

# Investigating recurrences in Andrew Lewis's *Penmon Point*

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In: Motje Wolf & Andrew Hill (Eds.)  
Proceedings of Sound, Sight, Space and Play 2010  
Postgraduate Symposium for the Creative Sonic Arts  
De Montfort University Leicester, United Kingdom, 2-4 June 2010  
<http://www.mti.dmu.ac.uk/events-conferences/sssp2010/>

## **Abstract**

Previous conference papers (Seddon 2007; Seddon 2008) have introduced the concept of recurrence in acousmatic music, outlining the key issues of this approach to musical investigation and analysis. To briefly summarise, this concept provides a view of structuring processes in acousmatic composition in terms of the constituent sound materials and any perceived connections between them. It also stimulates the consideration of, and engagement with, issues and parameters of cross-referencing between sound materials, providing a view of the music's structure. Such an investigative approach aims to stimulate both analytical and creative strategies; existing works may be appraised in such terms, yet a heightened awareness of the various issues may usefully enrich the compositional process.

This paper will discuss issues of recurrence in *Penmon Point* by Andrew Lewis (2002-03), using this approach to investigate a single composition. The paper will briefly outline the recurrence concept in terms of sound identity, memory and what might constitute a recurrence. Then, key sound identities within *Penmon Point* will be introduced, and the musical significance of various recurrences will be discussed. Recurring and varying spatial perspectives and spatial shifts will also be appraised, evaluating their contribution to the sense of structure. Finally, more abstract recurrences and sound material connections will be explored, providing further avenues for musical contemplation.

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### The Recurrence Concept

Notions of musical structuring can often be traced to the perception of recurrent phenomena within a work; in other words, recognising returning sound identities and their transformations, and drawing links between them. Sound material connections might be made through characteristics including common source associations, more subtle spectral attributes, or processes of progressive transformation.

The recurrence approach assumes that temporal structure is memory dominated, and that the perception of sound material connections is expected. As a creative tool, such an approach may bring compositional coherence through limited sound identities and the creation of structure through self-referral. In the acousmatic realm, the way in which connections between sound materials are made may be usefully explored and clarified, because the range of potential sound materials, and transformations, available to the composer is so broad.

A recurrence can be defined as a repeatedly occurring event, both in immediate proximity and over longer time scales. However, my developing view of musical recurrence includes not just returning identities, but also returning states, event types, and the perception of their derivations through transformation processes. The concept stimulates the exploration of issues and parameters of cross-referencing between sound materials, which may in turn yield fruitful insights regarding the musical materials and their subsequent temporal organisation.

In order to hear that a recurrence has occurred, the sound material must have a strong identity and be memorable in the first instance. Recurring identities may be experienced through explicit referral to previously heard instances, yet

subtler connections between sounds may also be perceived through particular common characteristics.

### Sound identities in *Penmon Point*

The opening 2 minutes of Andrew Lewis' *Penmon Point* present some of the identities found in the composition, and give an impression of the nature of the work (listening reference<sup>1</sup> 1, 0'00-2'10).

The bell identity is an essential component; the tolling occurs regularly, and each recurrence marks time throughout the piece. Closer examination reveals that the bell occurs at regular 30-second intervals. However, there are many different manifestations, which vary according to the particular context. The opening of the work features an attack-decay resonance with an inharmonic spectrum that occupies much of our listening frequency range. This material is at the focus of listening attention, and might suggest a struck, possibly metallic, object. It features spectral swells and descending pitch contours (some with amplitude modulation), and the duration allows the contemplation of these details. These figurations are triggered at the onset, yet they may have been layered with the attack-decay morphology. It might be described as a third-order surrogate, to use Smalley's terminology (1997), and it alludes to an 'abstract' musical space, which is in certain senses remote from reality (listening reference 2, 0'00-0'28).

By contrast, the bell sound at 0'30 marks the introduction of a seascape environment. This bell is much shorter in duration, and sounds distant due to the spectral restriction in both higher and lower frequency ranges. It appears to be part of the environment now observed at distance, and the spatial context of the piece has shifted to one that represents a real-world soundscape (listening reference 3, 0'28-0'38). Significantly, there is common pitch content between these first two bell instances. The initial in-

stance is almost a 'hyper bell' – it is bell-like when heard in the context of the following tolls, and the pitch similarities create a further connection, yet the expanded resonance and spectral range suggest that it is highly transformed.

The subsequent bell recurrences fall somewhere between these two opening versions, in terms of spatial location, spectral content and modulation activity. There is always some degree of pitch similarity, as well as morphological similarity (attack-decay resonance), and this serves to bind all the instances together.

### **Musical functions**

The musical function of these recurring bell identities changes during the work. The opening instance commands attention, much as a ringing bell might in everyday experience. The second occurrence both signals a shift in spatial perspective, and becomes part of the observed seascape. The third instance, at 1'00, exists as part of the seascape, yet it also terminates the residual high pitch sustain of the opening hyper-bell. This gesture connects these two superimposed spaces (listening reference 4, 0'54-1'03).

In the subsequent section, between ~2'00 and 4'00, the bell marks the passing time whilst punctuating energy surges in the ongoing texture. It exists alongside the foreground sound materials, which include pebble-like, wave-like and pitched sounds.

At 2'30 the bell features in a stress-release morphological pattern. The motion, density and amplitude increases of the pebble-like granular material create a sense of tension, which is released by the bell strike (listening reference 5, 2'27-2'34). A similar stress-release can also be heard later at ~7'00 (listening reference 6, 6'55-7'05).

The bell is sometimes embedded in the ongoing texture of the piece (although it is still regularly tolling in clock-time). In

the seascape sections, for example at 5'30, the tolling bell is now part of an outdoor environment, possibly suggesting a warning and reminiscent of a buoy (listening reference 7, 5'57-6'04). The programme notes reveal that this is actually a lighthouse bell.

Later in the piece, between ~10'20 and 12'20, the bell tolls have a less instigative role. They co-exist with the more slowly evolving spectral texture, alongside wave and pebble sounds (listening reference 8, 10'50-11'05).

So different perspectives on the recurring bell identity are presented through different spatial locations, and these serve different musical functions. The bell exists as a realistic, environmental entity as well as in abstracted versions; it functions in stress-release gestures, as well as marking time and marking spatial shifts; and it exists alongside, or within, ongoing textures.

In the programme notes that accompany the DVD-A release of this composition, Lewis states that the 30-second tolls suggest 'the order and conceit typical of instrumental or 'machine' music' (2002-03). This regularity contrasts with the more temporally fluid intervening passages, which, in turn, affect the impression of temporal flow in the music. Snyder has suggested that the speed at which time passing is perceived to occur is related to familiarity with, and density of, sound events (2000, pp. 213-214). For instance, the densely populated gestural regions give a faster experience of time passing, and the music covers much ground – kin effect time passes more quickly. However, the seascape sections might have associations of continuity, regularity and an expansive entity, alluding to a sense of permanence. These sections may also be perceived to take longer 'in the moment' because less seems to happen. There is also a natural expectation for the sounds to just continue, assuming one has existing experience of the sea. However, there may be a further musical tension in this,

given that the activity in the music up to this point suggests that something else is likely to happen, rather than continue as a seascape recording.

### Spatial perspectives

The seascape, with its environmental associations, creates a sense of location that is referred to in various ways. The distant seascape material appears explicitly in three locations in the work, as indicated in the diagram.

At 0'30 it appears as an observed environmental phenomenon, existing as a recognisable, distant noise-based texture, which recurs at 5'30 and 14'00. After the initial instance, the music unfolds by 'zooming-in' to various aspects of the distant crashing waves. These aspects include: pebbles rolling and pounding together; wave-like noise structures; water trickling/flowing; snapping and breaking sounds. These sounds convey a sense of heightened activity, mobility and energy, and there is a conceptual source association, rather than a literal auditory connection, between these materials and the distant seascape. These 'presumed' details of the sea scene are magnified and explored, conveying the energy of the breaking waves when close at hand. High pitched sustains and more volatile, lower pitched sound materials create high and low frequency boundaries, framing the spectral space within which this volatile activity takes place (listening reference 9, 1'03-1'21).

Some sounds carry with them a sense of space, which Smalley describes as *source-bonded space* (Smalley 2007, pp. 38-39). The recordings of plainchant, introduced at ~3'00, imply an utterance space with religious or ritualistic overtones. Furthermore, reverberation can be detected, reinforcing the notion of an internal, possibly religious or ritualistic location. An unexpected spatial superimposition occurs at ~3'00: the plainchant material emerges from the bell sonority and the wave sounds. This pro-

duces a spatial and material contrast between the 'external' waves and the 'internal', ritualistic voices. The pitch content of the voices is slightly ambiguous yet there appear to be similarities with the decaying bell pitches. At the next bell toll (3'30), the vocal and bell spectra fuse together, further establishing a connectedness between them, swelling towards the return of the wave/pebble texture, and creating an alternative stress-release gesture (listening reference 10, 2'55-3'40).

### Spatial Shifts

Sudden changes in spatial perspective are an important structural feature in this composition, creating striking transitions between sections and materials. These shifts occur by 'zooming-in' or 'zooming-out' of spaces, or moving between spaces. Identities such as the bell and the seascape are both explored intimately and observed from distance, and these spatial contrasts articulate the structure of the piece.

When the seascape returns at 5'30, the music suddenly shifts back from the ritualistic space to the distantly observed seascape texture featured earlier in the work. This shift also suggests changes such as: pitch-based to noise-based texture, intimacy to remoteness, internal to external, and social or cultural human presence to solitude in an outside environment. The sense of the ritual space is enhanced by the high-pitched bells, which stimulate further religious connotations. In retrospect, these bells function by anticipating and marking the spatial transition (listening reference 11, 5'17-5'35).

These high-pitched ritual bells recur at 14'00, again signalling a withdrawal from a ritualistic space to a sea setting. This recurring process might suggest that the music is once again nearing the end of a larger scale section (listening reference 12, 13'50-14'04).

### More 'abstract' recurrences

Spectral correspondences among sound identities become more evident as the piece progresses. When the ritual space returns at 5'00, it is marked by the bell toll. The spectral similarity between the plainchant material and the decaying bell is more apparent than before (listening reference 13, 4'55-5'10).

At 6'30, the passages from 1'00 to 5'30 are effectively paraphrased, again ending with the plainchant material. On this occasion, the plain chant appears to be focused on two simultaneous pitches. The lower version sounds natural, possibly based on the untransformed plainchant material, while the higher version recalls the chant and bell spectral fusion heard earlier in the work (listening reference 14, 7'31-7'43).

The notion of duality becomes a feature of some of the oncoming passages, and correspondences with the bell and plainchant spectra can be made. For example, a similar pitch duality is found at 8'00. These spectromorphologies seem to combine spectra reminiscent of the plain chant and the bell material with behaviours similar to the pebble-like morphologies. While the pitch contents are not exactly the same as those found in listening reference 14, the relative pitch positions are similar. Three examples of these dualities can be heard (listening reference 15, 8'00-8'07; listening reference 16, 8'11-8'16; listening reference 17 8'25-8'32).

The bell spectrum appears to be developed later in the piece (from 10'45 to 12'30) through a series of graduated-continuant morphologies of varying spectral content that seems related to the original bell spectral signature. Waves, pebbles, filtered pebbles and the tolling bell are also present but rarely challenge for listening attention until the graduated-continuant material has run

its course, finally returning to the original bell spectrum (listening reference 18, 10'50-11'08).

The significance of these later sections is dependent on the earlier prevalence of source-bonded identities. The sound world is perceivably 'abstracted', and these more 'abstract' materials (fused identities and bell spectral abstractions) allude to aspects of the source-bonded identities. They create connections to remembered material, but also provide new musical perspectives. The source associations are also subjects of musical play – these new materials exist in newly created spaces, intimately mixing and blurring the boundaries of the previous sound identities.

### Conclusions

To conclude, *Penmon Point* features a diversity of recurrent phenomena, carried by both strongly source-bonded sound identities, as well as more 'abstract' sounds. The bell identity recurs every thirty seconds in realistic and transformed states, and in different spatial locations. It also performs different musical functions and behaviours e.g. marking time, marking textural changes and co-existing with ongoing textures. Various spatial settings recur over longer time scales and establish the form of the piece, such as the seascape textures, 'zoomed-in' crashing waves, and plainchant materials. The shifts between these spaces are also striking, and particular transitions repeat, articulating the structure further. And more abstract recurrences are present, such as the spectral bell textures and the pebble behaviour/bell spectrum hybrid sounds. In my further research I am examining other works with the aim of revealing common stylistic attitudes to recurrence that are specific to acoustic music.

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<sup>1</sup> *Listening reference* timings indicate the location of the relevant passage within the work.