or a mechanical one. We can see its mechanical form as either the third order of a simple division into halves, as in the equinoctial rendering of the Dawenkou compass, or a counting/sorting product of gendered pairs and a scheme of four directions or colors, such as that indicated by the colored pebbles in the Jiahu turtle-shell shakers. Whether one reflects on a conceptual model or a mechanical model by which eight would emerge as a key number, one would expect to find an underlying dualism and some reflection of the importance of three, the power of two to reach eight in the conceptual scheme, the number of iterations of the basic division into two to reach eight in the mechanical scheme. There was one intriguing piece reported from the central Dawenkou site in Shandong's Tai'an prefecture, an ivory comb that shows a strong interest in three, with a course of hexagram-like three-line figures, dual three-mark edges, and three holes on top (26:15, Shandong 1974, 95). The significance of this piece and the

possible importance of twos, threes and eights in connection with Jiahu and Dawenkou culture can be tested as more of the information from the find is published and a clearer picture of the shakers emerges.

Hence, the musical materials at Jiahu are read as potential keys to the origins of various features of later thought, especially divinational practices in the *Zhouyi* traditions.[6] This is a particularly challenging undertaking, given the great spans of time involved. But there is, at the very least, nothing glaringly inconsistent in the constructions made of Jiahu culture and the conceptual systems of its musical culture. Proof of the claims must await many more discoveries, for Jiahu and for intermediary cultures, but the speculation itself is productive as a tentative framework for understanding the material evidence as we know it.

Before leaving this set of questions aimed at uncovering cultural continuities over large stretches of time, I want to touch on the relatively less ambitious project of identifying roots of trigrams, hexagrams, and milfoil divination, because it presents a similar problem of tracing symbolic classifications over time with discontinuous records. It has been about fifteen years since Zhang Zhenglang associated certain graphs found at Zhouyuan sites with *Zhouyi* hexagrams. Other scholars were quick to gather examples of trigrams on Shang oracle bones from Sipanmocun, Zhou bones from Zhangjiapocun, trigrams and hexagrams from Zhouyuan bones at Qishanxian, other examples from early Western Zhou bronzes, and from pottery and jade seals for a total of thirty to forty examples predating the mid-tenth century BC.

These examples are mostly made up of sets of three of six numbers, which include only the digits 6, 1, 7, 8, 5, listed in descending frequency. A few early Zhou examples are made up of broken and unbroken lines. Intermediate accounts of milfoil divination, from the *Zuozhuan* and other records, bridge the evidentiary gaps from the early Western Zhou archaeological recoveries to the maturation of the *Zhouyi* texts perhaps one thousand years later.

A STUDY OF DIFFERENCES: ZENG HOUYI

I want now to move to the Warring States to look at cultural differentiation. Histories of the Warring States have frequently been written as political, social, and military histories, chronicling the process of alliance and conquest that reduced over one hundred Zhou kingdoms to a unified China under Qin. Less often told is the story of cultural interaction, which similarly led from a period of rather diversified cultural systems to something identifiable in the Imperial period as Chinese culture.

The writing system is a good place to begin this inquiry, because knowledge of writing was common to all stages, yet the precise forms differed, and scholars of the Qin unification have raised a serious question about the Warring States situation. Han sources (*Shouwen*) attribute the origins of the Zhou style inscriptional writing to Signmaster (*Taishi*) Zhou, of the early Western Zhou. Subsequently, tadpole script is associated with the areas of the Jin people, and bird script with the Chu, Yue, and Cai peoples. By the mid Warring States period, each of the six states east of Qin began to develop highly idiosyncratic writing styles, with various simplifications and substitutions that increasingly made them mutually intelligible. It remained for Qin to unify the script, possibly with their version of a Western Zhou script descendant, as one measure of a set

6. I am indebted to Wu Zhao for two recent publications and a great deal of personal explanation for the Jiahu discussion. See Wu Zhao 1991a, 1991b.

of unifications that extended from axle widths to ideology. Under the Qin, *li* script, long the official standard of Qin, became the standard for unified China (Li Xueqin 1985, 453–9).

I review this history because it raises questions about how we view the relationship between communities of people and their geographic location, and how we raise questions about cultural diffusion. Problems relate to the diversity of writing systems among states when 1) it occurred during a time when literate members of the states were highly mobile and nearly certain to be in touch with literate counterparts in and from other states, 2) received texts suggest that there was some kind of common canonical core of materials, 3) given the shifting political centers and generally menacing situation during the Warring States, there could have been a significant contribution to stability with a more uniform writing system, and we might expect it to develop as an adaptive feature of the literate states as a group, and 4) we expect cultural diffusion if not homogenization to occur when societies at comparable stages of development are in close proximity and contact. All of these problems are variations of a single question: why, when we expect China to be in the process of becoming culturally more uniform, are certain aspects of culture becoming more diverse?

THE BELLS FROM THE MARQUIS YI OF ZENG TOMB

In 1978, a rich hoard of instruments was recovered from the tomb of the Marquis Yi of Zeng, the tomb in Leigudun, Suixian county, Hubei, a short distance from the present city of Wuhan. The inventory includes instruments of bronze, stone, lacquered wood, and bamboo. Based on a dated inscription in a central dedicatory *bo*-type bell, the tomb has been dated to 433 BC or shortly thereafter. Instrument caches were found in both the central chamber, something of a ritual hall, and the side burial chamber in which the Marquis was entombed. The huge ritual instruments were together in the central chamber, a sixty-five bell bronze chime set and a thirty-two stone lithophone. Extensive pieces in Chinese and European languages are available on the Zeng Houyi instruments, so I will not review thoroughly other details of the find.[7] The central bell set is a treasure of extraordinary value by any measure, and it is arguably one of the most important finds in the history of world music.

The ZHY #1 idiophones are larger than any discovered heretofore and far larger than anything pictured on known bronze pictorial vases. Beyond that, the several thousand characters inscribed on them are devoted to a naming tone and pitch gamut relationships, and that has challenged scholars to unravel the underlying logic of Zeng musical systems, compare the musical nomenclature to that from other states in Warring States China, and picture features of musical performance in the State of Zeng. The inscriptions provide names in two formats. What von Falkenhausen calles Type 1 equivalency inscriptions give tone names with various *lü* gamuts. Type 2 equivalency inscriptions relate different regional names for the same pitches (von Falkenhausen 1988, 746). Here I am interested in Type 2, which I call translation inscriptions, because they follow the formula: 'Gexian in Chu is named Lüzhong', 'Xuanzhong in Jin is named Liugao'.

7. See, for example, von Falkenhausen 1988, and Picard 1986.

STUDY OF INSCRIPTIONS, WITH REFERENCE TO VARIOUS STATES

The tomb dating relies on the dedicatory *bo* bell given to the marquis by Chu King Huiwang (Xiongzhang or Jinzhang) in the fifth–sixth year of his reign (Qiu Xigui 1979, 25–6, Li Xueqin 1985, 176–8, von Falkenhausen 1985, 166). But it also presents a problem, spelled out by Li Chunyi (1981), in that the Chu monarch described the gift as a *Zong1yi*, a term in the Zhou inscriptional lexicon that means a ceremonial vessel given a lineal descendant. The Zeng family was not related to the Chu. They were a minor branch of the Zhou family. The orthodox Zhou rulers were surnamed Ji, as were the Jin and Zeng rulers. The Chu family was surnamed Mi, and the Qi and Shen were surnamed Jiang. Zeng, therefore, partook of the formidable ritual authority of the Zhou family name (Li Xueqin 1985, 175–6, 182). Why did the Chu king claim him for the Mi lineage?

From the Han view, Chinese ritual music was performed on scales generated by the intersection of two systems, a twelve-pitch gamut of fixed tuning pitches and arranged in any order. In practice with the commonly specified five-tone interval system, a total of sixty performance scales could be generated. The twelve tuning pitches were related to twelve lunar months in the normal tropical year and to a range of other ritually significant taxonomies.[8] Von Falkenhausen has shown that the relationship between *yin* and *lü* systems during the Eastern Zhou was complex and uncertain.

The charts attached lay out the relationship of names found in translation inscriptions correlated to the canonical Zhou nomenclature. Keep in mind that the Zeng column includes only those names that are at the head of translation inscriptions. There is no isolated list of nomenclature that could be called Zeng nomenclature. This is a key point. For example, on Mid 3 bells we are told that *hanyin* in Chu is named *wenwang*, *muyin* in Chu is called *muzhong*, and *ruibin* in Chu is called *pinghuang*. On Mid 2 bells, these so-called Chu names appear as the primary names. This raises the question of why some bells record this set—*wenwang, muzhong,* and *pinghuang*—as Chu names, others as Zeng names. A related problem is the curious distribution of the translation inscriptions. On the lower tier, they are all found in Low 2, except for one. On the middle tier, they are all found in Mid 3, except for one. In the chart comparing these systems of nomenclature, names attributed to the Zhou lineage and known from the received texts are shown in bold under the Zhou state.[9]

Among the canonical texts, the earliest listing we have of the twelve pitches is the *Guoyü* (Tales of the States) and the *Zhouli* (Program of Zhou).[10] This unique inscriptional record suggests several points about musical cultures as they coexisted in Warring States China. First, what is entered in key records like the *Guoyü, Zhouli*, and eventually Sima Qian's *Shiji* (Record of the Grand Historian),[11] what I will call the canonical Zhou tradition, does not precisely represent any of the state's systems, including Zhou's, as they were known in Zeng in the fifth century BC and inscribed on the ZHY

8. For an introductory discussion of the mythology and practice of pitches and performance scales, see Needham 1962, 157–83, and DeWoskin 1982, 43–54.

9. A somewhat different chart based on the same evidence is found in von Falkenhausen 1988, 1277.

10. *Guoyü*, 'Zhouyü B', in the chronicle of Zhou King Jing's twenty-third year (522 BC). The list follows a story of the King's unsuccessful attempt to cast a bell at the Wuy pitch level. In the *Zhouli* the list is found in the 'Dashi' section of the Offices of Spring.

11. The first of China's twenty-five dynastic histories, completed about 100 BC. For a translation see Chavannes 1895–1905.

bells. But the Zeng system is clearly more closely related to the canonical Zhou system than to any recorded on the bells.[12]

Second, the systems differ one from another not only in the exact names given pitches, but in the underlying logic of their organizations. The Chu system is structurally different from the orthodox Zhou system in striking ways. The Chu system represented on the ZHY upper tier bells and some mid level bells consists of six basic pitch names, each of which (with the exception of the incomplete *lüzhong*) is diminished with the prefix *zhuo* (muddy/lowered). The Chu system consists of two sets of interleaved and equidistant hexachords, a structure that presents a strongly bipolar logic.[13]

Third, the most fully represented system in translation inscriptions is that of Chu, with twelve pitch names recorded. Next is Zeng with eleven names for seven pitches; then Zhou and Jin with two each, Qi and Shen with one each. In other words, the real interest in making the inscriptions was in establishing a translation between Chu and Zeng pitch systems. Moreover, there are many bells in the full set that use Chu as the primary names, without translation inscriptions and without any reference to the canonical Zhou nomenclature. This suggests that in terms of music and nomenclature, there was a significant flow between Zeng and Chu, and the great bell set of the Marquis could perform Chu musical pieces. However, the diffusion of nomenclature was not congruent with the diffusion of music.

Questions have been raised about the arrangement of the bells, and these influence the way to think about the translation inscriptions. A crucial example is Mid 2:11, which is the only bell outside Mid 3 with a translation inscription in the middle rack, and which would fit well musically and inscriptionally in Mid 3. In addition to having a translation inscription of a class with those in Mid 3, Mid 2:11 fits in between Mid 3:5 and Mid 3:6, precisely one octave below Mid 3:2. Von Falkenhausen (1988, 848–9) argues on the basis of decoration that Mid 2:11 clearly belongs in the set Mid 2. The differences in stylistics are glaring, with Mid 2 set lacking the *mei* nipples of all the other lower and middle tier sets. But I think we have to allow the possibility that replacement bells were made from time to time, either to repair damage or improve sound, and individual items could share features of other sets by virtue of specific historical factors at the time of fabrication. In this sense, Mid 2:11 might 'belong' to set 2 in terms of its decorative pattern and set Mid 3 in terms of its musical role and inscription. This could have come about by a replacement bell being made for Mid 3 when the bells for Mid 2 were being cast, to give one example. If Mid 2:11 were moved to Mid 3, the sets Mid 1 and Mid 2 would be musically identical, all sets on the mid tier would be balanced at eleven bells, and the only set on the middle tier with translation inscriptions on the Mid tier would be Mid 3. Such a move makes for a neater layout all round, and it invites a historical explanation of the differences.

If we make this rearrangement or not, it remains true that of the twenty translation inscriptions, on the bottom and the middle tiers, where all occur, there is only one exception each that is not in a single set. The interest in and use of translation inscription

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12. Von Falkenhausen (1988, 791–812) takes important steps toward determining what systems of nomenclature might have preceded all of these late fifth-century BC systems, an effort to reconstruct a protosystem from which the variations might have descended.

13. Although the *Guoyü* pitch names closely resemble those associated with Zhou, the *Guoyü* also classifies Zhou pitches into two hexachords, the first set called *lü* and the second called *jian*, imposing a structure that is reminiscent of the Chu structure. Set side by side with the Chu nomenclature, the *lü* notes of the *Guoyü* gamut correlate to the basic notes of the Chu gamut; whereas the *jian* pitches in the *Guoyü* system correlate to the Chu pitches that are diminished with the *zhuo* prefix.

either came into use or went out of use between the time the first and the last bells for the set were made. This process was probably complementary to the appearance of Chu pitch names as primary names on the bells that do not have translations, e.g., most of set Mid 2.

Regional variations have to be compared in two ways: similarity in names and organizational logic of the nomenclature, and actual musical resources. The Zeng system of naming the pitches is nominally and logically more akin to the canonical Zhou than to the Chu. Yet the evidence also suggests that musically Zeng was closely related to Chu. Indeed, the equivalencies established between Zeng and Chu pitch names proves that the pitches were interchangeable, the Chu names were known to the Zeng, and the Zeng chose to maintain a different system of nomenclature. Roughly contemporaneous ideological statements, in the *Zuozhuan* and *Lunyü*, argue that actual musical performance differed dramatically from state to state, yet Zeng created an instrument that may have been able to play them all.

Given the shared border and protectorate relationship between Chu and Zeng, evidenced by the magnificent *bo* dedicatory bell given to Marquis Yi of Zeng by the Chu king, why was the Zeng pitch nomenclature more akin to the Zhou than the Chu systems, even though their actual sounds were interchangeable? Keeping in mind that most of these inscriptions were not even visible to players of the suspended bells, puzzled scholars have asked, 'Why was the labor invested in these inscriptions?'

I believe the answer to this question, significantly, returns to the issue of family lineage. The relationship of bronzeware to family records and preservation of lineage status is amply documented from the early Western Zhou, and it should not surprise us that as late as the Warring States the demands of lineage preservation continued to constrain the inscriptional use of bronze. The lack of musical function of the inscriptions underscores the primarily sacramental, as opposed to musical, significance. It is evident in the stylistics of the bells and their musicality that considerable exchange occurred between Zeng and Chu in the development of the large bell set. In contrast, the nomenclature was a conservative dimension to the Zeng bell-making project. The relationship of the bell nomenclature to family lineage underscores the significance of the bells in particularized and differentiated ancestral ritual practices. For both their potential in political legitimization of the rulers and for effective communication with ancestral spirits, at some point in time but not others, the inscribed texts had to accord meticulously with correct systems, systems that preserved ritually important symbolic property of the lineage.

The ZHY bells and stones document that diversity existed in China in terms of basic tuning gamuts and in terms of performance scales, their generation processes and their contents. They further prove that there was interest in the small state of Zeng in this diversity, and that it went to some lengths to protect the particular lineages and traditions to which the Zeng rulers held. The bells represented a commitment of vast resources to the ritual activities of the state, and eventually to the burial of the Marquis. Instrument making competed with weapon making for available bronze, and there is in the tomb much less weight invested in bronze arrow and spear heads. Since the founding of the Zhou dynasty some six centuries before the Zeng interment, bronze was closely associated with sanctioned political power. Vessels of investiture were cast and inscribed to record for posterity the accomplishments of glorious ancestors. The vast resources that the interred instruments represent suggest that the making of the bells was a central concern to the Marquis and his descendants.

In this analysis of the Zeng bells, I am proposing an argument about cultural diffusion and cultural differentiation located precisely in terms of two specific contexts, one of genealogy and one of geography. Apparent contradictions in the material and textual

record, whether about the proliferation and unification of writing styles or the proliferation and unification of musical nomenclatures, can be resolved if we recognize the plurality of contexts in which culture evolves. There are forces at work that determine and sustain cultural difference, and these may be strongest between adjacent territories, especially where a degree of negative reciprocity characterises the relationship between the two people. Second, that among the determinates of this differentiation process, location is likely to be only one of them. Genealogy, with its implied ritual affiliations, is another.

From the standpoint of the Marquis and the ruling family, we can understand the evidence in the inscription in terms of different affiliation frames in which the Marquis, as any individual and as a ruler, was self-defined. He was Chu'ish in terms of his geography, politics, and security arrangements, but Zhou'ish in terms of genealogy and ritual status. The administrative documents on bamboo strips in his tomb used Chu administrative terminology (von Falkenhausen 1988, 96). His huge bronze bell set was the collision point of these two affiliations, because of the nature of bronzeware itself. Bronzeware historically served political needs: documenting investiture and demonstrating control of weaponry, territory, and military might. It also served the genealogical needs of historiography, sacrifice, and lineage posterity. It is this collision that not only engendered the variety of nomenclatures, but also the remarkable inscription on the *bo* bell, which can now be seen as a kind of adoption by fiat of the Zeng marquis by the Chu king, an effort to detach Zeng from his Ji surname and the Zhou lineage, and make him all the more Chu'ish.

By examining together a diverse range of materials bearing on early Chinese music, it is possible to study both integrating cultural features that pertain to a central notion of Chineseness prior to Qin unification and differentiating cultural features that preserved the cultural integrity and political authority of local cultures and their leaders. Using archaeological and historical methodologies, we can uncover processes which are themselves archaeological and historical, for late Warring States China cultural centers were engaged in an effort to find historical justifications for determining difference, a process of uncovering, analyzing, rationalizing, and maintaining cultural features, like tuning systems and pitch nomenclatures, that they constructed as unique to the empowerment of their particular royal lineages. Competing groups may use material culture to delineate their differences in contexts where they are overtly competitive, and to minimize their differences in contexts where they are cooperative. For Zeng vis-à-vis Chu, material evidence demonstrates the difference between *wen* and *wu*, for the *wen* aspects of Marquis Yi's offerings belong to Zhou, the *wu* side belong to Chu.

CONCLUSION

Reference to the paired flutes of Wuyang, Jiahu, as male and female pairs shows a kind of interpretive exuberance, unless they are used strictly as insubstantial counters. But it is very difficult to ascertain when the symbolic sets associated with *yin* and *yang* became elaborated around paired objects. We might ask what kind of material residues we would need in order to establish symbolic values of objects in this sense.

Typically, archaeological work has to begin with a primarily material look at the evidence, focusing on human interactions with the environment (the processual agenda), then moving upward to human interactions within a society (the New Archaeology agenda), and lastly turning toward ritual and ideology. This search for the structured content of ideas and symbols seeks a high order of understanding that can be meaningful-

ly tied to very dry and dusty things. This invites a higher level of construction of object signification than, say, Middle Range theory employs, and it is closer to what Ian Hodder (1991, 121–55) calls 'contextual archaeology'. It is essential to explain the diversity and the uncertainty in the evolution of human cultures.

The people that come together at conferences to discuss early music cultures are a pretty motley group, mostly musicologists, with a few archaeologists, cultural historians, physicists, and philosophers. They treat the issues with varying degrees of adventurousness. The least courageous take cover in detailed physical descriptions, taxonomies, organologies, classifications, and charts of physical and acoustical data.

This is essential work, but objects that once made music demand more than this. I have attempted to show that they have voices and tell about themselves in ways that other ritual objects cannot. The disciplined study of the ideational and symbolic achievements of musical instruments will be informative about their cultures in general, not just musical culture. Pursuing this work is consistent with the goals of new trends in archaeology itself, variously called 'symbolic', 'structural', or 'critical' consciousness (Trigger 1989, 339). The understanding of early music culture will make a major contribution to what Colin Renfrew dubbed 'The Archaeology of Mind' about a decade ago. The key to the contribution is the discipline brought to the effort, and that requires us to keep one eye and one ear open to the descendant cultures as we read the relics for their significance, but one eye and one ear closed to them as well.

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MUSIC ARCHAEOLOGICAL DATA FOR CULTURE CONTACT BETWEEN SUMER AND THE GREATER INDUS AREA: AN INTRODUCTORY STUDY

REIS FLORA[1]

Though Sir Mortimer Wheeler, an important archaeologist of early South Asian cultures during the mid-1940s (Kenoyer 1989, viii), suggested that 'the *idea* of civilization' came to the ancient Indus region from Mesopotamia (Wheeler 1968, 25, 135), more recently a new perspective has been cogently presented, based on new data. This view explains the urban Indus civilization (*c*.2500–2000 BC) as the result of local evolutionary developments over a span of some eight thousand years (Asthana 1985). Accepting this regional orientation for understanding the genesis and growth of cultural patterns that lead to the mature Harappan era,[2] it is nonetheless clear that the Harappan peoples enjoyed notable trade contacts with ancient Mesopotamia and certain cultures in between (Parpola et al. 1977; Ratnagar 1981), and also with areas to the north, in present day northern Iran and the contiguous area of Central Asia, known generally as Turkmenia (Masson and Sarianidi 1972). Due to the uneven availability of music archaeological data in these four large areas, our main concern in this study is limited to music archaeological evidence that suggests culture contact between ancient Mesopotamia and the Indus region.[3] In a few instances, however, as noted below, data from the Dilmun culture of the Persian Gulf and from Turkmenia are brought into the discussion.

Through time Harappan trade with Mesopotamia appears to have fluctuated. It has been argued, based on the distribution and chronology of certain iconographic motifs, proceeding from Mesopotamia to the Indus area, that contacts between the two regions may date from as early as *c*.2500 BC (During Caspers 1979). Later, during the Akkadian era in Mesopotamia, *c*.2300–2200 BC, data in cuneiform texts strongly suggests direct maritime contact between the two regions (Parpola et al. 1977, 130–1). By comparison, it is thought that trade after this time was conducted indirectly through the Dilmun culture in the Persian Gulf (Ratnagar 1981, 228). It has also been argued that around 2050 BC certain texts from the city of Tello in Sumer record the presence of Harappans as partially acculturated residents (Parpola et al. 1977), and that Sumerians were present in some of the Harappan centres as well (During Caspers 1984b). Thus it is reasonable to assume that, through several centuries at least, some opportunity existed for music culture contact between the two regions. In support of this argument, it may be noted that

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1. It is with gratitude that I acknowledge the assistance of the Faculty of Arts and the Vice-Chancellor's Special Research Travel Fund, Monash University, and the Ian Potter Foundation in Australia, for travel grants to enable me to attend the Music Archaeology Conference at Darwin College, Cambridge. Additionally, the Department of Music at Monash University assisted with conference registration and other administrative matters which enabled this paper to be submitted for publication. For this I am also grateful.

2. In this study 'Indus' and 'Harappan' as identifying adjectives are used interchangeably, the latter being derived from Harappa, a famous Indus urban site.

3. Sumer as used in the title of this paper refers specifically to the region of southern Mesopotamia. The latter term, strictly speaking, connotes a much larger area. In this study, however, Mesopotamia and Sumer are used interchangeably in general, thus making Mesopotamia more specific most of the time, but not necessarily in every instance in which it is used.

numerous correlations have been observed in the glyptic art of Mesopotamia and the Indus area (Parpola 1984).

Though chronology in Sumer has become settled to a remarkable degree, it has been a major problem in South Asian archaeology, due in part to the absence of stratigraphic excavations during initial work in the second decade of this century (Kenoyer 1989, vii). Other factors include unreached 'natural soil' at major sites such as Mohenjo-daro and Chanhu-daro—where excavations are hindered by the current water level—and substantial differences of opinion among influential archaeologists working in the area (Thapar 1984, 19–20). And so it is a source of frustration that dates for Harappan artefacts in this study are not as precise as one might expect. Indeed, with reference to the music archaeology of the Indus area, extensive work is still needed to inventory artefacts adequately and to determine more precisely their respective dates and circumstances of discovery.[4]

Keeping these limitations in mind, a previous survey has noted various aspects of music archaeological data in the Indus civilization, *c.*2500–2000 BC (Flora 1988). Though several comments in that discussion refer to similar music archaeological data in Sumer and the Indus region, especially with respect to rattles and clappers, two types of chordophone, and one membranophone, a detailed investigation of similar evidence and its significance lay outside the parameters of that inquiry. The intention there was to bring together disparate data to provide an initial survey of the Indus situation. Musical instruments and dance activity provided several focal points for our investigation.

By comparison, the purpose of the present study is to present a more comprehensive view of similar music archaeological data between the Sumerian and Harappan cultures. It was felt appropriate to consider evidence about Sumer/Indus music culture contact in more detail before proceeding with specialised Indus work as suggested above, in order to provide a broader framework for Indus music archaeological studies. In evaluating evidence for music culture contact between the two regions, attention will be given to the chronology of the data, and also to the function of the data within each cultural area.

As with our previous study, it seems most feasible to conduct our inquiry according to the Hornbostel/Sachs classification of musical instruments. For ready reference, archaeological sites are identified on two maps. Map A includes sites noted throughout this study. Map B focuses specifically on the category of pellet rattles.[5]

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4. A communication from Dr. A. Ardeleanu-Jansen of the Forschungsprojekt Mohenjo-daro in Aachen (Rheinisch-Westfälische Technische Hochschule), dated 27–2–1992, notes that 'at least 273 bird figurines' have been excavated at Mohenjo-daro. This number is in marked contrast to the ten instances of bird-shaped vessel flutes from the Indus area known in various archaeological reports (Flora 1988, 209). Though not all the bird figurines may be vessel flutes, this large discrepancy nevertheless indicates that much detailed work awaits music archaeologists interested in the Indus area. I am grateful to Dr. Magdalene von Dewall of the South Asian Institute at the University of Heidelberg for drawing attention to the Forschungsprojekt Mohenjo-daro during the discussion of my paper at the conference.

5. I am grateful to Mr Gary Swinton and Ms Natasha Velleley of the Department of Geography, Monash University, for assistance with the preparation of maps, tables, and signs of the Indus script that appear in this study.

IDIOPHONES

In this section three types of musical instrument will be considered: pellet rattles, clappers, and clay percussion pots. Data for pellet rattles are much more extensive than for either of the other two categories.

PELLET RATTLES

The collation of data about rattles from Mesopotamia, nearby regions, and the greater Indus area, in association with data from Turkmenia, presents a fascinating picture. Firstly, eleven types may be identified. Secondly, a particular type among the earlier artefacts is the most fully developed, in both material and design. Finally, the rattles in each region are linked by a common feature. They are pellet rattles, with one or more interior pellets. The data may initially be divided into two simple groups according to shape: (1) pellet rattles without a handle, and (2) pellet rattles with a handle.

Concerning the first group, this type shows further division according to two large geographic areas, east and west. Somewhat unexpectedly, data from the greater Indus area appears to precede data from Mesopotamia.

To the east the rattles are made of clay. Their shape is basically spherical, or occasionally ovoid. The first evidence has been found at two sites in the Quetta Valley of Baluchistan, Damb Sadaat and Kile Gul Mohammad, and dates from *c.*2600 BC (Fairservis 1956, 228–9). These data consist of fragments and a complete artefact (fig. 1a).[6] In total they show a smooth surface, a completely perforated surface, and a partially perforated surface. One fragment (fig. 1a:e) shows both a complete perforation and partial perforations. Additionally, several fragments are decorated with incised circles. One fragment (fig. 1a:f) with a smooth surface shows painted concentric circles of 'black or reddish brown' (Fairservis 1956, 229). Another fragment (fig. 1a:g) is decorated with dots.

Between the Quetta Valley and the core Indus area, two further sites have yielded pellet rattles, Mehrgarh and Sibri (Flora 1988, 213). Some rattles show painted designs in geometric style (fig. 1b; see Jarrige and Lechevallier 1979, 530). One rattle from Sibri has incised signs which, according to Santoni (1984, 56–8, fig. 8.4.C.), 'could represent numbers'.

Rattles with a smooth surface and painted designs appear in greater number in the core Indus area (Flora 1988, 211–3), where some are perforated (fig. 1c), and others are partially perforated (Vats 1974, 454). One rattle from Harappa (fig. 1d) is incised with two signs of the still undeciphered Indus script ().

The sign to the left on the Harappan rattle is commonly found on many Indus seals (Mahadevan 1977, 597–653, also *ibid.* 35, sign no. 342). It is also found in several instances as the initial left sign with various sets of marks inscribed on pottery from Mohenjo-daro (Dales and Kenoyer 1986, 259, 341, 415, 417, 456–8). By comparison, the sign to the right appears only eleven times in the corpus of Indus texts (Mahadevan 1977, 481–2; also *ibid.*, 34, sign no. 226). According to Mahadevan (*ibid.*, 737), these two signs appear together as a 'pairwise combination' only three times in the corpus, of which our rattle seems to be one instance. The appearance of the signs on a rattle is an unsolved problem for both philology and music archaeology. On a different but related issue, the evidence suggests that the practice of incising clay pellet rattles progresses from incised

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6. I am grateful to Mr Brian Carr and Ms Rhonda Joyce of the Department of Geography, Monash University, for their assistance in preparation of the illustrations for this study.

circles in the Quetta Valley, to signs in the Indus borderlands, to elements from the Indus script at Harappa.

Data from the eastern area may conveniently be collated as in Table 1, which simulates geographic realities to some extent, and coincidentally may reflect a chronological sequence as well. In this comparative overview, numbers in parentheses identify six types of pellet rattle without a handle from the greater Indus area.

Turning to the western area, it seems unusual that the earliest known pellet rattles in this region are much more refined than the rattles characteristic of a later period. The early rattles are made of copper, ovoid in shape, and are exceedingly rare. From the Barbar temple on Bahrain, one of these artefacts (fig. 2a) 'with sides pierced by triangular holes and a lug at either end corresponds with a rattle found in the area near the royal tombs in Ur' (Mortensen 1971, 396). The Barbar artefact was excavated 'from the foundation deposit of the second temple', and has been dated *c.*2600–2370 BC. Three other similar rattles have been found in a grave at Tepe Giyan, in west central Iran. They have been dated *c.*2050 BC (Mortensen *ibid.*).

From the somewhat later Old Babylonian Period in Mesopotamia, *c.*1950–1530 BC, two types of clay pellet rattle survive, determined by shape. A zoomorphic type (fig. 2b) includes eight different animals, among them birds, a Bactrian camel, turtles, wild pigs, and hedgehogs (Rimmer 1969, 20 and pls IIIa–b; Rashid 1984, 98–101). Rashid (1984, 98) has noted that a bird rattle from Nippur dates a few centuries earlier, *c.*2350–2150 BC. A rattle in the shape of a hedgehog has also been found at Tepe Giyan nearby in Iran.

The second type of pellet rattle without a handle (fig. 2c) from the Old Babylonian Period has been given the apt descriptive appellation 'pie-crust' by Joan Rimmer (1969, 20). These circular rattles contain one and sometimes two holes. Both the zoomorphic and the 'pie-crust' rattles are widely distributed in Mesopotamia, having been found at eight different sites. Approximately thirty zoomorphic rattles have been excavated, as well as more than one hundred of the 'pie-crust' type (Rimmer 1969, 48; Rashid 1984, 100). Data for the three types of pellet rattle without a handle from the western region—types 7, 8, and 9—may also be conveniently summarised (Table 2).

Proceeding now to the second fundamental morphological category, pellet rattles with a handle (fig. 3a), artefacts of this type also are exceedingly rare. They are made of clay and known by only six examples; a damaged rattle and complete rattle from Shah Tepe in Turkmenia (Arne 1945, 76–7, fig. 65.7; 259–60, fig. 542), three rattles from Mesopotamia (fig. 3b; see Rashid 1984, 100–1), and one artefact from Harappa (fig. 3c; see Vats 1974, 454). These data also appear to fall into two sub-groups, again according to eastern and western geographic areas.

The rattles from Shah Tepe and Mesopotamia are perforated, and the Shah Tepe rattle shows a tapering pointed handle. The body of these rattles flows more or less evenly into the handle. Part of the handle on the Kish artefact appears to be broken off. Given the Shah Tepe artefact, one may assume that the handle on the Kish rattle also tapers to a point. By comparison, the singular instance of a pellet rattle with a handle from the Indus area shows a marked shoulder. This feature seems to define a junction of handle and body. The handle also appears to be basically cylindrical, relatively short, and terminates abruptly. Nonetheless, the length of the Harappa rattle is similar to that from Shah Tepe. The latter artefact measures 8cm. (Arne 1945, 259) while the Harappa rattle is '2.9 inches' (Vats 1974, 454), or approximately 7.3cm. The ultimate meaning of these rather subtle differences and similarities, even determining whether they are in some way significant or not, can only await the discovery of relevant additional artefacts.

The damaged rattle from Shah Tepe also has the handle broken off, and has been dated approximately one millennium earlier than the complete artefact, *c.*3000 BC, in contrast

to *c.*2000 BC (see Arne 1945, 77, 259, 323). The date of the complete artefact from Shah Tepe accords much better with the similar rattles in Mesopotamia, which have been dated to the Old Babylonian Period, *c.*1950–1530 BC. The data for pellet rattles with a handle, both east and west, may be usefully summarised (Table 3). As an aid in documenting the limited artefacts of this basic type, catalogue numbers have been included in our summary.

In considering contexts of performance for pellet rattles, interesting specific data and general observations by Rashid and Hickmann may be mentioned. As noted, the copper rattles were found in the Barbar temple and near the royal graves of Ur, and also in a grave in Tepe Giyan. The first two locales suggest a high socio-cultural status for the respective artefacts. Such an interpretation is also supported by the use of copper, and additionally by the high level of craftsmanship required to produce the finely wrought rattle of the Barbar temple. In discussing the function of rattles, Rashid (1984, 98) has noted as follows:

> 'Gefässrasseln aus gebranntem Ton lassen sich in der frühesten Zeit der gesellschaftlichen Entwicklung bei sämtlichen alten Kulturen einschliesslich des eruopäischen Neolithikums nachweisen. Im Glauben an ihre magische Wirkung finden sie bei der Beschwörung der Geister, bei Regenzauber und Krankenheilung, bei Fruchtbarkeits kulten und Opferriten Verwendung.'

Rashid then includes a quotation from Hans Hickmann (1963, 10), the well-known music archaeologist of ancient Egyptian culture, which is also germane to our discussion:

> 'Die mit Ösen oder anderen Aufhängevorrichtungen versehenen Tonrasseln der Vorgeschichte sind oft zu mehreren gefunden worden. Sie wurden am Gürtel des Priesters oder Zauberers aufgereiht. Aus den rhythmischen Bewegungen des tanzenden Priesters entstand dann erst sekundär die musikalische Bedeutsamkeit der an Hüfte, Handgelenk und Fuss aufgehängten Rasseln oder der im Takt geschwungenen, zu Beschwörungsliedern, Initiationsriten oder bei anderen Festen verwandten Handgriff-rasseln.'

The lugs on the Barbar rattle seem to suggest a similar function, that they existed for tying the rattle to something or someone.

By comparison, the clay pellet rattles, as examples of quite a different technology, may have been accorded a different, perhaps lower, socio-cultural status. In general they are not as impressive as the copper artefacts. Additional research is needed to determine more clearly the contextual circumstances of the Tepe Giyan copper rattles, the clay rattles with a handle from Shah Tepe, Mesopotamia and Harappa, and as well the numerous clay pellet rattles without a handle of Mesopotamia and the Indus area.

To summarise the data, it is informative to note the similar and contrasting patterns. The story with pellet rattles seems to be one of regional norms. Although the concept of 'pellet rattle' is a continuing link across time, type, and geography, on the Mesopotamian side copper rattles of an ovoid shape appear to be succeeded by two types of clay pellet rattle also without a handle, those with zoomorphic shapes and the 'pie-crust' shape. By contrast, only clay rattles are known in the greater Indus area, and six types of spherical and sometimes ovoid pellet rattle without a handle may be discerned. Painted geometric designs, partial and full-fledged perforations in large numbers per rattle, and the practice of incising circles, signs, and script, stand in marked contrast to the zoomorphic and 'pie-crust' pellet rattles in Mesopotamia. Whereas data in the greater Indus area show

variety in the treatment of the surface of a clay rattle, the Mesopotamian data show variety in material of construction, and in zoomorphic shapes. In the eastern region the various methods of treating the surface appear to become manifest first not in the Indus area, but in the Quetta Valley.

In contrast to data for regional norms for pellet rattles without a handle, pellet rattles with a handle argue for culture contact. In this case the contact is not directly between Mesopotamia and the Indus area, but between Shah Tepe and Mesopotamia. A link between Shah Tepe and Harappa is possible but not certain, as the pellet rattle with a handle from the east is noticeably different. Future excavations may reveal new artefacts that will clarify this issue. Additional data for culture contact is the basic concept 'pellet rattle' itself, which is common to all the regions noted above, east and west.

Though five copper rattles have been excavated in the western region, clay pellet rattles are notably dominant in Mesopotamia, and clay is the sole material of rattles in the Indus area. Also notable is the variety of clay rattles in both regions, and the large number of these artefacts found in Mesopotamia. Data for pellet rattles in the large inclusive geographic area may be condensed into a useful overview (Map B). To conclude this section, the pellet rattles of east and west may be collectively tabulated according to type and location (Table 4).

CLAPPERS

Concerning another sub-category of idiophone, known generally as clappers, the comparative situation between Sumer and the Indus area is not clear. The clapper artefact reported from Harappan culture has not been observed by this author, its current location is not certain, nor has anything more than a very general description of this musical instrument been found in the literature. Mackay (1935, 184) has noted a pair of 'castanets', which suggests non-metallic material such as wood, ivory, or bone. Another archaeologist (Dikshit 1939, 30) has described the artefact as 'like a modern *karatāla*'. As *karatāla* is a generic term in South Asia (see Dick 1984b), that description is not satisfactory for our purposes. Concerning the location of this evidence, Dikshit was in charge of the excavation of a certain area at Mohenjo-daro, the DK section. Mohenjo-daro is a second important urban site of the greater Indus area. The artefact could well be from this area of this site, and thus be among the 'DK' Mohenjo-daro artefacts in a museum in Pakistan or elsewhere. To establish the relevance of this artefact within the context of musical culture contact between Sumer and Harappan culture when the artefact is sighted, an outline has been prepared which summarises clapper data in Sumer and lists additional possibilities according to current ethnographic data in South Asia (Table 5). Seven different types are noted, an interesting variety of possibilities for the Indus artefact. Contexts of performance are included as well. Each type is also visually documented (figs 4a–d and 5a–c).[7]

The data collated in Table 5 suggest chronological change in clapper morphology in Sumer from type 1 to type 4, except that an illustration of type 1 (fig. 4a) occurs in the period of type 3, on a cylinder seal dated *c.*2450 BC. If clappers of type 1 had fallen out of

7. Fuller documentation for the seven types of clappers is as follows: (1) Rashid 1984, 48–9, fig. 16; 52–3, fig. 29; Stauder 1980, 197; (2) Rashid 1984, 48–9, fig. 15; 50–1, fig. 23; 52–3, fig. 30; (3) *ibid.*, 40–1, fig. 8; 64–5, fig. 42; (4) *ibid.*, 64–5, fig. 44; (5) Dournon 1984, 422; (6) Kothari 1968, 23, pl. 3; (7) Henry 1988, 201, 215, photo 18. For details of the various contexts of clapper use in Sumer, see Rashid 1984, 48, 50–1, fig. 23; 52–3, figs 29 and 30; Stauder 1980, 197.

use by *c.*2450 BC, this illustration could represent the persistence of an iconographic motif, or an earlier cylinder seal found in a later stratum. Moreover, Stauder (1980, 197) has reported evidence for hinged clappers on 'a fragment of inlaid work of the Mesilim period', *c.*2650 BC, which suggests that type 4 (fig. 4d) may have been in use in Sumer considerably earlier than indicated on the documentation cited here, *c.*2300 BC. Thus, the morphology of clappers in Sumer appears to be a relatively complex issue. New data may confirm or deny the change in clapper morphology in Sumer implied in Table 5.

CLAY PERCUSSION POTS

At the end of our discussion about idiophones it is interesting to note another musical instrument that could have been a part of musical culture in the Indus area. In their recent extensive study of pottery from Mohenjo-daro, Dales and Kenoyer (1986, 465, pl. 28b) include a photograph showing the current use of large 'ordinary pots' as percussion instruments by Sindhi musicians in southern Pakistan. For music archaeology in South Asia, the implications of this observation for ancient Indus musical culture, a culture known for its prolific manufacture of pottery, has a delightful and not unfamiliar ring, especially given the widespread use of large pots of baked clay as percussion instruments today in the subcontinent, from the *māṭki* of Rajasthan and the *nut* of Kashmir to instruments much further afield from the Indus area, such as the *ghaṭam* used in the classical Karnatak tradition of South India (Kothari 1968, 26; Dick 1984a). Before this notion of the possible use of percussion pots in ancient Indus musical culture can become anything more substantial, however, and maintaining a sense of caution due to the limitations of ethnographic analogy for issues in music archaeology (Lund 1985), an argument needs to be advanced based on artefacts, or new data relevant to this issue need to be excavated. Percussion pots do not appear to have been used in ancient Sumer.

MEMBRANOPHONES

Within this family two types concern us here, the frame drum and the goblet-shaped drum. Though data for music culture contact are more convincing for the first type than the second, certain problems arise in each instance.

FRAME DRUMS

The frame drum is well known in Sumerian music culture (Rashid 1984, 40–1, 96–7), with early evidence dating from *c.*2450 BC, when it appears placed horizontally on the lap of a jackal or fox in an unusual scene that shows two animals playing musical instruments and a third perhaps dancing or clapping (fig. 4c). In succeeding eras the instrument appears in iconographic data more frequently, especially during the Old Babylonian Period, *c.*1950-1530 BC. In total, twelve different illustrations of the frame drum from Mesopotamian antiquity have been published in two valuable music archaeology sources and in a more general discussion (see Rimmer 1969, pl. VI:a and c; Rashid 1984, figs 8, 58–9, 91–5; also p. 76, text illustration; Mallowan 1965, ill. 142).

The great majority of these illustrations consist of small terracotta reliefs showing a nude female with either a small or a relatively larger frame drum. In most of these instances the instrument is held before the chest of the musician (fig. 6a), and in a few

instances to the musician's left and slightly higher at the shoulder (fig. 6b). Different hand positions suggest that a certain variety of playing techniques may have been used. It is thought that these small terracottas may have been votive objects associated with the cult of Ishtar (Rashid 1984, 96). As noted in Part II of the outline just above, Stauder (1980, 197) has stated that in Sumer frame drums replaced clappers 'in the performance of ritual dances'. Stauder (1970, 184) has also observed that Akkadians introduced frame drums into Sumerian culture (see Rashid 1984, 96 n. 9). At least five sites in Mesopotamia have yielded these objects, and according to Rashid (*ibid.*, 96), numerous artefacts of obscure provenance of this type are found in museum collections.

In marked contrast to the numerous depictions of a frame drum in the hands of isolated single figures as above, three illustrations show the drum being played with different stringed instruments (Rashid *ibid.*, 74–7). In one instance it is played with a lute (fig. 7a). In two other instances it is played with a lyre (fig. 7b). In the first of these illustrations, which is explicitly erotic in nature, the frame drum is played by a female and the lute by a male. This gender association for the frame drum accords with females being depicted on the numerous terracottas showing frame drums, and with the participation of females in cult dances playing clappers, and then, in later centuries, drums (Stauder 1980, 197; Rashid 1984, 84). In the remaining two illustrations, however, this gender association is reversed. In each case a nude female is shown playing a lyre, while before the lyre player a male wearing a knee-length skirt plays a frame drum, and is squat with right leg extended straight forward and left leg folded to the back.

Rashid interprets this stance as depicting a type of vigorous or acrobatic dance, and notes a similar position in contemporary folk dances from Central Asia (Rashid *ibid.*, 76), such as among the Cossaks. Another scholar of Mesopotamian culture, Moortgat, has linked the latter two reliefs with the Tammuz cult, and possibly with its new year festival (Rashid *ibid.*). Whatever the relatively specific cultural interpretation given to the two latter terracottas, which show a male playing a frame drum and dancing before a female lyre player, in considering these two reliefs in combination with the scene showing a female playing a drum and a male lutist, one picks up a suggestion of what is perhaps a more broadly based female/male duality or symbolic theme. In each of the three instances of a frame drum with another instrument just noted, the two musicians depicted are of opposite gender.

In Harappan culture a single male figurine with a frame drum held at its chest (fig. 6c) was excavated from the lower levels of Mohenjo-daro (Mackay 1938, 280). The instrument represented appears to be relatively small, and Mackay (*ibid.*, 266) interprets the bandy legs of this figurine as depicting a dance posture. The small size of the frame drum accords well with a small drum shown on a terracotta from Tello in Sumer (fig. 6a.) Moreover, the theme of a male musician playing a frame drum and dancing, as suggested by Mackay for the Mohenjo-daro figurine, has been noted in Mesopotamia. A lower level at Mohenjo-daro points to a middle date in the Indus epoch, *c.*2250–2150 BC, but later dates in Mesopotamia suggest the last few centuries of the mature Indus era, if a link may be established in the data, and if some type of diffusion of music culture from Sumer to the greater Indus area is accepted. Holding to this latter assumption for the moment, notwithstanding the male gender of the Mohenjo-daro figurine when compared with the marked preponderance of females with frame drums in Mesopotamian data, the evidence for a frame drum in Harappan culture has notable models in Sumer. The male gender of the Indus figurine calls for a more detailed investigation of the rare instances of male musicians with a frame drum in Sumerian data. The small size of the frame drum represented on the Mohenjo-daro figurine should also be kept in mind. In Mesopotamian data the two males depicted with a frame drum appear to play a larger instrument.

In contrast to this data for the presence of a frame drum in Indus culture, a second figurine (fig. 6d) from Mohenjo-daro is problematic. Though its right leg has been broken off, its left leg is similar to the first Mohenjo-daro figurine, a stance which according to Mackay (*ibid.*, 266–7) suggests another illustration of a dance pose. In this instance, however, the item that may represent a frame drum is a larger circular form held at the chest, which shows a relatively small hole near its centre.

A third male figurine has rather similar bandy legs and arms held moderately outwards, without any suggestion of the presence of a frame drum (Mackay *ibid.*, 278, and pl. LXXV:13). This figurine is also interpreted by Mackay as depicting a dance pose. Research is needed to define more clearly the contextual circumstances of the excavation of these three Mohenjo-daro figurines. Excluding the last figurine, which is briefly noted here as it is similar in stance to the other two and may add to the data for music or dance in the Indus area, data for frame drums in Mesopotamia and Mohenjo-daro may be usefully collated for an overall view (Table 6).

GOBLET-SHAPED DRUMS

The second type of membranophone, a goblet-shaped drum, has also been identified on a Mesopotamian figurine of unknown provenance (fig. 8a) dated to the Old Babylonian Period (Rashid 1984, 96–7). Though the goblet-shaped form is clearly attested in this evidence, regardless of damage at the upper rim of the instrument, information derived from the single Indus figurine that possibly illustrates this type is not clear (fig. 8b). As Mackay (1931a, 346) has noted, it shows 'a woman holding some kind of utensil, or perhaps a drum, under her left arm'. This figurine is also from the lower levels of Mohenjo-daro.

Due to the later history of hourglass-shaped drums in South Asia, such a possibility for the identification of this 'drum' was suggested in our previous study (see Flora 1988, 217–8). The position of the object under the left arm would agree with this hypothesis. Nonetheless, as the head of our Indus 'drum' appears to be somewhat concave, uncharacteristic for a taut membrane covering a circular opening on a drum type, a drum interpretation for the Mohenjo-daro figurine, either goblet-shaped or hourglass-shaped, cannot be advanced with confidence.

CHORDOPHONES

Unlike the plentiful and dramatic evidence for highly developed and richly ornamented chordophones in Sumer, data for stringed instruments in the Indus area are very limited. Two artefacts may be remnants of a lute. Further, data for the presence of a harp and two different types of lyre consist of only a few abstract representations. These images may not reflect the presence of harps and lyres in the musical culture of the Indus people, but the eastward diffusion of symbols for these instruments. A discussion of the data representing harps and lyres in the Indus region and their antecedents in Sumer and Dilmun, and the two 'lute' artefacts, in light of Sumerian data, will illustrate the need for more extensive evidence before cultural contact with respect to chordophones between the Indus area and regions further west may be brought into sharper focus.

HARPS

Two 'harp' representations are known in Harappan culture, where they appear as signs in the undeciphered Indus script. Though basically similar, they are also appreciably different. The first instance appears as one of three signs in a text attested on a square seal from Mohenjo-daro (fig. 9a). In the convex or positive reading produced by this seal (fig. 9b), first published by Marshall in 1931 (pl. CV:46), the sign consists of an arch open to the right with three vertical lines. Though not identical with Sumerian data, this sign appears to correspond to three illustrations of a pictographic arched-harp motif there, each of which shows an arch open to the right with three vertical lines. The additional element in the Sumerian data (Rashid 1984, 52–3), not present in the sign from Mohenjo-daro, is that in each instance a lower boat-shaped resonator is also depicted (figs 10a–c).

In addition to the three pictographic characters from Sumer, dated *c.*3000 BC, well before the Indus epoch, two additional illustrations of a three-stringed arched harp from Sumer date from a later period, *c.*2650–2600 BC, and show the instrument in two different contexts. In the first instance the harp is shown open to the right in the hands of a standing musician in a symposium scene (fig. 11a). In the second instance the instrument is open to the left, and a seated musician appears to hold the instrument on her/his lap in what may be a pastoral scene (fig. 11b). The arms of the musician are outstretched to the middle of the instrument, a feature also depicted in the first contextual illustration. Both illustrations also clearly show a lower resonance chamber.

Concerning the second Indus 'harp' character, it is found in two instances of a different text on bas-relief tablets from Harappa (fig. 9c), on artefacts 680 and 692 (Vats 1974, pl. C:680 and 692; also pl. CXIII, sign 323a). In this case, however, artefact 680 shows an arch open to the left, opposite to the Mohenjo-daro sign, with three vertical lines, which corresponds to the Mohenjo-daro sign. The photograph of the other 'harp' sign from Harappa, on artefact 692, is too dark to read clearly. One assumes that this sign is the same as on artefact 680, as the other two signs of 692 match those of the clearer reproduction. This being the case, the Harappa 'harp' sign opening to the left as originally published by Smith and Gadd (Marshall 1931, pl. CXXIV, sign CLXXXVIII), and as subsequently reproduced by Deva (1978, 267) and Flora (1988, 214), is incorrect in the detail of showing four vertical lines instead of three.

In his sign manual for artefacts from Harappa, Vats (*ibid.*, pl. CXIII, sign 323) interprets this 'harp' sign as the variant of an arch facing left that is closed by a single vertical line,  . In Mahadevan's comprehensive concordance of the texts of the Indus corpus, however, this latter sign and five similar signs occur numerous times,  , which may represent a bow and arrow, occurring approximately seventy times in the Indus corpus according to Mahadevan's data (Mahadevan 1977, 553–6). The four other signs similar to in the Indus corpus could be interpreted as a schematic drawing of an arched harp, with string ends projecting from the top of the arch; namely, the signs  ,  ,  , and  (Mahadevan *ibid.*, 553, 790). The last sign occurs in three texts, the second of these with three strokes in one text (*ibid.*, 553). The first and third signs are considered to be variants of sign four (*ibid.*, 790).

One other point should be noted concerning the two texts with opposite 'harp' signs. The left sign in the Mohenjo-daro text has five horizontal strokes, while the left sign in the Harappan text has seven. According to Vats (1974, pl. CXII, sign 268), the sign with five lines occurs in thirty texts in the Harappan corpus. The sign with seven lines occurs in only four Harappan texts (Vats *ibid.*, pl. CXII, sign 271), one of which also includes the Harappan 'harp' sign.

In light of the interpretation by Vats that 𐬃 is a variant of 𐬄 , and given the four new 'harp' sign possibilities noted above in Mahadevan's concordance, one would be justified in doubting whether the 'three-stringed harp' signs from Harappa and Mohenjo-daro actually represent or symbolise a chordophone at all. Nonetheless, an argument supporting a 'harp' interpretation is that the ends of the arch project beyond the longest vertical line, reminiscent of the Sumerian signs. This feature also accords with much later illustrations of the arched harp in ancient South Asian music culture (fig. 11c). Aware of the pros and cons associated with the two more convincing 'harp' signs in the Indus corpus, and taking cognisance of four additional possible 'harp' signs as well, this issue must remain at loose ends until new data is received or a new argument put forward.

BULL LYRES

In a stimulating development, Asko Parpola (Parpola 1988) has recently identified what he considers to be two illustrations of the bull lyre in Harappan culture, an instrument well known in Sumer (fig. 12a; see Stauder 1980, 196). These representations are found on two seals from a third site in the Indus area, Chanhu-daro (figs 13a and b). The abstract of Parpola's paper,[8] presented to The Indian Ocean in Antiquity Conference held at The British Museum in July 1988, succinctly states his argument:

> 'The motif engraved on [the first] seal [CH 1801] is not "an antelope standing in a thicket", as suggested by Mackay (1943, 142), but the Sumerian "bull-lyre" known from both directly preserved examples and glyptic art, especially from the Royal Cemetery of Ur. In the Mesopotamian seals the "bull-lyre" motif is associated with the "banquet scene". It appears in the Early Dynastic A period and is most common in the Early Dynastic B period.
>
> The other seal (CH 1652) is round with a pierced knob in the back and made of grey pottery. It clearly represents a post-urban Jhukar period. The motif is described by Mackay (1943, 290) as 'two animals (oxen?), one placed above the other. Vertical markings above.' Actually this very rough carving renders a variant of the above mentioned "bull-lyre" theme... Similar lyres comprising two bulls are seen on two approximately contemporaneous round stamp seals of the "Dilmun type", which have been found on the Failaka island in the Gulf.
>
> The "bull-lyre" motif is not otherwise known from the Indus iconography. These two seals suggest that the Harappans continued their sea-trade with the Gulf in the early second millennium BC and that people from Chanhujo-daro were actively involved in this trade.'

Though the bull lyre of Sumer is well known and has received extensive coverage in the literature,[9] the idea of the figure of an animal being placed upon the resonator of any lyre, not to mention a bull lyre, may seem far-fetched. Nonetheless, a stylized bull-type figure with a similar quadruped standing on its back is depicted on the two circular seals

8. I am grateful to Dr Stephen Wild, Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, for drawing my attention to Parpola's paper.

9. See Woolley 1934, 252–8, pls 75–6, 104–8, 113b–19; Barnett 1969; Rimmer 1969, 12–18; Stauder 1970, 178–82, and 1980, 196; Rashid 1984, 28–35, 38–41, 44–5, 50–1, 60–1, 64–7.

from Failaka Island at the head of the Persian Gulf (figs 13c and d). These have been dated 'in the early 2nd millennium BC' (During Caspers 1984a, 23). Both seals focus on a lyre. On one seal the three strings of the instrument extend from the cross-bar to the large resonator, without touching the smaller quadruped (fig. 13c). On the other seal, however, four strings appear to reach only the upper quadruped, which is not very much smaller than the figure on which it stands (fig. 13d). In this latter instance it appears that a craftsman may have rendered a more stylized account of the other illustration. A second possibility, however, is that the artist meant to illustrate that only the upper figure serves as the resonator, this in turn then being mounted on a more largely constructed quadruped. Whatever the case may be, the positive image of each seal shows the lyre player to the right. Additionally, the post at the front of each lyre projects upwards from the smaller figure, not from the larger animal.

To consider a similar musical instrument from Sumer, an unusual boat-shaped lyre 'with a rampant stag attached to the fore-post' (Barnett 1969, 100–1, pls XV, XVI:c) has been excavated from the Royal Cemetery of Ur, in grave pit PG 1237 (fig. 12b). It has been dated *c.*2450 BC, which is several centuries earlier than the Failaka Island seals. This rather curious instrument may have been unique in Sumer, perhaps made there by royal command, or as an experiment by an enterprising instrument maker, possibly in imitation of an instrument from further south.

Among some archaeologists the instrument depicted on the Failaka Island seals has become known as the 'Dilmun harp' (During Caspers 1984a, 23), named thus after the Dilmun cultural area of the Persian Gulf, consisting in antiquity of Failaka Island, Bahrain Island, and probably parts of the adjacent western gulf littoral (During Caspers 1979, 123). Technically, this instrument must be classified as a lyre, due to its two vertical posts and the yoke or cross-bar to which the strings are attached. It is conceivable that the boat-shaped lyre with an ornamental rampant stag from a royal grave pit in Ur may have been imported from the Dilmun area.

Approximately mid-way chronologically between the 'rampant stag' lyre of Ur and the two Failaka Island seals appears a rather dramatic illustration of a 'double bull lyre' from Tello, dated *c.*2100 BC (fig. 12c). It is found on a limestone stele which measures 1.25 by 0.63 metres (Rashid 1984, 66). As noted by Rashid, it shows eleven strings, similar to a bull lyre excavated at Ur, which dates *c.*2450 BC, and it is associated with a cult scene. Due to the evidence on this stele, Stauder and Hartmann have both suggested that by the end of the third millennium BC, the earlier meaning of the bull lyre had been forgotten in Sumer (Rashid *ibid.*). Consequently, they view the bull motif on the resonator of the lyre as being ornamental. According to the chronology of the evidence, the later Failaka Island seals may have been derived from a Sumerian model, and from there transmitted further eastward, perhaps as far as the Indus area.

This brings us to the two seals from Chanhu-daro. Though both are evocative of musical traditions further west, as Asko Parpola has pointed out, both are also problematic. The main difficulty is that in both instances a horizontal line appears to bisect the vertical strings and the two posts (figs 13a and b). Is this horizontal line a cross-bar? If that was intended, it is not represented at the top of the instrument as on one of the Failaka Island seals (fig. 13c). On the other Failaka Island seal, the upper end of the lyre does not appear to be defined by a horizontal line (fig. 13d). In this case one may assume a cross-bar at the top that is not represented.

In many respects it is reasonable to assume that a cross-bar could have been represented at the top of the strings and lyre posts on each Chanhu-daro seal, had the seal maker so desired. To counter this critique, however, perhaps the seal maker in each instance was working from incomplete or confusing secondhand knowledge. Regardless

of this uncertainty, no remnants of a lyre have been identified in the corpus of materials. This situation is the same for harps in the Indus area as well.

Placing these doubts aside for the moment, the presence of what may well be iconographic motifs for at least three different types of stringed instrument in Harappan culture, an arched harp and two different types of lyre, raises the possibility that these instruments may have been part of the musical culture of the Indus people. If future excavations uncover a storage area for musical instruments in the Indus area which yields data for music archaeology of a magnitude comparable to that obtained from instruments recovered from the royal graves of Ur, new and exciting evidence would be provided about this issue. Such data would begin to redress the current paucity of information about music culture in the greater Indus area.

LUTES

In Mesopotamian data two Akkadian cylinder seals from *c.*2350–2170 BC show a musician playing a long-necked lute (figs 14a–d). Both these illustrations and much additional later data from Mesopotamia have been carefully discussed by H. Turnbull in an important paper on the origin of the long-necked lute (Turnbull 1972).[10] Briefly, Turnbull argues that the first documentation of a lute, figs 14a and c in our study, shows a two-stringed instrument being played in an indoor religious scene. It is plucked and held in the lap. Turnbull suggests that its playing technique was freer than the lute depicted in later illustrations, which show an instrument held at the chest and played by isolated individuals, probably in an outdoor pastoral or secular context. Our illustration of a later lute with a frame drum (fig. 7a), however, appears to be an exception to Turnbull's observation. For Turnbull the earlier illustrations suggest an instrument with a higher status. The later illustrations suggest an instrument with a lower status. In either case Turnbull (*ibid.*, 63) tentatively assigns the origin of the long-necked lute to the nomads northwest of Mesopotamia. From there the instrument entered Mesopotamian culture, perhaps in two separate waves. In the early illustrations the evidence for two strings, discussed in detail by Turnbull, is entirely convincing. Two hanging tassels at the end of two strings may be seen in each instance (figs 14b and d).

Among artefacts from Lothal, a town in the south-eastern region of the Harappan culture area, thought to have been a harbour by some, Prajnanananda (1963, 87–8) has identified a small piece of shell with two semi-circular indentations along one edge as the bridge of a lute (fig. 14e). The artefact has been dated *c.*2000 BC. Measurements are unavailable and the edge opposite the two indentations which may have supported the strings of a chordophone is damaged, casting some doubt on such an interpretation. Nonetheless, a plectrum associated with this artefact may have been excavated, as S. R. Rao, the archaeologist in charge of the diggings at this site, has made an obscure reference to a 'twang' of shell (Rao 1973, 112), presumably a device to make a string on a chordophone vibrate. Shell precludes a 'twang' being part of the string itself.

From a later Mesopotamian era, the Old Babylonian Period (*c.*1950–1530 BC), Rashid has included ten additional illustrations of long-necked lutes in his extensive monograph (see Rashid 1984, 74–5, fig. 57; 92–4, text illustrations 1–5, figs 81–4). These are of the second type noted above. Adding the eleven later instances to the two earlier illustrations, there would appear to be ample antecedents in Sumer for a lute in Harappan culture. The

10. I am grateful to Dr Maurice Byrne for calling attention to this source in his response to my paper during the conference.

bridge of a two-stringed lute and a plectrum, if confirmed from Lothal, would add a new and exciting dimension to the history of the two-stringed lute in Antiquity.

AEROPHONES

A certain irony presents itself in the comparative data for aerophones. Small vessel flutes of clay have been excavated in both areas, but with this observation the similarity seems to end. Vessel flutes of two types from Harappan culture are numerous and are relatively simple in construction (Flora 1988, 209–11). By comparison, only two instances of a vessel flute have been reported from Sumer, and both are duct flutes with two fingerholes (see Engel [1864], 75–7; Galpin 1936, 14–5, pl. IV:2; Rashid 1984, 46, text illustration and drawings). This type is significantly more complex technologically than the Harappan vessel flutes.

In the Indus area, one type is shaped like a bird, with a single insufflation hole on its back near the tail (fig. 15a). The other type is pear-shaped, with an insufflation hole at the top and a fingerhole on the side (fig. 15b). The first type has been found at all levels, the second type at middle and lower levels.

In Sumer the vessel flute is triangular in shape externally, generally isosceles, but round in the interior air chamber below the 'window' at the end of the duct, which begins at the truncated end of the longer point of the triangle (fig. 15c). The two fingerholes beyond the window, on the right and left side, plus the window of the flute, give the instrument an abstract anthropomorphic appearance. The instrument reported by Rashid has been dated in the Late Uruk Period, *c.*3000 BC, well before the Indus Valley civilization.

In a manner similar to rattles in the two areas, the concept of a small vessel flute of clay is common, but the morphological details are distinctly different in the two regions. Additionally, in notable contrast to the situation with rattles, in which many more have been found in Sumer than in the Indus area, many more vessel flutes have been found in the Indus area than in ancient Sumer.

SUMMARY

Considering the specifics for music culture contact between Sumer and the Indus region, the most challenging evidence is perhaps that most recently noted, the two seals from Chanhu-daro showing what may be a lyre motif. Harp characters in the Indus script are also suggestive, as would be two 'lute' artefacts from Lothal if confirmed. Further, the male figurine with a frame drum from Mohenjo-daro may represent the southeastward extension of a Sumerian musical tradition, as may the clappers reported from Harappan culture. At a conceptual level, pellet rattles of clay and vessel flutes of clay are common to the two regions.

Nonetheless, until more substantial data for musical instruments are known in the Indus area—through iconography, the remnants of instruments themselves, or names identified in the Indus script—the extent and significance of musical influence between Sumer and Harappan culture will remain tentative and unclear. Several unresolved issues continue. A satisfactory solution in each instance will help clarify the question of music culture contact between Sumer and the Indus region.

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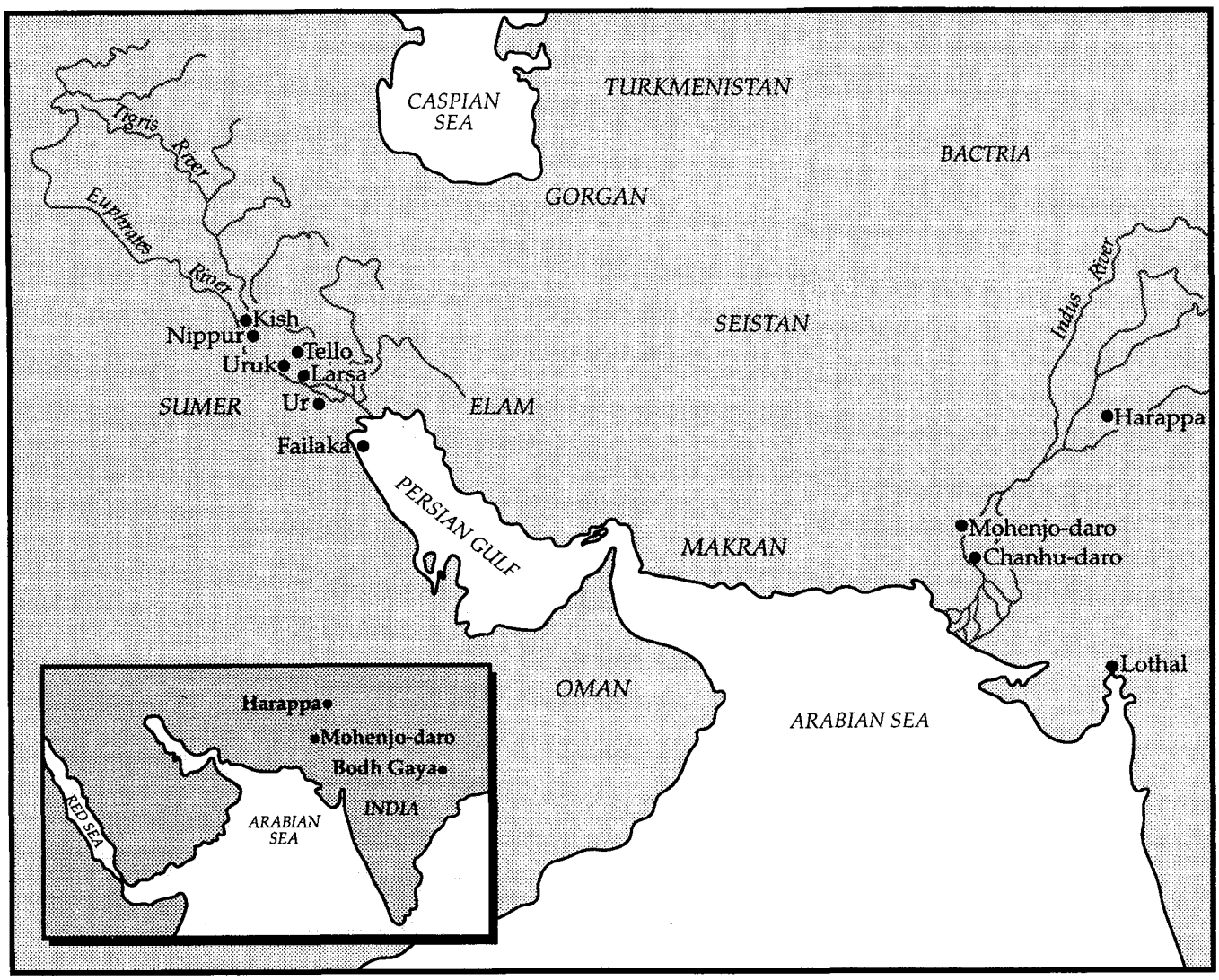
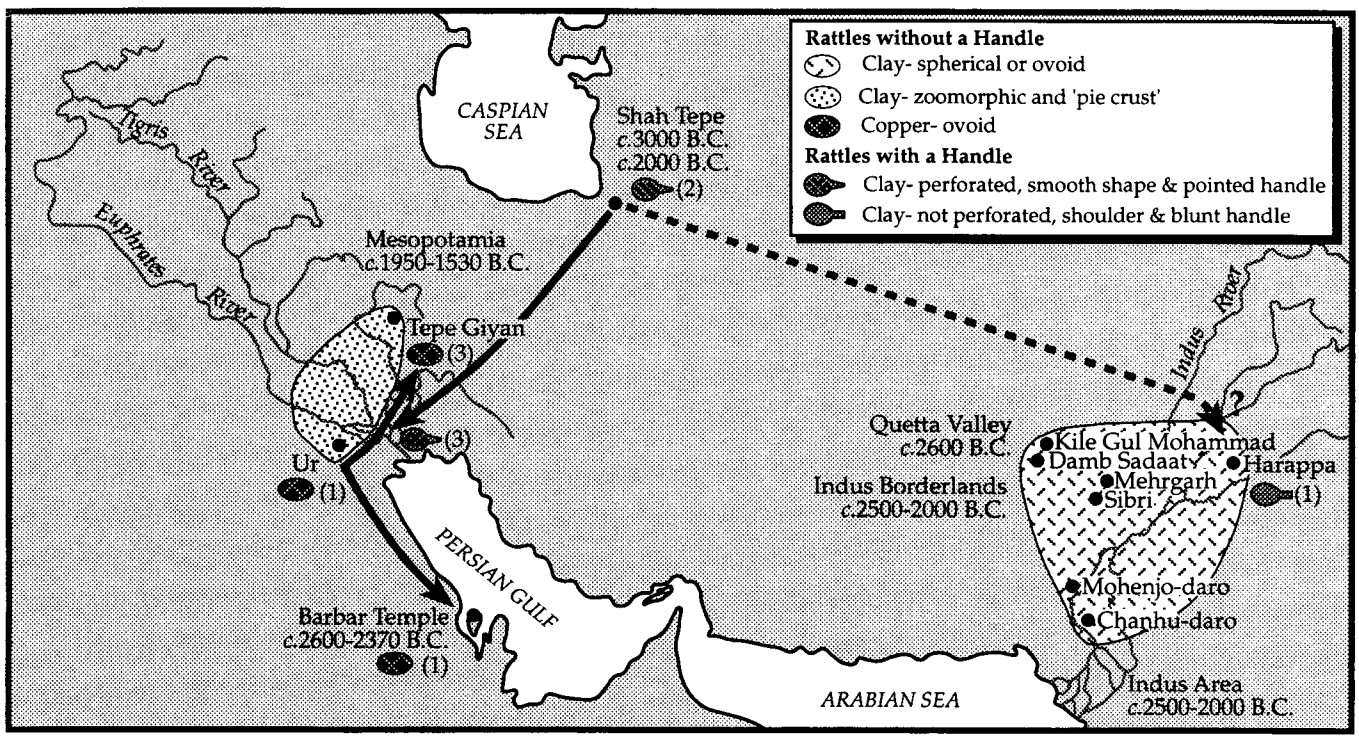
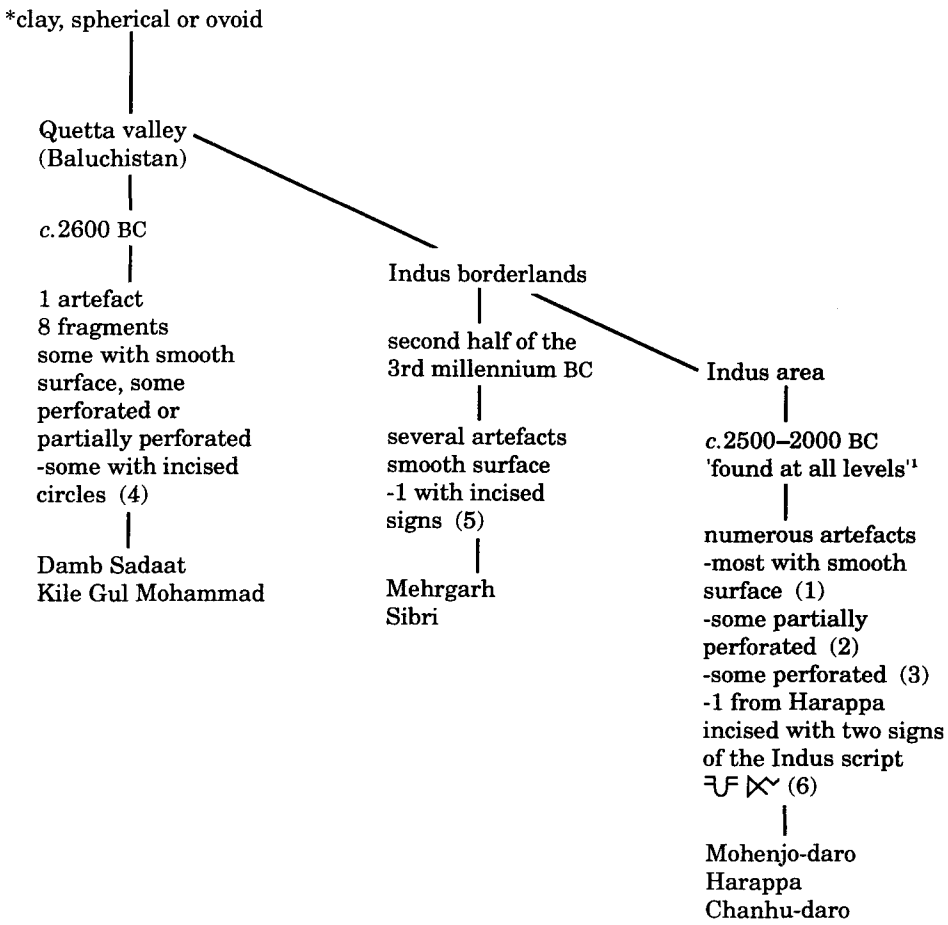


Map A: Archaeological sites in Sumer, the Indus area, and in Eastern India (adapted from Joshi and Parpola 1987, 376)



Map B: Distribution of pellet rattles (adapted from Schwartzberg 1978, 9, pl. II.3.a)



[1]Mackay 1931b, 551

TABLE 1. Pellet rattles without a handle from the Indus area and neighbouring regions

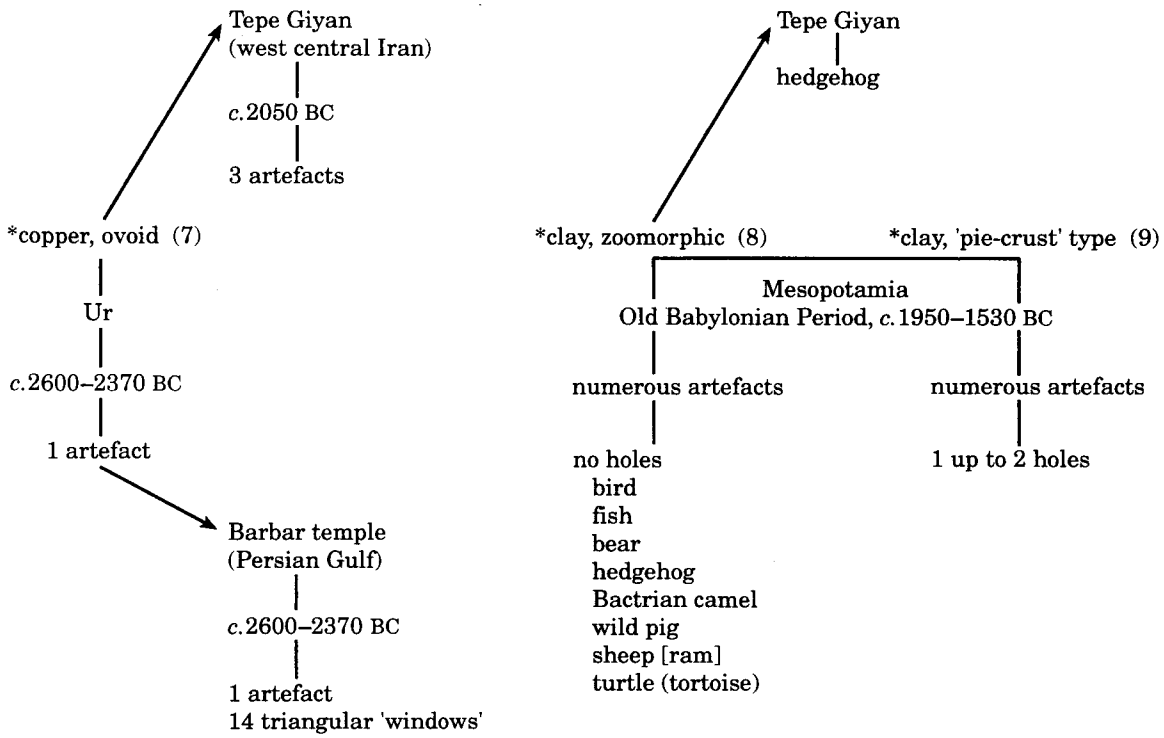


TABLE 2. Pellet rattles without a handle from Mesopotamia, the Barbar temple, and Tepe Giyan

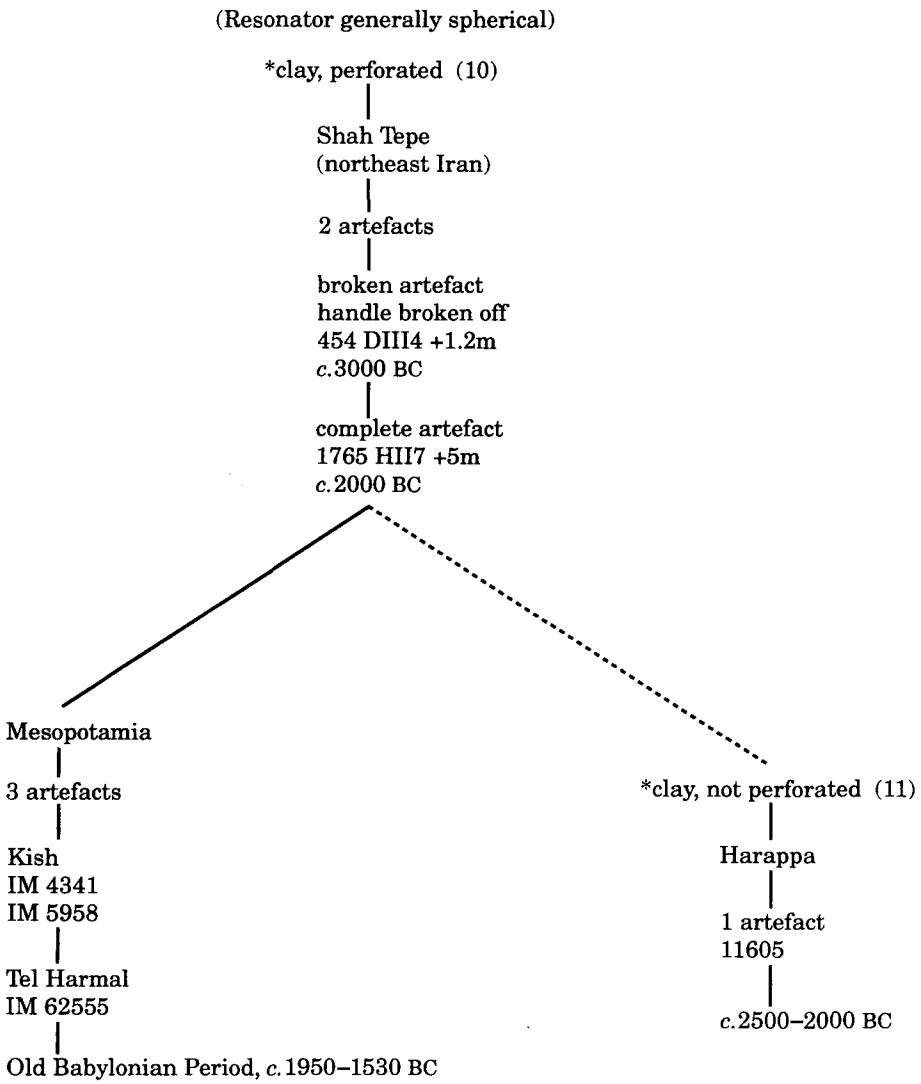


TABLE 3. Pellet rattles with a handle from Shah Tepe, Mesopotamia, and Harappa

Type	Area/Site
I. Without a handle	
A. Copper	
ovoid, with 'windows'	M/B/TG
B. Clay	
spherical/ovoid, painted geometric decoration	I
spherical/ovoid, partially perforated	I
spherical/ovoid, perforated	I
spherical/ovoid, incised circles, also with partial and/or full-fledged perforations	I
spherical/ovoid, incised signs	I
spherical/ovid, incised script	I
zoomorphic x 8 animals	M/TG
'pie-crust'	M
II. With a handle	
A. Clay	
spherical, not perforated	I
spherical, perforated	M/ST

TABLE 4. Pellet rattles arranged by type and location

I. Seven types of clappers are a possibility

*Sumer

1. Crescent- and S-shaped plaques, *c.*2700 BC — artefacts and iconographic data
   held at the bottom, one in each hand
   wooden handgrips
   15–30 cm long, 4 cm wide
   made of wood, animal horn, metal

2. Crescent-shaped plaques, *c.*2600 BC — iconographic data
   held in the middle
   no special handgrip

3. Sistrum type, *c.*2450 BC — iconographic data
   decorated panel on the front of a Sumerian lyre, Ur

4. 'A type of clappers held in one hand only....hinged clapper'[1] — iconographic data
   *c.*2350–2170 BC

*South Asia — contemporary ethnographic data

Small or medium-sized pair held in one hand
Two pairs are usually played, one in each hand
Used in various folk traditions and devotional music[2]

5. wooden plaques *(khartāl)*, solid and rectangular (western Rajasthan)
6. wooden frames *(kartāl)*, holes contain metal discs mounted on wire rods, as on a tambourine (Gujarat)
7. iron bars *(kartāl)*, narrow and pointed (eastern U.P.)

II. Wilhelm Stauder's argument for use in Sumerian cult music

Clappers ...	became replaced by ...	a small frame drum[3]
2700–2600 BC	2600–2350 BC	2150–1850 BC
Mesilim	Ur I	neo-Sumerian period
Dynastic Period I	Dynastic period II-III	Ur III

III. Summary of musical contexts in Sumer

played by females in 'ritual dances'
played with a harp — iconographic data
played with a lyre — *in situ* and iconographic data

[1]Stauder 1980, 197 [2]Kothari 1968, 23; Deva 1978, 55 [3]Stauder 1980, 197

TABLE 5. Clapper data summary

*Mesopotamia

Artefact 1	mosaic inlay *c.*2450 BC 'animal orchestra' accompanies a 'bull' lyre and held horizontally on its lap by a jackal that holds a sistrum with its right foreleg

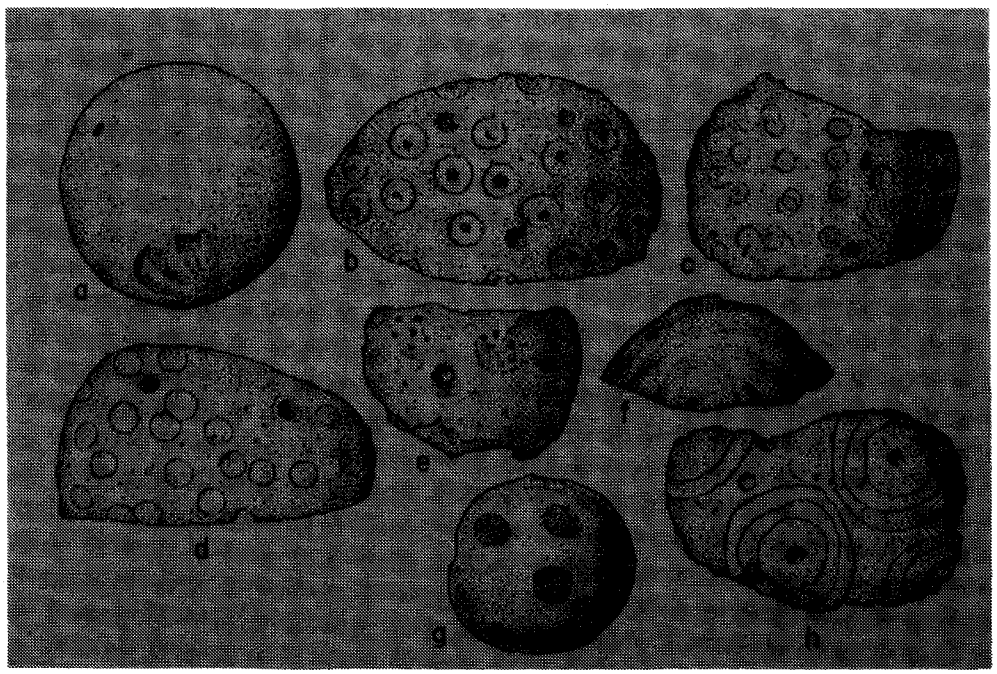
Old Babylonian Period, *c.*1950–1530 BC

Artefacts 2–9	terracotta reliefs showing females nude female with frame drum 8 frame drums 1 smaller frame drum held vertically in front of chest 7 larger frame drums 5 held vertically in front of chest 2 held vertically at left shoulder possibly votive objects, cult of Ishtar
Artefacts 10–12	terracotta reliefs 3 larger frame drums, paired with a lute or a lyre 1 played by a female opposite a lute and held vertically, away from the body 2 played by a male who dances opposite a lyre associated with the Tammuz cult and held vertically, away from the body, approximately at shoulder level, in playing position

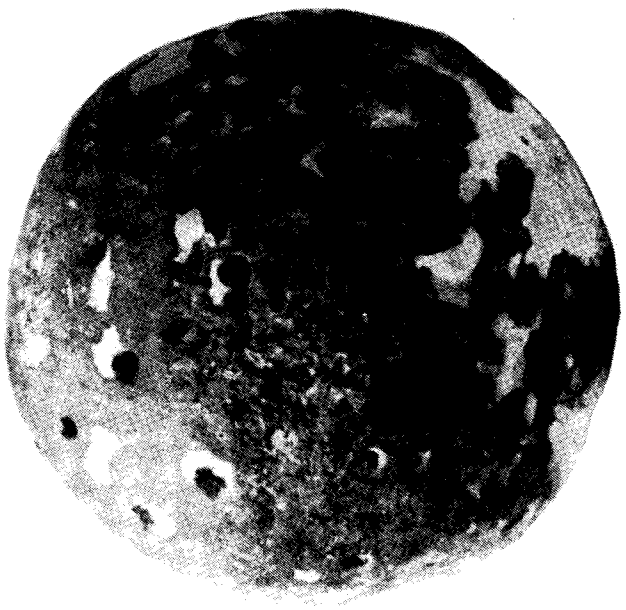
*Mohenjo-daro, *c.*2500–2000 BC

Artefact 1	male figurine, may represent dance found in 'lower levels' small frame drum held vertically in front of chest
Artefact 2	male figurine, may represent dance large circular object with small central hole held vertically in front of chest

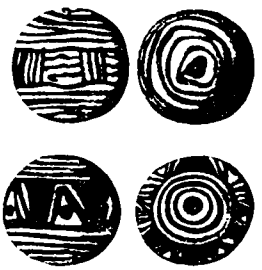
TABLE 6. Artefacts showing a circular frame drum from Mesopotamia and Mohenjo-daro



a



c

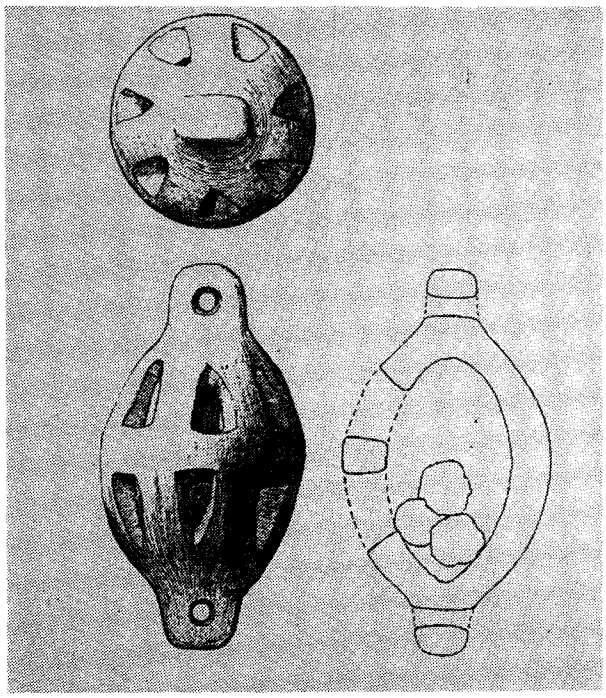


b

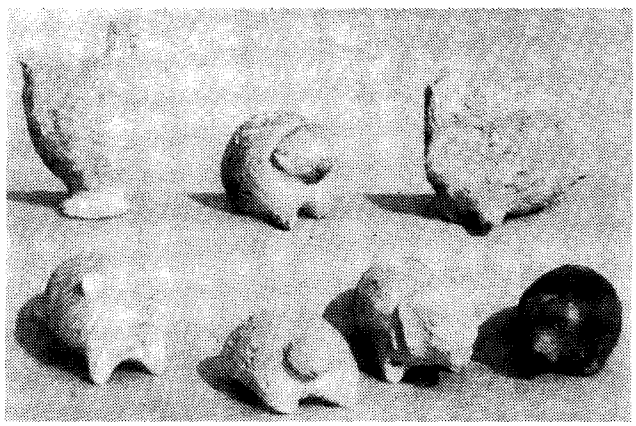
d

Fig. 1. Clay pellet rattles without a handle from the greater Indus area:

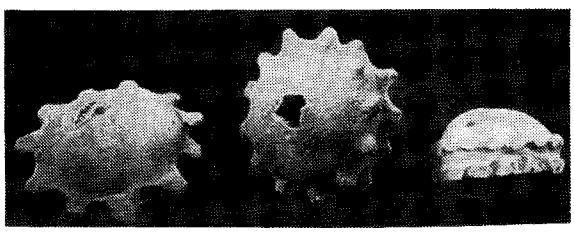
a. Damb Sadaat fragments and a complete artefact *c.*2600 BC. (Photo: Fairservis 1956, fig. 22)
b. Mehrgarh painted designs *c.*2600–2400 BC. (Photo: Jarrige and Lechevallier 1979, fig. 45:10–13)
c. Mohenjo-daro perforated rattle *c.*2250–2000 BC. (Photo: Hamblin et al. 1973, 125)
d. Harappa rattle with incised script *c.*2500–2000 BC. (Photo: Vats 1974, pl. CXX:30)



a



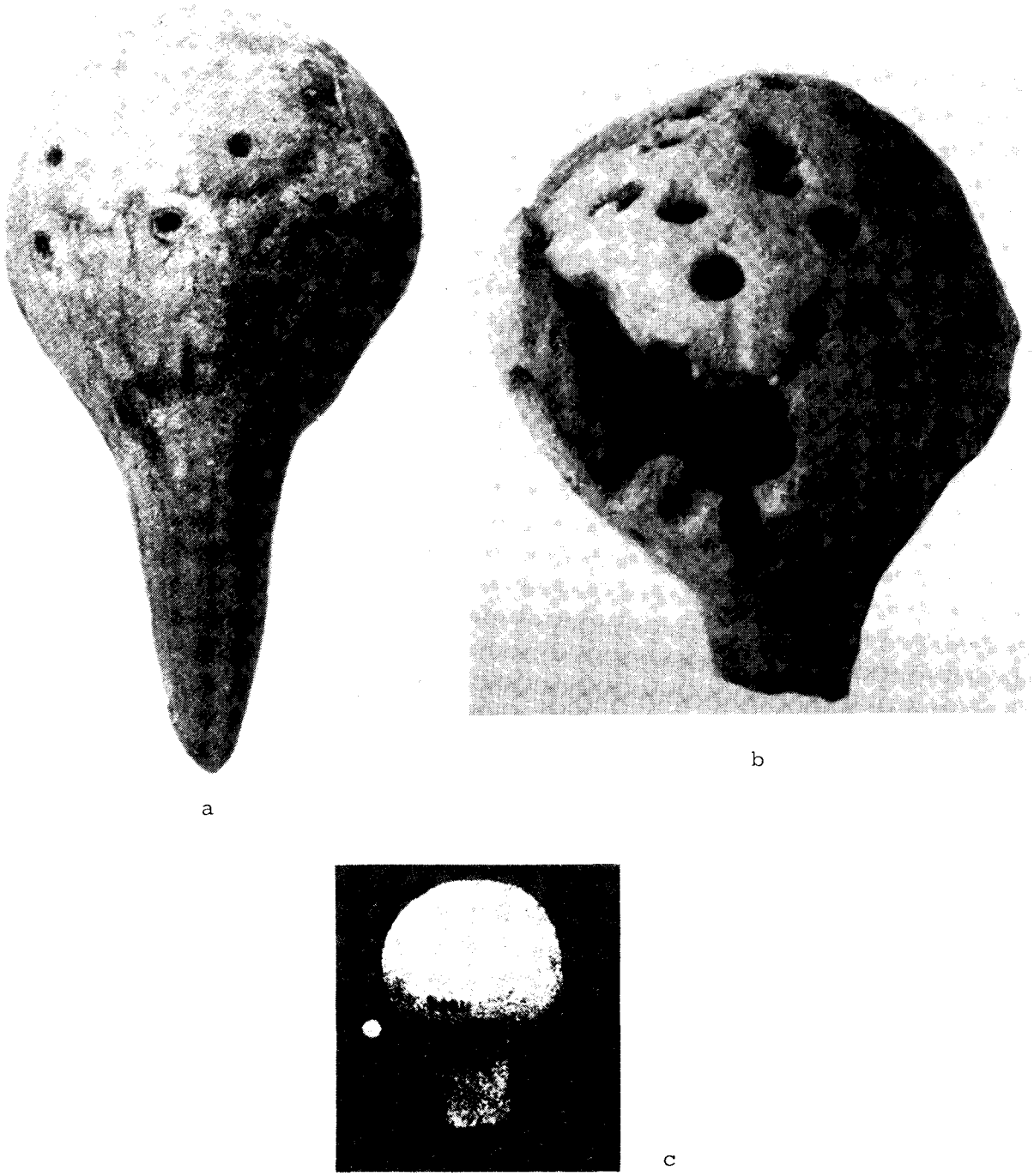
b



c

Fig. 2. Pellet rattles without a handle from Dilmun and Mesopotamia:

a. Barbar temple copper rattle *c.*2600–2370 BC. (Photo: Mortensen 1971, fig. 4)
b. Mesopotamia clay zoomorphic rattles *c.*1950–1530 BC. (Photo: Rimmer 1969, pl. IIIa)
c. Mesopotamia clay 'pie-crust' rattles *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 104)



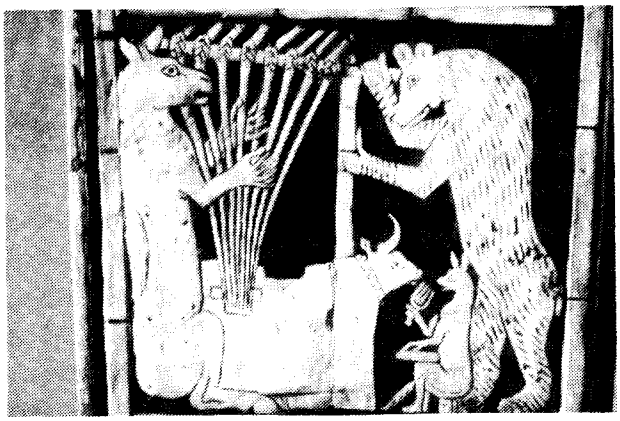
a b c

Fig. 3. Clay pellet rattles with a handle:

a. Shah Tepe *c.*2000 BC. (Photo: Arne 1945, pl. LXIX:fig. 542)
b. Kish *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 101)
c. Harappa *c.*2500–2000 BC. (Photo: Vats 1974, pl. CXX:32)

a

b



c

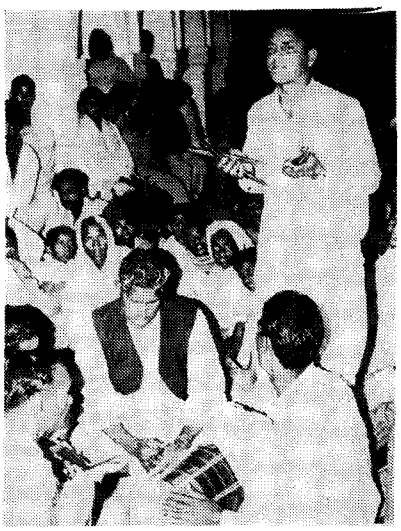
d

Fig. 4. Clappers, a frame drum, a bull lyre, and two arched harps from Mesopotamia:

a. Ur crescents held at the bottom, arched harp *c*.2450 BC. (Photo: Rashid 1984, fig. 29)
b. Kish crescents held in the middle *c*.2600 BC. (Photo: Rashid 1984, fig. 15)
c. Ur bull lyre, sistrum, frame drum *c*.2450 BC. (Photo: Rashid 1984, fig. 8)
d. Origin unknown, arched harp, hinged clappers *c*.2300 BC. (Photo: Rashid 1984, fig. 44)

a

b



c

Fig. 5. Contemporary clappers from South Asia:

a. Rajasthan *kamāicā* and *kharṫāl* (wood). (Photo: *New Grove MI* 2, p. 353)
b. Gujarat *kartāl* (wood and metal discs). (Photo: Kothari 1968, 23, pl. 3)
c. Uttar Pradesh *kharṫāl* (metal rods) and *ḍholak*. (Photo: Henry 1988, photo 18)

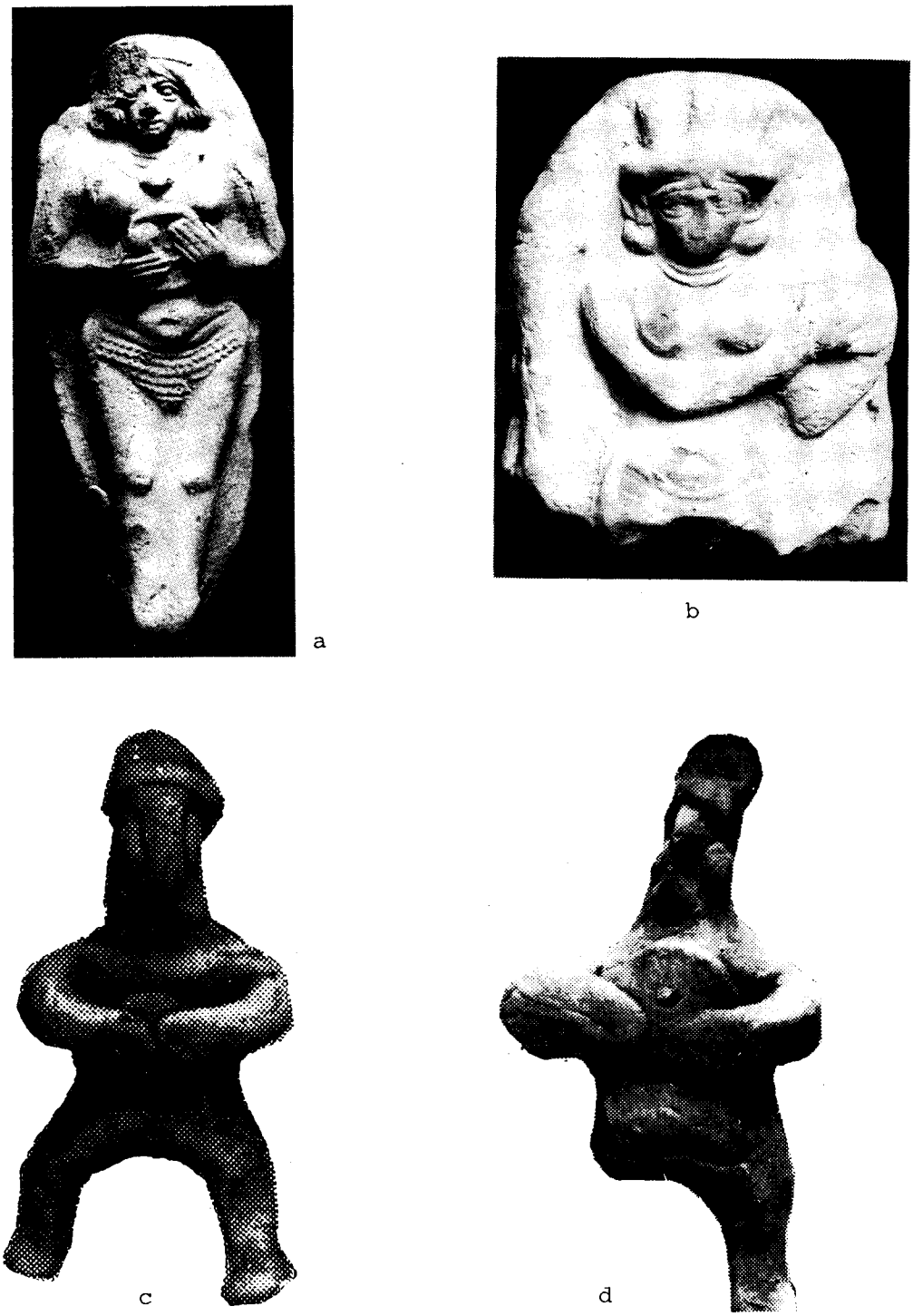
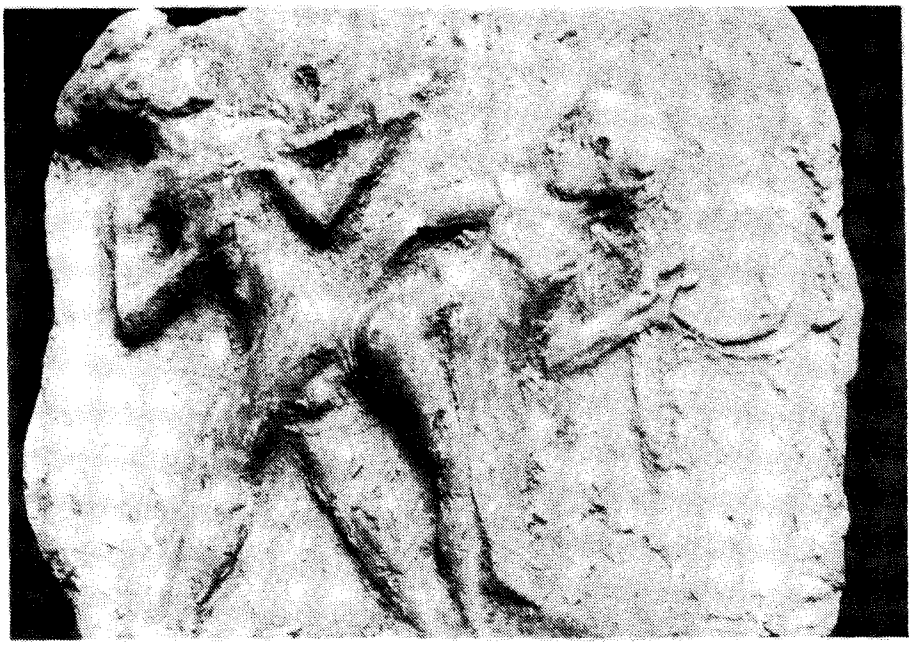


Fig. 6. Frame drums from Tello and Mohenjo-daro:

a. Tello, smaller size, *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 92)
b. Tello, larger size, *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 91)
c. Mohenjo-daro, smaller size, *c.*2500–2000 BC. (Photo: Mackay 1938, pl. LXXVI:6)
d. Mohenjo-daro, ?larger size, *c.*2500–2000 BC. (Photo: Mackay 1938, pl. LXXV:2)

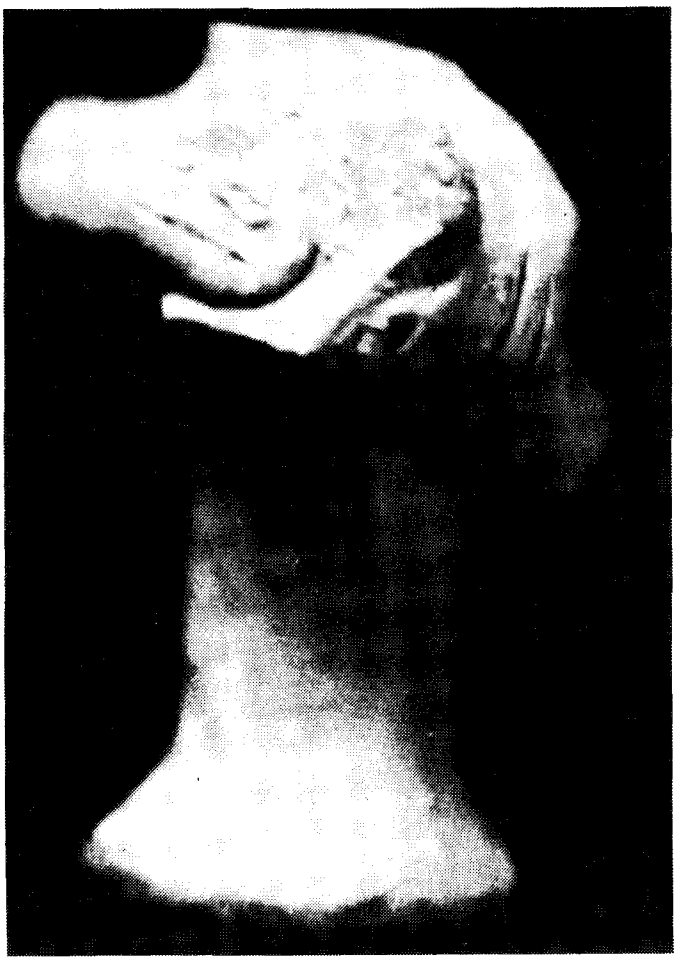


a

b

Fig. 7. Frame drums with stringed instruments:

a. Larsa female with male lute player *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 58)
b. Origin unknown; male with female lyre player *c.*1950–1530 BC from Mesopotamia. (Photo: Rashid 1984, fig. 59)



a

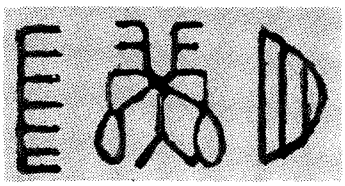
b

Fig. 8. A goblet-shaped drum and similar but ambiguous data:

a. Mesopotamia goblet-shaped drum *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 96)
b. Mohenjo-daro clay pot or ?drum, goblet- or hourglass-shaped (?) *c.*2250–2000 BC. (Photo: Marshall 1931, pl. XCIV:13)

a

b

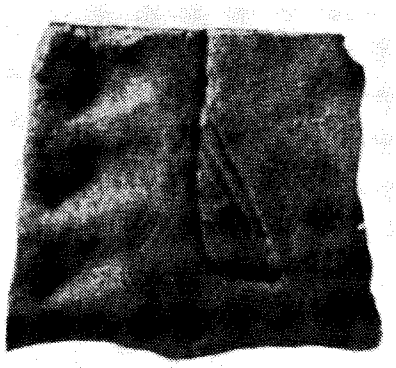


c

Fig. 9. Two Indus texts showing a 'harp' sign:

a. Mohenjo-daro seal, inscribed original, *c*.2200 BC. (Photo: Joshi and Parpola 1987, M–73a)
b. Mohenjo-daro seal, positive impression, *c*.2200 BC. (Photo: Joshi and Parpola 1987, M–73a)
c. Harappa text, *c*.2500–2000 BC (after Vats 1974, pl. CXIII, text J–283)

a

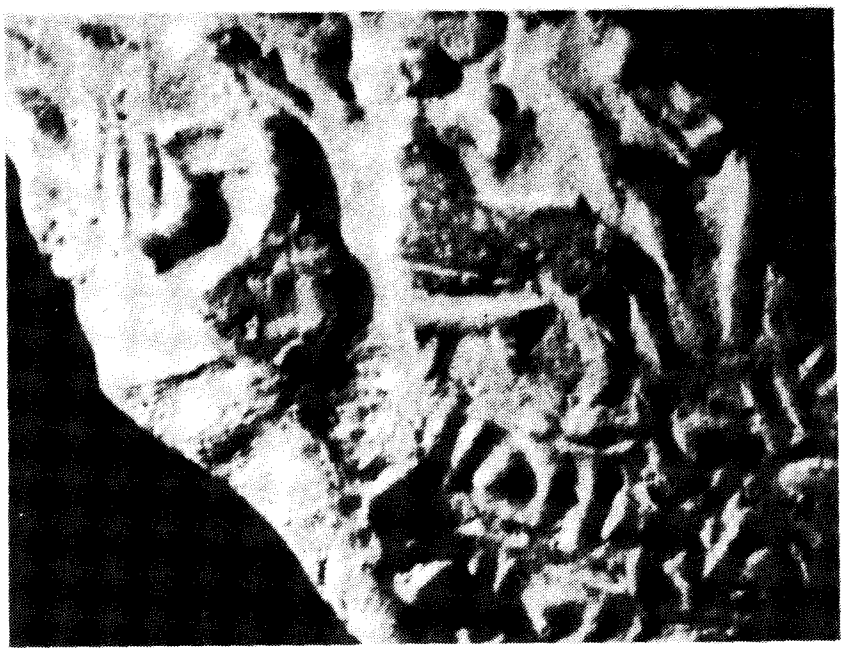


b

c

Fig. 10. Harp signs from Uruk showing three vertical strings and a resonator, *c.*3000 BC:
a. (Photo: Rashid 1984, 52, text ill. 1)
b. (Photo: Rashid 1984, fig. 27)
c. (Photo: Rashid 1984, 52, text ill. 2)

a

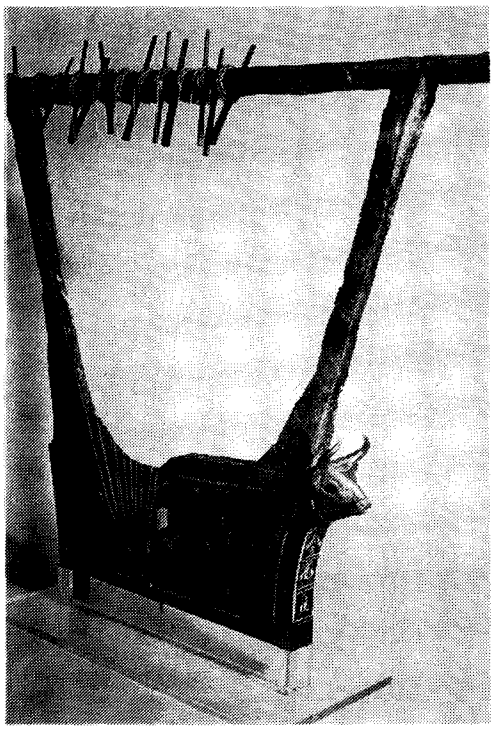


b

c

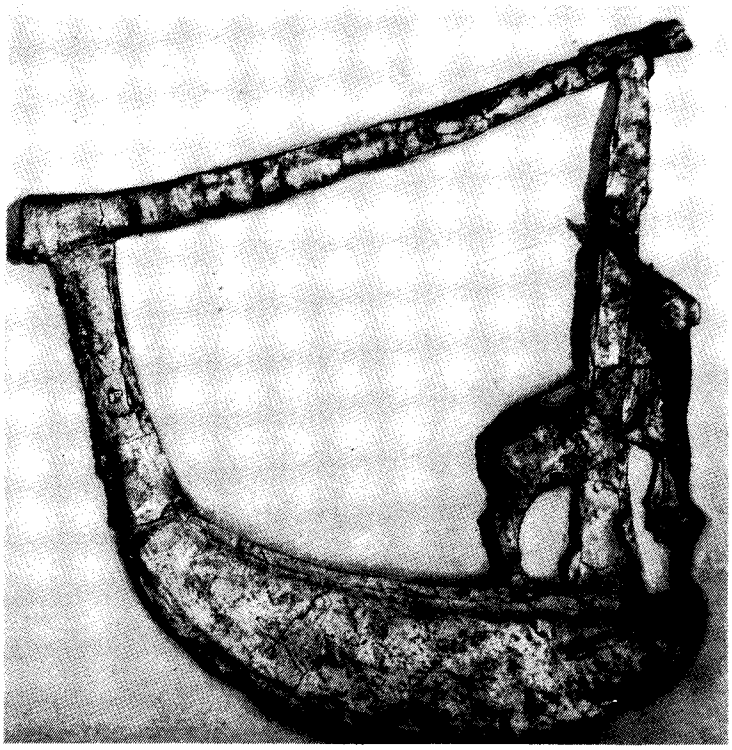
Fig. 11. Arched harps depicted in early Sumer and two and a f millennia later in South Asia:

a. Sumer, symposium scene, *c.*2600 BC. (Photo: Rashid 1984, fig. 28)
b. Ur, pastoral scene, *c.*2650 BC. (Photo: Rashid 1984, fig. 31)
c. Bodh Gaya, female with an arched harp, *c.*50 BC. (Photo: Kaufmann 1981, 52, text ill.)



a

c



b

Fig. 12. Three lyres from ancient West Asia:

a. Bull lyre from Ur, *c.*2450 BC. (Photo: Rimmer 1969, front cover)
b. Lyre with ornamental rampant stag, possibly from Dilmun, *c.*2450 BC. (Photo: Rashid 1984, fig. 5)
c. Tello, bull lyre with ornamental bull, *c.*2100 BC. (Photo: Rashid 1984, fig. 45)

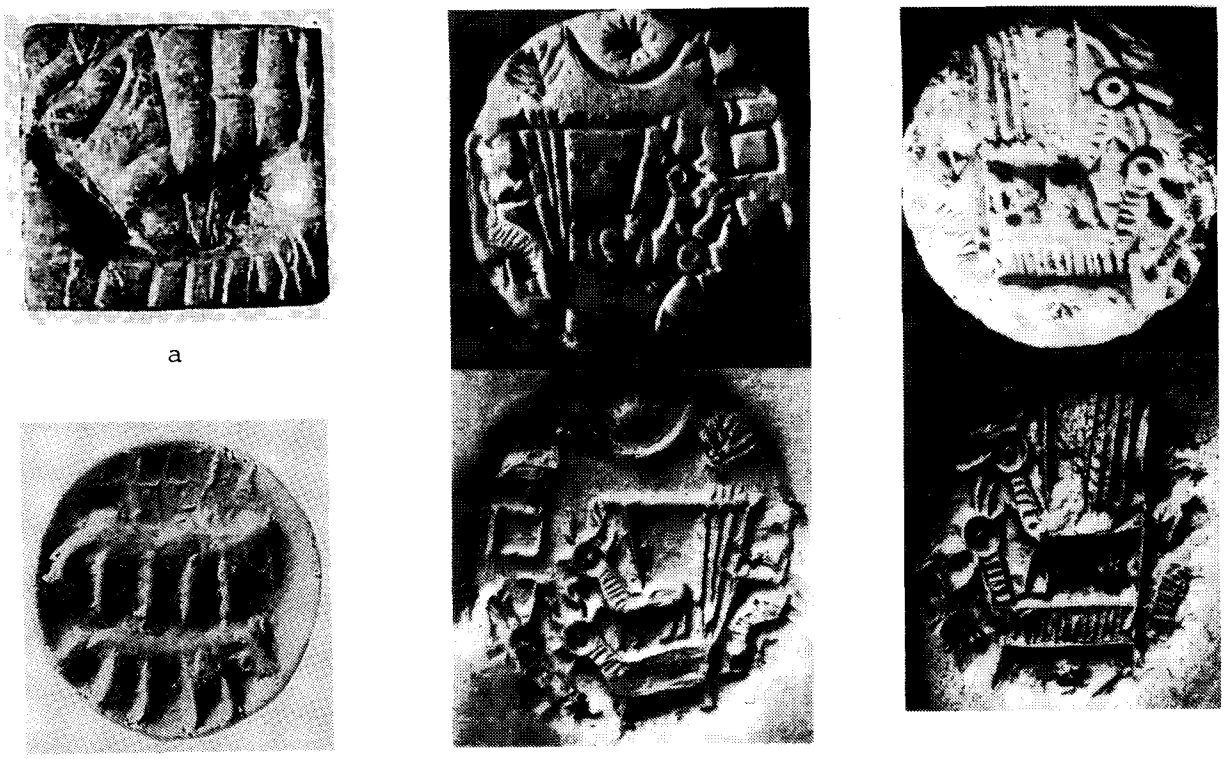


Fig. 13. Seals from Chanhu-daro and Failaka Island:

a. Chanhu-daro, CH 1801, positive impression, *c.*2500–2000 BC. (Photo: Joshi and Parpola 1987, C–26a)
b. Chanhu-daro, CH 1652, positive impression, *c.*2000–1800 BC. (Photo: Joshi and Parpola 1987, C–41a)
c. Failaka Island, incised seal above, positive impression below, *c.*2000–1800 BC. (Photo: Kjaerum 1983, no. 267)
d. Failaka Island, incised seal above, positive impression below, *c.*2000–1800 BC. (Photo: Kjaerum 1983, no. 268)

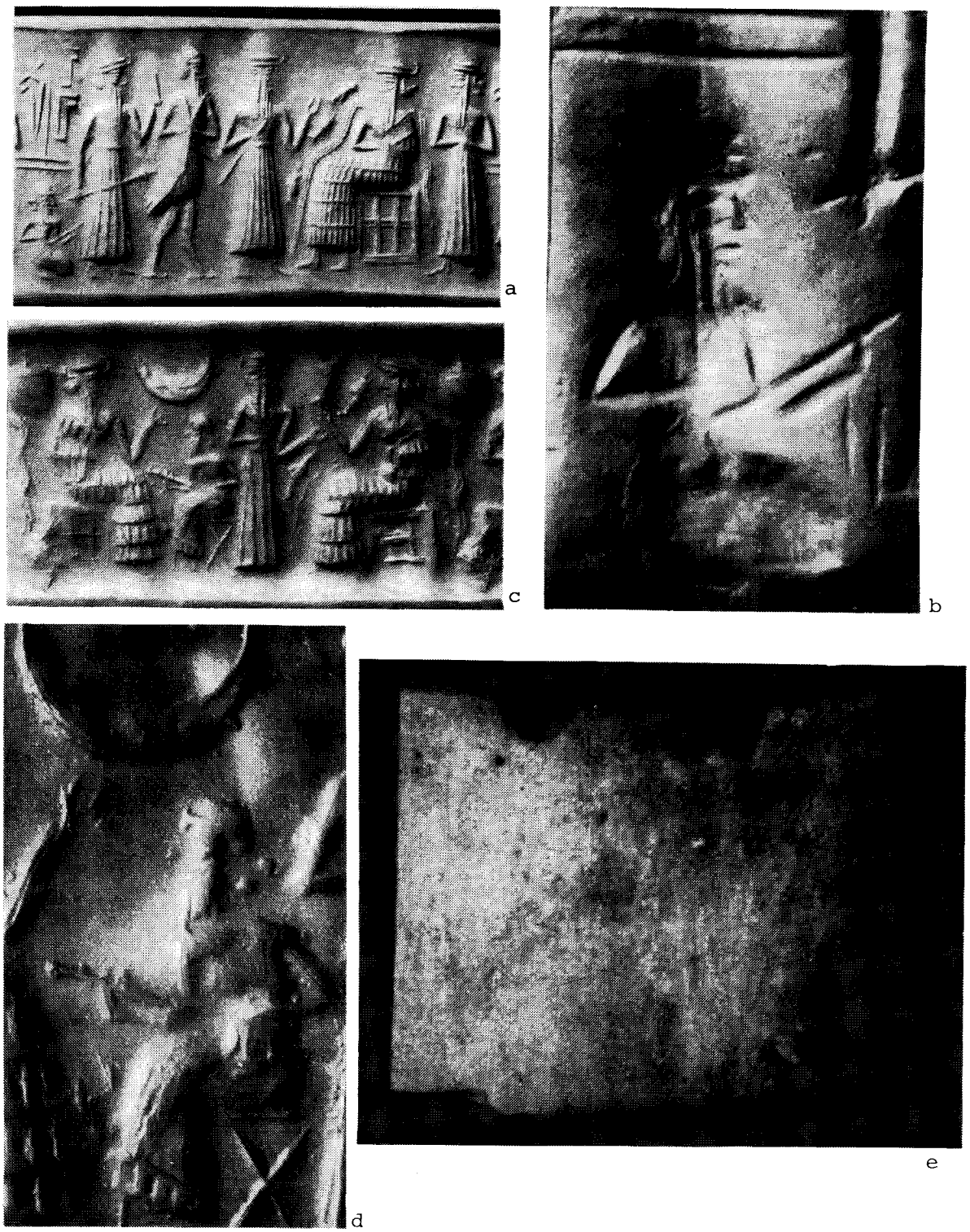


Fig. 14. Two-stringed lutes from Sumer and a shell artefact from Lothal:

a. Sumer religious scene with a two-stringed lute, *c.*2350–2170 BC. (Photo: Rashid 1984, fig. 38)
b. Musician and instrument detail in 'a'. (Photo: Rashid 1984, 62, text ill. 1)
c. Sumer religious scene with a two-stringed lute, *c.*2350–2170 BC. (Photo: Rashid 1984, fig. 39)
d. Musician and instrument detail in 'c'. (Photo: Rashid 1984, 62, text ill. 2)
e. Shell artefact from Lothal, *c.*2000 BC. (Photo: Prajanananda 1963, frontispiece)

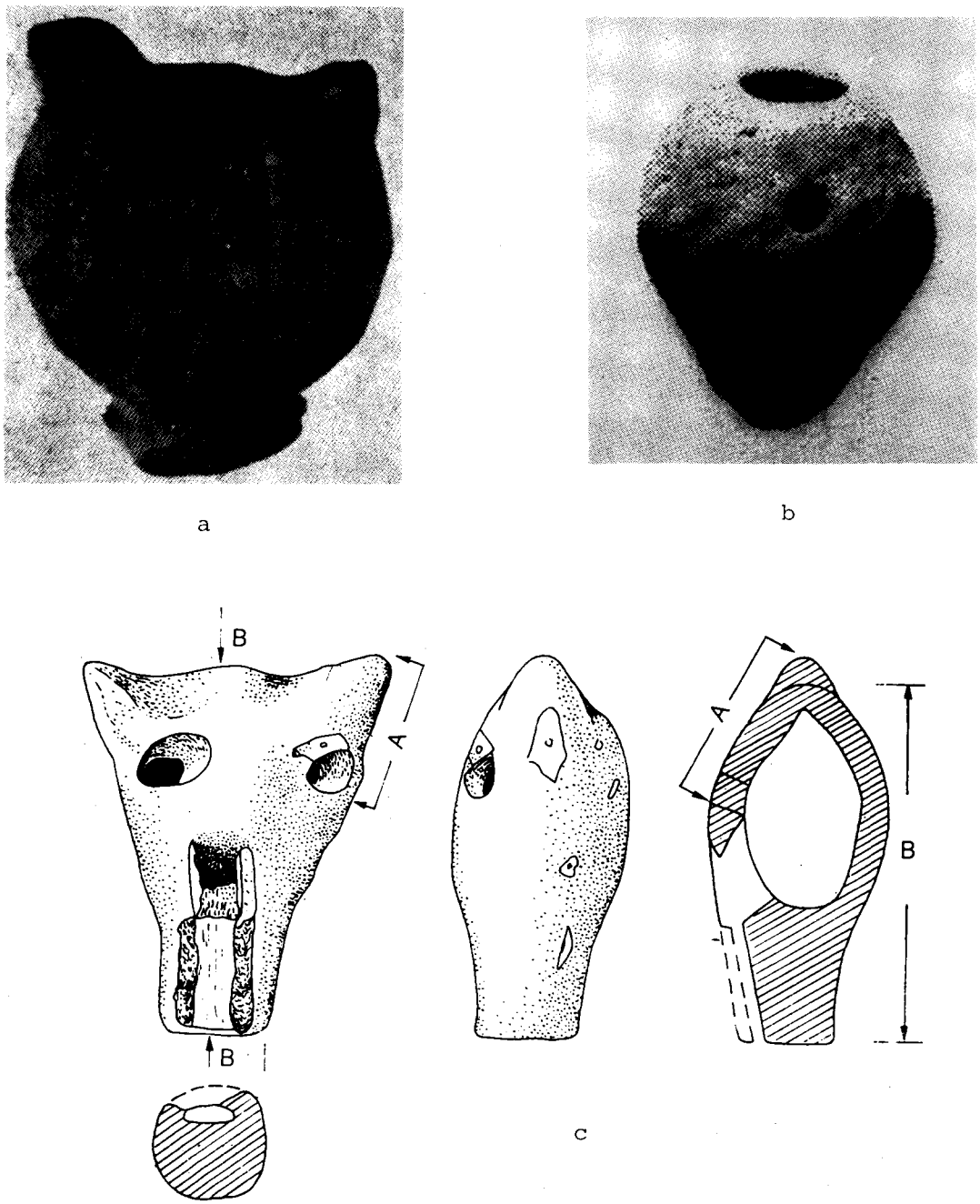


Fig. 15. Vessel flutes from the Indus area and Mesopotamia:

a. Chanhu-daro, bird-shaped vessel flute of clay, *c.*2500–2000 BC. (Photo: Mackay 1935, pl. XX:2)
b. Chanhu-daro, egg-shaped vessel flute of clay, one fingerhole, *c.*2500–2000 BC. (Photo: Mackay 1943, pl. LIX:20)
c. Uruk, clay duct flute, two fingerholes, *c.*3000 BC. (Photo: Rashid 1984, 46, text ills)

SAPPHO AND OTHER WOMEN MUSICIANS IN ATTIC VASE PAINTING

JANE MCINTOSH SNYDER[1]

We know a great deal about the musical activities of women in Classical Greece, partly from the occasional literary references to them and especially from the hundreds of surviving sixth- and fifth-century Attic vase paintings that depict their daily lives.[2] Athenian potters and painters produced these wares—some elegantly decorated and some less so—for a thriving local market as well as for export all over the Mediterranean, with the result that over 30,000 examples of their durable products survive today as invaluable sources of information about the activities, musical and otherwise, of the upper classes of Athens in the sixth and fifth centuries BC (Webster 1972, xiii). Although caution must be exercised in analyzing the scenes on the vases, since the paintings are in fact artists' representations and not videotapes of live performances, we can learn much about the musical life of Athenian women by comparing the information from iconographic and literary sources of the period.

If we had to rely solely on Greek literature for an assessment of the musical experience of Greek women, we would probably conclude that female musical activities followed one of two models: either a woman was like Sappho of Lesbos, composing love songs and wedding songs for her aristocratic circle, or she was a hired musician of low social status who performed as a wind-player or harpist for the pleasure of Athenian men at drinking parties. The vase paintings, however, fill out this rather narrow picture considerably, and, as I hope to demonstrate here, suggest a degree of musical literacy among upper-class Athenian women that we might not otherwise suspect. As Keuls has noted, the 'female educational underground' was the only means for women to escape the ignorance encouraged by the Athenian system, which provided no formal schooling for girls and which severely restricted female participation in public life (Keuls 1985, 104). In a society in which men could write things like 'Let a woman not practice reason (*logos*), for that would be a terrible thing' (Democritus, fr. 110 D–K), it is little wonder that song was an important medium for the transmission of female ideas and culture.

Before we examine some characteristic examples of Attic vases that depict female musicians, a few comments about the nature of our iconographical sources will be helpful. By and large, the Attic vase-painters seem to have produced a standard repertoire of scene types, often matching the general nature of the scene portrayed to the vase type on which it appeared; a water-jug (*hydria*), for example, might show a scene of Athenian women going to a public fountain; a cosmetic jar (*pyxis*) might depict the story of the Judgement of Paris and the beauty contest among Athena, Hera, and Aphrodite; the interior of a wine cup (*kylix*) might typically portray a drinking party or an erotic liaison. As I indicate below, this same principle tends to hold true for the scenes depicting women musicians. In general, there seems to be little evidence for specially commissioned vases, although a customer would of course feel free to ask for a type of vase appropriate for a particular

1. The author wishes to thank the College of Humanities at Ohio State University for a research grant to assist in obtaining the illustrations for this article.

2. For a comprehensive survey of the stringed instruments of the Greeks, see Maas and Snyder 1989; cf. also Paquette 1984. For a very general, introductory survey of women as presented in Athenian vase painting, see Swerdlow 1978; a more thorough study is available in Webster 1972, 226–43. See also Bérard 1984. A standard general study of the position of women in Greece and Rome is Pomeroy 1975.

occasion: a *kalos*-vase ('handsome', an inscription on a vase understood to be descriptive of the recipient) that a man might give to his male lover, a domestic scene of some sort on a vase for his wife, or a wedding scene on a ritual vase to be given as a gift to a bride and groom. Inscriptions on the vases sometime identify mythological or legendary figures portrayed, and frequently supply the name of the potter or the painter; rarely do they give any other actual names of contemporary people of Athens. Despite the repetitive characteristics of Greek vase-painting, the sheer volume of evidence from so many surviving examples provides us with abundant visual information. As Boardman has observed, 'The vase scenes give us a richer view of the visual imagery of Greece than is vouchsafed for any other ancient society... ' (Boardman 1991, 102).[3] Finally, in looking at representations of women musicians (or women in general), we must remember that as far as we know, all Athenian vase-painters were men; we must allow for a potential gender bias and acknowledge that we are seeing women as men chose to depict them, not as they might have depicted themselves.

I shall begin with the four known vase-painting representations of the poet Sappho, showing how one of them in particular seems to be modeled on the scenes of musical activities in the women's quarters of an Athenian house. After considering several such scenes that appear to portray women musicians in their homes, next I will focus on the scenes that depict female professional players. Finally I will turn to vase paintings that show mythological female musicians such as the Muses and maenads, which also tend to reflect the musical activities of 'real' Athenian women—at least insofar as they were perceived and portrayed by the vase-painters.

The earliest of the four inscribed Sappho portraits, Goluchow Inv. 32 (fig. 1) in Six's Technique by the Sappho Painter, shows a single figure standing and playing a long-armed type of lyre called *barbitos*; the player is identified by the incised label just above her right hand, which holds the plectron.[4] Similarly, the poet is shown as a single figure holding the barbitos and doing a dance-step on a red-figured calyx *krater* (mixing bowl), Wuppertal 49 (fig. 2), attributed to the Tithonos Painter and dated to about 480–470 BC. We see her playing the same instrument, together with her fellow-poet Alcaeus, on the more familiar red-figured kalathoid krater, Munich 2416 (fig. 3), by the Brygos Painter, also about 480 BC. Sappho is shown in almost frontal view, her head turned towards Alcaeus. In these three paintings, all showing the instrument especially associated with some of the Eastern Greek poets such as Anacreon, Alcaeus, and Sappho, the artists seem to emphasize the non-Athenian qualities of the poet as a solitary female performer or as a woman playing a duet, as it were, with a man. But when we turn to Athens 1260 (fig. 4), a red-figured hydria assigned to the Group of Polygnotos and dated to about 440 BC, we find an altogether different scene: a seated Sappho (identified by inscription) looking at a book-roll, along with three other women, of whom the figure just to the right of Sappho appears to be handing her an ordinary tortoise-shell lyre.[5]

In this, the latest of the four known representations, we find a scene that is quite similar in many ways to those that show a music ensemble in the women's quarters. The chair on which Sappho sits makes clear that this is an indoor setting. The scroll in the poet's hands, rather than the instrument itself (though it is nearby), perhaps suggests an emphasis on literacy rather than orality; the poet is about to sing, we assume, but

3. A standard study of the history and characteristics of Greek vases may be found in Cook 1960.

4. See the Appendix for a list of all vases referred to, together with Beazley numbers.

5. For a detailed description of the vase, see Immerwahr 1964, 26.

evidently her words (a few of which are intelligible on the scroll) do not depend entirely on the memorization of song for their transmission.[6] Even the type of lyre here represented implies a domestic or educational setting—it is a simple *chelys* played by schoolboys and by women, rather than a barbitos, which is sometimes played by women but is more characteristically the instrument of symposia and of singers of drinking songs like Anacreon. Athens 1260, then, seems to portray a literally more sedate version of Sappho than the other three vases—a matronly seated figure in the company of three other women. Perhaps it is no wonder that Beazley once described this scene as 'an anaemic specimen of its class'; he found wanting in all three of the Sappho portraits known to him the grace (or, in Greek, *charis*) that he felt characterized Sappho's poetry (Beazley 1928, 10).

Let me turn now to some analogous scenes that clearly show women players entertaining each other in the women's quarters. An as yet unpublished hydria, Athens 12883, portrays four women, of whom the one seated on the left plays an *aulos* while the woman on the far right approaches carrying a lyre.[7] The domestic nature of the scene is suggested by the small chest carried by the woman between them. There are no inscriptions on the vase to indicate that these are meant to be any particular women. The composition of the scene, however, is quite similar to that of the inscribed Sappho-and-her-circle portrait which we just examined, on a vase of the same shape (a water-jug, a type frequently used by women) and from the same period, roughly 440 BC. It appears likely that the Athens 1260 version of Sappho's musical circle was in fact based on actual groups of Athenian women entertaining themselves by singing and playing for each other.

Despite the presence of the mythological figure of the winged Eros here, the chest and the objects hanging on the wall similarly suggest a domestic context for the scene of Würzburg 521 (fig. 5). This time, however, the instruments include not only an aulos held by the woman on the right but also a barbitos being played by the seated woman and the small round-based instrument on the far right that is probably a descendant of the *phorminx* mentioned in Homer's *Iliad* and *Odyssey*. This instrument, which had earlier been the lyre of Apollo and the Muses and the Homeric bards, came in the sixth century to be identified with male performers in Dionysiac celebrations, but by the fifth century it is connected exclusively with women players—either with maenads or Muses, or occasionally with an ordinary mortal woman such as this one. The winged Eros hovering towards the seated player presumably suggests that the women will sing of love.

Another winged Eros, this time himself playing an aulos, appears in a domestic scene, Athens, Kerameikos HS 89, in which the seated woman on the far left plays a barbitos. This vase, like the seated Sappho and the similarly composed scene with the seated aulos-player, is a hydria, a type of vase that would have been frequently used by women in the household chores of cooking and washing; consequently, it is not surprising that a large percentage of the domestic music ensembles such as this one are found on the very sort of pot that would have been purchased for or by Athenian wives.[8]

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6. On the scroll, see Edmonds 1922.

7. I have examined the scene in person, but no photograph is available due to the as yet unpublished status of the vase. On the aulos, see Schlesinger [1939].

8. A further interesting example of a domestic musicale on a hydria is to be found in Bérard 1989, fig.124 (Bâle, private collection). The interior of a house is indicated by a door shown on the far left. On the left a woman stands holding up an unrolled scroll, while in the center a woman sits in a chair on a podium and tunes her lyre (shown in side view) as she looks at the scroll. At her feet is an open chest from which the scroll has evidently been removed—a storehouse of songs to be sung. On the right, a third woman

Another kind of women's quarters scene is the wedding shower. On a *lebes gamikos*, New York Met. 07.286.35 (fig. 6), a type of vase used in connection with the marriage ceremony, we see the bride-to-be playing a closed, frame harp with a spindle-shaped soundbox as other women approach carrying various presents, including three chests and a *loutrophoros*, another type of marriage vase. Appropriately, the instrument the bride plays is yet another one shown exclusively in the hands of women players, including not only brides such as this one but also professional harpers (*psaltriai*) and the Muses.

The fact that the harp was a female's instrument in the fifth century is further confirmed by Aristophanes, whose description of Euripides in disguise as an old woman in the *Thesmophoriazusae* (l. 1217) includes mention of the type of harp known as the *pektis*, which the poet brings along as part of his costume. Not surprisingly, since the literary tradition emphasizes the association of the harp with female players, Hellenistic authors attributed the instrument's invention to the most famous of women composers, namely Sappho, who does in fact mention the pektis in one fragment (fr. 156, Lobel–Page).

Other vases that appear to portray amateur women musicians in less easily identifiable contexts include a scene on a *lekythos* (oil jar), Brussels A 1020 (fig. 7), in which the woman on the left plays the aulos while the woman on the right looks on—her lyre shown in a rare side-view enabling us to note the curvature in the construction of the tortoise-shell lyre. The scene on the interior of a cup, Louvre CA 482 (fig. 8), although badly damaged, again suggests the women's quarters (note the mirror on the upper right); here a single figure is shown playing the phorminx, represented by the artist with the apotropaic eyes often characteristic of this instrument. Presumably the eyes on the instrument were meant, like the eyes the Greeks painted on their ships, to ward off evil, much as evil-eye beads do in Greece of the present day.

I turn now from the portraits of Sappho and the domestic scenes of ensemble music-making to vase paintings that depict female hired musicians. A scene on a red-figured kylix in Rome, Villa Giulia, from about 460 BC, appropriately on a drinking cup, shows a professional aulos player (*auletris*) performing at a men's drinking party. Her puffed-up cheeks, resembling those of the modern oboe player, not to mention the evidence assembled by Schlesinger, indicate that this instrument was a reed-pipe, not a 'flute', as Greek dictionaries and translations of Greek texts would have us believe (Schlesinger [1939], n.9). Greek literature confirms the impression given by the vase paintings that such pipers (or, in some instances, harpers) were a customary feature of a symposium. In Plato's dialogue the *Symposium* (176e), the pompous doctor Eryximachus proposes to dismiss the auletris and let her go off to play for herself or for the women of the house instead so that the men can begin their speeches in praise of love. Similarly, in the *Protagoras* (347d), Socrates states that true gentlemen, who are capable of intelligent conversation over their wine-cups, have no need of extraneous distractions such as an auletris, a dancer, or a harpist. From the end of the fourth century we have some concrete information about the economic status of these women musicians, for a treatise on Athenian government reports that among the duties of a board of ten City Controllers was the supervision of the wages of female pipers, harpers, and lyre-players, which were restricted to two drachmas per performance. As Chester Starr (1970) observes, this seems to be our only evidence for wage-fixing in ancient Athens.[9]

Starr has convincingly argued that the auletris, as a highly trained musician who could command a good fee, should on the whole be distinguished from a professional of another

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stands holding a lyre and a small chest.

9. Pseudo-Aristotle, *Athenaion politeia*, 50. See also Menander fr. 264.1–6.

sort—the usually less expensive *hetaira*, or courtesan. The woman on a drinking cup by the Triptolemus Painter, Berlin F 2286 (fig. 9), is probably not an expert musician, but only a hetaira, for she joins her male companion in the drinking and accompanies his aulos-playing with a pair of clappers, or *krotala*, an instrument presumably not requiring great expertise. On the other hand, some vase paintings do suggest that at least moderate musical skill might have been an asset to a hetaira in her trade as a courtesan. A *pelike* (storage jar) dated to about 420 BC, Rhodes 12887 (fig. 10), seems to be one of a number of vases showing a young man, purse in hand, who appears to be visiting the women's quarters of a house in order to negotiate for the services of a courtesan (see Rodenwaldt 1932). On one such vase the hetaira is tickling the potential customer with a branch, but here she seems to be enticing him to spend his money on her by means of a display of her lyre-playing abilities. The podium on which her feet rest—a feature characteristic of scenes of musical competition—perhaps suggests the implied contest: will she win this customer, or will he take his purse and go elsewhere?

I move now to the final category of female musicians as they are shown in Attic vase painting—those who belong to the mythological realm rather than to the 'real' world. The two most common types of mythological female musicians are Muses and maenads. In a scene on a vase by the Achilles Painter, Cureglia, private collection, we see a single female figure playing a phorminx. We are clearly in a mythological setting, for this woman sits not on a chair in the women's quarters but on a rock labelled Helicon, the mountainous home of the nine Muses. She is obviously one of the Muses, with whom the phorminx is, after 475 BC, almost exclusively identified in the vase paintings.

Muses can also be recognized in scenes in which there seems to be a superfluity of instruments, such as on a pyxis, Boston 98.887 (fig. 11). This scene represents several women musicians and a cowherd (on the other side of the vase) who is generally assumed to be the poet Hesiod. In scenes from real life, instruments are rarely shown being played in combinations of more than two at a time, whereas here we have a virtual chamber music ensemble including, from right to left, aulos, *syrinx*, lyre, and further on around the vase to the left of the seated lyre-player, two other phorminx players.

Inscribed vases showing the Muses leave no doubt, of course, as to the identity of the performers. On an *amphora* (storage jar) of about 440, British Museum E 271 (fig. 12), the legendary poet-musician Musaios stands holding his lyre in the presence of a seated Terpsichore who plays an open, angle harp, while behind her Melousa prepares to play an aulos. The phorminx which hangs in the field conveniently symbolizes the presence of the rest of the Muses with whom, as I have pointed out, this instrument becomes especially closely identified.

The outdoor setting of a scene on a calyx krater, also dated to about 440, Rome, Vatican 559 (fig. 13) by the Phiale Painter, in which the central figure plays a barbitos while sitting on a rock, suggests that these women also are Muses on Mount Helicon. Captions on illustrations of vase paintings all too frequently identify any women playing instruments as Muses. But in all of the mythological scenes that we have been looking at, either the setting, the inscriptions, or the superabundance of instruments makes clear that the musicians are intended as Muses. We should therefore be wary of accepting an overly wide application of the label 'Muses' to scenes of women musicians who, unless they are distinguished by one of the characteristics I have just mentioned, are probably intended as representations of 'real' women. It is worth noting that the types of instruments played by Muses and by 'real' women do not differ significantly; the aulos, the lyre, the phorminx, the harp, and the barbitos—all are shown being played in the domestic quarters as well as on Mount Helicon. This identification suggests that the vase

painters' model for their conception of the Muses as musicians was based on their knowledge of Athenian women's experience as instrumentalists.

Besides the Muses, the other type of female mythological musicians most frequently shown in the vase paintings are the maenads. On a pelike, Munich 2361 (fig. 14), by the Kleophon Painter, we see Dionysus on the left, holding a drinking cup and *thyrsos* (pine cone tipped wand), with a satyr in the center, and on the right a maenad playing a small drum, or *tympanon*. An *oinochoe*, or wine-pitcher, Oxford, Ashmolean 1879.147 (fig. 15), shows a maenad playing another instrument commonly found in Dionysiac contexts, the barbitos. The identification of the player as a maenad is certain, given the figure of Dionysus himself barely visible on the far right and the presence of vine leaves in the background.

More mysterious is a female phorminx player on an amphora dated to about 475, Urbana, Illinois 70-8-5. Although her instrument is one which can be played by mortal women, by Muses, or by maenads, her unrestrained pose and the abandon with which she plays suggest that the figure represents a maenad. With the possible exception of the tympanon, the instruments played by maenads are generally the same as those played by ordinary women, despite differing contexts and manner of performance.

Finally, an amphora by the Nikoxenos Painter, Berlin 2161, shows an unusual sight: the large concert *kithara* in the hands of a female player. The only females who even touch the kithara—the large and ornate instrument of the professional male virtuosi—are Athena, as here, and occasionally Nike, the goddess of victory, who is sometimes shown in flight as she wings her way with the instrument towards a victor in a contest. This particular vase is of a shape and design which identify it as one of the prize pots which were filled with valuable olive oil and awarded to victors in the athletic and musical contests held yearly in Athens during the festival called the *Panathenaia* and open only to male competitors.

The Panathenaia was a state-sponsored religious festival held in honor of the city's protector, the goddess Athena.[10] The prize pots such as this one show the goddess on one side wearing her traditional armor, and on the other, a representation of the type of contest for which the vase was awarded. In this instance, the reverse side of the vase depicts a male kithara-player representing the man to whom the prize was given. So, although we apparently see here a mythological version of a woman musician, she has nothing to do with real women musicians in Athens, unlike the Muses and maenads, who seem on the whole to reflect the musical life of actual Athenian women. In fact, although Athena is playing the kithara here, she does so only as patron saint of the male performers who had exclusive access to this most prestigious of Greek stringed instruments.

Let me conclude by returning for a moment to the women of Athens—not the mythological projections of the male imagination but the real women of the Athenian upper classes who, when they were not weaving or supervising other labors of the household, must have sometimes sat in the women's quarters playing music and singing songs. Although we have no way of knowing such things, it is interesting to speculate what music these women played and what sort of songs they sang. Did they sing about the old legends of the Trojan War, perhaps of Helen and Penelope? Did they sing of legends from their own families? Did they sing of the bittersweetness of love?—the sort of folk motif preserved for us in a fragment of Sappho's poetry which runs:

10. For a full description of the festival (and of its apparent representation in the sculptural decoration of the Parthenon), see Robertson and Frantz 1975; Boardman 1985.

Sweet mother, I cannot weave at my loom
Overwhelmed as I am with desire for a boy
—all because of tender Aphrodite.
(fr. 102, Lobel–Page)

The voices of these women must remain silent for us, but at least we can see that women in Classical Athens, despite the many restrictions on their lives, could become musicians. A few were professional players, probably mostly from the lower classes, whose performance opportunities were limited chiefly to the male institution of symposia.

Upper-class women played primarily for their own pleasure and for the pleasure of other women in their household whose living quarters in the typical Greek house were separate from the men's quarters. All of the Greek women musicians, including the mythological ones, played certain instruments considered appropriate for women, particularly the harp, the simple tortoise-shell lyre and its long-armed cousin the barbitos, and the small round-based phorminx. Although girls and women lacked access to the official, formal instruction available to their male counterparts in music schools and to the stimulation provided by the state-sponsored musical competitions, some of them still learned to play music. More importantly, we may speculate, they achieved the means for preserving their own musical culture and for passing down their musical traditions from one generation to the next.

APPENDIX

NOTE: The list below gives all the vase-paintings referred to in the text in the order in which they are mentioned. Items 1–15 are reproduced below. Further information (numbered below according to the figure numbers in the text and captions) may be found by consulting the appropriate pages in the following publications of John D. Beazley: *Attic Black-Figure Vase-Painters* (Oxford: Clarendon Press, 1956), abbreviated here as ABV; *Attic Red-Figure Vase-Painters* (Oxford: Clarendon Press, 1963), abbreviated here as ARV^2; and in *Paralipomena* (Oxford: Clarendon Press, 1971), abbreviated here as 'Para'.

1.	Goluchow Inv. 32	Six's technique hydria	Para 246
2.	Wuppertal 49	red-figured calyx-krater	
3.	Munich 2416	red-figured kalathoid vase	ARV^{2}385 and 1649, Para 367
4.	Athens 1260	red-figured hydria	ARV^2 1060, Para 445
	[Athens 12883	red-figured hydria	ARV^2 1040]
5.	Würzburg 521	red-figured calyx krater	ARV^2 1046
	[Athens, Kerameikos HS 89	red-figured hydria]	

6.	New York Metropolitan 07.286.35	red-figured lebes gamikos	ARV^2 1126
7.	Brussels, Musées Royaux 1020	white-ground lekythos	
8.	Louvre CA 482	white-ground kylix	ARV^2 774,1669
	[Rome, Villa Giulia	red-figured kylix]	
9.	Berlin F 2286	red-figured kylix	ARV^2 365
10.	Rhodes 12887	red-figured pelike	ARV^2 1116
	[Cureglia, private	white-ground lekythos]	
11.	Boston 98.887	white-ground pyxis	ARV^2 774, Para 416
12.	British Museum E271	red-figured amphora	ARV^2 1039
13.	Rome, Vatican 559	white-ground calyx krater	ARV^2 1017, 1678
14.	Munich 2361	red-figured pelike	ARV^2 1145
15.	Oxford Ashmolean 1879.147	black-figured oinochoe	ABV 525
	[Urbana, Illinois 70-8-5	red-figured amphora]	
	[Berlin 2161	red-figured amphora	ARV^2 221.7]

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Fig. 1. Sappho playing barbitos. (Photo: Muzeum Narodowe, Warsaw)

Fig. 2. Sappho dancing and playing barbitos. (Photo: Von der Heydt Museum, Wuppertal)

Fig. 3. Sappho and Alcaeus with barbitos. (Photo: Staatliche Antikensammlungen und Glyptothek, Munich)

Fig. 4. Sappho and three women. (Photo: Schwabe and Co., Bâle)

Fig. 5. Women musicians at home. (Photo: Martin v. Wagner Museum der Universität Würzburg)

Fig. 6. Bride-to-be playing harp. (Photo: Metropolitan Museum of Art, New York)

Fig. 7. Women playing aulos and lyre (in side view). (Photo: Musées Royaux, Brussels)

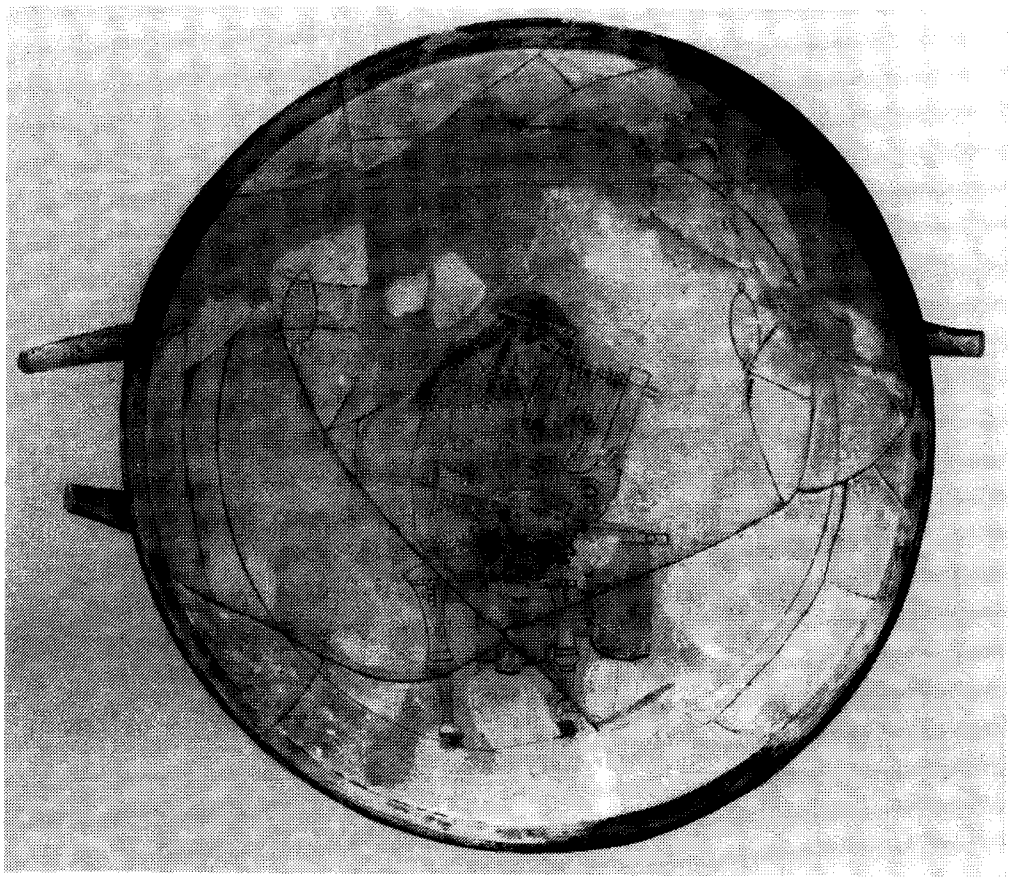

Fig. 8. Woman playing phorminx in women's quarters. (Photo: Musée du Louvre, Paris)

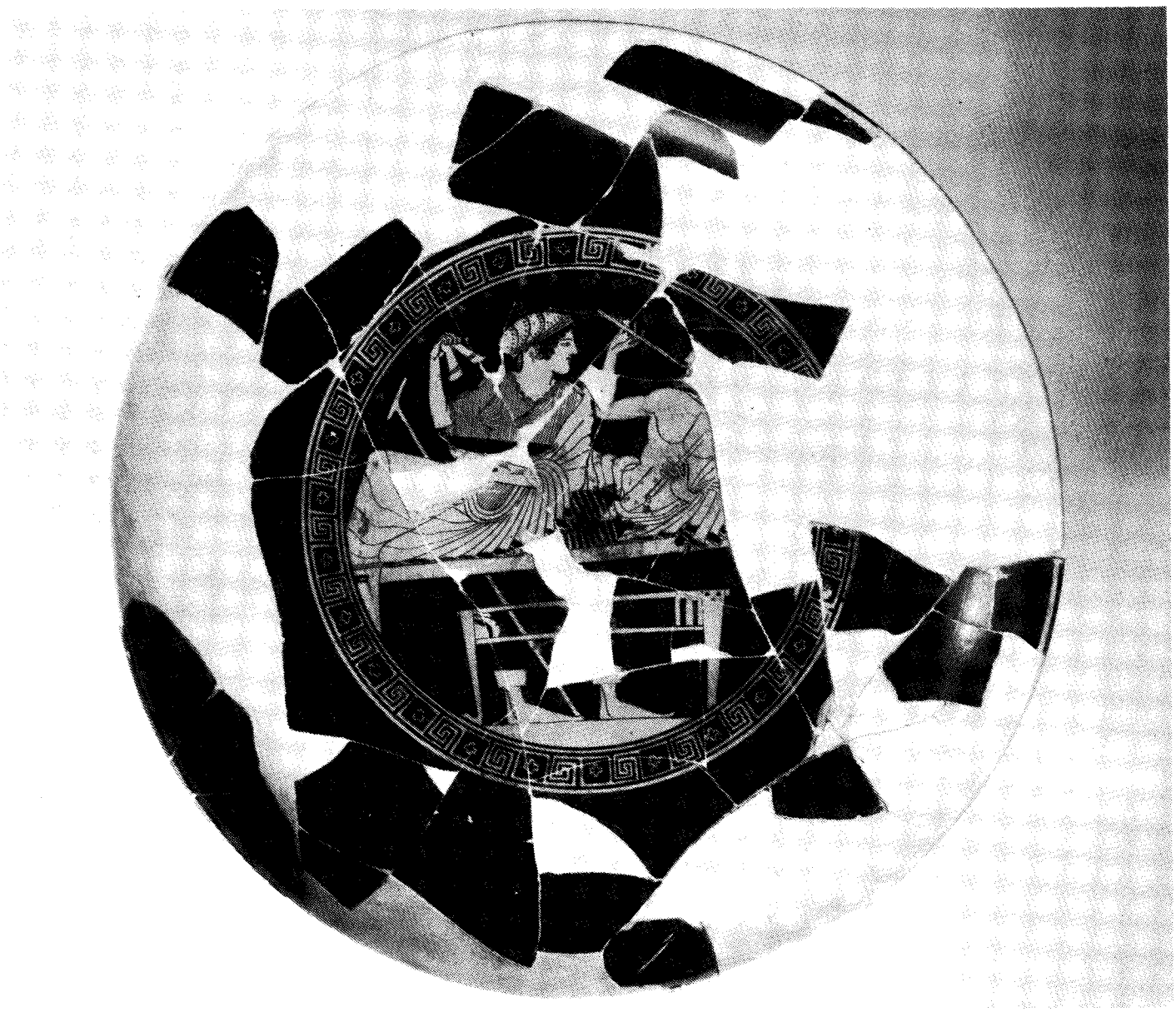

Fig. 9. Hetaira playing krotala. (Photo: Staatliche Museen zu Berlin)

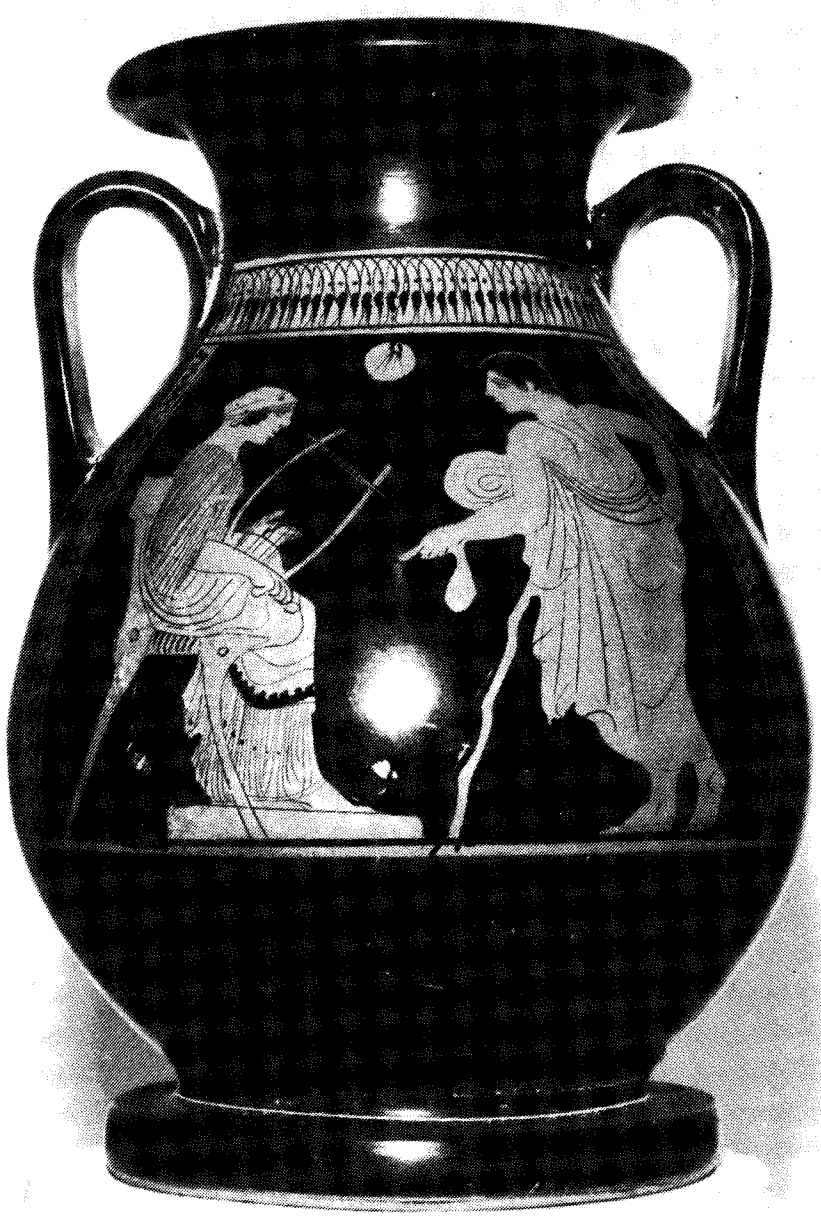

Fig. 10. Hetaira playing lyre, man with purse. (Photo: Rhodes Museum)

Fig. 11. Three Muses. (Photo: H.L. Pierce Fund. Courtesy, Museum of Fine Arts, Boston)

Fig. 12. Muses playing harp and aulos, Musaios with lyre. (Photo: British Museum, London)

Fig. 13. Muse playing barbitos. (Photo: Vatican Museums)

Fig. 14. Maenad playing tympanon in Dionysiac scene. (Photo: Staatliche Antikensammlungen und Glyptothek, Munich)

Fig. 15. Maenad playing barbitos. (Photo: Ashmolean Museum, Oxford)

THE REPRESENTATION OF MUSICIANS ON GREEK GEOMETRIC POTTERY FROM ATTICA: MUSICIANS AS DECORATIVE SYMBOLS

JON SOLOMON

The purpose of this paper is to evaluate the intent in representations of musicians painted on Greek pottery during the Middle and Late Geometric periods in Attica. This evaluation is preliminary in that it does not pretend to find ultimate answers, but it does address the fundamental questions about the conceptual methodology of the ancient artist: How did painters of the period perceive musicians? Under what conceptual category did they find them worthy of pictorial representation? Under which representational formats could they understand and then apply them? What degree of accuracy did the painter intend, and was the painter even capable of accurately representing a musician at his practice? Can we establish the vase painter's purpose and method in representing the musician?

During the Middle (*c*.800–750 BC) and Late (*c*.750–700 BC) Geometric periods in Attica, vase painters began to incorporate human, animal, and man-made figured objects into the ubiquitous geometric decoration that covered their vases.[1] Most common, of course, were representations of waterfowl, grazing deer, horses, warriors, ships, and the like. Positioned in a curvilinear, serial arrangement, they made up most of the Geometric vase painter's representational repertoire. Among such series of representations, there appear a number of musical contexts, primarily with dancers and lyre players. It is possible that the former belonged to the celebration of rituals, perhaps the same for which the vessel was originally created. In any event, ancient Greek choral dancers regularly formed a line, and painted geometric dancers are commonly observed to be in linear formations, formations which were easily transferred to the curvilinear field of a painted pot.

As for the latter, however, there is no tradition or general assumption that lyre players stood or sat in a line. While the appearance of lyre players on vases of the period certainly verifies their existence during the pre- and early literate era, a generation or so before Hesiod and Homer,[2] it may also testify as well to their importance and to the regularization of lyric music.[3] After all, with the exception of warriors and sailors, no other human profession is recognized regularly on Geometric vases. But their appearance in serial representations is curious and brings up another group of problems similar to those produced by painted pottery of even the classical period, namely, the function and formation of the musical ensemble. That is to say, if more than one musician is depicted in a panel, can or does that mean that those depictions represent actual musicians playing music together? In the classical period, vases depict, for example, a lyre player sitting or standing next to an aulete or an barbitos player. They may well be playing the same music at the same time and constitute an ensemble. With serial representations of lyre-players in the Geometric Period, however, the possibility exists that the serialization

1. For a general introduction to vase painting of the period, see Snodgrass 1980, 65–76 and Hurwit 1985, 53–70.

2. On the relative chronology, see Snodgrass 1980, 72–8 and Hurwit 1985, 117–24.

3. From the period just after 700 a number of individual lyric poets begin to appear, e.gg., Terpander, Archilochus, Arion, and Tyrtaeus.

of the musician figures exists merely as a decorative serialization and not as a representation of actual musical practice.

We begin our examination with Athens NM #15439 (fig. 1), a plastic vase in the shape of a duck. We begin here since it is necessary in light of our stated concerns to consider first the ability of the eighth-century Greek potters and painters to create with their art the representation they had intended. The chest, back, tail, neck, and belly of the fowl are indeed rendered here quite realistically and with proper proportions. The head has been carefully surrendered to the wide spout. Equally well formed, the stocky legs and webbed feet are rearranged only so that their aligned position allows the duck to stand without additional or external support. The potter who created this vase—and others like him during the same period—were clearly capable of perceiving and reproducing lifelike, natural shapes in plastic form.

The charm of even this plastic vase and the skill of the potter in creating a standing ceramic vessel in the shape of a duck, only slightly modified, remind us that the goal of the Middle and Late Geometric potter was not really to reproduce natural objects literally. In fact, the Geometric potter only rarely rendered a plastic vase as an exercise in natural representation. Much more frequently the goal was to subject that limited repertoire of natural forms to linear design. The typical Geometric potter allowed himself great latitude within a fairly wide range of patterns and designs in order either to elaborate a natural form or to reduce it to linear simplicity.

A fine example of the ability to elaborate a form can be seen in Athens NM #15314 (fig. 2), a pitcher finely formed but with its bulged base elaborately repeated four additional times, more than doubling the original height of the pitcher itself. The additional base segments are not merely added one after another without care for their arrangement or size. The middle base, the third from the bottom and the third from the top, has the smallest diameter, which gives the entire structure a cleverly sculpted, concave vertical appearance, and the black horizontal bands above each bulge reemphasize the horizontal aspects of the repetitive bases.

This pitcher illustrates how Geometric artists could take a natural or formal shape and elaborate it through repetition, but Athens NM #16351 demonstrates how an artist of the Geometric Period could subject a natural object to linear variation, even in a plastic molding. In rendering this bronze horse, the artist has left the lower legs, shoulders and thighs relatively intact but drawn the belly which connects them into a thin tube. The neck is given a gentle curve to complete the line begun at the bottom of the shoulder, and the tail has been given a counterbalancing extension all the way to the ground. In essentially eliminating the back, elongating the tail, and unifying the shoulder and neck, the artist clearly hoped to emphasize the vertical lines of the animal.

This same kind of vertical emphasis in the rendering of a horse is more commonly found in pottery painting although, as we have just seen, it is not at all unique to pottery painting. The Hirschfield Painter's name vase, Athens NM #990 (fig. 3), though Late Geometric Ib, demonstrates the typical display of horizontally repetitive horses each with a clearly vertical linear emphasis. The human figures in the band above have a similar linear emphasis highlighted by the elongated legs and the reduction of the torso to a triangle.

Athens NM #894 (fig. 4) provides one last example of the tendency towards linear emphasis. In the detail illustrated here, each of the four horses' four legs, sixteen in all, is carefully painted in two parallel sequences of eight legs each. The torsoes of the horses, on the other hand, are thin and unemphasized, totally overshadowed by the decorative lozenge design placed between the groups of legs.

Common in Geometric vase painting is the assemblage of humans and animals. Humans and horses, for instance, appear frequently in groupings of funerary and military processions, with and without carts and chariots. Another common and profound grouping of human and animal is the 'Master/Mistress of the Animals'. Typically, as on Athens NM #220 (fig. 5), a seventh-century Boiotian amphora, a human is placed central to two symmetrically surrounding animals. More often than not, the human figure holds two animals in a posture of domination, but Boiotian and more eastern examples often display a winged humanoid or divinity.

This pattern is not at all an invention of the Geometric Period, of course, for it can easily be traced back to a number of Bronze Age exemplars.[4] Mycenaean seals reveal the use of combinations of animals and columns (as in the sculpted triangular stone set atop the 'Lion Gate' at Mycenae), human and columns, and human and lions. Such symmetrical arrangements have their origins centuries before the Geometric Period,[5] but the same type of arrangement is still used in a number of Geometric vase paintings.[6]

This particular arrangement can be found in numerous Geometric vases where the formula has been reduced to two horses symmetrically framing a man. Painted on the central panel decoration of Athens NM #190 (fig. 6), a vessel with a spout and ceramic lid, for example, is a fine example of a Geometric 'Master of the Animals' arrangement. The artist has carefully positioned this painting centrally, and he has filled the panel with several waterfowl and common geometric patterns. Again the emphasized axis is vertical, and again the horse's shoulder and neck are perceived as one structural unit.

A second example, Athens NM #877 (fig. 7, left), also depicts a thin and elongated man bounded symmetrically by two tubular-bellied horses. Much of the central panel's space is filled with patterns regularly found in the Geometric artist's pattern vocabulary. The space between each horse's legs, however, is filled with large fish, not as common a part of the Geometric artist's regular pattern vocabulary as it is germane to the traditional depiction of the Master/Mistress of the Animals.

Interestingly, in the Athens National Museum, just next to this vase is another vase with a telling variation of the symmetrical horse-man-horse pattern. Here, in Athens NM #231 (fig. 7, right), the artist has substituted one common geometric figure for another, in this instance a meander pattern for the central human figure. The obverse of this particular vase has a different variation of the symmetrical pattern. Here, although there is still the traditional central figure and the symmetrical fish between the legs of each horse, there is a waterfowl standing where the human or meander pattern had stood before, and the forelegs of the horses are crossed to fill the central space (fig. 8).

Lastly, a Geometric bowl, Athens NM 13038 (fig. 9), contains two riderless horses symmetrically enclosing a human figure, but it also contains two horses with riders, an isolated standing human, and a bull. Clearly the human standing between two symmetrically positioned horses is not the Master of the Animals. The symmetrical pattern of horse-human-horse is something learned from tradition but not honored as a ritualistic icon except as a pattern of composition. All the animals in this bowl are facing in the same, clockwise direction except the horse which is intentionally turned counterclockwise to create the symmetrical pattern.

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4. For instance, Athens NM ##2875, 2852, and 2977.

5. On symmetry in neolithic ceramics, for instance, see Washburn 1983, 138–64.

6. See Hurwitt 1985, 71–124, Snodgrass 1980, 49–84, for survivals of Bronze Age in Geometric Period.

In sum, an artist of the Geometric Period had at his disposal a number of traditional patterns, most of them decorative and purely geometric. Over the years a number of once natural figures—horses, humans, waterfowl, fish—had also developed into designs; at least, that is how they are to be interpreted in most cases. The Geometric artistic repertoire included a number of figures which can be interpreted either as simply the reproduction and repetition of certain figures available from that repertoire or as representations of actual, even specific rituals, ceremonies, or gatherings. Under the former interpretation, vase paintings are worth not nearly so much for the study of the history of music, except to say that musicians were, as in a large formal gathering today, ignored and thought of as part of the scenery rather than as fascinations in themselves. Under the latter interpretation, however, we could employ vase paintings quite successfully to reach a better understanding of musical performance practices in pre-classical Greece.

We are now ready to turn to several Geometric vases which illustrate practicing dancers and musicians. Barely visible on a large Geometric pitcher, Athens NM #16022 (fig. 10), is a painting portraying a chorus of eighteen dancers arranged in a curvilinear band around the neck. In general, modern scholarship relies on secondary sources to be satisfied that the standard late sixth- and early fifth-century chorus contained some twelve members and then, perhaps, grew in size. Advocates of a twelve-member tragic chorus will be disappointed to find not only that the total number of dancers in this painting is eighteen, but that the chorus is divided into two opposite facing groups not of twelve and six dancers but of eleven and seven. On the other hand, our literary sources (Pollux 4.110 in Bekker 1846) suggest that early choruses consisted of fifty members, in which case this particular painting might be displaying a non-specific number of them, or, at best, as large a number of dancers as would fit on the neck of the vase. To what extent this artist is depicting accurately what he presumably saw at the dance, is unknown.

Of course, we need to keep open the possibility that the artist was not depicting a particular dance or festival, in which case there would have been nothing to portray 'accurately'. Although the artist has rendered the dancers in two groups facing in the opposite direction, he has certainly rendered all eighteen dancers in the same posture. They stand with both of their hands resting upon their heads, and one leg is extended slightly in front of the other. They are dressed in long garments, neither very tight nor excessively loose fitting, which fall to their ankles. They stand at intervals of a half meter or so. They neither hold hands in a line, nor do they dance to any music which is visibly produced in this drawing. It is possible that this is what the artist in fact intended to portray, but is it not also possible, especially in light of what we have just observed about the repetitive and organizational decorative techniques of the Geometric artist, that this vase illustrates merely a series of dancers in the same way that it contains a series of meander, checker, and other geometric patterns in its other registers? Of course, some primacy and *ergo* special treatment might be associated with the neck location of the band on which the dancing figures appear, but then again, one could argue, perhaps the artist thought this was his best 'design' and therefore displayed it quite prominently on the neck of the pitcher as a design, not a panel illustrating an actual scene.

In sum, what this vase tells us is that to the mind's eye of the Geometric artist there was at least a conception or memory of at least one dancer holding hands above the head and wearing the sort of garment depicted here. But then again, the triangular shape of the torso and/or the bent arms, which together form a diamond pattern, might belong to the geometrically decorative abilities of the artist as much as they do to actual dance practice he personally observed. On the other hand, perhaps there was an actual dance

for which a chorus of eighteen dressed as depicted here, and which was performed with a gesture and posture similar to that depicted serially here as well. In brief, the credibility of the Geometric artist as an accurate portrayer of actual people and events is almost always in question, and the music historian is not at liberty to use the visual information possibly given in such a vase without ample caveats, disclaimers, and parallels.

Similar is a Geometric bowl, Athens NM #874 (fig. 11), which is decorated with twenty dancers. Again, it is a number which does not help us understand our literary sources. The line of participants includes thirteen women and seven men, some of whom are armed, some unarmed. Men and women are all arranged serially in a circle. Each dancer faces frontally. The women wear dresses decorated with hatch marks, the men are fully painted in black silhouette. They stand in the following arrangement: five men, eight women, one man, two women, one man, three women. Of the men, the two single men quite clearly bear arms, and two of the group of five bear arms as well. The three other men apparently do not. Four of the five grouped men hold hands with each other, as do the first four of the eight women and the groups of two and three women. The last of the three women holds the hand of the first of the five warriors.

In juxtaposition to the rest of the regularized, consistent geometrical designs on the vase, the human figures are irregularly arranged. It would seem, then, that the artist intended to paint actual characters or an actual ritual, but unfortunately his geometric style allowed him to depict only minor variations or movement. He clearly portrays hand holding, variegated group arrangements, differentiation of gender, and differentiation of dress, but we learn nothing else here about the type of dance, its movement or purpose, let alone anything about the music to which they danced, if indeed this vase illustrates a dance in the first place. It could after all be simply a depiction of men and women dressed for a procession and holding hands during that procession.[7]

Similarly, a damaged pot, Athens NM #234 (fig. 12), contains a few men serially depicted at reasonably regular intervals, and at least two of them have a lyre between them. The condition of the vase does not allow the viewer to determine positively if this pattern was repeated and/or varied serially around the pot, but the position of this one clearly depicted and well preserved musical instrument is certainly not in playing position. No one holds it in his hands, since the two men surrounding it hold each other's hand. This fragment then illustrates either a lyre used merely as a decorative object to punctuate a series of male human figures, or it illustrates a lyre played by a musician but held in such an inaccurate position that it again is of no use in discovering anything important about performance practices from the Geometric musician.

The illustration on another Geometric bowl, Athens NM #14477 (fig. 13), contains a scene which clearly represents a musical event. A musician on the right plays a five-string instrument to the sounds of which, presumably, the four depicted dancers leap and dance in somewhat individual patterns. That the musician's right hand is at his right hip indicates either that the artist has not portrayed him correctly (since the right hand should be strumming or plucking the strings) or that the musician has completed playing for the moment and is resting. The five strings on the instrument are, of course, suspect.[8]

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7. In either case, of course, music would have been played.

8. Terpander is credited with expanding the number of strings on the lyre from four to seven perhaps a generation or so after this vase was painted. A pentatonic five-stringed lyre is not out of the question musicologically, however. Aristides Quintilianus 1.21 includes scales traditionally dated to at least the fourth century BC and no doubt earlier, and the scale of the 'Intense Lydian' (*Syntonolydisti*) contains only five pitches. Other such scales, e.gg. the Lydian and Phrygian, have more than seven pitches, so the correlation between these early scales and lyre performance is still problematic.

Of interest, if the painting accurately represents actual performance practice, would be the standing position of the *lyristes*. Some Geometric *lyristai* are portrayed in a seated position.

Interestingly, it is largely because these dancers and the instrumentalist are depicted in individualized positions and postures that I tend to think they portray actual musical practice to the extent allowed for in the previous paragraph. In the previous painting with the eighteen humans strung decoratively in a lengthy choral chain (Athens NM #16022; fig. 10), it was the regularity and the pattern of the human choral chain that made one suspect that the artist cared only to decorate his pitcher with dancing human figures and that any performance information derived from such a painting would be subject to dismissal. In this painting, though, it is the randomness, the individuality, the non-geometric, non-symmetrical decorative nature of the painting that allows us to treat the depiction as based on actual performance.

This methodology, when stated as such, obviously must preclude any painting that looks too decorative and regularized, but there must have been instances in which the chorus arrangement and postures, as well as the arrangement and perhaps the postures of the musicians, actually looked decorative and regularized, particularly to the Geometric artist. Care must be used in evaluating all these paintings, therefore—with respect both to the decorative pattern style and those that are individualized.

A tempting example which seems to fall between these two poles of perception is Athens NM #18542 (fig. 14). Painted on this vase there are two seated lyre players and two other seated men apparently playing gourds or some sistrum-like instruments. The lyres are drawn quite inaccurately in not having a sound-box of any sort, but the lyre players are nonetheless depicted correctly in their seated posture. Their left and right arms are in roughly the correct position for playing their instruments. What is particularly intriguing in this juxtapositioning of plausible accuracy and impossible inaccuracy is the symmetry of the painting. The two lyre players sit back to back while the two gourd players sit opposite at the far borders of the panel. The left side is merely a mirror version of the right, or vice versa. Does this painting have implications for our knowledge about performance practice and musical ensembles in the Geometric Period?

One of the more enduring questions plaguing the subdiscipline of ancient Greek music is the question of harmony in musical ensembles. Did ancient Greek musicians regularly play in ensembles, and if they did, did they all play the same melody simultaneously? It used to be quite fashionable for scholars to make dogmatic pronouncements to the negative side of the question. They concluded from the thousands of archaic and classical representations of single, solo musicians, as well as from the apparently solely monophonic extant fragments of ancient Greek (Hellenistic and Roman) music and the absence of discussions of harmony or polyphony in the ancient Greek musicological treatises, that all ancient Greek music was monophonic (e.g. Winnington-Ingram 1970, 707, 5.3). Of course, most of it no doubt was monophonic. Our abundant prose literary sources describe—and the remaining poetic lyrics are certainly best understood in—musical settings consisting of solo performances of poetic lyrics sung to the accompaniment of solo aulos or lyre/cithara music.

The picture is not so clear that ancient Greek music can be described as so exclusively monophonic, however. There are a number of examples of musical ensembles painted in the classical period (cf. Maas and Snyder 1989, esp. 167–74); Pindar refers to auloi and lyres or citharas played simultaneously,[9] and the music theorists talk quite extensively about harmonic intervals. The entire question must be left to another discussion, but this

9. E.g. Pindar, *Isthm.* 5.27–9.

Geometric painting illustrates either two lyre players playing to the accompaniment of two rhythm players, or it illustrates simply one lyre player and one gourd player mirror imaged for the sake of decorative symmetry, always a potential desideratum in Geometric painting.

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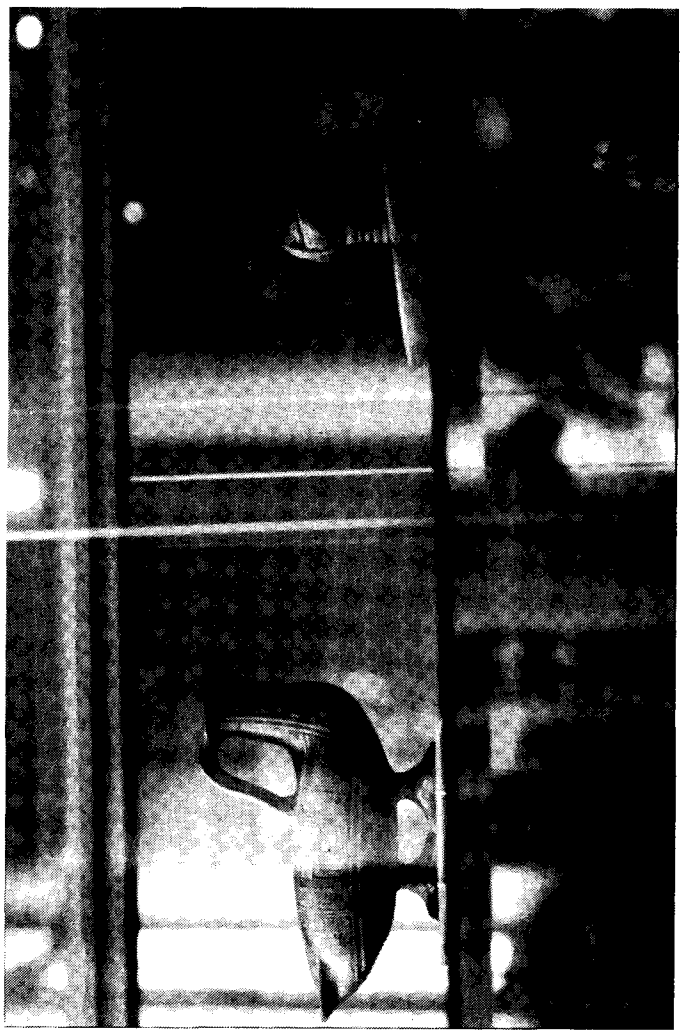

Fig. 1. Athens NM #15439*
[all photographs are the author's own]*

Fig. 2. Athens NM #15314

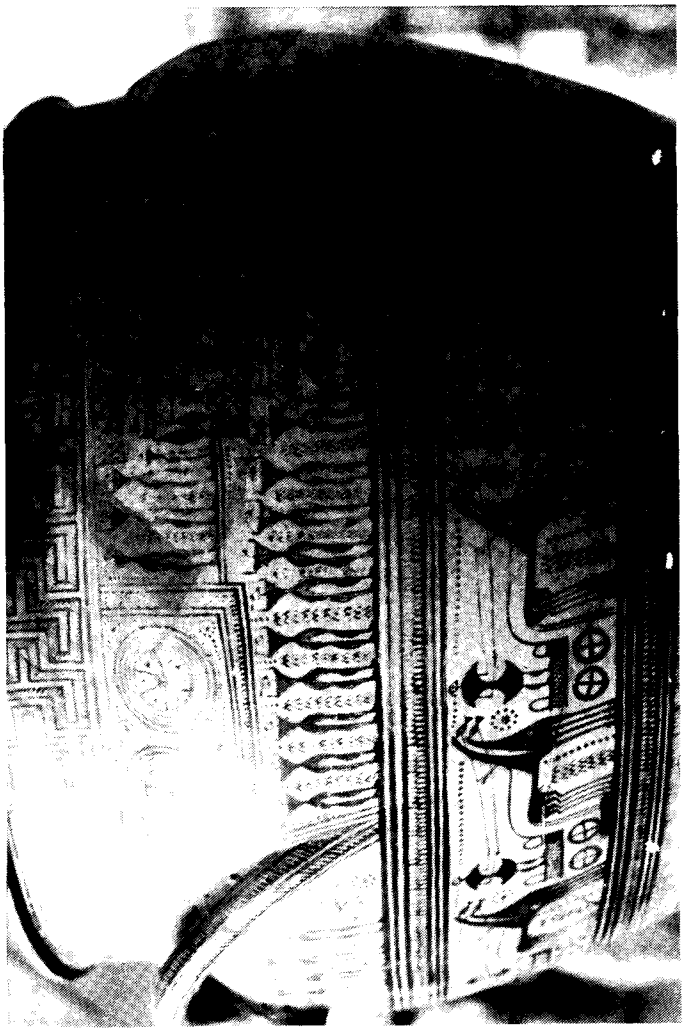

Fig. 3. Athens NM #990

Fig. 4. Athens NM #894

Fig. 5. Athens NM #220

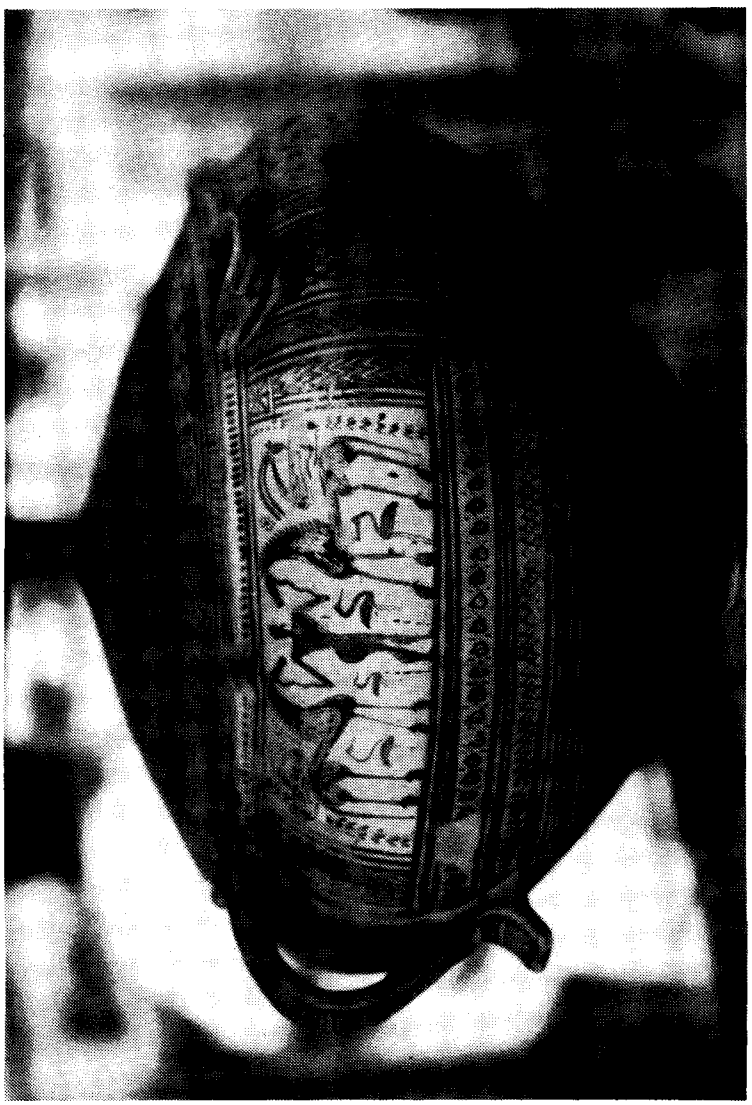

Fig. 6. Athens NM #190

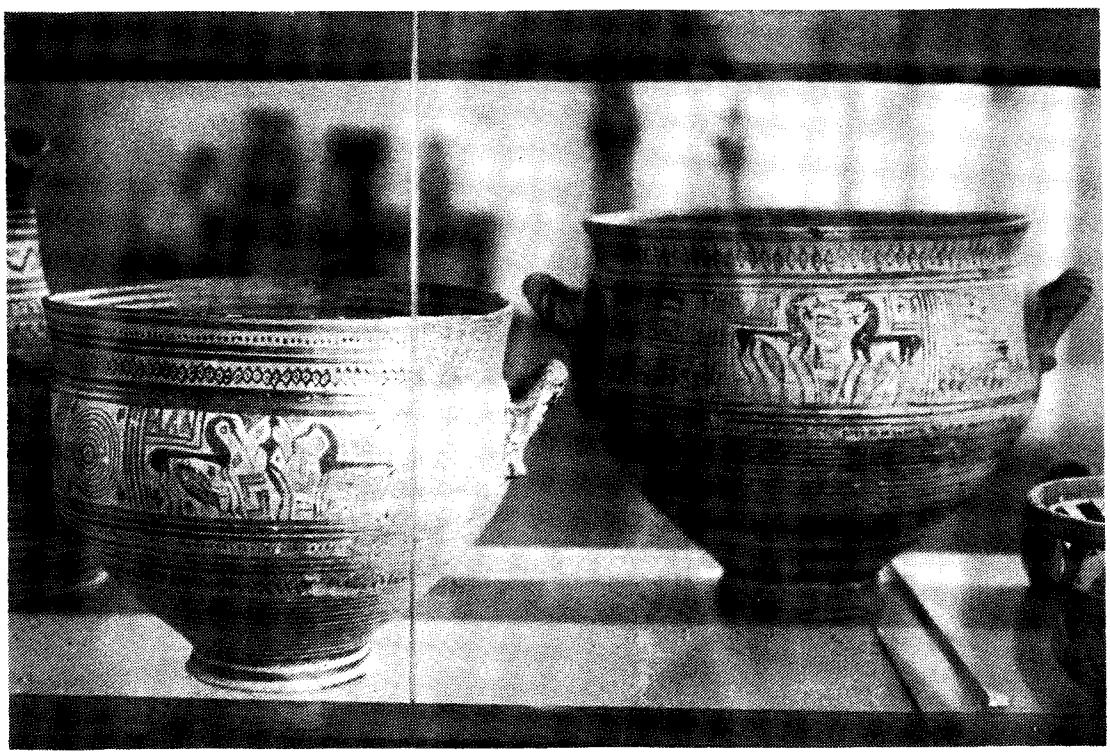

Fig. 7. (left) Athens NM #877; (right) Athens NM #231

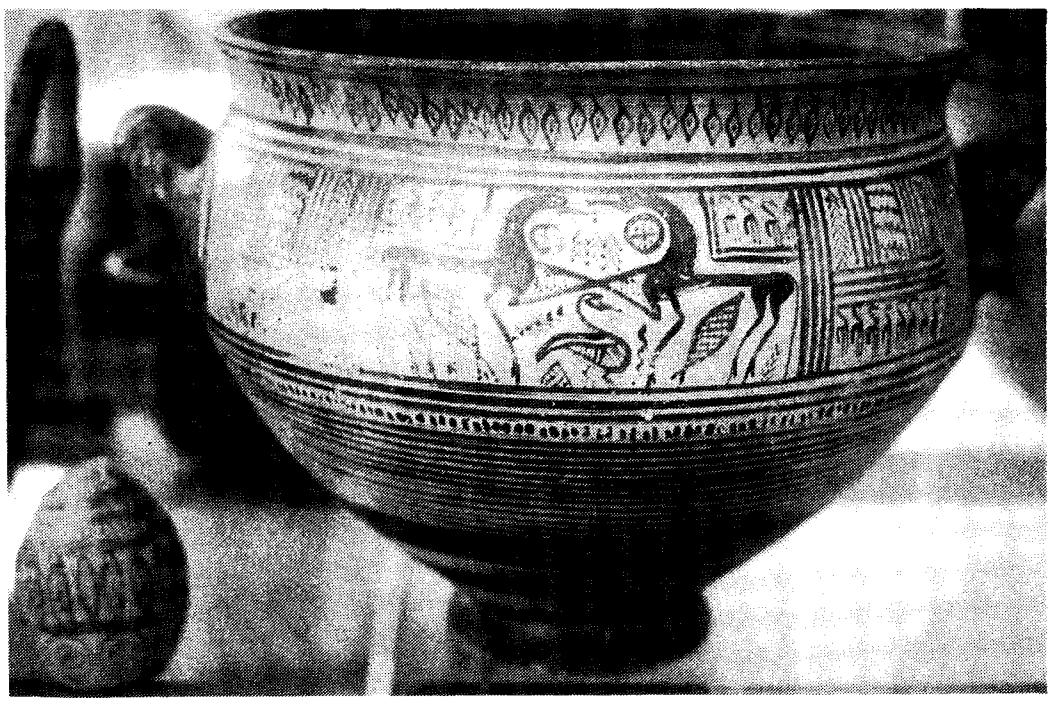

Fig. 8. Athens NM #231

Fig. 9. Athens NM #13038

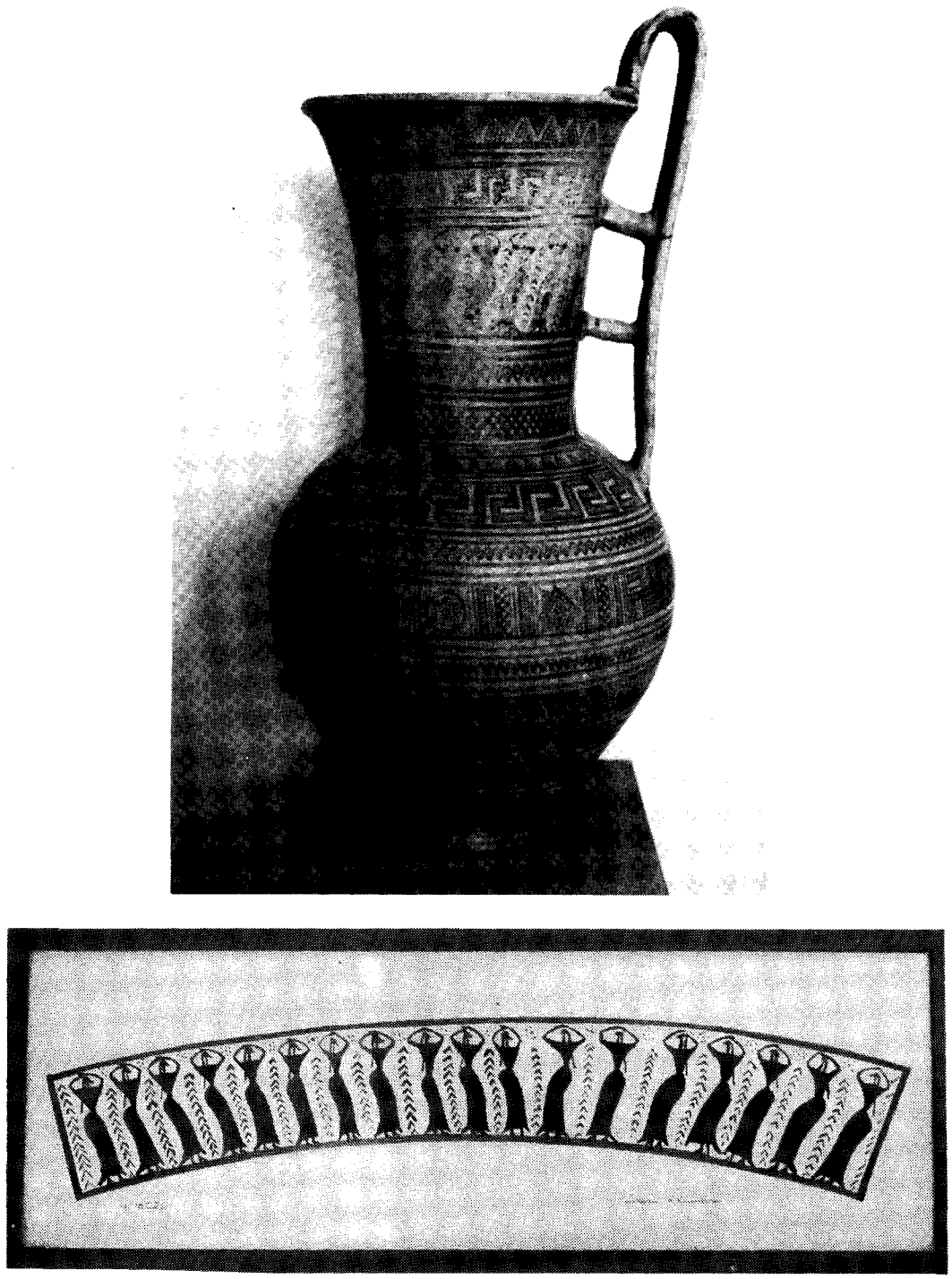

Fig. 10. Athens NM #16022

Fig. 11. Athens NM #874

Fig. 12. Athens NM #234

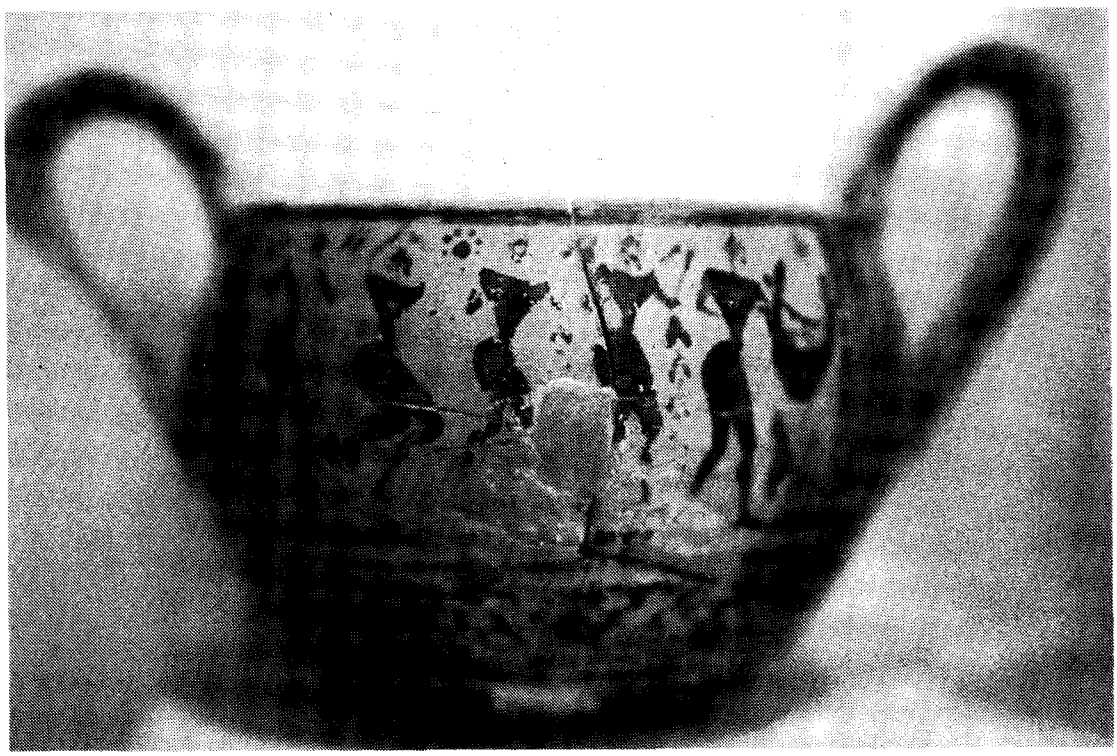

Fig. 13. Athens NM #14477

Fig. 14. Athens NM #18542

THE DIALOGUE OF GREECE AND ROME ABOUT MUSIC AND ETHICS IN PHILODEMUS OF GADARA

DANIEL DELATTRE

The Epicurean Philodemus of Gadara (110?-25? BC) wrote a great number of philosophi cal works, in particular concerning rhetoric, poetry and music. As a papyrologist, I would like to propose a new reading of his *Commentaries on Music* as a result of my preparation of a completely revised edition of this work, in part unfortunately lost, since only Book IV still exists.[1]

This rather dilapidated work is neither a theoretical treatise of musical techniques nor a concise history of music written in the form of a dialogue, nor even a hybrid work of both a philosophical and technical nature in the manner of Sextus Empiricus' *Against Musicians*. It is indeed one of the earliest philosophical commentaries: written in a polemical tone, it refers to an ethical book dating one hundred years earlier.[2] In this work two famous groups are seen to oppose one another on the subject of music: the Stoics represented by Diogenes the Babylonian[3] (second century BC) and the Epicureans of whom Philodemus stands as a staunch defender.

That kind of work is so rare that music specialists will certainly feel interested in the presentation—albeit somewhat brief—of the main features of such a philosophical ethical debate as the one we find in these *Commentaries on Music*. Thus we shall hopefully achieve—as is my present objective—a clearer notion of the way intellectuals between 200 and 50 BC conceived the importance of music, its effects and role in Greece as well as in Rome.

Philodemus' book was studied at copious length by Mrs Neubecker who, for the last forty years, has been working on music among Stoics and Epicureans.[4] And so it will already be familiar to most readers. Yet, as my recent findings have led me to quite a lot of new facts about the book itself—some of them important—I think there is some point in re-examining it as a whole.

But first let us try briefly to sketch out what antique Greek philosophers used to think about the nature of music between the end of the sixth century (for the sake of convenience, let us say from the days of Pythagoras) and the second century BC. Thus shall we appreciate at its best the philosophical dialogue which Philodemus recorded in the *Commentaries on Music* around the middle of the first century BC in which he engaged with someone—Diogenes of Babylon—who in my opinion can be considered the true father

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1. See Pöhlmann 1991 for a recension of the last three partial editions of Philodemus' *Peri mousikès*.

2. Was it a treatise, a dialogue or another kind of writing? We have no means of establishing with certainty. Recently I thought of the possibility of identifying this work with the *ethikè technè*, the title of which is quoted in the testimonies and fragments attributed to Diogenes in von Arnim 1905–24 (part III, 218, no. 39), but the question remains conjectural.

3. Native of Babylon or of Seleucia-upon-Tigris.

4. Her first book was entitled *Die Bewertung der Musik bei Stoikern und Epikureern. Eine Analyse von Philodems Schrift De Musica* (Berlin 1956). Following a number of further studies on the same theme, among which *Altgriechische Musik. Eine Einführung* (Darmstadt 1977), she recently published the final part of the Fourth Book of the *Commentaries on Music*: *Philodemus, Über die Musik, IV. Buch* (Napoli 1986).

of the so-called Middle Stoa which flourished about that time, and who is known to us mainly through the references Philodemus made to him in this book.

I. BRIEF OVERVIEW OF THE NOTION THE GREEK PHILOSOPHERS HAD ABOUT MUSIC, FROM PYTHAGORAS TO DIOGENES OF BABYLONIA

1. PYTHAGOREANISM

Towards the end of the sixth century BC there developed in Magna Graecia an important current of new ideas whereby music was accorded paramount importance and a primordial place in human life. What is concerned here, of course, is Pythagoreanism whose founder's image remains rather hazy in spite of the draconian selection of testimonies achieved by H. Diels in his *Vorsokratiker*,[5] and shrouded in a very strange aura. The reasons which incited Pythagoras of Samos to grant an exceptional place to the art of harmonizing sounds are essentially abstract: everything in the universe is numerically based, in his view,[6] and music, which strikingly illustrates the natural relations of numbers with each other, appears as the very proof of the soundness of the arithmetical system of the Pythagorean world.[7] According to Pythagoras, the relations between the distances dividing the seven planets are similar to those within the octave.[8]

2. DAMON THE MUSICIAN

A few decades later, in Athens this time, Damon the Musician, master of the great Pericles,[9] would recapture the Pythagorean conception of an effect of musical harmony on the human soul, in particular as a *purgation* of passions,[10] in order to apply it to the body as well, so much so that one would later come to maintain that a particular harmony could be used in the healing of a particular somatic disease[11]. But as is also the case

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5. See Diels and Krantz (hereafter D–K), *Die Fragmente der Vorsokratiker* (1971[15]) I, 96–105. For the French translation of the whole work, I shall refer to *Les Présocratiques* (Paris 1988), under the direction of my teacher and friend, J.-P. Dumont.

6. See D–K I, particularly 456–7 (= Dumont, *Ecole pythagoricienne*, B XXII and XXVII, 573 and 575–6).

7. See D–K I, 448–66 (= Dumont, *Ecole pythagoricienne*, 560–84).

8. See Plinius the Elder, *N.H.*, II, caps XIX–XX, and also Censorinus, *De die natali*, cap. XIII: 'On extension of the sky; on earth circumference and on the distance between the planets'.

9. D–K I, 382; Dumont, *Les Présocratiques* A III–VI, 455–7.

10. D–K I, 468, l. 20; Dumont, *Ecole pythagoricienne* D I, 593.

11. Empedocles, with his Pythagorean backround, and other Pythagoreans were also physicians (see D–K I, 283, l. 14 = Dumont *Empedocles*, A III, 327. Undoubtedly, it is according to this tradition that Theophrastus was able to maintain that *aulos*-tunes played with soft modulations (*modulis lenibus*) have the property of soothing people suffering from sciatica. Before him, Democritus said in one of his books—perhaps precisely his *On Music*—that 'a piece for *aulos*, played in a clever and melodious way heals adders' bites, and many

with Damon, it is experience (and no longer an abstract reflection of an arithmetical nature) which brings him to set down a sort of code of correspondences between the various musical modes and psychic states (cf. Rossi 1988, 238–44, and more particularly, 240). Thus the Ancients bring to our notice that Damon had discovered the way of instantly calming drunk youths excited by the excesses of Phrygian tunes: he merely invited a female aulos-player to play a Dorian tune (with the opposite virtues) and the soothing effect was not long in coming. Let us point out in passing that the anecdote, with occasional variants, was ascribed to Pythagoras as early as Antiquity,[12] even if the completely experimental character of this remedy incited me rather to attribute it to the musician of Oea than to Pythagoras.

3. PLATO

If Socrates hardly seems, for his own part, to have entertained any particular speculative interest in music,[13] his illustrious follower, Plato, clearly subscribes at the beginning of the fourth century to the Pythagorean-Damonian tradition.[14] He is convinced that music is of irreplaceable value in political pedagogy. Thus, at first in the *Republic*,[15] then in the *Laws*,[16] he is seen to proceed to an attentive and harsh selection of harmonies and musical rhythms and instruments for ethical reasons as well: harmonies considered as 'soft and relaxed' (cf. Bélis 1982, 57–73), like most instruments (such as *aulos*, *pectis* or 'the instruments with many strings and which render all the harmonies'), are categorically excluded from his ideal City.[17] And again in the *Republic* he repeats, following Damon,[18] that one cannot meddle with musical rules without undermining the very balance of the City. One can appreciate in passing Plato's great faithfulness to the

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human diseases have been cured by playing the *aulos*' (see Aulus Gellius, *Attic Nights*, IV, 13). The specific Greek verb is *kataulein*.

12. The same anecdote can be read in Cicero (fr. X, 3), quoted by Augustine (see *In Julianum*, V, 5, 23); in the sixth century Boethius also alluded to it (*De institutione musica*, I, 1). The orator specifies that the tune played for soothing people was spondaic, i.e., full of majesty and gravity (the contrary of iambic or trochaic rhythms, for example).

13. Although with advancing years he decided to attend music lessons given by the citharist Connon, son of Metrobios, as reported by Plato in the *Euthydemus* (272 c and 295 d) and *Menexemus* (235 e ff). But he seems to have met a lot of difficulties while learning the *cithara*, and in doing so he was despised by his young fellows-students. As to the precise name of the citharist, Socrates' master, Connon, Connos or Connas, cf. Winnington-Ingram 1988, 246–63.

14. See the various studies by Bowen, in particular Bowen 1983, 12–29.

15. See the *Republic*, III, 398 d–399 c, in which only the Dorian and Phrygian harmonies are retained, then 399 e–400 d, in which rhythms are dealt with, and this technical point is referred by Plato to Damon's teaching without going into any details.

16. See particularly Book II *passim* from 660 a, in particular 670 d–e.

17. See the *Republic*, III, 399 d: he eventually only keeps 'the lyra and the cithara, for townspeople, and a kind of syrinx for the shepherd in the country'.

18. See the *Republic* IV, 424 c; Dumont, *Damon*, B X, 460.

tradition of attributing to music quite an exceptional power over the human soul[19] even if, in his case, the deeper reason for this conviction is that justice (which constitutes the very object of the investigation carried out in the *Republic*) is defined as being a harmony[20] whose pattern is precisely cosmological: it is the harmony of the spheres (and colours) such as it is called up in the final myth of Er the Pamphylian.[21]

4. ARISTOTLE

Accordingly, it is not surprising that when, in his turn, the Lyceum's founder undertook to compose a *Politeia*, he should have had the same concern about the place music must occupy in the education of the Greek youth: obviously it was already a major preoccupation with Damon in his *Areopagitica*[22]—a work which caused Philodemus to question whether Damon actually delivered it before the austere Athenian assembly in view of the number of untruths he believed it to contain.[23] If the Aristotelian doctrine concerning music hardly seems far from the Academy's position on many points, we must remark, however, that it wanders appreciably from Pythagorean theses on the matter of the status of music. As a matter of fact, Aristotle, who himself wrote a *Peri mousikès* (no longer extant[24]) involving an enquiry into the scientific status of music, regards the harmonic series, together with optics,[25] as 'the most physical of mathematical sciences'. For Pythagoreans, on the other hand, it was conceived as a speculation entirely free from experience:[26] in other words, he 'does not believe musical beings are mathematical

19. Plato ascribed to the body a role—preventative with gymnastics and curative with medicine—similar to that of music (preventative and curative) for the soul. See in particular the *Republic*, III, 410–12 a, and VII, 521–2.

20. Cf. *Phaedo*, 93 e, in which virtue is defined as 'harmony'. Now for Plato, justice was *the* virtue.

21. See the *Republic*, X, 616 b–617 d, in which he describes how the Siren, standing over each of the eight circles of the world, sings her proper note, 'so that the union of these eight voices makes one *harmony*' (617 b), and adds that each of the three Parcae 'sings *in tune with the harmony* of the Sirens' the past, the present or the future.

22. See Dumont, *Damon*, B I–X, 457–60, and more particularly fr. II–IV.

23. Cf. *Commentaries on Music*, Book IV, cols. 147–8 (= 33–4 Kemke) and Dumont, *Damon*, B II, 457.

24. See Diogenes Laertius, *Lives*, V, 26, in which such a title is mentioned twice with the indication: 'in one book'.

25. Cf. *Physics*, II, 2, 194 a 7–12, and Bélis 1982, 72–3.

26. For example Philolaos, who 'gave a mathematical description of a complete musical scale' (cf. Barker 1989, 29).

beings' (Bélis 1982, 74).[27] Besides, the pseudo-Aristotelian *Problems* reveal in their author[28] a curiosity and a musical competence even more marked than those of Plato.

Be that as it may, in Aristotle one does not notice any questioning of the ethico-pedagogical conception of music: he seems to have accepted, without any hesitation, the obviousness of the close relation of musical harmony with the soul and also with the body; just as he viewed the concept of music education as being one of the irreplaceable foundations of the moral education of the young (including the approved use by children of stringed instruments such as the lyre but categorically excluding any professionalism[29]). It is a fact that one who learns to play such an instrument is initiated into *sophrosunè*, the 'sense of measure' (in every sense of the word), and will be able later on to harmonize together the different parts of his soul.[30]

5. HERACLIDES PONTICUS

Under these circumstances it is not strange either that, in the same spirit, one of his followers, Heraclides (sometimes regarded as an Academician), composed a *Peri mousikès*[31] (no longer extant) in which he compiled numerous historical anecdotes and ethnomusicological information which served for several centuries as the most important source for the discourses on music: Philodemus, and next to him Pseudo-Plutarch,[32] are good witnesses with their respective *Peri mousikès*, works of musicography which are no longer pure theoretical treatises.

And so from the end of the sixth to the end of the fourth centuries BC we have been able to observe the perpetuation of one and the same conception of music and its functions in relation to man, even if there are variants from one philosopher to another, according to their own respective interests.

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27. Bélis concludes as follows: 'Il est clair qu'Aristote ... donne un statut nouveau à la science musicale; il la subordonne, en fait, à la Physique telle qu'il la conçoit lui-même, et lui donne pour principes et pour méthode ceux de l'Arithmétique'.

28. As is well known, the authenticity of the *Problems* is dubious. However, I am of opinion that the point is immaterial since the orthodoxy of the teaching of the Lyceum is generally admitted in this work. See Barker (1984, 190) who is convinced that the book was not by Aristotle, even if 'the general trend of its ideas is in most cases broadly Aristotelian'.

29. Cf. *Politics*, VIII, 6, 1340 b 30–3, then 1341 a 10–16 and b 8–18. Aristotle expressly excludes the practice of *aulos* (1341 a 17) and professional instruments, as also the *cithara* [for concert] (1341 a 18), the *heptagone*, the *trigone*, the *sambuca*, 'and all the instruments which require intensive manual skills' (1341 a 41).

30. That is what Plato made Protagoras declare in the eponymous dialogue (326 a–b): 'for the whole human life requires rhythm and harmony'. But perhaps we must ascribe to 'rhythm' a Democritean, rather than a musical, meaning.

31. See Diogenes Laertius, *Lives*, V, 87, where he mentions that it consisted of two books.

32. See the publication (together with a French translation and detailed commentary) of the same by Weil and Reinach (1900) rather than that of Lasserre (1954), often disputable in his general views.

6. THE STOIC DIOGENES THE BABYLONIAN (SECOND CENTURY BC)

If one carries the investigation further, one will find this conception was to continue for another two centuries at least: at the beginning of the second century BC Diogenes the Babylonian proceeds to relax the doctrine of the founders of the Stoa, Zeno of Citium and Chrysippus of Solae by establishing the Middle Porch[33] through bringing together the Academy and the Lyceum on many doctrinal points (some of them important). These schools, the latter in particular, provided him with a state of science far more developed and global than that which the first Stoics had been able to set up. And indeed by working in this way, Diogenes, in his turn, is in keeping with an already long tradition of regarding music as an irreplaceable propaedeutic to virtue. However, what seems to set this Stoic apart from all his predecessors since the end of the sixth century BC is a strongly marked desire to provide a 'scientific' basis—i.e., a coherent theory of sensation and knowledge—for the beliefs and prejudices repeated here and there since Pythagoras and Damon.

7. THE FIRST OPPONENTS OF THIS TRADITION: DEMOCRITUS AND EPICURUS

Does this mean that until the middle of the second century this concept of the primordial value traditionally accorded to music and its role in the education of children was never called into question or subjected to doubt? Two illustrious names should be mentioned here: firstly, Democritus of Abdera, then Epicurus who, as Cicero malevolently continued to emphasise,[34] was indebted to the Abderitan for so many things, in spite of his reticences.

Philodemus, specifically in the fourth Book of his *Commentaries on Music,*[35] following Democritus (whom he quotes expressly), reminds us that among the arts music does not possess the antiquity which it is generally accorded, that in fact it does not rank among necessary things, but is really superfluous: that it is a 'luxury', so to speak. Also in the eyes of the father of Greek atomistic conception, nothing entitled it to the prominent place in human life which several centuries of tradition had conferred on it.

As for Epicurus, he is said to be among the first philosophers after Theophrastus[36] to have composed a *Peri mousikès*, unfortunately no longer extant. One can however imagine, with hardly any risk of being mistaken, that he would have sharply called into question the traditional approach to the issue of music, also following Democritus in this respect—perhaps (if not certainly) underlining the capacity of musical harmonies sometimes to create pleasure (which assuredly should not be overlooked) but also and above all its character of unnecessary pleasure.[37] In these conditions, music very likely

33. See the exciting study by Schäfer (1936). We shall return below to this important thesis.

34. See, e.g., *De finibus* I, 17–21 and II, 103.

35. See col. 150 (Kemke XXXVI), ll. 29–39.

36. Theophrastus had actually written a three-volume work under this title (cf. Diogenes Laertius, *Lives*, V, 47).

37. Here I resume the categories of desires (and, in connection with them, of pleasures) as expressed in the XXIXth *Capital Maxim* of Epicurus. The *scholium* to this *Maxim* gives us 'luxury foods' as examples of 'natural desires, but not necessary, which only diversify pleasure without suppressing pain'; and as examples

lost, in his view, the exceptional status it had been granted heretofore; and ultimately it may be one of the reasons which permitted his opponents to conclude that Epicurus held no interest for liberal culture in general (for which music was originally, we should not forget, a mere and simple synonym), and furthermore, that all the followers of the Garden were brutes—a reproach which Philodemus violently repudiates in his *Commentaries.*[38]

8. THE PARTICULAR CASE OF THE THEORETICIAN OF MUSIC, ARISTOXENUS OF TARENTUM

In this brief survey of the place accorded to music by the Greeks between the sixth and third centuries BC, one will have probably noticed the absence of an illustrious music theoretician of the fourth and third centuries whom Philodemus calls 'the model musician'.[39] I refer to Aristoxenus of Tarentum who is quite apart from the others, though he was definitely Aristotelian, as was so brilliantly demonstrated in the dissertation of my colleague and friend, Annie Bélis (Bélis 1986).[40] In fact the interest he takes in music is at once that of a philosopher, a technician and a specialist in a very specific field of science, both practitioner and (in particular) theoretician.[41] Being supremely competent as a technician, his standpoint induces him to leave aside all of those ethical concerns which, as we have observed, were a necessary element for most of the great philosophers since Pythagoras.

Without entering into details (this is not the place to do so, and others would be far more competent than am I), I shall simply state that Aristoxenian theory is intended to be strictly musical and aesthetic, and carefully avoids entering into ethical considerations. The best proof of that seems to be Aristoxenus' own comment[42] where he complained of not having been understood by some in the distinction he had drawn between the harmonies, the characters proper to each of them and the different uses appropriate to them. In his own mind, such considerations had no ethical implication: the matter in hand was merely a strictly musical and aesthetic analysis. In view of this we understand more clearly the great importance which Philodemus attached to this *musician*: indeed, in his eyes Aristoxenus was the first genuine musical authority resolutely to have separated

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of unnatural or unnecessary desires, 'the crowns and the statues erected to great men'. In which category would music have been for Epicurus? that of natural desires such as luxury foods? It is plausible; but he could also have ranked it among unnatural desires, since it is an artefact.

38. See in particular col. 140 (Kemke XXVI), l. 15–col. 144 (Kemke XXX), l. 6.

39. Cf. *Commentaries on Music*, Book IV, col. 143 (Kemke XXIX), ll. 16–17: *Aristoxenon eidos tou mousikou.*

40. I wish here to register my gratitude for the useful observations which Annie Bélis has contributed to the present survey.

41. Since in addition to the *Harmonica elementa* and *Rythmica elementa*, in the list of the twenty-seven available titles of his works as proposed in the recent edition of the *Dictionnaire des philosophes antiques* (Part I, 592–3, Paris 1989), the following titles may be found: *On the First Time* (10), *On Tones* (11), *On Melopoeia* (12), *A Music Lesson* (14), *On Musical Instruments* (16) and also *On Music* (13). One can only speculate as to whether the latter may have contained items 10, 11 and 12. Moreover, fr. 6 Wehrli indicates that he may have 'exerted, through music, a therapeutic activity', which would confirm that he also admitted—at least from an empirical point of view—the effect of music on the human being.

42. Cf. *Elementa harmonica*, 31, 25 Meibom, quoted Bélis 1986, 97.

music from the ethical, pedagogical reflection whereby it was heretofore regarded essentially as an approved means of leading the child to virtue, thus relegating its artistic character to a place of secondary importance.

And so, since we cannot have access to Democritus'[43] or to Epicurus' *On Music*,[44] since they are no longer extant, the Epicurean Philodemus of Gadara comes down to us as the first to express staunch opposition to the ancient ethical conception of music by means of philosophical argument.

II. PRESENTATION OF PHILODEMUS OF GADARA AND HIS WORKS

Philodemus lived at the time of Cicero and was one of his acquaintances. He was also a protégé of Cesar's father-in-law, Calpurnius Piso Caesoninus, and a permanent resident in his house at Herculaneum (cf. Capasso 1991, 164)—the well-known 'Villa of the Papyri'. Born in Syria about 110 BC, he seems to have died after 32 and before 25 BC. A philosopher and a versatile writer like the Master of the Garden Epicurus, he wrote in no less than five volumes his *Commentaries on Poems*, as well as *Commentaries on Rhetoric*, a colossal work the writing of which seems to have lasted over a period of several decades, and *Commentaries on Music*, of which only Book IV is still extant today, and in a fragmented and disorganised condition.

This aggregate of three works was obviously meant, in the writers's mind, as a trilogy whose patent purpose was to make the hellenized Greek-reading public in Rome fully aware of two important realities. On the one hand, the Epicureans were not the coarse and uneducated brutes depicted by their opponents headed by the Stoics, Cicero among them.[45] On the other hand, although Epicurus and his followers envisaged poetry, rhetoric and music in a quite different light from other philosophers, it was for none other than a purely philosophical reason, and not due to their alarming ignorance of these forms of art. I need hardly say that Philodemus himself was a poet who wrote many epigrams (of which some thirty have been handed down to succeeding generations through the *Palatine Anthology*[46]) and that he was well versed in the art of poetry. Philodemus also took a comparable interest in music (even if he was not himself a musician), as is evident in the only Book of his *Commentaries on Music* to survive.

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43. Concerning his works on music, see D–K II, 91–92 (Thrasyllus' Catalogue of the titles of Democritus' books); Dumont, A XXXIII, 760–1.

44. On Epicurus' *Peri mousikès*, see Usener 1887, 106.

45. See e.g., *De finibus* I, 20, 26 and particularly 71–2.

46. The *Palatine Anthology* preserved the text of thirty poems expressly referred to Philodemus—to which we must add the data provided by *P. Oxy.* 3724 (Vol. LIV). This papyrus quotes a total of 175 titles of epigrams; only the authors of 31 of them were positively identified, and 25 of these titles (out of the thirty recognised by the *A. P.*) are attributed to Philodemus. The twenty-sixth title, unknown heretofore, certainly belongs to the Epicurean, so also must the twenty-seventh; the other two relate to two possible authors, among whom Philodemus. Thus today, at least thirty-two of Philodemus' epigrams can be traced. As to the poetic qualities which Cicero recognises in our Epicurean, see his *In Pisonem*, § 22.

III. REFLECTIONS IN BRIEF ON PHILODEMUS' *COMMENTARIES ON MUSIC* IN THE LIGHT OF BIBLIOLOGY AND PAPYROLOGY

I shall confine my discussion to an account of the indispensable facts through which I have grown to think that the only fragments we have at our disposal are those of Book IV of the *Commentaries on Music*.

1. A GENERAL SURVEY OF THE QUESTION UP TO 1985

More than a century ago, J. Kemke, the first editor of Philodemus' *Commentaries on Music*, explained in a Latin preface that what remained of the work represented fragments of Books I and III, as well as the (uninterrupted) conclusion of Book IV—the only part conclusively established thanks to the final *subscriptio*, or title. He based his observations on a conjectural reconstruction that proved to be arbitrary in the aggregate, yet partly plausible. Having established the fact that parallel passages could be identified between the end of Book IV and various loose parts, he conceived the notion that the parallel passages were an indication that Philodemus' First Book was devoted to a general presentation, in chronological order, of the views on music upheld by the great schools of philosophy, ranging from Plato, through Aristotle and his disciples of the Lyceum, to the Porch, with Diogenes the Babylonian as one of its prominent figures. Presuming that only the end of Book IV[47] still subsisted (the last thirty-eight columns, from 114 to 152), Kemke inferred that the initial part of the scroll which contained Book IV was irretrievably lost, and that the missing passage concerned an Epicurean dispute against the Stoa. He took it for granted that Book II was entirely devoted to a vilification of the musical theories of Plato's Academy, and that the Book itself was also entirely lost.

2. MY OWN FINDINGS ON THE BOOK

On the occasion of a new edition for the *Cronache ercolanesi* of what was held by Kemke to be fragments of Book III,[48] I have come to the conclusion that Kemke's assumptions, persuasive as they appear at first sight, do not stand up, and that the fragments of Herculaneum scrolls in our possession in fact represent what is now left of the initial part of Book IV which Kemke and his followers thought to be definitively lost.

To make a long story short, I will merely point out the reliable information I established and the revised interpretation of the parallel passages to which my findings led. From this point on, I shall refer to the parallel passages by their 'correspondences'.

Book IV numbered one-hundred-and-fifty-two columns[49] and measured about eleven metres in length and approximately 23cm. in height. Only columns 114 to 152 have been

47. As early as 1754, Father Piaggio of Naples astutely contrived a wonderful machine with which he managed to unroll the last 38 columns of Book IV.

48. See *Cronache Ercolanese* 19 (1989), 'Philodème, *De la musique*, Livre IV, cols 40*–109*', 49–143.

49. A few very precious stichometric (i.e., numbers of columns) details still extant at the beginning of some columns in the final part are proof positive of this fact.

handed down to us in complete form,[50] which part is roughly three metres long. The initial 113 columns may be reconstructed according to the same pattern from the multiple loose fragments, most of which unfortunately are not original material.[51] After a first attempt at reconstructing this very long *volumen*, or scroll, during which I took account of purely bibliological criteria irrespective of textual contents, I was very pleased to see that the correspondences, largely pointed out by Kemke, did appear in succession according to a regular and parallel arrangement. As I proceeded further with my investigations, I was able to bring to light a greater number of correspondences and this result corroborated the reliability of my method. Columns 1 to 113 are as follows: of Columns 1 to 18, only the upper half still exists (solely as copies). For most of the remainder a number of lines have disappeared, ranging generally between Lines 18 and 25. Some columns have perished accidently (or perhaps as a result of mishandling of the outer part of the carbonized scroll during the first unrolling).

3. A NEW INTERPRETATION OF THE SO-CALLED CORRESPONDENCES

What are we to make of the correspondences? What is evident is that the first third of this scroll (some fifty columns) was written mostly in indirect speech. That portion of scroll gives an account of Diogenes' remarks on music and ethics. Unfortunately no trace has been left of the title of the Diogenian work.[52] The other two-thirds (one hundred columns or so) consist of a series of *lemmas*, that is to say, more or less accurate quotations of opinions previously stated,[53] followed by a severe critical examination in which polemic is an essential feature. We gain the impression that Philodemus had annotated the book of his antagonist before taking it to pieces in order to expose the weakness of Stoic argumentation and the lameness of its unsteady logic.

4. A FRESH INTEREST IN THE BOOK

Philodemus' *Commentaries on Music*, or Book IV at least (this being the only one that withstood the ravages of time), requires thorough reinterpretation as from now and it should be read as a coherent critical examination of a Stoic work, probably ethical, written a century before Philodemus' study.

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50. I.e., 'pages' containing about forty-five lines of around twenty letters. That makes, by column, approximatively 900 types, i.e., 150 to 200 words. The whole Book IV would fill about 50–60 pages of a small paperback book.

51. For the most part, these fragments were destroyed after having been copied (in general, with care, but too often incompletely) by the Neapolitan designers in charge of the Herculaneum papyri (during the nineteenth century for the most part). For that was the only way for them to have access to the lower layer of the scroll which was stuck to the upper one as a consequence of damage sustained in the eruption of Vesuvius in 79 AD. The same process was then applied to the lower layer, and so on till the last which is more or less still extant as a *scorza* (i.e., bark or cortex).

52. In col. 34, l. 1 in the edition I am preparing (= 'Book I', fr. 23, p. 12, Kemke), there is the mention of a 'third book'—probably by Diogenes of Babylonia—but the title is not given.

53. But not all: probably only the most important or, in his opinion, the most dubious, were included by the Epicurean commentator.

That is why I do not think that Book IV was meant as an all-out polemic against the views of former philosophical sects on matters of music. Kemke's assumption is a misrepresentation. The mention that is made of the names of Plato, Theophrastus and Heraclides can easily be accounted for. It was Diogenes the Stoic who mentioned or alluded to these authorities in support of his theory; and I am of the opinion that Philodemus had no intention of making a direct attack upon these luminaries. His own—and only—sitting target was the Babylonian philosopher whose omnipresence in itself reveals Philodemus' purpose. I would like on this occasion to pay tribute to Maximilian Schäfer who, half a century ago (Schäfer 1936), was shrewd enough to discern the importance and the originality of our Stoic writer who initiated a new trend from Zeno and his school to the so-called Middle Stoa. This was Diogenes the Babylonian, and not his famous follower, Panetius, who fathered this new trend of thought.[54]

In these circumstances, the fragments of Book IV are of exceptional interest. To begin with, the Book is proof positive of the continuity of a lively polemical atmosphere between the Stoa and the Garden.[55] Furthermore, the polemic is about a very specific question that had rarely been mooted even if mentioned in passing, namely, the position and the part played by music in the lives of men. Finally, the book reveals the aesthetic doctrines of the two schools and brings to light the fundamental differences between them in matter of sensation and pleasure.

IV. A GENERAL SURVEY OF DIOGENES' DOCTRINES ON MUSIC, AS SUMMARISED AND DISCUSSED BY PHILODEMUS

Only through such a reconstruction can Book IV permit of a global perspective on the book of Diogenes the Babylonian. Diogenes was soon[56] to insist on the effects of music on men's souls and its propensity to arouse temperance and fortitude—two of the cardinal virtues. According to him, music would have remarkable moral efficacy since, through *mimèsis* (that is to say, imitation), it allowed the passage from affections to virtues, from temerity to fortitude, for example. Hence Diogenes inferred a similar influence of music on men's bodies and alluded to the efficacy of the melody, asserting that music was conducive to all virtues (which was a Damonian theory). Accordingly, Diogenes held music to be a 'common good' whose attainment he considered indispensable as far as the upbringing of children is concerned, and whose social usefulness was unquestionably assumed. Following Damon's as well as Plato's views on the subject, the Stoic strongly opposed any innovative steps in matters of music.

Quite naturally, he tended to place these empirical views on a scientific basis by developing the notion that sensation alone, and not the *logos*, established the ethical

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54. Nevertheless, even nowadays most historians of Greek philosophy do not think so; see, for example, de Vogel (1959) Part III, 234–5.

55. This has been testified by many other authors, for example Cicero, in his main philosophical works, in particular, the *De finibus* or the *De natura deorum* in which Epicurean and Stoic speakers vigorously oppose one another under a thin veil of politeness. We must not regard this vigour as merely the result of a *mise en scène* contrived by the father of Latin philosophy, but rather as a direct echo from his own time of the genuine opposition between the Porch and the Garden.

56. Unfortunately the beginning is very incomplete and does not allow us any insight on how Diogenes dealt with the matter of music.

nature of melodies and the peculiarities of each type of musical mode. For this purpose he made use of the theories of Speusippus who drew a distinction[57] between two types of sensation, the one *natural* and the other *scientific*, or acquired, which provided a plausible explanation for the ear-training of musicians and music enthusiasts[58] for which the discursive steps of the *logos* could apparently provide no answer.[59] Philodemus' epitomized version of the Diogenian work continues with a general survey of the uses of music in human activities. One of the most obvious goals of such a representation was to underline the unparalleled universal character of music. With this end in view, he instanced many kinds of music: sacred (for all sorts of events, public or private), military, theatrical or sporting, referring to various ethnic groups in Greece. The conclusion is invariably the same: there is no denying that music has an exceptional power to set in motion and to urge to action the bodies and the souls of listeners. Diogenes went so far as to maintain the superiority of music over the *logos* in this field of human activities.

Music then was seen as an indispensable tool in the preparation of children for a virtuous life. After insisting on the virtues of fortitude and temperance, the Stoic philosopher analysed piety and then two typically Diogenian virtues, namely, *erotic* (i.e., love) virtue and *sympotic* (i.e., banqueting or symposium) virtue in which, according to him, music played a prominent part. Then he made a special study of the virtues of friendship, good humour, concord, as well as intelligence.[60] In each case he strove to show how much music inclined men to practice these virtues, including justice which he studied separately with special reference to Plato. Since, according to Stoic philosophy, the mastery of one virtue was tantamount to the mastery of all, it was obvious that for Diogenes music was the gateway to all virtues. And, relying on Cleanthes, our Babylonian held the view[61] that even without words certain melodies have a meaning of their own, best attuned to philosophy, for it is philosophy which brings one closest to the gods: hence the writing of his famous *Hymn to Zeus*,[62] a musico-philosophical work rather than a poetic one, and of another lyric poem, *On God*, which is a true *Summa theologica*.[63]

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57. Testified by Sextus Empiricus (*Adv. math.* VI, 145–6) who expressly refers to Speusippus, while Diogenes-Philodemus do not utter the name of this Academician, at least in what is still extant of Book IV.

58. In Greek, *hoi philomousountes*, as Philodemus (after Diogenes?) wrote in col. 136 (Kemke XXII), l. 12.

59. As a matter of fact, that is a habit (Aristotle would say 'a second nature') acquired through much practice and strenuous work which allows the musician to make up for the evanescent character of harmonious sounds proper to auditive sensations, and to keep within himself, to a certain extent, the imprint of the harmonious sounds the endless flow of which affects his ears. And indeed one can sense through Book IV that in Diogenes' opinion there existed a decided opposition between 'musicians' and 'non-musicians'. Philodemus, however, attempted to play that down as much as possible for, according to the teaching of the Garden, sensory perception as effected outside of the sphere of the *logos* (i.e., the only place where error can be induced through opinion) is the same for all ears, and the pleasure which proceeds from is almost the same for all listeners (cf. col. 116; Kemke III, ll. 9–15).

60. In Greek, *sunèsis*, i.e., the intelligence which grasps things in the aggregate and understands them in their closest interrelations.

61. As against Plato (we note in passing) who wrote that mothers and nurses rocked and sang their babies to sleep (*Laws*, VII, 790 d–e). On this point, cf. Dumont 1972.

62. Cf. SVF, I, no. 537, 121–3 (testimony of Stobaeus).

63. Cf. SVF, I, no. 557, 126–7 (testimony of Clemens Alexandrinus).

From col. 144[64] to the end of the Book (col. 152)[65] no further mention is made of the name of Diogenes.[66] It would therefore be hazardous to ascribe the critical reflections of the Epicurean to the Stoic philosopher, even if such views are compatible with those of the Stoa. Such critical reflections may be worth mentioning. First, the knowledge of musical harmony would lead to knowledge of the harmony of spheres—which, according to Philodemus' opponent, would bridge music and astronomy.[67] And then, since the imitative nature of music is the driving force of its moral efficacy, Philodemus' opponent stressed the fact that some melodies can be conducive to vice just as others could lead to virtue. In any case, the use of music everywhere in Greece clearly demonstrated that music had been, and still was, an important civilizing factor.

Finally, there was a not inconsiderable disquisition in this Diogenian book on the exceptional prestige of music—regarded as an art directly inspired by the gods themselves—as well as on its development in remote antiquity and on the aristocratic origin of early musicians. And the conclusion, still valid in his time, emphasised the glory and profit which accrued to artists who performed music in society in general, and at *symposia* in particular.

From the evidence of the summary and the critical study written by Philodemus, Diogenes' book was not innocent of recondite redundancies; but it is clear from the present *epitome* that Diogenes' theories were based on history[68] and cogent reasoning.[69] The following aspects of the Stoic views may be summarised:

1) The melody through its action on the senses is a driving force whose effect on the bodies and the souls of men is of outstanding proportion;

2) The underlying arguments of Diogenes' doctrine are based on his conviction that sensation—what he chose to call *scientific* (or acquired) sensation—and not reason, is responsible for the link between melodies (like enharmonic and chromatic ones[70]), moral qualities (like gravity and nobleness as against cowardice and coarseness[71]) and psychic states (severe and despotic humour as opposed to gentleness and persuasion[72]). Before

64. Kemke, col. XXX.

65. Kemke, col. XXXVIII.

66. Whether the lacunary condition of the papyrus is the reason for its disappearance, or whether Philodemus considered that at this point of his commentary it was no longer useful to refer expressly to Diogenes.

67. We note that the name of the Pythagoreans is mentioned only in this one instance in what is still extant of Book IV.

68. Thus Diogenes was in keeping with a long tradition of musicographers, beginning with Heraclides Ponticus (perhaps even with Aristoxenus, as Lasserre (1954, 93) believed) and ending with the colossal *History of Music* in fifty-six books (unfortunately lost) written by Dionysius Halicarnassensis the Younger (called the 'Musician') in the time of Hadrian, and which may have been used by Ps.-Plutarch (*ibid.*, 102).

69. Even if Philodemus reproached him for having in his Third Book initiated an 'historical commentary' rather than developing a 'demonstrative argumentation on God' (Delattre col. 34, ll. 4–6 = Kemke, 'Book I', fr. 23).

70. This is what Philodemus has in mind, probably following Diogenes, in col. 116 (Kemke II), ll. 16–36.

71. As can be read in the same col. 116, ll. 21–5.

72. As can be read in the same col. 116, ll. 26–8.

him, that link had been merely asserted by the remote Damonian tradition, without any logical demonstration.

Or to put it differently, the Stoic's main preoccupation, as seen through the summary, seems to have been the awareness of the effects of music on the psychology and the *ethos* of men, a notion shared by most Greek philosophers. In so doing, Diogenes was attempting to lay the foundations of a science that could have been defined as a real psychological system based on music and ruled by immovable universal laws.[73] In Diogenes' system the musician became an expert in the behaviour and moral conduct of men undergoing the influence of rhythms and melodies.

To put it in a nutshell, for the school of the Garden, which regarded this Stoic theory as stupid,[74] the attainment of truth was through sensations and affections (in Greek, *pathè*), that is to say, the dual notion of pleasure and pain.[75] Diogenes, on the other hand, by adopting Speusippus' theory of acquired sensation,[76] completely discarded the reality of the sensual and affective aspects of musical experience. In other words, it could be said that affections are taken into account by the Stoic only as instruments of moral judgement about what we perceive by ear,[77] whereas with the Epicurean, affections are nothing but criteria of truth: through them, we simply know that we feel a sensation and that some outer phenomenon has produced it.

V. THE POLEMIC REACTION OF THE EPICUREAN PHILODEMUS

This being so, the violent reaction of the Epicurean philosopher can be easily understood. He saw that Diogenes lost sight of the pleasure, or of this pleasure of music, in favour of a highly debatable theory[78] that linked music to morality and psychology. For Philodem-

73. In col. 117 (Kemke III), ll. 3–10, Philodemus exposes this undertaking as being 'without any foundation' and speaks about this Stoic science of the musician as a 'science of non-existent beings'.

74. Terms belonging to the family of the verb *lèrein* occur several times in what remains of Book IV in order to denounce Diogenes' assertions in the work summarised by Philodemus (cols 122 (Kemke VIII), l. 36; 125 (Kemke XI), l. 21; 135 (Kemke XXI), l. 17; 138 (Kemke XXIV), l. 9).

75. To which Epicurus added *prolepseis* (i.e., anticipations of things to come), and later Epicureans, the 'imaginative projections of thought' (*epibolai phantastikai tès dianoias*); cf. Diogenes Laertius, *Lives*, X, 31.

76. As proved by the passage which Sextus Empiricus devotes to this double notion (*Adv. Math.*, VII, 145–6). Nevertheless there is some possibility that the Stoic, intentionally or not, has diverted its meaning while borrowing it from the Academician. But the lack of any context prohibits us from knowing more of the reasons which led Speusippus to that distinction between two kinds of sensation. See Delattre 1993.

77. By which I mean that if such and such a melody *pleases* (or *displeases*) me, I *feel* it to be good (or bad) in the moral sense.

78. Since a melody is morally judged in one way by some and in the opposite way by others (col. 116, ll. 21–8), it is clear for the Epicurean that people variously make *arbitrary* connections between moral qualities and the different melodies. From this point he explicitly concludes that the enharmonic and chromatic harmonies do not by nature possess intrinsic qualities which are gratuitously attibuted to them (ll. 28–36): a more severe condemnation of Diogenes' process can hardly be imagined.

us, the appeal of music[79] lay in the sensations and affections it produces, and not at all in its effects on our reason. So that for the Epicureans the evolution of music[80] towards even more sophisticated forms was not a really deplorable thing; for the Stoics, any change towards more complex forms was decadence—an opinion that had long been held by Damon, by the Academicians and Peripateticians, by Diogenes and his followers. What actually Philodemus of Gadara could not bear was the excessive intellectualism of Diogenes' doctrine. As a reaction against the Stoic notion, he adopted radically opposing views and considered music as a purely sensual art, as a source of superfluous, yet not inconsiderable, pleasure, similar to rhetoric and poetry,[81] and having no relation to reason.

Thus we can see that, in spite of what might be assumed from too hasty and simplistic an explanation, the notion (which continued to be accepted in Rome among the Hellenized literati in the time of Quintilian) according to which music directly acts on the senses[82] was not one developed and propagated by the Epicureans—in spite of their well-known materialism. Its origins were very remote, as we have shown, and we venture to suggest that when an orthodox Epicurean such as Philodemus was fighting with energy against this tradition, he did so according to the great principles of his school.

VI. THE DUAL HISTORICAL AND PHILOSOPHICAL STAKE OF PHILODEMUS' POLEMIC IN MATTERS OF MUSICAL AESTHETICS

Furthermore, I consider it no accident that Philodemus used a whole papyrus scroll[83] to set out his anti-Stoic opinions about music, a subject which was until then not crucial for the school. He was living in Italy (at Herculaneum, as I have already mentioned) where he was the protégé, friend and master of a great Roman aristocrat,[84] and the Roman conception of music was very different from that of ancient Greece—at least for the majority of Romans of the Republic (and after 27 BC, of the Empire). It is true that

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79. Plato used the term 'psychagogy; (cf. *Phaedrus*, 261 a) which seems to have been used again by Diogenes (cf. cols. 125 (Kemke XI), l. 19; 131 (Kemke XVII), l. 29; 133 (Kemke XIX), l. 33).

80. I.e., from the earliest times, so that at the end of the fifth century BC Pherecrates portrayed Music as a character of his comedy *Chiron* where she was roughly handled and sullied by the 'modern musicians'; cf. Ps.-Plutarch, 1141 E ff.

81. These are the two other forms of art to which he devoted even more copious volumes than to his *Commentaries on Music*.

82. This is the thesis suggested by Baudot (1973, 117): 'A l'origine de ce quasi-matérialisme se trouve probablement la théorie de la sensation chez Epicure et ses disciples: pour Rome, Lucrèce. Par l'intermédiaire des sens qu'elle touche si aisément, la musique agira sur le comportement général de l'homme'.

83. The scroll was about eleven metres long!

84. Cicero clearly portrays him under this threefold aspect, and always speaks of him as a *Graecus* (the adjective here refers to his language, not to his nationality, since his origin was Syrian); in one case, he even calls him 'little Greek' (in Latin *Graeculus*), in his *In Pisonem* (55 BC), caps XXVIII–XXX. He also underlines, with offensive irony, the limits which Philodemus could not exceed owing to his 'privileged' position: 'The Greek, easy-going and concerned to please, did not want to prove too combative against a senator of the Roman people'. Nevertheless we consider it excessive to speak of him as a *'directeur de conscience'*, as suggested by Prof. P. Grimal (1977, 240).

Philodemus wrote in the Greek language; but even for those who mastered Greek, the mentality of his Roman readers was the same as that of their fellow citizens who spoke only Latin.[85] They all shared the same ideological belief in the superiority of Rome over Greece which they had colonized. And this we must constantly bear in mind.[86]

1. CICERO AND MUSIC

What might have been the conception of music among the Roman contemporaries of the Syrian Philodemus of Gadara? I will obviously turn to Cicero[87] when looking for clues to this particularly difficult problem.[88]

Unfortunately, though the great orator makes mention of music in his rhetorical works,[89] the better to explicate the rhythmic and metrical particularities of oratory, he hardly ever deals with it in his philosophical works. Nevertheless, in the *Laws*,[90] when he reflects in the manner of Plato on what pertains to the law in various fields of everyday life and more specifically in circus and theatre games, he writes as follows (and this is precisely what our research is about):

> § 38. Since[91] the public games are divided between theatre and the circus, there shall be *physical contests*, consisting of running, boxing, and wrestling, and also horse-races, which shall last until a decisive victory is won *in the circus*; on the other hand, the theatre *shall successfully* sound to the music of harp and *aulos*, the only limitation being that of moderation, as the law prescribes. For I agree with Plato that nothing gains an influence so easily over youthful and impressionable minds as the variety of sung sounds the greatness of whose power both for good and evil can hardly be set

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85. One only has to remember Cicero's pride in his Roman citizenship through his main philosophical works—at the very time when he was a professed Philhellene—to understand that there was no true equivalence between his turn of mind and that of the Greeks whose language (and what is more, philosophical language) he used so easily. And often, in the lead-up to his main philosophical dialogues, he vigorously insisted on the originality of the Latin people *vis-à-vis* the Greeks whom 'Rome outstripped or at least equalled in most fields'. Philodemus probably also wrote first and foremost for such an audience, perhaps for only such.

86. Even if some Roman intellectuals had to admit that 'Greece exceeded its conqueror' in the field of culture.

87. That he was a connoisseur of the musical life of his times is clearly shown by this extract from *Pro Murena*, XIII, 29: the proverb 'they who could not become *citharodoi* become *aulodoi*' was among those that were heard from Greek *technitai* who set up concerts in Rome in those days, as Varro testifies (in his *Res rusticae*, 2.1.3): 'Owning a *cithara* is not enough to be a *citharist*'. I am indebted to Annie Bélis for that interesting and judicious remark.

88. Indeed literature usually provides us with the viewpoint of the cultured élite, not that of the multitude, apart from extremely rare exceptions such as Petronius' *Satyricon* (or does it?) and, of course, comedy.

89. In *Orator, Brutus* and *De oratore* particularly. Cf. also his well-known interest in the training of voice, which is typical of Greek culture.

90. In Book II, cap. 15, 38–9.

91. I borrowed this English translation from C.W. Keyes in his edition of *De legibus* (Loeb Classical Library, 1970[8]) while making a few personal adaptations at the beginning (in italics). Though I read *vigeat* (MS H^2)—instead of *vice ac* (MSS A, B) or *viceat* (MS H^1)—as Keyes, I find his translation 'filled with' very feeble.

forth in words.[92] For it arouses the languid, and calms the excited; now it restrains our desires, now gives them free rein. Many Greek States considered it important to retain their old tunes; but when their songs became less manly, their characters turned to effeminacy at the same time, perhaps because they were corrupted by the sweetness and debilitating seductiveness of the new music, as some believe, or perhaps when other vices had first caused a relaxation of the strictness of their lives, and their ears and their hearts had already undergone a change, room was offered for this change in their music as well.

§ 39. For this reason, the man who was by far the wisest and by far the most learned whom Greece has produced[93] was very much afraid of such a degeneration. For he says there can be no change in the laws of music without a resulting change in the laws of the State. My opinion, however, is that such a change is neither so greatly to be feared nor, on the other hand, to be considered of no importance at all; and yet I do observe that audiences which used to be deeply affected by the inspiring sternness of the music of Livius and Naevius now leap up and twist their necks and turn their eyes in time with our modern tunes. Ancient Greece used to punish such offences severely, perceiving long before the event that corruption gradually creeps into the hearts of citizens and, by infecting them with evil desires, works the swift and total destruction of States—if indeed it be true that the strict Sparta of tradition ordered all the strings above seven to be removed from Timotheus' harp.

One should first notice the explicit reference to Plato[94] who deliberately presented himself in Rome as Cicero's spiritual heir. But at the same time he insists on dissociating himself from his famed predecessor in Athens as he qualifies significantly his appreciation of the danger actually involved in a change in the modes and laws of music: 'My opinion, however, is that such a change is neither so greatly to be feared...', he says. Admittedly, he acknowledges that the evolution of music in Rome over one-hundred-and-fifty years is a fact, starting with Livius Andronicus[95] and Naevius,[96] the first poets and dramatists in Latin literature. Musicians slowly gave up the bare austerity of early times for the use (sometimes abuse) of chromaticisms, together with a solid 'physical expressionism'.[97] Cicero does not deny it and expressly indicates that it is 'not to be considered negligible'.

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92. Evidently, music can equally lead to vice or to virtue.

93. He obviously means Plato.

94. In the *Laws*, if only because of the title of the book, and also in the *Republic* (in Book IV particularly, when Plato examines the harmonies and musical instruments).

95. His nickname obviously shows that he was Greek-born. At the same period (207 BC), a *Hymn to Juno* was also sung 'in the Greek way' by twenty-seven young Roman girls (information provided by Annie Bélis).

96. These poets, highly thought of by Cicero because they had founded literature in Rome, flourished in the second half of the third century BC.

97. One may mention incidentally this piquant story which I learnt from Annie Bélis. On the occasion of his triumph over the Illyrians (in 167 BC) General Lucius Anicius had the four best *aulos*-players from Greece summoned to Rome. The Romans had never heard such music before. In the Circus, on the victor's orders, they mimicked a fight, even as they were performing, which triggered a similar reaction from the chorists whom they accompanied. The final result was a true fight, to the utter delight of the Roman spectators, according to Polybius, as quoted by Athenaeus (*Deinosophistae*, XIV, 615 B–D).

Yet he does not attribute any alarmist or definitive consequences to this musical trend, and for several reasons: firstly, because the situation in Rome—from a moral point of view—did not seem particularly worrying to him when he wrote the *Laws* (between 52 and 46), even though the political situation was then very difficult;[98] and secondly, although the teaching of music and music itself were not neglected by the Romans, they did not *de facto* enjoy a universal prestige in Rome to the extent that had obtained in classical and even Hellenistic Greece.

2. CICERO AND PHILODEMUS

So much so that our philosopher could hardly lay decisive responsibility for the moral evolution of the Republic at the door of the changes observed in a particular field of education which, in contemporary Rome, did not enjoy any particular privilege. Moreover, it seems to me that chance does not play any part in the choice of words Cicero makes when dealing with the effects of music. I would like to establish a connection between his words and doctrinal elements that we can find summarised, then criticised, by Philodemus in the Fourth Book of his *Commentaries on Music*[99] and which presumably originate from Diogenes the Babylonian (the elements which directly echo each other have been emphasized):

> *A musical tune arouses the soul profoundly at rest* and brings it to a mood (among those) which the melody that suits that soul <naturally> sets in motion (for all will not be moved in the same way by the same melody); *or, on the contrary, it appeases the restless soul, deeply appealed by whatever and sets it back to rest*; or again, it changes its arrangement, turns it from one desire to another and strengthens or diminishes its present <disposition>.

Moreover, a little further on in the same Book,[100] Philodemus counters the absurd statement by Diogenes, which experience contradicts, that vice-ridden entertainment (and, perhaps, melodies) might lead the public to vice in the same way as morally good melodies inevitably lead to virtue.

Does that mean that Cicero knew Philodemus' Book? Chronologically, it seems to have been quite possible since, according to the chronology of the Epicurean's works drawn up by Gigante (1987, 37–70), *On Music* probably dates back 'to the first phase of Philodemus' activity' (*ibid.*, 47), i.e., before 50 BC. The Latin philosopher may also have had direct access to the text by Diogenes, a possibility which cannot be completely ruled out since, apart from Philodemus, the Roman is the main source of our knowledge (a very incomplete one at that) of this Stoic.

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98. Cicero, though a member of the *optimates* party and so a conservative in politics, was not Sallust who, in *Catilina's conspiracy*, gave an utterly disastrous and lamentable account of public morality in the Rome of the beginning of the first century BC. In so doing he wanted to explain the near-success of the subversive enterprise of Catilina and his accomplices, most of whom were delinquent aristocrats. Sallust regarded that particular event as a forerunner of the fall of the Republic which drew its strength from the moral vigour of the Ancient Romans.

99. In col. 32 = 'Book I', fr. 22, Kemke.

100. In cols 145–6 (Kemke XXXI–XXXII).

But I find it easier to imagine that Cicero was deeply shaken by Philodemus' argument which gave music a much more modest rank in education (— did not that coincide with what could be witnessed in Rome, in practice, in those days?); and he was thus inclined to be far less categorical than Plato, his master, about the risk to the balance of the State as a result of innovation in musical matters. And yet, in that extract from the *Laws*, Cicero does seem to take for granted (because of its seniority?) the traditional thesis on the psychomotor powers and the moral virtues of music—in principle at least—but he never quite manages to disregard objections to that dated conception: why could these not be derived—at least in part—from Philodemus?

And most of all, in view of the limited place that the Roman seems to have accorded to music in the *Republic* and in the *Laws* (at least from the mutilated and incomplete state in which we know them[101]), there remains absolutely nothing in common with that granted it by Plato three hundred years before in Athens, as is revealed (in my opinion, very significantly) by the total absence of the word *musica* and the very rare occurrence of the word *musicus* in both those works.[102]

So much so that Cicero's testimony on the status of music in Rome of the first century BC seems to match Philodemus' *Commentaries on Music* (even though the deeper motives for the way in which they envisage music were not necessarily the same). The fact is that as it passed from Greece to Roman Italy, the status of music changed.[103] And its role, which used to be considered essential by Greek philosophers in building and maintaining

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101. To be quite honest, one should indicate that Aristides Quintilianus in his *On Music*, written in Greek (II, cap. VI: Meibom 1652, 70; Winnington-Ingram 1963, 61; Barker 1989, 465), alludes to a passage from the *Republic*—no longer extant—and added to Book IV by the editors (see Ziegler 1960, 114—5) where Cicero made one of the characters in the dialogue inveigh against music. In the face of such viciousness, Aristides Quintilianus wonders whether such an anti-musical stance can be attributed to Cicero himself, and he contrasts it with the favourable attitude adopted by the orator—or so it seems—in a passage (also now lost) from his plea *Pro Q. Roscio comoedio*: his client danced the pantomime so well that the barrister stated that 'it was the gods' Providence which had given him to men'. Yet, that information of Aristides shows that even though the *Republic* sometimes dealt with musical matters, there was no defence (still less any praise) of that art; if it had not been so, the commentator would not have needed to look to a plea in order to find something to deny that attack against music.

102. *Musicus* is found only in the *Republic* II, 69, and in the *Laws*, II, 39 and III, 32. One should nevertheless point out that those words crop up here and there in his other philosophical works, for example, *De finibus* or the *Tusculans* (cf. Merguet [1887], part II, 621). But the subject of music is never taken up by Cicero—far less treated by him—for itself.

103. It is known that in the second century BC Cato the Elder, out of hatred for anything reminiscent of Greece, had excluded from the schooling of young Romans: rhetoric, philosophy, astronomy, music and medicine, all of them typically Greek subjects. Yet, about one century later, Varro, the famous scholar, a contemporary and a friend of Cicero's, tried to restore those subjects to favour by reintroducing them into the encyclopaedic frame of his *Disciplinae*, in nine books which have been lost. The Seventh Book, devoted to music, was used as a documentary source by Augustine, particularly for his *De musica*, and by Cassiodorus (sixth century) for the chapter on music in his *Liberal Arts*. Only the latter allows us to build up a fairly precise conception of Varro's aesthetics. As for Diogenes of Babylon, one may suppose that, among other sources, he had provided Varro with plenty of documents on music, particularly from an historical point of view. Yet, with the exception of that scholar, who, after all, appears especially isolated, it seems that no other theoretician or philosopher in Rome—at least in the first century BC—had reflected particularly on music, while the long intellectual tradition we have mentioned had kept the Greeks very interested in the subject.

harmony in the City, seems to recede into the background in the Roman Republic.[104] Besides, when the Roman orator evokes such a use of music,[105] he invariably does so with reference to the past, and deliberately relates it to Greece or to famous Greeks: his viewpoint on this traditional conception of music is undeniably historical.

3. QUINTILIAN AND MUSIC

And when, at the end of the next century, the rhetor Quintilian[106] writes his *Institutio oratoria*, if he thinks it appropriate to devote a whole chapter[107] to discussing how useful for his profession it is for the orator to know and study music, one is distinctly under the impression that the references to Greek antiquity that he piles up in those pages are mainly literary reminiscences or pertain rather to some historical information which is naturally proposed to him by the Greek view of musical matters. Such findings tend to confirm that it was not at all obvious to the ordinary Roman citizen of the end of the first century that music had necessarily to form part of the general education of the prospective orator. And if I may say so, I think it was already the case at the time of Cicero who was repeatedly mentioned by Quintilian[108] as being an authority on doxography in the field of music.

For when it comes to teaching the ideal orator as he describes it in his rhetorical works, very little is said about music. So much so that I feel I may suggest that never, in Rome, was music granted—at least, from a theoretical point of view—the importance the Greeks had given it in the Pythagorean-Academic tradition.[109] Of course that by no means signifies that the Romans did not practise it: some of them even felt such passion

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104. Indeed, as has been pointed out to me by J.-P. Dumont (to whom I am warmly thankful for the invaluable observations he made when reading this paper), the opposition between the 'Greek' and the 'Roman' conceptions of music really covers that which exists between Pythagorean-Platonism and Stoicism. To the Greeks, the issue was a political one: it was about having a City which would be the picture of cosmic harmony; the point, then, was shaping just souls by attuning them to that archetypal harmony. On the contrary, the Stoics, whose influence over the Romans was to be so great, thought in terms of reason and natural law—*lex vera = recta ratio summi Jovis*—(but no longer in terms of universal harmony); since, for them, there was no understandable place where models actually existed with harmonious links between them; but since concepts had to be formulated again and again from common notions, the musical model could not be used in the place of reason. Thus musical art became a 'plastic means' destined to reinforce the matter itself of human hegemonic (i.e., the master part of the soul): as a teaching instrument it was used to shape the soul by making it rational; in other words, it helped people to think over law and order (instead of contributing to introducing into it, from outside, a harmony and an order similar to those of the universe, as is found in Plato).

105. As for example in the *Tusculans*, I, 3–4.

106. It goes without saying that his solid training and rich culture were first and foremost Greek, like those of his revered master Cicero.

107. In Book I, cap. X.

108. Particularly Cicero's *Tusculans*, I, 4.

109. In fact not until the sixth century, when Boethius wrote a musical work in Latin (*De institutione musica*).

for it that they became frenzied about it, as did Nero,[110] and evidence of that infatuation is plentiful (cf. Baudot 1973, *passim*).

4. PHILODEMUS AND THE ROMAN AUDIENCE

Thus, to my mind it is quite interesting finally to wonder whether Philodemus' critical commentary about Diogenes' musical doctrine (in Book IV at least) did not also, and perhaps above all, aim at skilfully reconciling (without any philosophical risk) the theories of the Garden with the Roman reality of his time, which was very different from Greece's reality a few centuries before (and presumably still continuing to exist in various parts of Greece). In so doing, he killed two birds with one stone. As he championed the doctrine of the Garden, he gave a good beating to a Stoic opponent[111] who was well-known in Rome as one of the three Greek philosophers who came as ambassadors in 155 BC, and as one of the most approachable Greek philosophers for the Roman literate public of that time.

Then Philodemus showed that he was not a mere brute—as the Epicureans were generally regarded by their opponents—since he was well informed in all that he addressed, and also since his analysis of the status to be given to music took account of every circumstance, including the Roman reality of his time, whereas his Stoic opponents supported abstract theories deprived of any universal value as a result of their ignorance of contemporary Roman life.

Thus, as a protégé of Calpurnius Piso, Philodemus appeared grateful towards his patron, and furthermore, as an intellectual quite conscious of his responsibility in maintaining the orthodoxy of the school, in spite of violent assaults from its adversaries (particularly the Stoics, but also dissident Epicureans[112]), even if he never was a full *scholarch* of the Garden.[113]

In conclusion, I would point out the following: First of all, the Greek philosophers' point of view on music over several centuries has appeared to us as quite different from that of the Romans, even if the distictions in musical theory and practice between the two civilizations may have been less marked. Nevertheless, the historical perspective which I have tried to bring to bear on the great difference in the status of music in Rome as compared to Greece a few centuries earlier, promising though it looks, would necessitate lengthy research into the works of the prominent writers of the Roman Empire. I must admit I am not in a position to carry out such a study at this time.

Secondly, the opposition between Stoics and Epicureans on the matter of music, which I have attempted to highlight, is only an expression of the essential cleavage between—to

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110. See Bélis 1989, 747–68; also Baudot 1973 which shows how interested the Romans were in the musical art, but does not even mention the theoretical and philosophical reflection on music and its effects which could have been developed there: it seems to me that it is proof enough of the (almost) total absence of such intellectual interest among the Romans.

111. Mainly in the field of logic.

112. On this point, see the recent edition of *Agli amici de scuola* in Angeli 1988. Heretofore that work was falsely considered to be a polemic against the Sophists.

113. This has been rightly pointed out by Gigante (1990, 175–98). However, Diogenes Laertius (*Lives*, X, 25–6) does not mention Philodemus as a *scholarch* of the Garden although he gives the names of Zeno of Sidon and Demetrius Lacon, and occasionaly gives quotations of two works by Philodemus (*ibid.*, X, 3 and 24).

state the matter very crudely—believers in a rationalistic system, the Stoics, and the Epicureans, who were more purely sensualistic. Therefore their respective notions about art were of necessity antagonistic: if enjoying life through one's senses was the very basis of Epicurean aesthetics, for Diogenes all pleasure was purged by the force of intellectualisation.

I hope I have thus shown how papyrology of Herculaneum can assist music archaelogy insofar as the—laborious, as ever!—reconstruction of such a scroll immerses us deeply into the intellectual and cultural debate which took place in Greece and also (more astonishingly) in Rome, in the second and first centuries BC.

Papyrology also leads us to a discovery of the position—all the more original for having remained isolated—of the Epicureans in a controversy which is still current: should we or not encourage our children to learn music and play an instrument? And if so, what for?

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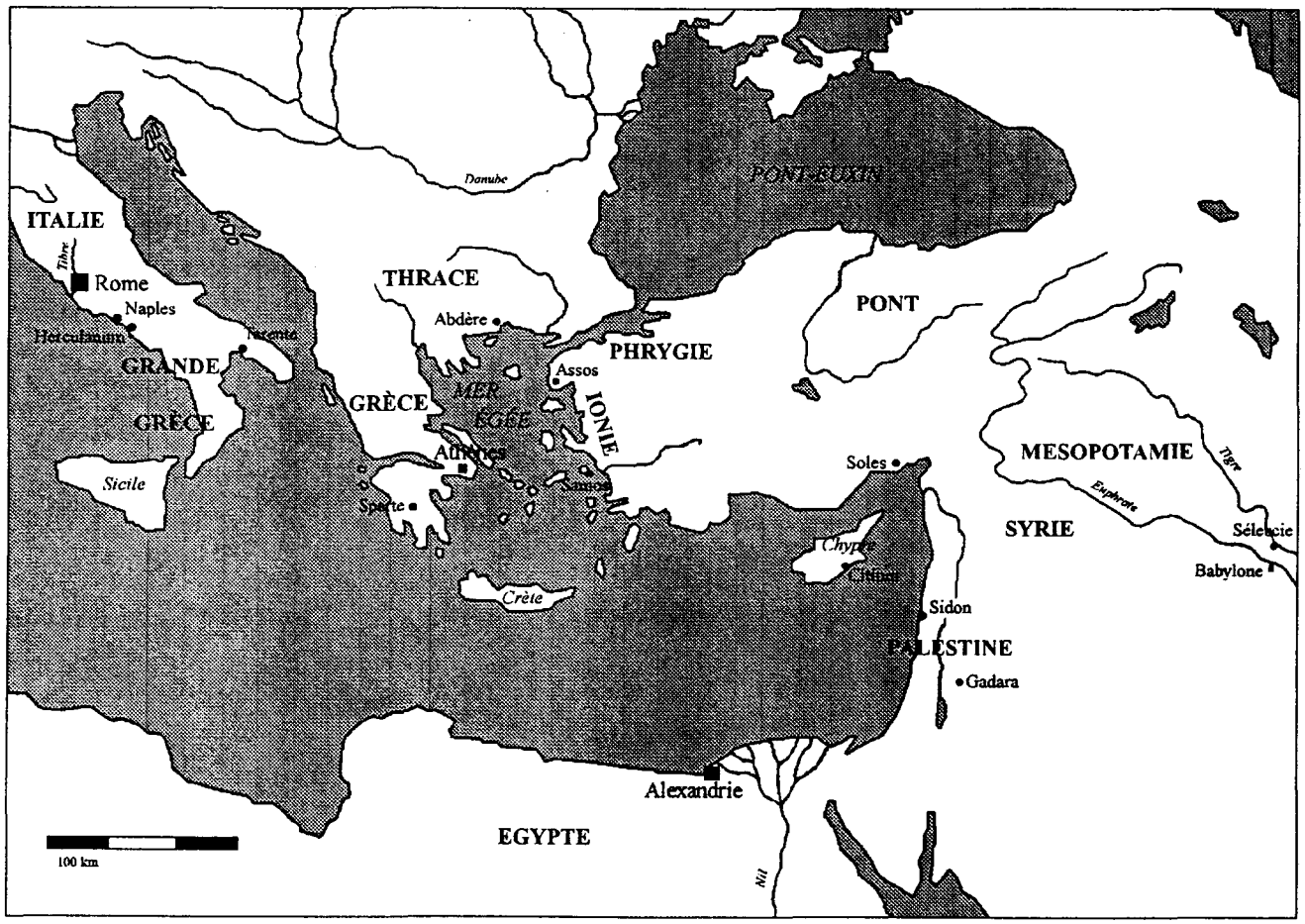

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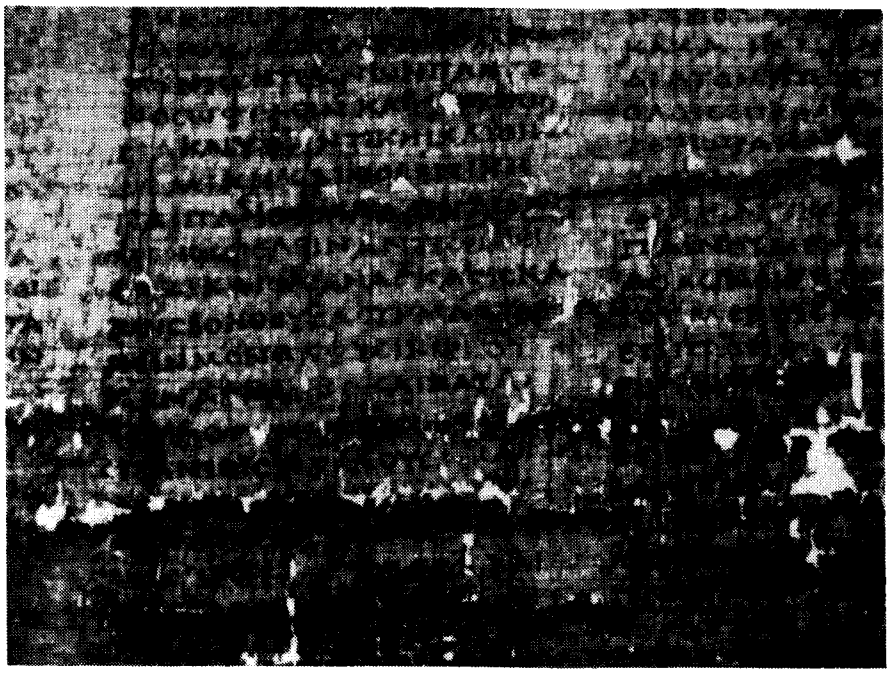

Fig. 2. Philodemus, *De musica* papyrus fragment, cols. 147–148 (= XXXIII–XXXIV Kemke), 11–24. (Reproduced by permission)

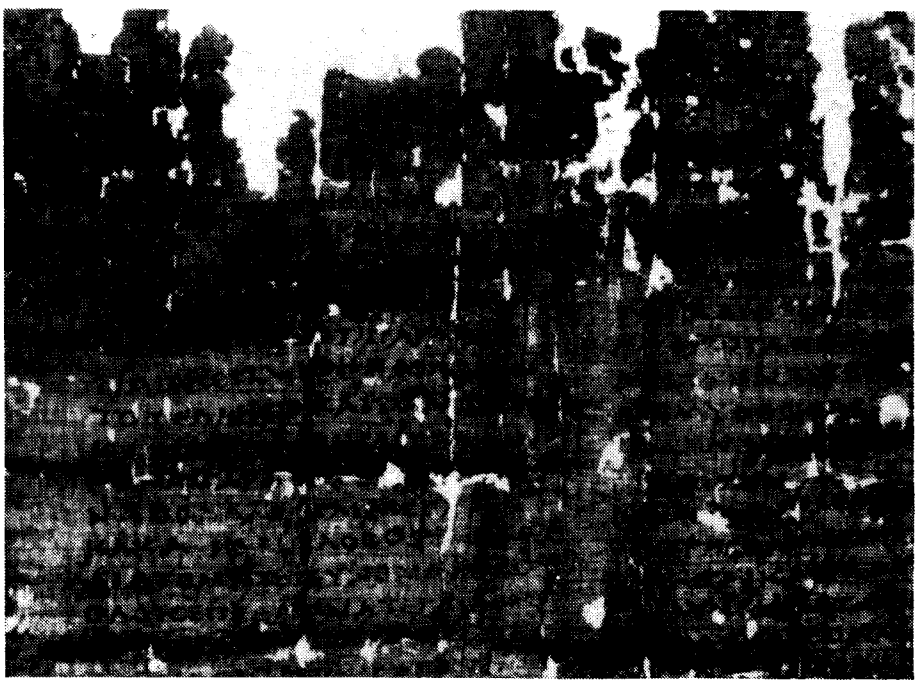

Fig. 3. Detail of col. 148, ll. 1–13, Biblioteca Nazionale di Napoli. (Reproduced by permission)

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N° 77 M. WEINSTEIN-EVRON, Early Natufian El-Wad Revisited.

N° 79 M. OTTE (éd.), Recherches aux grottes de Sclayn, vol. 2, Archéologie.

N° 85 M. OTTE (éd.), Préhistoire d'Anatolie. Genèse de deux monde, Actes du colloque de Liège 28 avril au 3 mai 1997.

N. CAUWE et I. JADIN, Mégalithisme de Gomery.

V. LIUBINE, Paléolithique du Caucase.

St. KOZLOWSKI, Piékary.

M. OTTE et I. YALCINKAYA, Ökuzini 1.

V. BORONEANT, Le Paléolithique supérieur final de l'Epipaléolithique dans la zone des Portes de Fer du Danube-Roumanie.

HORS-SERIE

HS n°1 - H. DANTHINE, La cathédrale Saint-Lambert à Liège, les fouilles récentes, 1980, 4 p., 3 pl. (100 FB).

HS n°2 - H. DANTHINE et M. OTTE, Rapport préliminaire sur les fouilles de l'Université, place Saint-Lambert à Liège, 1982, 12 p., 7 fig. (100 FB).

HS n°3 - M. OTTE et J.-M.DEGBOMONT, Les fouilles de la place Saint Lambert à Liège, 1983, 41 p., 28 pl. (150 FB).

HS n°4 - M. OTTE (dir.), Les fouilles de la place Saint-Lambert à Liège, 1983, 44 p., 30 fig. (300 FB).

HS n°5 - La Carrière Archéologique en Belgique, Liège 1987, 111 p. (350 FB).

A. MATHIS - Les minières du pays d'Aubel (500 FB).

Catalogue de l'exposition "Neandertal" édité par l'asbl Archéologie Andennaise (1.500 FB).

II. MEMOIRES DE PREHISTOIRE LIEGEOISE

L'A.S.B.L. Préhistoire Liégeoise vous propose sa première édition des mémoires de fin d'étude en Préhistoire.

Trop souvent les mémoires de licence (= maîtrises) restent lettres mortes, faute de motivation des auteurs soulagés du défi de l'épreuve. La matière scientifique est ainsi d'autant plus inaccessible qu'il serait mal compris qu'elle soit intégrée dans un travail des "patrons" ou reprise dans une tentative ultérieure par un condisciple... La publication synthétique à diffuser dans les revues scientifiques est une activité d'une autre nature que l'épreuve académique requise en fin d'étude. L'édition de ces monographies est donc conçue sous une forme originale : la reproduction à l'identique du texte d'origine accomodée de la simple amélioration de présentation. Elle n'exclut nullement d'autres travaux réalisés par ailleurs sur le même thème; elle constitue ainsi un "sauvetage scientifique" provisoire et de sécurité, stimulant les jeunes chercheurs en valorisant leur travail et en gage de reconnaissance aux différentes formes d'aides accordées : réserves de musées, collections particulières, conseils et appuis...

Une première fournée vous est ici présentée, d'autres titres suivront sans doute, selon le succès de l'opération. Merci pour eux !

Marcel OTTE.

LISTE DES NUMEROS MPL

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III. PREHISTOIRE EUROPEENNE - EUROPEAN PREHISTORY

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K.* et *SOBCZYK K.*, Les couteaux micoquiens du Würm Ancien. *DEMIDENKO E.Yu.* et *USIK V.I.*, On the *lame à crête* Technique in the Palaeolithic. *DEMIDENKO E. Yu.* et *USIK V.I.*, Leaf Points of the Upper Palaeolithic Industry from the 2nd Complex of Korolevo II and certain methodical Problems in Description and Interpretation of the Category of Palaeolithic Tools. *RODRIGUEZ RODRIGUEZ A.C.*, L'analyse fonctionnelle de l'industrie lithique du gisement épipaléolithique-mésolithique d'El Roc de Migdia (Catalogne-Espagne). 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A Study of cultural Adaptation in Late Glacial-Early Postglacial Southwestern Germany. *MARTÍNEZ A.E.* and *GUILBAUD M.*, Remontage d'un nucléus à lames gravettien à Huccorgne, aspects d'une chaîne opératoire - **Volume 6, novembre 1994 :** *ESCUTENAIRE C.*, La transition Paléolithique moyen/supérieur de Sibérie. 1ère partie : les données. *BOSSELIN B.* et *DJINDJIAN F.*, La chronologie du Gravettien français. *DJINDJIAN F.* et *BOSSELIN B.*, Périgordien et Gravettien : l'épilogue d'une contradiction ? *CHAPMAN J.*, The Origins of Farming in South East Europe. *STEPAUCHUK V.*, Kiik-Koba, Lower layer type industries in the Crimea. *KOLESNIK A.V.*, Mousterian industries evolution of South East Ukraine. *GUILBAUD M., BACKER A.* et *LÉVÊQUE F.*, Technological differentiation associated with the Saint-Cesaire Neandertal. *BLUSZCZ A., KOZLOWSKI J.* et *FOLTYN E.*, New sequence of EUP leaf point industries in Southern Poland. *LÓPEZ BAYÓN I.* et *TEHEUX E.*, L'amas de bois de rennes du Trou des Nutons à Furfooz (Province de Namur, Belgique). *MANTU C.-M., BOTEZATU D.* et *KROMER B.*, Une tombe double à inhumation de l'établissement de type Cucuteni de Scânteia (département de Iasi, Roumanie). * Nous avons fait passer ce volume dans l'année 1995 - **Volume 7, juillet 1995 :** *V. SITLIVY*, Le développement du Paléolithique ancien, inférieur et l'apparition du Paléolithique moyen (aspects technologiques et typologiques) 1ère partie. *M. CARCIUMARU, M. OTTE* et *M. ULRIX-CLOSSET*, Séquence Pléistocène à la "Pestera Cioarei" (Grotte des Corbeaux à Borosteni en Olténie). *S. ZUK*, About the Early Palaeolithic of the Crimea. *V. CHABAI, A.E. MARKS* and *A. YEVTUSHENKO*, Views of the Crimean Middle Paleolithic Past and Present. *M.-H. MONCEL*, Contribution à la connaissance du Paléolithique moyen ancien (antérieur au stade isotopique 4) : l'exemple de l'Ardèche et de la moyenne vallée du Rhône (France). *Ph.G. CHASE*, Evidence for the Use of Bones as Cutting Boards in the French Mousterian. *M. OTTE, V. CHIRICA, C. BELDIMAN*, Sur les objets paléolithiques de parure et d'art en Roumanie : une pendeloque en os découverte à Mitoc, district de Botosani. *S. COVALENCO*, The Chronological Division of the Late Palaeolithic Sites from the Moldavian Dniester Area. *M. MUSSI, D. LUBELL, A. ARNOLDUS-HUYZENDVELD, S. AGOSTINI, S. COUBRAY*, Holocene Land Snail Exploitation in the Highlands of Central Italy and Eastern Algeria : a Comparison. *S. BALAKIN, D. NUZHNYI*, The Origin of Graveyards : the Influence of Landscape Elements on Social and Ideological Changes in Prehistoric Communities. *C.V. CHIRICA*, Les vases anthropomorphes du Néolithique-Enéolithique de la Roumanie. *O.V. LARINA, N.N. KUZMINOVA*, The Late Neolithic Farming on the

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Analyses comparatives avec l'Europe occidentale. *LENNEIS E., STADLER P.* et *WINDL H.,* Neue 14C-Daten zum Frühneolithikum in Österreich. *NÖ S.,* Grub/Kranawetberg ein Jungpaläolithischer Fundplatz. *LÓPEZ BAYÓN I., TEHEUX E., STRAUS L.G.* et *LEOTARD J.-M.,* Pointes de sagaies au Magdalénien du Bois Laiterie (Profondeville, Namur). *KOUMOUZELIS M., KOZLOWSKI J.K., NOWAK M., SOBCZYK K. KACZANOWSKA M., PAWLIKOWSKI M.* et *PAZDUR A.,* Prehistoric settlement in the Klisoura Gorge, Argolid, Greece (excavations 1993, 1994). *SLJIVAR D. et JACANOVIC D.,* Veliko Laole, Belovolde - Vinca culture settlement in Northeastern Serbia. *VIDOJKO J.,* Mineralogical study of malachite and azurite from the Belovode locality (Veliko Laole). **Volume 9, novembre 1996 :** *YAMADA M.,* Etude préliminaire sur l'industrie lithique de la dernière phase du Paléolithique moyen dans le site de Buran-Kaya III en Crimée orientale (Ukraine). *CHABAI V.,* Kabazi-II in the context of the Crimean Middle Palaeolithic. *DEMIDENKO Yu. 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Gorj-Roumanie). *COHEN V.,* Neolithization of the Crimean mountains (current stage of investigations) - **Volume 10, septembre 1997 :** *MONCHOT H.,* La chasse au mouflon au Pléistocène moyen : l'exemple de la Caune de l'Arago (Tautavel, Pyrénées-Orientales). *DEPAEPE P.,* Lames et bifaces dans la phase récente du Paléolithique moyen de la France septentrionale. *MONCEL M.-H.,* Observations sur la répartition spatiale des vestiges et l'organisation de l'espace dans le site de Payre (Ardèche, France). Reflexions sur les limites de l'analyse spatiale en grotte au Paléolithique moyen. *PATOU-MATHIS M.,* Analyses taphonomique et palethnographique du matériel osseux de Krapina (Croatie) : nouvelles données sur la faune et les restes humains. *RENAULT-MISKOVSKY J.* et *ONORATINI G.,* Les sites du Paléolithique moyen et supérieur dans le Sud-Est de la France ; Préhistoire et environnement, nouvelles données. *BOSSELIN B.* et *DJINDJIAN F.* L'Aurignacien tardif : un faciès de transition du Gravettien au Solutréen ! *RIPOLL LÓPEZ S.,* Algunas reflexiones en Torno al Arte Paleolitico más Meridionale de Europa. *CAVA A.,* L'Abri d'Aizpea. Un faciès à trapèzes et son évolution à la fin du Mésolithique sur le Versant Sud des Pyrénées. *BERTOLA S., DI ANASTASIO G.* and *PERESANI M.,* Hoarding unworked flints within humid microenvironments. New evidence from the Mesolithic of the Southern Alps.*DERWICH E.,* Entre la mort et l'enterrement - défunt dans la culture à céramique linéaire dans le cadre de la médecine légale. *WEINER J.,* Notched extraction tools made of rock and flint from the Late Neolithic Flint-Mine "Lousberg" in Aachen, Northrhine-Westphalia (Germany). *VAN BERG P.-L.* et *CAUWE N. avec la collaboration de LINGURSKI M.* La Vénus du géomètre. *SPINDLER K.,* Summary report on the mummified glacier corpse found at Hauslabjoch in the Ötztal Alps.

IV COLLECTION CARNET DU PATRIMOINE

Volume 20, 1997 "Découvrir la Préhistoire". Sous la direction de Marcel OTTE, Professeur à l'Université de Liège et Président de Préhistoire Liégeoise; Laurence HENRY, Archéologue et Secrétaire de Préhistoire Liégeoise. Edité par le Ministère de la Région Wallonne. Direction Générale de l'Aménagement du territoire, du logement et du Patrimoine - Division du Patrimoine 1997

Au cours de la préhistoire, toute société se constitue : l'homme et ses valeurs se forment progressivement au fil d'un temps extrêmement long. Durant quelques millions d'années apparaissent successivement notre constitution anatomique, notre langage, nos croyances, notre pensée. L'aventure se termine aux confins de l'histoire, lorsque les textes en donnent un reflet biaisé par le choix intentionnel des informations à maintenir. L'Archéologie préhistorique interroge des traces matérielles maintenues spontanément à travers les âges donc objectivement représentatives des modes de vie, des conceptions métaphysiques et des processus évolutifs propres à notre espèce. Cette si longue "histoire" fut souvent négligée par les manuels produits par des historiens orientés vers les grands faits de guerre ou d'expansion, non vers des phénomènes culturels généraux. Cette plaquette a pour vocation de pallier quelque peu cette déficience dans l'attente où les maîtres en histoire des civilisations soient aussi ceux en histoire des peuples. Réalisés par des archéologues qui se veulent historiens, cette publication invite à une réflexion généreuse et attentive sur la nature de l'homme et sa lente transformation.

LA PRÉHISTOIRE : UNE SCIENCE WALLONNE

Sollicité par la Région wallonne, cet ouvrage collectif, réalisé par l'A.S.B.L. Préhistoire Liégeoise, présente les données principales de notre patrimoine préhistorique.

Destiné à un large public et plus spécifiquement au milieu scolaire, la publication est conçue selon les grandes périodes de la préhistoire en insistant sur les caractéristiques propres à la préhistoire wallonne et sur les lieux visitables (sites et musées).

Coordonné par les deux auteurs de cette note, il constitue avant tout le fruit d'un travail d'amis passionnés de préhistoire et anciens étudiants de l'Université de Liège. Dès à présent, nous remercions vivement tous ceux qui ont participé à cette réalisation.

Enfin, nous tenons à exprimer notre profonde gratitude à la Division du Patrimoine du Ministère de la Région wallonne et plus particulièrement à Monsieur André Matthys, Inspecteur Général, qui nous a donné l'occasion d'éditer ce fasicule dans le cadre des Journées du Patrimoine 1997 consacrées au patrimoine archéologique.

On peut légitimement considérer que la préhistoire fut née en Belgique. Vers 1820, Ph. Ch. Schmerling, Professeur à l'Université de Liège, démontre la haute ancienneté de l'homme contemporain d'animaux disparus (Engis). Dans les années 1860, Ed. Dupont (Bruxelles) établit, grâce à ses fouilles dans le Bassin mosan, la première chronologie correcte du Paléolithique supérieur européen. En 1886, M. de Puydt, J. Fraipont et M. Lohest (Liège) associent les Néandertaliens aux Moustériens et aux sépultures exhumées à Spy (Namur). En 1885, le premier "Néolithique" est découvert à Omal (Liège) par M. de Puydt et son équipe, démontrant la diffusion de la première agriculture dans nos régions.

Entretemps, les tranchées hennuyères prouvent l'importance de l'industrie minière à Spiennes (Hainaut), dès le Néolithique moyen (IV^{e} millénaire) et les nappes alluviales successivement taillées dans le Bassin de la Haine démontrent l'évolution des industries les plus anciennes du pays : de 500 à 100.000 ans environ (E. de Munck, D. Cahen). Plus récemment, le site de la Belle Roche (Sprimont) démontre une présence humaine, d'un style différent, dans les Ardennes et attribuée au "Pléistocène moyen Ancien", vers 500.000 ans (J.M. Cordy, Liège). Les fouilles menées à la grotte Scladina (Andenne) permettent la mise au jour des restes d'un enfant néandertalien, le mieux étudié de ce siècle en Belgique (D. Bonjean, Liège). Des fouilles aussi fructueuses ont concerné également l'Aurignacien (Trou Magrite), le Gravettien (Huccorgne) et le Mésolithique (Freyr) en collaboration entre Liège et Albuquerque (L. Strauss). Le Magdalénien fut approché par les fouilles à Chaleux (E. Teheux), Furfooz (N. Cauwe), le Trou da Somme (J.-M. Léotard). L'Arhensbourgien (8.400 ans) est désormais bien connu par les fouilles à Remouchamps menées par M. Dewez. Dernièrement, la longue séquence du Trou Walou (Trooz) illustre l'évolution complète du Paléolithique supérieur en Région wallonne (M. Dewez, M. Toussaint, E. Teheux, Chr. Draily). Durant les mêmes phases, les sites "tjongériens" de Meer (Anvers) éclairent le comportement de ces "derniers chasseurs de l'Alleröd, vers 9.000 ans (Fr. Van Noten et D. Cahen, Tervuren). Les sites mésolithiques ont entretemps livré les étonnantes découvertes de sépultures collectives (Margaux, Autours, Bois Laiterie par N. Cauwe) et celui de la station Leduc à Remouchamps montre l'organisation spatiale d'un campement de cet âge. Les remous suscités par les fouilles effectuées sur la place Saint-Lambert (Liège) sont trop connus pour en rendre davantage compte ici (M. Otte et J.-M. Léotard). De gigantesques sites du Néolithique ancien (VI^{e} millénaire) ont été explorés systématiquement : Darion (D. Cahen, I. Jadin); Vaux et Borset (J.-P. Caspar et J. Docquier). Ils illustrent des modes d'auto-défense et de protection, probablement liés à la présence des Mésolithiques contemporains. Une série de monuments mégalithiques furent explorés et interprétés récemment, tel l'ensemble de Wéris (Fr. Hubert, M. Toussaint), Lamseul (M. Toussaint et I. Jadin) et Gomery (N. Cauwe et M. Toussaint). Dans les Ardennes, divers sites de refuge ou d'habitat ("oppoda") et de sépulture ("tombelles") complètent le modèle de peuplement celtique de la haute Belgique (A. Cahen-Delhaye, V. Hurt et P.P. Bonenfant).

Un panorama complet de la préhistoire belge a ainsi été renouvelé totalement lors des fouilles récentes. Non seulement, il apporte des informations mises à jour, mais aussi, il facilite l'intégration de ces données dans un contexte international large où, souvent, notre pays a joué un rôle intermédiaire primordial. Ce n'est donc pas ainsi le patrimoine wallon qui y fut illustré mais bien une partie de l'histoire européenne.

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