B. J Music Ed. (1989) 6, 2, 173-191. Printed in Great Britain

Playing by Ear: Its Nature And Application To Instrumental Learning

Philip Priest

Instrumental reaching methods in schools have resulted in a near total reliance on notation. Playing by ear has been undervalued by instrumental teachers, yet it is through such playing that some of the aims of music education can best be achieved.

In this article, different ways of playing without notation are distinguished theoretically and exemplified through the experiences of some players who have learned in this way. A case is made for all musical playing to be viewed as 'by ear', including when notation is involved, so that the aural basis for musicianship is maintained and a wider view of performance encouraged. A possible model for teachers is offered based on imitation and invention.

Children who learn instruments in school are usually taught in a way that assumes the reading of notation is a *sine qua non* of playing. If they don't read already then they start doing so straight away. Indeed this is often made a condition of starting to learn (Cleave & Dust, 1989). Almost all the instrumental activity thereafter, in lessons, rehearsals, concerts and examinations, consists in reading while playing. Maybe some of the playing children do at home is by ear, but this is rarely acknowledged or made known to the teacher. Playing at sight is of course a useful skill, necessary for many activities valued by music teachers. So although we know that it is this insistence on literacy that results in some children giving up their playing (Rees, 1978), still it is likely that we would want to encourage most young players to be able to read music.

And yet this view, which remains the official one and widely held, is worrying when put against the present aims and new challenges of music education. If we are to encourage children to compose and improvise, then when should this start and how do such activities relate to learning to read from the outset? Most teachers regret that their pupils are not more spontaneous and enthusiastic in their music making, that aural reactions are not more accurate and quicker. And we know that the sight-reading standard of the majority as measured by examinations is not particularly high, sometimes revealing a "copy-typist" approach. Could it be that the exclusive concentration on literacy, as well as putting some children off completely, is actually holding back the progress of most who learn?

The research on which this article is based started with assumption that the value of playing by ear may be grossly underestimated and that a proper place for it might be found the pedagogy of instrumental teachers. Part of this hunch was that playing by ear was not just a gift bestowed on the few - likeabsolute pitch, but could be developed by all. When playing by ear is broadly defined to include playing from memory and all forms of improvisation then most teachers see this as valuable or even essential even though only a small minority includes any in their teaching (Priest, 1988). Indeed it is only a minority who can play in this way themselves, surely a pointer to the need for a close examination of teaching methods.

The results of the study can be presented under three broad headings.

Theory - the conceptual argument for playing by ear as central to musicianship

Practice - a reflection of the experiences of musicians who do play by ear and a glimpse of

some less known teaching methods

Plan of action - a recommended strategy for instrumental teaching based on aura methods, which includes literacy and invention.

First I must make clear that my definition of playing by ear is all playing that takes place without notation being used at the time. The following categories indicate the possible processes involved:

memorised signs, where the player's memory of the notation from which the music has been learned is used as a visual aid;

imagined signs, where the player constructs such signs for the first time as an aid to finding pitch notes;

imitation of a model (seen and heard), where both the physical actions and sounds they produce are observed and copied,

imitation of a model (heard only), the copying of a pattern or tune based on what is heard - whether live or recorded;

imitation of imagined sound, where the player attempts to reproduce remembered tunes or patterns;

pastiche invention, idiomatic phrases matching something known to the player - as in extending a melody' or cadenzas;

improvised variation, altering the original music (read or remembered) by elaboration but keeping to the structure,

invention within a framework, playing from a sketch (chord symbols or figured bass) in the prevailing rhythm and style,

invention with no framework, sometimes called extemporisation, the player being free to choose every aspect of the music;

experimental invention, discovering sounds and nuances new to the player and perhaps to music.

These categories are intended to make clear the processes used by players in various activities playing without notation (i.e. exact notation) being available. Some activities would involve more than one of these processes at the same time, particularly when improvising in a group (e.g. baroque or jazz). They would often be subconscious. Most importantly for the plan of action later, this list of categories shows two kinds of images of sounds - notational and aural - in varying strengths. It also indicates a progression from playing music which is known to the player before to music which is not, from imitation to invention.

Theory

It has been assumed amongst music educators for many years that familiarity with musical notation and the powers of analysis that follow is vital for an 'understanding' of music. Sometimes this view is implicit: for example most work called 'aural'in formal education involves the reading and writing of notation (or describing in words such writing); instrumental examinations always include sight-playing; post-school courses in music expect students to be musically literate. Sometimes it is stated explicitly: for example in Government/HMI documents about music in school from 1881 to 1985; in articles and books by current influential figures (e.g. Fletcher, 1987); and by those respected British writers of mid-century, such as Buck and Lowery, who chose to deal with 'musicianship', and whose opinions still hold sway in the establishment. The crucial link between ear, eye and finger, or between sound, action and symbol is stressed, and even when the aural experience is placed first in importance the written form inevitably

follows ('the sound before the sign') for it is said to be this that makes the musical experience conceptual' or 'cognised'.

This view can be challenged, and the work of psychologists can be cited to do this. The gestalt experience of perceiving and responding to music, rather than a fragmented or analytical one, is well documented. Any 'analysis' of pitch changes (for instance) in order to perform known music can be by schemes that relate only to the sounds and to the kinaesthetic experience of having sounded them before, not necessarily to their graphic representation as musical notation. That notation is a useful aid for many is not in doubt. But its usefulness to teachers, past and present, and their dependence on it leads us to accept the fallacious argument above and blinds us to other ways of perceiving, remembering and reproducing music, ways which we have not experienced ourselves. So some teachers are puzzled that their pupils can play while apparently reading notation but without being able to name notes when asked to do so. Naming notes and recognising signs are ancilliary skills for a player, not essential to performance nor to understanding if by understanding we mean *thinking in sounds and being able to appreciate and convey artistic expression through music.*

The possibility of undue stress on literacy becoming a hindrance to other aspects of playing and of learning is also well documented. Music is best remembered in phrases and sub-phrases, meaningful musical gestures, not by its grammatical 'parts of speech'. The danger of notational analysis lies in concentrating on the 'materials' rather than the 'elements' of music (Swanwick, 1979), the trees rather than the wood. Psychologists have long been aware of the fading of certain perceptions when others are made more conscious. The more the left (linguistic) hemisphere of the brain is called on the less the right (musical) hemisphere is developed. Listening to phrasing, tone and intonation, attention to muscular control awareness of an audience and the effect of one's playing - all these essential factors can easily be marginalised, forgotten completely or just made more difficult when reading seems the most important and is the only way of playing expected.

Pupils tend to have music explained to them through notation, since the teacher 'knows' it and they don't, even though such explanations are unnecessary if the object is to play a particular tune. The effect is to ignore discovery methods (a new key and scale can be explored empirically, understood aurally and kinaesthetically, and retained) and to restrict pupils playing to what they are able at the time to read. The ominipresent printed 'copy' can have even more unfortunate effects. As well as the hindrances already suggested, the 'copy' of the teacher's own playing, helpful to all pupils and perhaps essential for some who will only learn from such a model, tends to be not observed. Worse, the teacher's attention is often on the printed copy as well, rather than on the pupil, whose stance, breathing, bowing or whatever are also not observed.

Musicianship

An aural understanding of the pri nted, coded message is of course what we want from sight-reading pupils. The mistake has been in assuming that this will come about without working for it. A research study has shown that ear-playing methods used with players who already read actually improve sight-playing (Luce, 1958). If this link is accepted then the problem concerns the order in which these different ways of playing are introduced to beginners so that a complete musician will develop.

Like sportsmanship, seamanship - or intelligence, musicianship tends to represent a collection of behaviours which can be demonstrated in a way which is recognised by those who have it, but which is difficult to define in a way acceptable to all. Most definitions include the ability to give a committed performance, to play expressively and to communicate in a meaningful way. Some aspects, whose importance is more disputed,

can be seen as skills which lead to this ability to give a 'musical' performance. If one of these is literacy then that of creativeability - behaving like a composer - is another. However, in both philosophical and in practical curriculum terms the case has been made. The argument, still heard, that 'it is demonstrably possible to be a musician without composing' (Fletcher, 1982) is so clearly self-fulfilling, for it takes as evidence those musicians, young and old, who received no encouragement to play anything except other people's music. There is ample proof, in earlier editions of this journal, of the creative urge and ability of all children and of its power as a medium for learning. A few voices have been heard calling for such musical invention to be included by instrumental teachers. These must now be heeded. Young instrumentalists must be encouraged to 'utter' musically, not just so as to deliver the three prongs of the music curriculum and to prepare for GCSE, but also because this experience will help them to interpret other people's music in a free, personal way, to adopt such music as their own. It will help them to know that music does not start its existence as signs on paper but as sounds in the head and that such signs, where needed, are a means to an end. It will help them to feel what it is to be an artist as well as a technician.

The aural experience is the central core of musicianship. If musicianship is the central aim of instrumental teaching (rather than playing in ensembles, for instance), then teaching methods should be aurally based and other activities be made subservient to this. There seems no point in teachers hoping for keener aural awareness from young musicians, or in regretting the disparity between their technical and musical standards, without examining and modifying current methods. Nor are players likely to develop creative skills in improvisation on their instrument suddenly at a certain age if they have had no experience of such playing in the learning process from the outset. Teachers will need to demonstrate their own aural and inventive skills and be prepared to accept the ideas, opinions and the music of their pupils as an important part of the learning process. They will have to take more care about the impression they might give to young beginners of what music is and what it is for. The useful skill of literacy can still be found a place for all who need it; but if musicianship is the goal, playing must not be confined to what has been written by someone else.

Practice

Since there are many musicians who do play by ear, in one way or another, it seemed useful to find out how they came to play in this way themselves. Two forms of investigation took place: one was interviewing ten British players some of whom are also teachers, analysing their experiences for data which could be relevant to the teaching situation in schools; the other was studying the teaching and learning of instrumental music in some traditions other than the standard European classical one on which most teaching in schools is based.

Of the ten players interviewed some also read fluently, some can read but rarely do so when playing and one cannot read at all. Classical, folk, jazz and rock music is represented, played on guitar, violin, saxophone, piano, clarinet, trumpet, and accordion, with some earlier experience of fife and bass guitar. Four of the musicians are local authority instrumental teachers, one is a qualified Suzuki teacher and another has worked with young and adult folk enthusiasts. Two others work in higher education through not as musicians while the non-reader is an optician. Respondents were encouraged to reveal in a free way (and over several hours) their own musical upbringing and to try to describe the processes by which they operate as instrumentalists without notation in any ofthe categories above. The transcripts were analysed and data were presented in twelve clusters, groupings of similar points made by all or most of the players under headings which try to identify them.

The first six clusters are of experiences and influences on their playing that I had not anticipated but which seem important since they were revealed spontaneously and quite independently from each player. They are as follows.

Separation of formal learning and playing by ear

All viewed the practice of reading from a copy while playing and that of playing without reading as distinct in some way. During times of formal lessons ear-playing activities were not mentioned to the teacher, sometimes because disapproval was expected and often received. In two cases playing without notation came late and is described as a 'born again' experience, liberating musicians who had felt constrained. while some have by now managed to fuse the two ways of playing, others have not. The Suzuki teacher still has to learn all the repertoire from the copy; the New Orleans trumpeter cannot read, is content, fascinated to think of the different experiences he is missing but uncomprehending that all musicians cannot improvise. One of the teachers described the separation in his mind between his classical clarinet training and the jazz-rock playing on saxophone that he does in the evenings. He says that his pupils don't know anything of this other musical life.

> 'The two sides of my musical experience are still coming together, and they are polarised to some degree. They haven't blended yet by any means. I don't feel I've struck the happy balance for my children between my own...between the aural and the written tradition'.

Another teacher does integrate reading and non-reading into his lessons naturally and profitably. He is the one who was taught in this way himself.

Listening

Intensive and enthusiastic listening came out prominently in the accounts of the learning of these players, whether to records, to radio or to live music. They 'loved' listening to music, were excited' by what they heard and it was this that led them to start to play. It was discerning listening too, and finding more examples of the favoured style needed some effort.

Listening and playing became closely related, whether through playing along with recorded music or by having to listen closely in an ensemble to catch the exact phrasing or to sense a variation. Working with a famous pop group on tour, one of the teachers says they were just given the tape to learn the backing from. Nothing had been written and there was no question of using music-stands on stage. This aural learning didn't always result in pure and exact imitation. The chance to adapt and alter was always there whether through choice or necessity. So the folk guitarist describes how he adapted a particular sequence that appealed to him in a Pete Seeger banjo accompaniment for his own guitar playing. And the accordionist describes how, as the pianist in a primary school where she taught, she found she could accompany children's singing much more fluently by choosing chords within her own limitations but which she 'really heard', rather than struggling with a printed version.

The Suzuki teacher did not share these experiences, always playing from notation until starting to teach. But she recognises in her pupils the motivation to play that comes from knowing the repertoire aurally in advance. They know 'how the music goes' and very much want to play it.

Real situations

Being 'thrown in at the deep end' was a common experience of these players. They learned fast in situations where their playing mattered. Whether by 'sitting in' with a swing band at a tea-dance, or starting to play for folk dancing, the vital momentum and the quick reactions of a professional group were caught and learned. There were hurdles to be overcome. The jazz pianist and a woodwind teacher each describe the trauma of the occasions when, as teenagers, they were first confronted with chord symbols. They each knew they had to work to learn these if they were to continue to play with their respective groups. And even after years of experience the New Orleans trumpeter talks of the 'extremely heavy weight of responsibility' he feels when on the stand, and of the importance of all the players 'thinking on the same lines' for the music-making to be successful.

One clarinettist remembers having to transpose at sight from 'Youth Praise'in church youth club sing-songs and the way this supported and was supported by the other ear-playing he was attempting. Another found himself having to play fife in a marching band with scant tuition. And several players have had to cope with audience 'requests' to a group for music that is not in their personal repertoire, feeling their way through with swift musical reactions, propelled by the needs of the occasion.

Beyond the notes

It was very apparent from the interviews that the expressive qualities that are the essence of music were recognised and valued from the outset and continued to be more important than any other consideration. Most of these players were teaching themselves to a large extent - whether formal lessons were received or not, and it was by searching for particular sounds they had heard and carried in their minds together with the feelings these sounds had engendered that progress was made. One spoke of the 'wildness' of a guitar chord he sought; the pianist spoke of the register as being crucial - not just the notes or harmonies; two clarinetists of the 'sonority' and the 'ghosted' sounds they wanted to copy, or to adopt as their own, and of the way the actual notes of a tune seemed incidental to these qualities. One says he has always thought in terms of emotion, tone and attack in his playing and the notes just seem to come.

There seems to have been a deep level of personal engagement with music for these players: frustration when the mood was not right (the jazz pianist reading transcriptions of solos) and an 'exciting, and so lovely and such a wonderfully aesthetic experience' when it was right (the accordionist playing for dancers whose movements 'flowed in' with her playing). One woodwind teacher 'confessed' that it was the rock-jazz, improvised part ofhis professional life 'that's the biggest part of my musical mind... that's taken a lot of my emotional energy, musically'. The emphasis put by these players as the first consideration on the compulsive power to use the medium of music for expressive ends was most striking. As one said '...the music made a deep impression on me. At times, even now, when a melody catches me, I can't get rid of it and feel a great urge to reproduce it. It's very strong.'

Social contexts

All activities may be influenced by friends of course, including music. What seemed special from these accounts was the way these players organised themselves into groups and learned from each other without any authority figure, casually but in a way which on reflection seems important to them and to their development. Once some facility had

been developed then bands and groups 'happened ', imitating Donegan songs, skiffie, dixieland and other jazz, folk dance music or improvising freely without any audience. There are many tales of contacts who acted as catalysts for a particular involvement in music, introducing a new instrument, style or ensemble. The importance of these relaxed, self-motivated activities seems to be that most of the players now prefer informal situations for music-making and are drawn to music 'in a less exact form'. The folk-player who was a primary teacher says: 'I disliked this idea of having to train children up to high pitches for peformance3 losing all sorts of other things in the process... instead of it being part of what we always did.' She would prefer music-making always to happen 'when people really want it, when it's part of something else'.

Positive attitudes

Arising from the intensity of their experiences, the emotional involvement and the groups based on friends came many expressions of pleasure and satisfaction with their music- making as youngsters. They really loved what they did and it became increasingly important to them. Many of them mentioned with pride music of their own invention - a phrase, a song, or an accompaniment. A proprietorial glee was apparent as they noted that only they knew this music. They talked of having to have instruments near them and of frequent periods of intense effort to get something right. As one said 'It is much easier to work to play a tune that you want to play'.

Some found themselves playing by ear as the natural (or only) way to play. One player realised as a child that some people did this and yearned to be like them, but she did not find this possible until becoming involved with folk music. Those who now improvise freely found that their first experience of this was electrifying: 'It was like it rang a bell and I though ah, this is what I am really interested in.' The Suzuki teacher finds her pupils are much better than she is at playing tunes they know directly, and is more than a little frustrated by this. She recognises that they have vastly more confidence in their playing than she did at their age - 'they know what they are going to say'. Others of the teachers expressed surprise - and delight - at instances of their pupils' ability quickly to learn music by ear - from television, from the teacher's model or from each other. There was however a guardedness about going too far down this road, a fear that children might become reluctant to read if too much ear-playing was allowed or even encouraged.

From these first six clusters we can note that most of these players learned primarily by perceptive listening, by playing in real situations and in informal atmospheres and by creating their own music. They were motivated strongly by the expressive qualities of music and quickly became committed and excited by their playing. Playing by ear was usually quite separate from formal lessons involving reading, but it is evident that profitable links are possible.

The other six clusters of data from the interviews with these ten musicians are of matters I expected to become informed about. The groupings relate to the purposes of instrumental learning discussed earlier under 'Theory'.

Aural

Examples abound of learning by trial and error that was ear-led. Finding bass lines or chords that fitted on tea-chest bass) various plucked string instruments or keyboards resulted in not only being able to repeat that sequence but in applying similar well-learned patterns to other tunes. With the playing of melodic lines - including copying complex improvisations - when the aural image was strong then the fingering was soon established without recourse to note-names or signs. Terms like 'triad', or 'tonic' or 'dominant seventh' were unknown by many of these players at a time when the concepts

they represent were familiar and used fluently. 'Singing in the head' is considered necessary pre-requisite but the sounds were then translated into kinaesthetic knowledge directly: 'I didn't know what I was playing but I could do it. I could feel those harmonies change and I knew where it was on the instrument... but I didn't read off chords.'

There were some points of particular interest when players mentioned their experience of formal aural tests. On the one hand two players whose music education was largely informal, based on aural methods and improvisation, to their surprise and delight found such tests remarkably easy when they did eventually encounter them, and were amazed that some other musicians who had been educated more formally in music found such things difficult. On the other hand two other players, both of whom had formal tuition, had a long and continuous history of failure in aural work at examinations from childhood to higher education. One is the Suzuki teacher, teaching now a large repertoire entirely from memory (albeit in her case learned from notation). The other is a noted professional woodwind player, equally proficient at reading or improvising, an excellent musician and teacher. Both graphically describe their experiences of going deaf' during aural tests, of notes 'swimming about' inside their heads. These cases seem to point to a mismatch between what is taught and tested as 'aural' and what is acquired more naturally through playing - particularly without notation.

Attitudes to literacy

The diverse experiences of these players in relation to musical literacy accounts for different attitudes towards it, but not always in the expected way. Players who have largely taught themselves and operated as musicians wholly or partly through jazz, rock or folk music have sometimes preserved their independence from notation and sometimes learned and used it but then abandoned it again except where it proves useful.

There are tales of rebuffs from music authority figures for those who played well but were unable to read or to play fluently at sight. Those who were brought up strictly as readers have sometimes had to struggle to do anything as musicians without notation; but where some ear-playing was included in their wider musical education then a reasonable balance seems to have been achieved between fluency in reading and in various forms of ear-playing.

Playing from memory is one focus revealing diversity of experience. One player improvises freely and reads but still finds it difficult to memorise from notation; another (the Suzuki teacher) relies on this method entirely. The jazz pianist learned light classics from notation as a child but always performed them from memory, which he terms 'by rote'. The young daughter of one of the players, encouraged at home to play by ear on her recorder any tune she knows, is quoted as saying of her classmates: 'They do it all from the music. They don't know the tunes.'

One view expressed is particularly significant. If the player knows the music already and then sees the notation, the appropriate associations are made. This seems to be in conflict with the skill of playing at sight as it is taught but may be a surer way of developing it eventually in young players. (I suspect many pupils employ this method of 'reading' more than teachers acknowledge.) Yet the four LEA teachers were resistant to the idea of allowing any pupil to pursue lessons without any reading. There was some confusion about the reason why all pupils should read, if some can learn all they want to play by ear. But one said of his teaching: 'I don't think... I've compromised a lot in terms of reading. I think it's been my central thing to be honest about it.'

Creativity

These references are clustered as examples of playing music that was the invention of

the player and took place as part of the learning process. In some cases this was described as 'creative practising', constantly inventing things to overcome technical weaknesses but thought of at the time as messing about'. In other cases the invention was more conscious and specific, 'composed' on the instrument with attempts to write it down sometimes following this.

Most references are to improvisation in a particular idiom. Keen listening is stressed, as is anticipation and catching the 'feel' or 'taste' of the music, yet the nature of the experience is absolutely individual. Players had to struggle to describe the process. What emerged was that the tension between preconception of a pattern and delivery is an important spring: '...it's the gap between what you can hear and what you can play - that's always the frustration. That's why I practise.' Players think in terms of phrases and of the impact of the music, never in terms of notes, and are strongly affected by others in a group, getting a 'kick' from them and sometimes sharing the playing of material conceived together but not rehearsed and of course not written down or preserved.

All the teachers expressed regret that they found so little time for the encouragement of creative activities for their pupils. There seemed to be an assumption from some of the teachers that technique and repertoire need to be well-developed before such activities are possible. One who worked professionally before learning to read feels he may 'over-compensate' for this in his teaching, However the teacher who experienced some ear-playing in his formal lessons as a pupil has worked out a scheme to encourage improvisation which can be introduced from this playing of the first note: 'The important thing for them to realise is that they can improvise, they can make something up... just encourage them in the fact that they are playing copying you and making up their own things.'

Aspects of musicianship

Three points of interest are singled out here, all to do with the concept of tonality. First, those who learned more or less informally were playing confidently in a number of keys referring to them only in terms of sound and fingering patterns with none of the knowledge teachers usually assume is vital. Mood and feeling associated with a key were mentioned but the, number of sharps and flats could not be except by demonstrating fingering or singing. The trumpeter, asked what Bb meant to him, sang a tune. One folk-player 'really learned' scales as a pianist yet only realised years later through playing by ear that tunes were built on them.

Second, the 'formal' lessons given by teachers who encourage jazz styles and improvisation for their older pupils include regular playing of scales, all the modes and all pitches, 'right round the cycle'. They are played fast too, to develop the facility, for improvisation. Working often away from notation, these players and some of their pupils seemed quicker and surer in developing and demonstrating a tonal sense and fluency than many who do not.

Third, the idea and practice of transposition seemed to be more natural for those players who played away from notation 'I'm playing in a key and using my ears' is how one teacher described the process of transposition and agreed that this is what he would advocate for his pupils rather than trying to change printed notation mentally. If the tune is known and the key is known then the experience of ear-playing clearly aids the practice of transposition. Playing known tunes in a variety of keys (transposition) develops a sense of tonality and 'fixes' tunes more surely.

Processes

Players were prompted to try to describe the processes by which' they played directly

from an aural image. For starting notes both 'identifying the tonic' and 'trial and error' were frequently mentioned, but there were other ways that lie somewhere between these two.

Tunes tend to be categorised so that a new one will be identified by relating it to tunes already known, particularly the start. Contour, phrasing, and mood provide the important cues, together with felt harmonic functions such as suspension. The identification of notes by name seemed to play no part with any of these players. For some the visual image of a keyboard or some other construct of pitch relationships was called up momentarily, but in no case was this notation. For most it is the kinaesthetic sense that supports the aural image in producing the desired sound. One reader claims there was no conceptual relationship between notation used in formal lessons as a boy and his attempts to join in with music on records. The non reader says '...producing music on the trumpet for me is the same as by whistling it. I think it's simply that sounds represent themselves to me in terms of fingers pressed.' He refers to 'feeling a note coming on', and to moving his fingers rhythmically as an emotional reflex. Others support this account, one 'simply transferring to guitar what I can sing', another learning chords 'by shape and feel' and then learning their names and signs. A third describes how he woke in the night with the image of the fingering of a part of a tune that had previously eluded him (on clarinet).

None found it easy to describe these processes, particularly when invention was involved. But it was clear that the sort of notational analysis that some teachers would think necessary as a pre-requisite to playing was not experienced by these players. What was necessary and present was the sound of the music (real or imagined), fluency with an instrument to attempt to produce it and strong emotional identification and desire to play it.

A question of timing

These players and teachers were asked to comment on the right time for introducing playing by ear, in any form, to instrumental learners. Two who learned informally and do not teach or read declined to express a view, but recognised the advantage of developing reading skills as long as this was not detrimental to others aspects of playing.

All the rest were of the opinion that it should be done from the beginning. Most were completely unequivocal, but from two came the reservation that a certain technical know-how must be developed first. This point seems to depend on the level of sophistication and complexity expected from first attempts.

Two points came through strongly. The older children are and the more experience they have of playing only from notation, the less inclined they are to attempt any other sort of playing. And one reason why playing away from notation has not been encouraged more by teachers is because it removes them even further from pre-specified outcomes which are amenable to easy assessment.

These musicians learned to listen, and became aware of the nuances of musical expression. They played with freedom and vitality in situations where it mattered and where it was enjoyed. And they learned by playing music they identified with, including some of their own invention, by setting themselves challenges and by seeking their own solutions to problems. Imaging sound is important for ear-playing but, for those who read, notation seems not to support this. They seem to advocate the inclusion of ear-playing, imitating or inventing, not just for the accomplishment itself but because ofthe value of the process and the attitude it tends to develop towards music and towards learning.

Other cultures

There is space in this article only to note some of the enormous wealth of experience to be gained from studying how instruments are taught and learned in cultures other than that represented by the musical establishment in Britain. Reports are available from ethnomusicologists and others of an enormous variety of instruments and of methods used by teachers and would-be players worldwide. In addition methods can be observed of learning in rock, jazz, steel-band and other improvised music in this country on acoustic, electric or electronic instruments, music 'other' than that commonly engaged in by instrumental teachers in schools.

Nearly all of these methods are of course aurally based. Where notation exists it may exist and be passed on in only an oral form to initiates and thus kept secret (as in Afghanistan); or it may be made difficult for children to acquire a knowledge of such symbols since they are used only for study and conservation, never available in performance (as in the traditional teaching of music for Japanese puppet plays). The atmosphere of the learning situation in Bali, with 'exuberant' rhythm in fast tempi is as different to our common experience as is the teacher's role: 'the teacher... simply makes the music to be passed on. The rest is up to the pupils...He explains nothing since for him there is nothing to explain...' (Mcphee, 1955). A 'terrible craving to play' seems to be the key to understanding how Irish fiddling has been learned, together with the obligatory keen ear and a strong desire for individuality. These same points seem to be common to many other cultures. Excellence may be pursued by individuals but rarely for its own sake. 'Just playing', either for something - dance, drama, religious festival, or for oneself privately seems to be the motivating factor.

In addition to the predominant aural basis for learning and the consequent reliance on kinaesthetic sense, two other common factors stand out in the accounts read and from direct observation. Children learn both repertoire and technique almost entirely by imitating their teachers or other experienced players. And the music, once learned in the head and under the fingers must be embellished, be new at every performance, be your own.

One must of course take into account the many differences in these cultures from each other and from our own. But if we are wanting to improve our own teaching methods then to ignore or be unaware of successful ways of developing instrumental ability and musical understanding in children with other traditions would be foolish. In particular, if some aspects of musicianship seem to be undeveloped in many of our own children then we may be able usefully to emulate and adapt some of the methods used effectively elsewhere.

Plan of action

From the 'theory' and 'practice' above three important factors stand out, each of which is crucial to the development of musicianship in players.

(1) Playing instruments by ear in various ways has known value and could be encouraged for all learners. To do so would put proper weight on learning by listening and acknowledge the importance of the kinaesthetic sense. It could lead to more vital and committed music-making. This need not be instead of learning to read notation. Playing from notation, however, should never happen without the consciousness of the aural image evoked by the notation. So playing by ear can be said to be the basis of all musical playing. Whether the music to be played is heard inwardly from memory or from notation or heard externally (live or recorded), the playing is by ear.

(2) It seems obvious and natural that children should want to play 'their own music' on instruments they are learning, as they do with their developing skills in other arts.

Children learn by their involvement in creating for themselves. Spontaneous invention of music on an instrument is said to involve one 'as nothing else can' in the art of music-making (Bailey, 1980), an argument difficult to refute by those who do not have this experience. Educationists have long urged teachers to work for the joint development of technical, expressive and imaginative powers, and the experiences recounted above point to the value of this starting from the outset. If such inventive work is not fostered as soon as sound is produced then there is a real danger that it never will be. Playing only from notation has been a major reason why such inventive powers are often not found in music-teachers.

(3) Most learning is by imitation, yet this fails to be acknowledged openly by instrumental teachers. We know that some successful musicians develop unaided by a teacher or by notation. Both technique, whether basic or sophisticated, and repertoire can be learned effectively by relying solely on imitation of a model. To dismiss such learning as 'unintelligent' would be to misunderstand the importance of kinaesthesia and the power of aural memory, both strong components of 'musical intelligence' (Gardner, 1983). Instrumental teachers are in any case relying on imitation every time they demonstrate, whether this is in the first lesson or a post-graduate masterclass. The ideal of individual expression and interpretation is not in conflict with accepting. and using imitation as the mode of learning. Moreover such expression will be aided by giving prominence to the first two factors above.

A fourth factor should be highlighted also. Playing in groups is a natural, enjoyable, and valuable activity as part of the learning process. But the accounts reveal that these benefits can also be found when the groups are not reading and not directed. Indeed learning may take place more naturally, more enjoyably and more valuably when responsibility for leadership, cooperation and decision-making is the pupils' own. For some children, both players and listeners, the formal atmosphere associated with performances by directed groups, always reading and playing published music, may hinder rather than help their development.

But this could take us into the area of choice of musical style. One point about the plan which follows is that it tries to give a broad outline of what the educational process of learning an instrument can be without reference to any particular musical material. It should be seen as a guide to the teaching and learning of any instrument and of any music.

The argument

The three factors above - *playing by ear, spontaneous invention* and *imitation of a model,* can be formed into a relationship which expresses the total learning experience (Fig. 1). *All musical playing is by ear, learned sometimes by imitation, sometimes by invention and sometimes by a combination or synthesis of both of these.*

For example, it will be clear that attempts to play a phrase modelled by the teacher and attempts to play tunes already known aurally can each be described as imitation. Equally, the improvisation of answering phrases and free extemporisation are examples of progressive *invention*. 'First notes' will be achieved with a combination of experiment (invention) and attempts to imitate the teacher, while the playing of 'phrases', gradually becbming longer and more eloquent, will be by both teacher and pupil, variously inventing and imitating. Extemporising whole tunes seems like pure invention, but is developed through the experience of imitating technique, repertoire and idiomatic style; whereas the embellishment of known music, whether learned from reading or from some other sdurce, might appear more like imitation (by the addition of ornaments or by playing in swing rhythm for example) or more like invention (a jazz solo or creating a

new cadenza). Two activities may need some clarification.

<table>
<tr><th colspan="2">INVENTION</th><th>IMIITATION</th></tr>
<tr><td></td><td colspan="1">First notes</td><td></td></tr>
<tr><td>Short groups of notes</td><td rowspan="5">MUSICIANSHIP</td><td>Very short phrases</td></tr>
<tr><td>Short answering phrases</td><td>Short stylistic phrases</td></tr>
<tr><td>Extemporising first phrases</td><td>Known tunes (busking)</td></tr>
<tr><td>Extemporising whole tunes</td><td>Written music - reading</td></tr>
<tr><td>Improvising - embellishment of known music</td><td>Written music - memorised</td></tr>
<tr><td></td><td>Intetpretation - imaginative expressive performance</td><td></td></tr>
</table>

Fig. 1. Pedagogical Model of Instrumental Learning

First: the playing of written music is imitative in the sense that it is the sound evoked by the notation that is being copied; the notation is in fact a 'copy' of the tune waiting to be realised in sound. For 'playing at sight' to be a musical experience with a musical result the playing must be preceded by an aural image. This image is then imitated - realised in sound - in the same way that a previously known tune is.

Second: interpretation, defined as imaginative, expressive performance of an individual nature is likely to come about as a true synthesis of invention and imitation employed by teachers as methods of learning. Such an interpretive performance will be easier to achieve and to communicate to an audience if it is given without the notations as singers are encouraged to do, but the music may well have been learned that way. If the habit throughout the learning process has been to deal in sound and its effect then the source of the new music is immaterial. An attitude towards performance will have developed more like that associated with acting on stage than play-reading.

The purpose ofthe model is to encapsulate a musical learning experience (i.e. one based on sound). At the centre lies the learning outcome expressed in one word - musicianship. Around this core are ranged various activities engaged in by teacher and pupil at various times. The whole model works like the cycle of keys: its centre is 'tonality' with 'sharp' and 'flat' ways of proceeding around the circle. Here too one may proceed in both directions, by imitation or invention. Just as sharps and flats interlink in enharmonic keys, so do imitative and inventive aspects of playing. The range of twelve activities may seem to shows a development in both directions towards 'six o'clock' or 'F sharp/G flat', in the same way that many instrumental learners perceive their learning ofscalesand keys progressively. But they may also be seen as a palette or menu of methods which a teacher may return to and use again and again but each time with different musical material and at a greater technical or expressive level, just as the whole range of keys will continue to be used.

So while 'first steps can refer to work with a complete beginner it can also refer to first attempts at vibrato or flutter-tongueing. The copying or composing of phrases can be used for the development of any aspect of technique or nuance of expression at any level ofattainment, to consolidate or to extend some aspect of playing. The need for such work may arise iron, attempts to play from notation, but since the activity will take place away from the printed copy then there may be little point in using it again except as an aide-mimoire. Encouragement by the teacher to play 'known tunes', and to do so in more than one key, will appeal to pupils at all ages and stages, and is likely to enable the free invention of their own music in other activities. Spontaneity in making up tunes with a

range of a pupil's first three notes can develop continuously and lead to fluency in both improvisation and sight-reading. At every stage the personal involvement in these activities will lead to some pride and some disappointment, with some pupils showing a greater interest and ability through one activity than through another, but all will have been tried.

The activities themselves are not new to many teachers. It is their relationship to each other and to the whole that may be novel. The perception of instrumental learning as primarily an aural experience leading to musicianship is certainly not new, at least in theory. And the goal of instrumental teaching as imaginative and expressive performance must surely be shared by all teachers. But the focus of playing by ear in its many forms, and a model or plan of action such as this, based on all the foregoing evidence, may help us to do more than pay lip-service to these principles and goals. Pupils may then experience something more akin to education than to training.

References

BAILEY, D. (1980) improvisation. Its Nature and Practice. Ashbourne: Moorland.

CLEAVE, S. & DUST, K. (1989) A Sound Start. Windsor: National Foundation for Educational Research Nelson.

FLETCHER, 1, (1982) An alternative viewpoint. Music Teacher, January.

FLETCHER, P. (1987) Education and Music. Oxford: Oxford University Press.

GARDNER, H. (1983) Frames Of iWind. London: Heinemann.

LucE, 3. R. (1958) Sight-reading and car-playing abilities related to the training and backgtound of instrumental music students. Unpublished Ed.D. thesis, University of Nebraska.

MGPHEE, C. (1955) Children and music in Bali. In Meade & Wolferston (Eds), Childhood and Contemporary Cultures. University of Chicago Press.