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ARTICLE

Reflections on the sequence of musical development

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Abstract

The sequence of musical development is revisited. The origins of the underlying and evolving theory are considered, along with organisation and classification of the data of children's compositions. The cumulative and recursive nature of the spiral is re-emphasised, and the dynamic relationship between the left and right side is clarified. The essential qualitative nature of the study is asserted and some possibilities for the future are considered, along with a two-dimensional model for curriculum and student evaluation based on spiral-related outcomes and the musical activities that promote and sustain them.

Keywords: Musical development; cumulative layers; materials; expression; form; Piaget

The context

It is indeed a pleasure and privilege to contribute to this celebration of 35 years since the publication of this article by June Tillman and myself (Swanwick & Tillman, 1986). This study involved many hours of work with children, much focussed thinking and a great deal of cooperation. We knew at the time that it might create a stir. When the article was first submitted, among the responses from the editorial board were those that were highly favourable, with comments, such as 'this is what we have been waiting for', to 'this should certainly be published - but'. Among other worries the 'but' seemed to question the effect such a model might have on the then 'creativity movement' and subsequently we both had long discussions with one colleague who was worried about codifying the compositions of children in this way. My co-editor of BJME at the time seemed concerned that this study may have moved into his territory. In general though, music educators seemed to think that there was something here to which they could relate.

Do we need a map of musical development?

For a great deal of musical activity, reference to any kind of developmental scheme may well be unnecessary, inappropriate. The author is old enough to have many young relatives. One of them just wants to compose but mainly perform pop and rock songs in a group. Another is an extrovert performer in many settings. A third at one time unhappily nursed a bassoon in the school orchestra and gave it up as soon as possible: he now makes his own music electronically. Yet another has no wish to perform or compose: she really wants to be a pop music journalist. Each finds their own way informally with minimum instruction, and there is no obvious need for complicated models of musical development, even though we might recognise development when we hear it.

However, when teaching is involved, when someone is 'signed up' into a music education transaction of some kind, then we should see something 'value-added' to self-education or the *status quo*. Even in the most informal settings, there is some virtue in having some sense of what counts as musical development, how we might respond and which activities best promote it.

Take an example from language acquisition. During a walk, we came across a family with three children. A girl aged between one and two, came over, looked at me, pointed and said 'dog', a perfect use of language in its own way. And indeed there was a dog just behind me. What should my response be to this small linguistic repertoire? I said something like 'thanks, I didn't see the dog'. We then moved on. If I had been a parent (or teacher), appropriate questions that might engage with and possibly further her language development might include 'do you like dogs?' or 'what colour was the dog?'. Because I had made an informal assessment of where this super sociable little girl was linguistically, I knew it would have been totally inappropriate to ask 'what do you think Mark Anthony meant when he said C*ry Havoc and let slip the dogs of war*?' perhaps talking to an older student studying Shakespeare in English Literature. The same can surely be said of musical development. It is good for teachers to know what appropriate responses might be to what students are doing, what we might expect next and how we might help. Composing in classrooms is well established as an activity, but I am less than sure that all the teachers involved are confident in responding in ways that promote development.

The evolution of the theory

Over the 35 years, there have been many positive responses, including scores of unsolicited messages on how helpful the sequence has been. In my travels, I have met many teachers who related to the spiral, from the primary school teacher in the USA who said she could recognise the music-making of all the children in her class through the lens of the sequence, and the Kuwaiti I met in Iraq who said the model could help him evaluate the music of his college students in Kuwait.

Over the intervening time I have tried to address some of the outstanding issues, particularly in a major publication *Musical Development: revisiting a generic theory,* to be found in Swanwick (2011; 2016). First, it has to be said that the genesis of the article sprang from June Tillman's industrious collection and sensitive analysis of children's compositions. Prior to and alongside this was the development of my own work, initially set out in a professorial lecture in 1983 *The Arts in Education: Dreaming or Wide Awake?*, published by the Institute of Education in 1984 and now in Swanwick, 2016. In this paper, with specific reference to Piaget, I discussed the concepts of assimilation and accommodation, as they pertain respectively to musical form and expressive character, along with the concept of mastery or sound materials. For me, this trio of interactive elements – materials, expression and form – comprises all acts of music making and musical understanding. The terminology became adapted specifically to the study, and it is important to understand how it was used.

The essential concepts

'Materials' concerns the relationship between the exploratory pleasure and interest in sound itself (imaginative play) developing into control of sounds. 'Expression' is not self-expression but the expression of musical ideas, first in personal, spontaneous ways and then with a common musical vocabulary – the vernacular. Musical expression is the production and recognition of expressive shapes, that is to say *phrases*, rather than notes. A phrase can, of course, be a single note or other sound, as when a trumpet plays and holds an 'A' with a little crescendo at the start of Wagner's overture to *Rienzi*. This 'A' is an expressive shape, unlike the previously heard 'A' around the orchestra, which is just a note for the purposes of tuning. The sound is more or less the same but we have moved psychologically from Materials to Expression, from note to phrase. 'Form' should not be thought of in terms of classical conventions (Rondo, Sonata Form, etc), but more fundamentally as the way in which phrases relate by repetition, contrast and transformation.

Thanks to June Tillman, we had these extensive data of children's productions and also some ways of beginning to group them and explore their characteristics. There was one further

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important initial source, that of Robert Bunting (1977) who observed children composing in the early years of secondary school and identified several types of composition, which he does not attempt to place in a developmental sequence but which greatly informed our attempts to look for developmental patterns. For instance, Bunting noted a neurological mode – direct physical reactions to sound, an acoustical mode – interaction with the size and design of buildings, and the mechanical mode – the influence of the shape and functions of musical instruments. (For instance, making music on a xylophone with two beaters is likely to produce leaping tunes, while using just one finger on a keyboard tends to promote stepwise movement.) These elements were taken up into our concept of 'mastery', moving from sensory response to manipulative control. Among other terms, Bunting gave us 'speculative' and 'symbolic. What he calls 'the common language of music' is our 'vernacular'. We thus begin to have some categories in which to group the compositions. But we did not want these to be simply labels of boxes but part of a dynamic developmental scheme. (I might be wrong, but I seem to remember sending a postcard to June from a holiday somewhere saying 'it's a spiral'.)

We stressed that the developmental sequence is 'reactivated each time we encounter a new musical context' (p. 336). It is not a once-and-for-all event. Hence, the open ends of the spiral. This is very important and, I hoped, should eliminate the possibility that people would think of the spiral in rigid stages. This seems to have been over-optimistic. More generally, it is frequently asserted (quite wrongly) that Piaget thought each 'stage' somehow separate from the others. For example, Gardner claimed that for Piaget 'the child does not even have access to his earlier forms of understanding. Once he is out of a stage, it is as though the prior stage had never happened' (Gardner, 1993, pp. 26–27). Hargreaves also refers to 'Piagetian-style developmental discontinuities in thinking' (Hargreaves et al., 2003, p. 153). This curious and widespread misreading of Piaget is contradicted by him explicitly. For example, when writing of the development of children and what he calls the successive structures (sensory-motor, symbolic, preconceptual, intuitive and rational), Piaget tells us:

> *It is essential to understand how each of these behaviours is continued in the one that follows, the direction being from a lower to a higher equilibrium. It is for this reason that in our view a static analysis of discontinuous, stratified levels is unacceptable*. (Piaget, 1951, p. 291).

In subsequent publications, I have used the term 'layers' to avoid 'levels' and certainly to keep away from the idea of static 'stages'.

Vygotsky is often seen as challenging the Piagetian view of development as an unfolding of an organism without reference to cultural and physical environment (Hargreaves & Zimmerman, 1992). But there are also strong similarities between Piaget and Vygotsky. The latter saw development as a spiral and thought that children passed through the same point at each new revolution while advancing to a higher level (Vygotsky, 1978, p. 56). Vygotsky, like Piaget, viewed development as a complex dialectical process embodying qualitative transformations. What he calls a 'zone of proximal development' is created in imaginative play as well as in interaction with others (ibid, p. 102).

An anomaly

The three elements of Materials, Expression and Form turned out to be more complex during this study. Initially, the simple association of expression with accommodation and form with assimilation seemed to hold. Making an expressive musical phrase is to 'pretend' that the sounds have character; it is imitation (accommodation). The activity of imaginative play involved in constructing relationships between these phrases is to assimilate them into our own scheme of things. But the concept of a spiral involves two sides as well as a set of vertical relationships. I attempted to

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work this out in my 1994 book *Musical Knowledge* (see p. 87). Each layer represents a qualitative shift; from sensory engagement, to reproductive imitation, to structural play. But within every layer, although there is there is a strong tendency towards one or the other, there is also a dialectic between assimilation and accommodation. Musical discourse in any layer depends upon the dynamic interplay of both sides of the spiral.

Out of the initial assimilatory delight in playing with, exploring and responding to sounds grows the corresponding accommodating dimension, an ability to control sounds, to manipulate. With sounds under control, musical expression becomes possible; at first spontaneous and maybe haphazard, but then more conventional, accommodating to vernacular commonplaces. These conventional procedures are assimilated, into an imaginatively playful world of twists of expectation and surprises, which may be integrated into the cultural settings of expectation within specific styles or idioms.

Cumulative and qualitative

Our model is obviously cumulative: each layer depends on the presence of preceding layers. For example, we could not compose or improvise an expressive piece without manipulative control. Though it is of course possible to have manipulative control without a trace of expressiveness, where notes rather than phrases are the focus. So it should not surprise us to find several interactive layers present in the same musical event. And the layers we found in children's unfolding musical understanding, as revealed in their compositions, are the layers of all musical discourse.

It is important to realise that the developmental sequence is essentially *qualitative*. The fact that 745 compositions by children were analysed does not make this study in any way *quantitative*. What we were seeing were emerging *qualities.* This is a very different approach from evaluating musical production by number scores, a procedure which seems endemic in many competitions and examinations. The numbers and graphs in this article are simply the frequencies of observed qualities among the children working with June. They would not necessarily be the same in other contexts.

Looking forward

Other teachers and researchers have used the model as an evaluative tool. Below is one version of the layers converted into an assessment tool. Such lists of criteria have proved helpful in evaluating students' work across composing, listening (audition) and performing. We could see how many layers appear to be involved and which layers are particularly evident. For some colleagues, this may be a bridge too far, especially the attempt to characterise valuing.

Cumulative layers for assessing musical production and response

Layer 1 People enjoy/explore sounds
Layer 2 they classify/control sounds
Layer 3 they identify/produce expressive shapes, mood/atmosphere
Layer 4 they identify/produce expressive shapes within common musical conventions
Layer 5 they perceive/produce expressive shapes in transformed or contrasting or surprising relationships
Layer 6 they locate structural relationships within specific idioms or styles
Layer 7 their musical perception/production shows strong personal identification and commitment
Layer 8 they relate to music with sustained, original and involved independence

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There is room here to cite but one such study. Cecilia Cavalieri França devised similar assessment criteria to compare levels of musical understanding across different activities. Her study of the musical work of twenty children in a music school in Belo Horizonte, Brazil, suggests that performance usually elicits lower levels of musical understanding, significantly different from either composing or audience-listening (Swanwick & França, 1999). It seems that working on performances can be problematic within the music curriculum, unless students are able to work at a technical level where they are free to exercise interpretative judgement and make musical decisions.

It is, of course, only possible to compare across activities if one has a generic view of what is meant by musical understanding. This is not the case with many of the older musical ability tests, which record the *number* of 'right' responses to musical (or sound) fragments. These tests are also frequently compromised by conclusions such as rhythm perception develops before that of pitch. Such observations attempt to compare scores from quite different tests, rather like comparing the tyre pressure readings on a car with the oil level. There is no linking theory of what constitutes musical understanding or 'musicality'. This is what we were trying to achieve. I hope you feel we made some contribution June!

Looking back (and forward) we can say with some confidence that:

- Musical development may be construed as consisting of cumulative layers, each bringing in an additional quality to interact with other layers.
- Once students have developed beyond early childhood, they may move freely between all or any of the qualitative layers, provided that the activities are not confining. The richer the activity, the more likely there is to be musical development.
- Developmental sequences are recursive and will be reactivated in new musical contexts.
- Understanding musical development is suggestive for curriculum design and for organizing educational activities.
- Awareness of the nature of the layers can enhance our interpretation of the music-making and musical perceptions of students.
- Integrating composing, performing and listening to the music of others can be developmentally positive.
- As well as providing musical models and structures in specific cultural settings (the right-hand side of the spiral), to which the student may accommodate, it is important to leave room for assimilatory activity, where the student can take the initiative (the left side). Among others, John Paynter (1970) pioneered activities that opened up the left, whereas much traditional music teaching tends to be on the right.

The following quotation summarises the issues as I see them. I apologise that it has to be my own writing, but it seems to say something important as clearly as I can.

> *The future development of music education may depend not so much on schools as we know them but on opportunities in local communities and the global communities of the "web". Musical development is likely to take place within increasingly pluralized contexts and we may expect existing assumptions and theories to be further challenged by this plurality. Indeed, it may be argued that music education in some cultures has no use for the concept of development. It seems more likely though that, even in a world where music learning and musical encounters take multiple forms, there may still be a need for broad generic theories of music and musical development, rooted in inter-culturally shared concepts of the value and function of music, continually tested by evidence. Without such theories, however contested they may be, isolated pieces of research may lack coherence and struggle to find professional relevance in the field of music education.* (Swanwick, 2016, p. 124).

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A possibility for curriculum and student evaluation

The developmental sequence we proposed in 1986 represents one dimension for the consideration of music educators – the nature of students' musical understanding. The author's earlier work has drawn attention to a second dimension, the *activities* through which understanding is developed and sustained, shorthanded as C(L)A(S)P (Swanwick, 1979).

We can picture the combined dimensions as in Figure 1 (Swanwick, 1994).

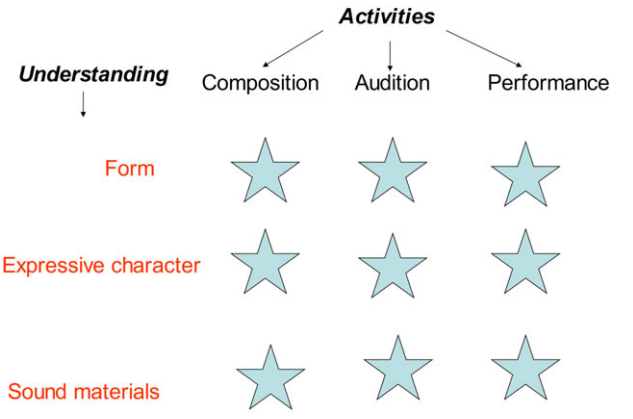

Figure 1. Musical activities and musical understanding.

Valuing is not represented here. We can set up objectives and observe outcomes in this galaxy and enjoy playing in it. But, like happiness, valuing arises when we are doing something else. It is the ultimate *aim* of music education and cannot be taught, but may be *caught* through engagement in the other layers and from the attitude of others.

The nine stars at least offer an uncomplicated way of evaluating any music education activity: a choral or instrumental ensemble rehearsal, an instrumental or vocal lesson, composing or improvising or discussing music as a listener. How many stars shine and how often? Over time, these observations should give a sense of what is 'value-added' in the transactions between teachers and students.

To conclude on a personal note. During these 35 years, I have been involved in music, as chorister, trombonist, organist, pianist, conductor and teacher. In all of these contexts, knowledge of these layers of musical understanding has informed and guided my involvement and development. During the recent months of COVID-19 lockdown, my son sent me a copy of Bach's *Goldberg Variations*. So here I am among the Performance stars in the Manipulative side of the Sound Materials layer.

Some of these variations are beyond me, especially the ones written for two keyboards, where two hands sharing one keyboard often collide with one another. However, after careful practice, some of these variations can be managed, and I have come to realise that they are not just canons at various intervals and other variations on the bass of the theme, the A*ria*. These are lyrical and expressive artifacts which, played at an appropriate speed (there may be several possibilities), with careful and consistent phrasing and an awareness of the canonic and other forms give great pleasure and promote a strong sense of value. For instance, variations 4 and 22 are permeated with gestures (phrases) of falling intervals (mainly fourths and fifths) which communicate a peaceful expressive character and a strong sense of structural coherence. Lovely!

I may orbit away from these performance stars, dig out Glenn Gould's recordings and jet across space into the Audition mode. I doubt I will try to compose canons, but who knows. At least I know what is out there in the musical universe.

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