
Discovering How Accessible Electroacoustic Music Can Be: the Intention/Reception project

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The Intention/Reception (I/R) project concerns an investigation of the relationship between composer intention and listener response in electroacoustic (E/A) compositions. Phase one of the project focuses on E/A compositions that contain or are perceived to contain real-world sound references (RWE/A).¹ The methodology involves introducing works that are unknown to the listening subjects and then evaluating their listening experience. Through repeated listening and the introduction of the composers' articulation of intent (through a work's title, inspiration, elements that the composer intends to be communicated, eventually elements of the compositional process itself – in short, the 'dramaturgy' of the work) listening responses are monitored. The purpose here is to investigate to what extent familiarity contributes to access and appreciation and to what extent intention and reception are meeting in this particular corpus of E/A art music.

This paper offers an introduction to the I/R project outlining its background, its context and presenting pertinent points concerning the design and operation of its methodology. Following this, some of the key results discovered thus far, including the first presentation of test data that formed the basis of the conclusions of a recently completed doctoral thesis, will be shared.

1. INTRODUCTION

In 1990 Leigh Landy asked a question of International Computer Music Conference (ICMC) attendees through the title of his paper, 'Is more than three decades of computer music reaching the public it deserves?' (Landy 1990: 369). His concluding response, 'of course not!' was based on his contention that, at that moment 'contemporary music [was] suffering from being (one of) the worst supported art(s) . . . especially in terms of its distribution' (*ibid.*). His view, grounded as it was in questions of dissemination and access, introduced a potential discourse into E/A art music research that had not appeared to have been considered to any great extent previously – that E/A art music could and *should* access an audience outside of that which it

generally accessed, and that based on this premise E/A art music research and artists' endeavour should devote a certain degree of its investigative energy towards addressing this issue.

Landy himself began reflecting on how E/A art music research might proceed in terms of establishing the means through which to address this issue, i.e. how could E/A art music as a particular genre best position itself to achieve broader dissemination, access and appreciation? Revisiting his 1990 paper in 2004, Landy asks:

[A]lmost a decade and a half later, have things improved? My point of departure was that digital sound is everywhere, but electroacoustic music, the most used term in [*Organised Sound*] for the relevant body of work, five and a half decades old, is still having teething problems in most countries in terms of its acceptance. (Landy 2004: 227)

The I/R project situates its primary point of departure in aspects of Landy's research, in particular the issues of access and appreciation in E/A art music. It includes the development, enhancement and expansion of two of his concepts: the 'something to hold on to factor', and 'dramaturgy' in E/A music.

Simply put, the 'something to hold on to factors' (SHFs) are those factors that a listener uses to make sense of and appreciate a particular work. 'Today's listener, especially those who have had little experience with timbral composition, can profit by having something to hold on to in works in which many traditional elements are not prominent' (Landy 1994: 49). Indeed, such factors may be offered to the listener by the composer as part of a work's dramaturgy.

The term 'dramaturgy' has been borrowed from the theatre arts as there exists no comparative musical term. Dramaturgy is more involved with the question of 'why' something takes place and in what contexts, rather than the 'what' or 'how' of the endeavour. However, it does not exclude the 'what' or 'how' if these factors contribute to the communicative intent of the work and are deemed pertinent to offering the listener 'access into the work's universe' (Landy 2001: 27). Dramaturgy, as it is being used in this study, encompasses all of the elements that have *influenced*

¹These are fixed medium works where the composer's communicative intent is based wholly or in part on the real-world referential characteristics of the sounding content. Such works are a subset of a corpus of works (termed E/A art music works throughout this article) that appear to be based, for the most part, within academia and the professional E/A art music community.

the creation of a given work. The dramaturgy of an E/A art work may therefore concern a composer's ideas, motivations, inspirations and aspirations as well as the development of these during the composition of the work. It includes, but is not limited to what a composer intends to communicate through the work.

The goal of the I/R project is to introduce a dynamic methodology into E/A art music research, one that has been developed as a complementary phase of Landy's research and as a response to similar studies in the areas of intention and reception. The project has been designed to generate knowledge that contributes to supporting access in terms of our better understanding of how E/A art music succeeds in terms of communicating content and experience with its listeners, and thus in terms of our predicting how relevant it can be to today's and tomorrow's society. Once this has been demonstrated, it is believed that a greater case can be made to readdress the imbalance in terms of arts education and E/A art music's coverage by the communications media. In consequence, the imbalance with commercial music can be addressed based on knowledge, not just conjecture (Landy and Weale 2003: 3)

2. METHODOLOGY

Three composers were selected from a group of twenty volunteers to provide listener testing material; each composer provided one composition,² *ABZ/A* by Pete Stollery (UK), *Deep Pockets* by Larisa Montanaro (USA), *Nocturne* by Simon Atkinson (UK), and each completed a *Composer Intention Questionnaire* (CIQ) (see Appendix). The CIQ has been designed to solicit 'dramaturgic' information. All of the composers' replies were sufficient for the purposes of this project.

The works were categorised as follows:

- (1) Location soundscape: *ABZ/A*. The location soundscape work presents the listener with aural experiences related to a particular location or locations and/or is focused on particular sonic occurrences within a particular location. There is also little abstraction, transformation and manipulation of the sounds.
- (2) Soundscape with sonic abstraction: *Deep Pockets*. The soundscape with sonic abstraction approach involves the use of sounds and/or sounding objects related to a specific location or locations, sounds that are recognisable as such. Yet it also involves a transformational and abstract compositional element involved in exploring the intrinsic and composed musicality of the sounds, but not into total abstraction. The recognisable identity of the

sounds remains the primary communicative factor in the work.

- (3) Abstract referential: *Nocturne*. Abstract referential works do not contain real-world sounds as such, in terms of concrete, recognisable sounds directly related to their source. The sounding content has been abstracted through manipulation and transformation. However, despite this abstraction there is maintained a sense of realness within the work, an imaginatively interpreted real-world quality. These works stimulate imaginative interpretations of the abstract content that are based on real-world references.

2.1. Listener testing

Listener testing participants were divided into three 'user groups':

- (1) *Inexperienced listeners* – listeners who have no knowledge of E/A art music, e.g. the general public. The *inexperienced core user group* comprised twenty participants who listened to all three test works. Thirteen were non-musicians and seven were musicians. The musician participants were all further education students from two colleges, all of whom were studying popular music and music technology. The use of core user groups provides a controlled consistency in the testing and is beneficial in terms of comparative analysis of the various data sets, particularly when interpreting statistics. The *inexperienced supplemental user group* comprised thirty-nine listeners who listened to one of the three test works. Thirteen were tested on *ABZ/A*, thirteen on *Deep Pockets* and thirteen on *Nocturne*. Twenty-one listeners in the inexperienced supplemental user group were non-musicians and eighteen were musicians. In total (core group participants and supplemental group participants combined), fifty-nine inexperienced listeners were tested. Thirty-four were non-musicians (58% of total) and twenty-five were musicians (42%).
- (2) *Experienced listeners* – listeners who have a fundamental knowledge of what E/A art music is; who have heard and perhaps composed E/A art music, e.g. undergraduate contemporary music students. The experienced user group comprised twenty participants who listened to all three works. These participants were all final year undergraduate students at De Montfort University in Leicester, studying music technology. Most had a popular music background yet had experienced E/A music in both its art and popular music categories.
- (3) *Highly experienced listeners* – Listeners with a developed knowledge of E/A art music, e.g. postgraduate students and beyond. The highly

²Excerpts of these works are included on the *Organised Sound* annual DVD.

experienced user group consisted of eight participants who listened to all three works. All highly experienced listeners were at postgraduate level or beyond, they were all active composers of contemporary music and had a developed, specialised knowledge of E/A art music. The highly experienced user group was used primarily as a control group, providing data concerning the extent to which 'specialised' knowledge affects listening strategies and appreciation. The question of accessibility for this particular group was not an issue as all participants actively chose to listen to E/A art music.

2.2. Listener testing procedure

The listener testing procedure involves playing the selected test compositions for the listening participants and recording their responses. In order to investigate the effects of dramaturgic information on the listening experience, the test work is played three times during a single testing session. Listener responses are monitored throughout all three listenings – the listener response questionnaires have therefore been designed to reflect these three separate listenings.

Each listener completes two questionnaires (see Appendix) during a testing session, firstly a three-part Real-time Questionnaire (RTQ) completed during the first (RTQ1), second (RTQ2) and third (RTQ3) listening. This questionnaire is designed to solicit the thoughts, images and ideas that are coming to mind as the listener listens to the work. It functions much like a note pad, where the listener can jot down their immediate thoughts.

The second questionnaire is a Directed Questionnaire (DQ) completed after the first listening only. This questionnaire is designed to solicit more in-depth information about the listening process. The DQ encourages the listener to elaborate on their notes made in the RTQ by asking more directed questions concerning their listening experience.

- *Listening 1* – The work is played without providing the listeners with its title or any dramaturgic information. During this listening test participants complete RTQ1. After listening and following completion of RTQ1, listeners are then given the DQ to complete; this is completed before the second listening. It is at this time that access information is collected.
- *Listening 2* – The work is played again, this time providing the listeners with its title. During this listening test participants complete RTQ2.
- *Listening 3* – The work is played again, this time providing the listeners with dramaturgic information solicited through the CIQ. During this listening test participants complete RTQ3.

These three listenings are to provide data concerning:

- (A) The extent to which access and appreciation is possible without any contextual data being given prior to listening to the work.
- (B) The means by which listeners make sense of the work in terms of its content alone. Factors (A) and (B) also demonstrate the extent to which the work itself contains information that indicates the appropriate means through which to interpret the work.
- (C) The extent to which the title and the dramaturgic information assist the listener in terms of access and how such information informs the listening strategy and enhances appreciation. An important question here is: To what extent does dramaturgic information provide the listeners with *something to hold on to* when engaging with the work?

2.3. The pilot project

In order to facilitate a better understanding of the testing methodology, participants in the pilot project were asked to give feedback on the methodology (testing procedures and questionnaires), in terms of what aspects they found difficult and/or confusing and how these difficulties might be relieved. Many of the listener-testing candidates, from all user groups, made important suggestions concerning possible alterations to the methodology; where appropriate these suggestions have been put into practice. A particular development of interest during the pilot project concerned post-testing session discussions.

At the end of testing sessions during the pilot testing phase, listeners often began an unprompted discussion amongst themselves about the test work, what they thought about it both in terms of its content, its meanings and their personal likes and dislikes. These discussions often involved the listeners explaining their interpretations in more expressive detail than in the written responses. I decided to make audio recordings of these discussions in subsequent pilot test sessions (involving the inexperienced and experienced user groups). These were transcribed into text. However, this practice was found to be problematic. Placing an active microphone into the discussion situation had the effect of silencing many participants, particularly those in the inexperienced user group. To resolve this issue, group discussion in the main project was subtly encouraged at the conclusion of all listening sessions, without audio recording.³ Pertinent points that arose during these discussions were noted; this practice has proven to be an important means of soliciting unexpected data that is not revealed through the questionnaires. It tends to demonstrate the extent to

³The practice of concealed recording is unethical.

which listeners have been engaged and stimulated by the work based on the duration, detail and energy level of their discussion.

3. THE RESULTS OF DATA ANALYSIS

These results concentrate on the inexperienced user group as a principal goal of this study was to investigate access and appreciation for inexperienced listeners.

3.1. 'Something to hold on to factor' categories

In 1994, Leigh Landy conducted an investigative experiment culminating in a list of things to hold on to, realised 'after many listening sessions of works recorded on CD' (Landy 1994: 52).

The framework of SHF categories shown in table 2, established through the I/R method, has expanded on that first introduced by Landy (table 1). Having access to multiple, individual listener response data sets has allowed me to be able to create a slightly more detailed level of SHF generalisation, including extrinsic information which fell outside of the 1994 project. These detailed elements have also been demonstrated to be pertinent to the cross-section of listeners represented in the user groups, both novice and specialist. It is my hope that as more research is conducted in this area, this framework of SHFs will continue to be expanded and refined – it is not intended to be a closed-ended framework.

Table 1. 'Something to hold on to factor' categories established by Leigh Landy, 1994.

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- i) Parameters
 - a) Dynamics
 - b) Space
 - c) Pitch (and rhythm)
 - ii) Homogeneity of sound and the search for new sounds
 - a) Works based on one or a few pitches
 - b) Homogenous textures
 - c) New sounds
 - d) The voice and live instrument plus tape
 - iii) Textures not exceeding four sound types at once
 - iv) Programmes
 - a) Nature
 - b) Recycled known sounds – musical and anecdotal
 - c) Acousmatic tales
 - v) And so on
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3.2. The use of 'something to hold on to factors' in the interpretation process

When forming interpretations of the work's communicative aspects/meanings, listeners often combine several SHFs through associative relationships and a system of interpretative reinforcement, in conjunction with other aspects of sound identification, description and interpretation strategies. Through the analysis of listener responses concerning what each work might be about combined with other pertinent response data, it is possible to establish a SHF framework that a particular listener has used to make sense of a work. It is also possible to reveal the associative relationships between these SHFs that the listener has used to further contextualise and reinforce her/his interpretation. A typical example of this process can be highlighted through the following interpretation of *ABZ/A*, 'it's about a journey to the seaside in France, by plane, then through a time warp to childhood'.⁴ The SHFs used to arrive at this interpretation are presented (below) in bold and *italicised* text. The means through which the listener used these SHFs to establish his interpretation are presented in standard text.

3.2.1. Real world sounds

Source – the sounds identified as an airport concourse and flying aircraft were interpreted as suggesting a theme of travel 'a journey . . . by plane' (this interpretation was reinforced by several other factors listed below).

Homogeneity of real-world sounds – the *source* and *cause* sounds identified as waves on the seashore and seagulls were interpreted as indicating a seaside soundscape (resulting in a *location* SHF).

Location – the identification of a French location was based on a (mis)interpretation of the accordion as playing French music combined with the listener's 'going on a journey' interpretation. The French location interpretation when associated with the previous elements has also reinforced the idea of a journey and of travel by aircraft. If this listener does not live in France then a journey to the French seaside would logically involve air travel (it could also involve sea or train travel).

Voice – the identification of children's voices and the sound identified as a swing has suggested the idea of childhood. This childhood interpretation has been contextualised and reinforced by the identification of an abstract sound section described as a 'time warp' and

⁴This first listening interpretation was not accurate in terms of the composer's communicative intent. It is simply a good example through which to demonstrate the use of SHFs in the interpretation process and how subjectivity plays a role in the interpretation process.

Table 2. ‘Something to hold on to factor’ categories established by Rob Weale, 2005.

A) Real world sounds
i) Source/cause
ii) Voice
iii) Location
B) Parameters of sound
i) Timbral quality
ii) Spatiality
iii) Dynamics
iv) Movement
v) Morphology
vi) Pitch
vii) Rhythm
C) Structure
i) Narrative (real-world)
ii) Narrative (acoustic)
iii) Layers of sound
iv) Juxtaposition of sound (real-world)
v) Juxtaposition of sound (acoustic)
D) Transformation
i) Static transformation
ii) Dynamic transformation
E) Homogeneity of sounds
i) Real world sounds
ii) Parameters of sounds
F) Extrinsic Information
i) Title
ii) Dramaturgy

the identification and interpretation of a *Narrative* structure (these are described below).

3.2.2. Abstract sound interpretation

In section 2.46–3.59 the listener used a *parameters of sound* SHF involving an imaginative, micro-level symbolic interpretation of the *timbral quality* of the sound to realise his ‘time warp’ interpretation. This interpretation when associated with the sounds identified as relating to children has been interpreted as symbolising going back in time to childhood.

3.2.3. Structure

Narrative (real-world) – the listener identified a series of discrete scenes and sections in the work: inside a café,

moving outside, at an airport, a street in France by the seaside, abstract sound section at 2.46–3.59 (interpreted as a time warp) and a children’s playground. He has interpreted the episodic temporal progression of the identified and interpreted sounds from a logical perspective as indicating a journey (moving from scene to scene). The logical order of these elements was important to this listener’s interpretation. This is particularly so with the sound interpreted as symbolising a ‘time warp’ being followed by the sounds identified as sounds of children, the listener has made an associative connection with the sound interpreted as a time warp with the concept of going back in time to childhood. The sounds identified as the seaside have also reinforced this interpretation, perhaps based on the listener’s personal memories of going on holiday to the seaside as a child.

The list of SHFs for this listener reads: *real world sounds, source, cause, location, voice, homogeneity of real-world sounds, abstract sound interpretation (a micro-level interpretation), parameters of sound, timbral quality, structure, narrative (real-world)*.

Using this method it is possible to identify the pertinent SHFs for each listener in each work and so establish the most pertinent listener-based SHFs for a particular work. This is very useful as feedback data for composers. It indicates the pertinent factors that are being identified and used to interpret the work’s meanings and so may indicate the areas where the communication of communicative intent is not so strong; these areas may then be addressed by composers in future works if they wish, through dramaturgic information. This system of SHF categorisation is itself useful in this regard as a potential tool of access⁵ as it allows for the composer of a work to indicate a general listening strategy for the listener to follow. The three test works used as test material could be categorised in the following manner using this system:

ABZ/A – SHFs (as indicated by the CIQ):

Real-world sounds – *source/cause, location*
Parameters of sound – *morphology [wave shapes]*
Structure – *juxtaposition of sound (real-world)*
Transformation – *dynamic transformation*
Homogeneity of sounds – *real-world sounds*
Extrinsic information – *title* (including the explanation as to what the abbreviations meant)

Deep Pockets – SHFs:

Real-world sounds – *source/cause, voice, location*
Parameters of sound – *timbral quality, movement, rhythm*
Transformation – *static transformation*

⁵An ‘access tool’ is any type of information that is offered to a listener (or indeed anyone engaging with an art form) in order to assist them in appreciating the art work.

Homogeneity of sounds – *real-world sounds, parameters of sounds*

Extrinsic information – *dramaturgy*

Nocturne – SHFs:

Parameters of sound – *timbral quality, movement [proximity shifts]*

Structure – *layers of sound*

Homogeneity of sounds – *parameters of sounds*

This system is obviously dependent on the listener understanding the system of classification and also what each category means.

3.3. The title as a ‘something to hold on to factor’

Most inexperienced listeners used the title as a tool of access and felt that the title helped the listening experience. Most felt that the title helped them identify certain sounds (relative to their interpretation of the meaning of the title) and that it also helped them to interpret what the work might be about. Analysis of statistical results concerning the influence of the title on the listening experience reveals that in *ABZIA*, 39% of listeners used the title as a SHF, in *Deep Pockets*, 91%, and in *Nocturne*, 97%.⁶

In post-testing discussions inexperienced listeners were asked if they felt that, in general, the title of a work was an important aspect in terms of helping them get to grips with a RWE/A work. 82% stated that it was in these cases, several noted (in discussions following *ABZIA* testing) that if the content of *ABZIA* had not been so accessible (based on its predominantly real-world, recognisable content and the ease with which listeners were able to construct an interpretation of its communicative function) they would not have enjoyed the work as much as they would have looked to the title for extra help.

3.4. Dramaturgic information as a ‘something to hold on to factor’

Most inexperienced listeners used the provided dramaturgic information as a tool of access and felt that it helped the listening experience. Most felt that the information helped them listen for and identify sounds that were important in terms of the composer’s communicative intention. Analysis of statistical results concerning the influence of dramaturgic information on the listening experience reveals that in *ABZIA*, 91% of listeners used the dramaturgic information to assist with

the listening experience, in *Deep Pockets*, 76%, and in *Nocturne*, 70%. The higher result for *ABZIA* is due to the lack of influence that the title had on the listening experience (and so listeners had to rely on the dramaturgic information for assistance). In *Deep Pockets* and *Nocturne* many listeners felt that their second listening experience had brought them closer to the intentions of the composer due to their use of the title as a SHF and so the dramaturgic information for these works was not used as much.

Dramaturgy was also demonstrated to be most useful as a SHF in terms of the abstract/transformed sounding content and its communicative function. In *Deep Pockets*, 57% of inexperienced listeners used the dramaturgic information through which to understand and appreciate the communicative purpose of the abstract/transformed sounding content. Most inexperienced listeners, having established the environmental provenance of the work during the first and second listening and not having understood the reason for the abstract/transformed sounding content, used the composer’s ‘inherent musicality/acoustic quality’ intention as a SHF through which to explore the work during the third listening. Being informed that the abstract sounds in *Deep Pockets* were transformed versions of the dominant pool playing sounds helped the listeners in terms of placing these sounds as they now had a real-world relevance, they were not so alien. Such real-world relevance has been demonstrated to be a principal SHF that the inexperienced listeners used to engage with all three works.

In post-testing discussions, inexperienced listeners were asked if they felt that in general, dramaturgic information was an unimportant or important aspect in terms of offering them a way in to such works; 88% stated that it was important. Many noted that it was particularly important for understanding the communicative function of the abstract sounding elements in a work. During post-testing, inexperienced listeners were also asked if they felt that repeated listening assisted the listening experience; 73% stated that it did.

3.5. Most and least engaging aspects

The most prevalent responses concerning what the inexperienced listeners found to be the most engaging aspects of the three test works were:

- (1) *Recognisable sounds* (*ABZIA* 64%, *Deep Pockets* 67%, *Nocturne* 0%). Most listeners identified the sounds in *Nocturne* as *representing/sounding like* real-world sounds rather than being actual recordings of real-world sounds.
- (2) *The imagery established through sounds* (*ABZIA* 58%, *Deep Pockets* 55%, *Nocturne* 39%). All inexperienced listeners had an image-based listening experience and established an image-based

⁶The spurious statistic for *ABZIA* is a result of the ambiguity of the title; listeners could not use it to contextualise what they were hearing as they were unsure as to what it meant. I have identified this problem of title misinterpretation as being a slight flaw in the I/R methodology. To solve this, future data gathering will employ the title or a single important dramaturgic aid before the second listening.

interpretation of the communicative function of the work. This is a direct consequence of the inexperienced listeners' use of recognisable, real-world sounds as SHFs.

- (3) *The sense of expectation as to where the aural journey would lead* (ABZ/A 45%, *Deep Pockets* 42%, *Nocturne* 24%). This result is lower for *Nocturne* as the inexperienced listeners in general did not detect a changing episodic content in this work. They homogenised the sounding content into a single, static, image-based soundscape and so did not feel that they were being led anywhere.
- (4) *The way the work stimulated the imagination* (ABZ/A 24%, *Deep Pockets* 29%, *Nocturne* 39%). *Imagination stimulation* was higher in *Nocturne* due to its abstract sounding content. Listeners had no choice but to imaginatively interpret the sounds, which for the inexperienced listeners (and a substantial percentage of the experienced listeners) concerned creating real-world references; the other alternative would be to stop listening. The fact that all listeners were able to establish an imaginative, real-world interpretation confirms the inexperienced listeners' ability to engage in 'active listening'.
- (5) *Narrative structure/content, being taken on a journey through sound* (ABZ/A 36%, *Deep Pockets* 21%, *Nocturne* 0%). This result appears to be relative to the listeners' identification of an episodic structure in a work. See (3) above for an explanation.
- (6) *The surreallambient quality of the sounds/work* (ABZ/A 0%, *Deep Pockets* 18%, *Nocturne* 33%). Appreciation of this factor appears to be relative to the presence and communicative use of abstract/transformed sounds. It is important to note that only musically educated listeners highlighted these characteristics as being the most engaging aspects.

These six categories were the principal means through which the inexperienced listeners appreciated the types of work represented in this study.

The most prevalent responses concerning what the inexperienced listeners found to be the least engaging aspects of the three works were:

- (1) *Abstract sounds that were indecipherable and/or that did not seem to fit* (ABZ/A 61%, *Deep Pockets* 58%, *Nocturne* 43%). Note that in *Nocturne* particular sound types were mentioned: 'ringing sound', seven responses, 'humming sound', four responses. Both sounds did not fit within the general, predominant interpretation of a natural, organic sound environment. In ABZ/A the dominant sounds were identified as real-world sounds and the dominant interpretation of these sounds was based on their real-world imagery ('a

sense of place') and so most listeners could not understand the relevance of the abstract/transformed sounds in this context.

- (2) *Lack of narrative structure/content* (ABZ/A 0%, *Deep Pockets* 39%, *Nocturne* 55%). The number of responses in this category compared with those who suggested that narrative was one of the *most* engaging elements [see (3) and (5) above] confirms that this is an important element in the inexperienced listener's appreciation of a work.
- (3) *Duration* (ABZ/A 9%, *Deep Pockets* 9%, *Nocturne* 33%). ABZ/A – duration 5:05, *Deep Pockets* – duration 4:10, *Nocturne* – duration 8:32.
- (4) *Unchanging sounding content* (ABZ/A 0%, *Deep Pockets* 15%, *Nocturne* 45%). Note that duration as a least engaging factor may also be relative to sounding content as a least engaging factor. In *Nocturne* many listeners felt that the unchanging content was a problem and when this was coupled with the duration of the work it enhanced the feeling that duration was a problem (and vice versa).
- (5) *Lack of a discernible meaning* (ABZ/A 3%, *Deep Pockets* 12%, *Nocturne* 27%). Although this result does appear to map on to the abstraction factor, it is important to note that this may be based on the perceptual abilities of the listener.

These most/least engaging elements indicate that most inexperienced listeners accessed and appreciated the work through real-world sounds and references, both through a direct identification of the sound source and through an imaginative interpretation of the sound source. The means through which they interpreted the work was relative to this real-world content and so their appreciation of the work was also based on the real-world referential content. This may well explain why access and appreciation decreased as the presence and use of abstract/transformed sound increased.

3.6. Accessibility – statistical analysis of directed questionnaire responses (questions 9–12)

Responses offered in DQ9–DQ12 have revealed that some questions are more useful than others in terms of establishing the accessibility of the work. Question 11, which asks if the listener would purchase a CD containing similar work, has not taken into account the variances of CD purchasing behaviour. Most listeners responding to question 11 based their responses on their CD purchasing habits, rather than on the work itself. This issue has resulted in the results from question 11 being eliminated from the access statistics. Question 12, concerning concert attendance, is also problematic, but less so than question 11. Concert attendance is something that some listeners do regularly and others not, or never. Many of the younger, musically educated

listeners often attend popular music ‘gigs’ and clubs with live DJ sets, whereas many of the non-musically educated listeners, particularly the older listeners (30+ years) did not, or had not attended a concert of any kind. However, a positive answer to question 12 is an indication of accessibility and so results from this question have been included.

The following tallying scheme has been used for questions 9, 10 and 12. A ‘no’ response to all three questions is recorded as a ‘no’ response in the statistical data. A ‘yes’ response in one category, or any combination of ‘possibly’ responses is recorded as an ‘undecided’ response (+/-), and two or more ‘yes’ responses is recorded as a ‘yes’ response.

The following abbreviations have been used in tables 3, 4 and 5:

Inexperienced user group – (InEx)
 Experienced user group – (Ex)
 Highly experienced user group – (HiEx)
 Core user group – (core)
 Supplemental user group – (supp)
 Core and supplemental user groups combined – (combined)

Leigh Landy conducted a trial using my I/R methodology whilst I was completing my Ph.D. A full account of this trial can be found in Landy (2005). Landy chose two works as test material, *Prochaine Station*, by Claude Schryer and *Christian Calon*, an

urban soundscape work, and *Valley Flow* by Denis Smalley, a work involving sophisticated sound manipulation. This trial returned similar results to the I/R project.

4. FINAL REMARKS

The application of the I/R methodology has revealed data that demonstrates the accessibility of the types of work represented in this study, highlighting the inexperienced listeners’ ability to appreciate and (most importantly) to have an enjoyable and stimulating listening experience that they would like to repeat. Where access and appreciation has been demonstrated to be problematic for these listeners (most often in areas related to sound abstraction), the study has clearly shown that when offered pertinent aspects of a work’s dramaturgy, listeners are able to use this information to assist their listening experience in problematic areas.

Measuring composer intention against listener response has revealed that many aspects of the composers’ communicative intentions in the test works were received by a majority of listeners from all user groups. This indicates that the communicative content of RWE/A music does speak to a shared listening experience across all levels of experience. Results from this area of the investigation have also generated data that is useful in terms of feedback. Data solicited by the I/R methodology concerning the areas of strongest and

Table 3. Statistical analysis of responses to questions 9, 10 and 12 on the Directed Questionnaire for *ABZIA*, *Deep Pockets* and *Nocturne* (Weale 2005).

	Yes	±	No	Yes%	± %	No%
<i>ABZIA</i>						
InEx (core)	15	4	1	75	20	5
InEx (supp)	9	3	1	69	23	8
InEx (combined)	24	7	2	73	21	6
Ex	16	2	2	80	10	10
HiEx	8	0	0	100	0	0
<i>Deep Pockets</i>						
InEx (core)	14	2	4	70	10	20
InEx (supp)	8	3	2	62	15	23
InEx (combined)	22	5	6	67	18	15
Ex	12	4	4	60	20	20
HiEx	5	2	1	63	25	12
<i>Nocturne</i>						
InEx (core)	12	4	4	60	20	20
InEx (supp)	7	4	2	54	31	15
InEx (combined)	19	8	6	58	24	18
Ex	14	3	3	70	15	15
HiEx	6	1	1	76	12	12
Totals – all three works						
InEx (99 responses)	65	20	14	66	20	14
Ex (60 responses)	42	9	9	70	15	15
HiEx (24 responses)	19	3	2	79	13	8

Table 4. Statistical analysis of responses to questions 9, 10 and 12 on the Directed Questionnaire for *Prochaine Station* and *Valley Flow* (Landy 2006).

	Yes	±	No	Yes%	± %	No%
<i>Prochaine Station</i>						
InEx (core)	14	2	6	64	9	27
InEx (supp)	4	0	1	80	0	20
InEx (combined)	18	2	7	67	7	26
Ex	11	1	1	84	8	8
HiEx	4	0	0	100	0	0
<i>Valley Flow</i>						
InEx (core)	14	3	5	64	13	23
InEx (supp)	3	0	0	100	0	0
InEx (combined)	17	3	5	68	12	20
Ex	10	2	1	77	15	8
HiEx	4	0	0	100	0	0
Totals – both works						
InEx (52 responses)	35	5	12	67	10	23
Ex (26 responses)	21	3	2	81	11	8
HiEx (8 responses)	8	0	0	100	0	0

Table 5. Statistical analysis of responses to questions 9, 10 and 12 on the Directed Questionnaire, both trials combined (Weale + Landy).

	Yes	±	No	Yes%	± %	No%
Totals – both trials combined						
InEx (151 responses)	100	25	26	66	16	17
Ex (86 responses)	63	12	11	73	14	13
HiEx (32 responses)	27	3	2	84	10	6

weakest communication in terms of access and appreciation offer practitioners pertinent information through which they may compositionally and dramaturgically address areas of weak communication in future works and so strengthen communication. This may lead to further access, appreciation and dissemination. This approach is not asking composers to change their style, but instead to reflect on those aspects of E/A art music that are and are not coming across. This form of triangulation is a twenty-first century means of criticism and art development (Landy 2005).

The means through which listeners establish a meaning in the work has been identified through an investigation of the SHFs. A generalised schema of SHFs has been established based on response data from all user groups. This information is useful to practitioners in the field as information through which they can understand the general strategies used by a potential new audience to access and appreciate certain types of E/A art music. The SHF schema can also be used in its abbreviated format to indicate a pertinent, general listening strategy for a particular work or corpus of works.

It is my hope that the positive results of this study will stimulate and inspire other practitioners, musicologists, researchers and composers to use the I/R methodology as a template through which to continue addressing the

issues of access, appreciation and dissemination from a practical, empirical perspective; that is, rather than only continuing what is becoming a growing discussion on the *theoretical* potentials for greater access and dissemination. One of my goals has been to establish a field of research that gives a renewed focus to a form of sound-based expression that (through this particular investigation) has been empirically demonstrated to be relevant to persons outside of the E/A art music community. Indeed, might these findings put aspects of our music curricula and broadcast interests into question?

5. THE FUTURE

Obviously it is not possible for a single study such as this, alone, to *establish* greater access, appreciation and dissemination in E/A art music. This is why the I/R methodology has been designed as a template through which other similar studies can be conducted. It is very important that similar studies do continue in the future, and that these broaden the demographics and widen the repertoire, to find out how far accessibility can be expanded.

The potential for web-based expansion in several areas is being investigated. A specific model is being

considered for integration into UNESCO's Digi-Arts project; of particular interest for I/R research is:

The Sound of Our Water project: http://portal.unesco.org/culture/en/ev.php-URL_ID=9463&URL_DO=DO_TOPIC&URL_SECTION=201.html (January 2006)

The Scenes and Sounds of my City project: http://portal.unesco.org/culture/en/ev.php-URL_ID=25533&URL_DO=DO_TOPIC&URL_SECTION=201.html (January 2006)

In relation to both the UNESCO potential and in considering the pedagogic potential of the I/R methodology, software development projects are also being considered. These would offer affordable, user-friendly, flexible, digital sound organisation tools to new and less experienced users internationally.

As the I/R project has demonstrated, it is also possible to offer listeners a helping hand in terms of indicating how they might listen to the work or body of similar works in order to engage with and appreciate communicative aspects. But it is not enough to simply hope that listeners outside of the E/A art music community will find their own way to these types of work. '[P]eople may have shoes, but that doesn't mean they know where to go' (Chadabe 2004: 316). An active approach towards establishing broader dissemination and access requires finding the means of making the listeners aware that such music exists in the first instance, i.e. *marketing*. The first step in this process may be to address the issue of categorisation.

The I/R project has established a methodology that can be used to reveal the salient features of an E/A art work from the listener's perspective. The salient features that are most informative in terms of *marketing* are those identified by the listeners as the most engaging aspects of the work as a whole, and those that can be generally applied to multiple works, for example, 'I really liked its eerie mood' – *emotive*, 'I liked how it told a story through real sounds' – *real-world narrative*, 'the most interesting thing was experiencing a sense of place just by listening to sounds' – *soundscape*, 'I enjoyed the way the real sounds were turned into unreal sounds' – *transformation*, 'I especially liked how the abstract sounds made me use my imagination to think of real images' – *referential abstraction*. As Rosemary Mountain has noted:

[I]f a feature is properly identified, then anyone who likes that feature is more likely to buy the product/ticket, even if other features are not typical draws for that individual, and . . . if marketing does its research thoroughly, then some popular (collective) preference profiles might emerge, stimulating coherent marketing strategies . . . There is little doubt that, armed with rich vocabularies and a few guidelines about salient features, the PR team could come up with some catchy and even relevant groupings for . . . CD's. (Mountain 2004: 310, 313)

Perhaps a future exists where an interested listener can look through the *electroacoustic* section in the local high street record shop and under the sub-section *humorous soundscape* discover several works that they might find interesting. Idealism? Maybe. But any step taken towards realising the idealistic notion of a more widely disseminated E/A art music would surely be far more acceptable to many composers working in the field of E/A art music than the current state of affairs. Indeed, an active approach towards establishing broader dissemination may well *increase* the speed at which the gradual acceptance of E/A art music in terms of audiences and the communications media occurs.

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APPENDIX

(Note that in all questionnaires composers/listeners were given adequate space to write their responses)

COMPOSER INTENTION QUESTIONNAIRE

Please complete the following:

Name:

Date of birth (dd/mm/yy):

Sex (m/f):

Ethnic Origin:

Country of permanent residence:

Composition Title:

Sound source(s)/source material

(i.e. The place(s) or object(s) from which the sound(s) were collected/recorded, e.g. rocks, railway station etc; and a list of each sound object that was used, e.g. the sound of rocks being scraped together, the sound of trains etc.):

Intention Questions

1) WHAT WERE YOUR INTENTIONS CONCERNING THIS PARTICULAR COMPOSITION? (What are you attempting to communicate to a listener? Please be as specific and detailed as possible.)

2) WHAT METHODS ARE YOU USING TO COMMUNICATE THESE INTENTIONS TO THE LISTENER? (Are you relying on the recognisable aspects of the sounds to communicate meaning? Are you using specific sonic manipulations to communicate these meanings?)

3) IS THERE A NARRATIVE DISCOURSE INVOLVED?

(The word narrative is not solely meant to imply a text-based narrative, a story, but includes sound/structure/spatial/temporal-based narrative discourses.)

IF SO, HOW WOULD YOU DESCRIBE THIS NARRATIVE?

4) HOW IMPORTANT IS IT THAT THIS NARRATIVE IS RECEIVED AND WHY?

5) WHERE DID THE INSPIRATION TO CREATE THIS PARTICULAR COMPOSITION COME FROM?

(What influences caused you to initially decide to create this particular composition?)

6) TO WHAT EXTENT AND HOW, DID YOUR INITIAL INTENTION CHANGE AS THE COMPOSITIONAL PROCESS PROGRESSED?

7) WHAT INFLUENCED THESE CHANGES OF INTENTION?

8) IS IT IMPORTANT TO YOU THAT YOUR COMPOSITION IS LISTENED TO WITH YOUR INTENTIONS IN MIND AND WHY?

9) IS/ARE THERE SOMETHING(S) IN THE COMPOSITION THAT YOU WANT THE LISTENER TO HOLD ON TO AND WHY? (E.g. a recognisable sound, structure, narrative etc.)

10) AT WHAT POINT IN THE COMPOSITIONAL PROCESS DID YOU DECIDE ON A TITLE FOR THE PIECE?

11) HOW MUCH DO YOU RELY ON THE TITLE AS A TOOL WITH WHICH TO EXPRESS YOUR COMPOSITIONAL INTENTIONS AND WHY?

12) DO YOU RELY ON ANY OTHER ACCOMPANYING TEXT, IN THE FORM OF PROGRAMME NOTES, TO OUTLINE YOUR INTENTIONS PRIOR TO THE LISTENER'S ENGAGEMENT WITH THE COMPOSITION AND WHY?

(Please list/attach the text that accompanies your composition here.)

13) WHO IS YOUR INTENDED AUDIENCE FOR THIS COMPOSITION?

(E.g. All audiences, the electroacoustic community, etc.)

14) HOW IS YOUR COMPOSITIONAL PROCESS INFLUENCED BY THE INTENDED AUDIENCE, IF AT ALL?

15) HOW IMPORTANT IS IT THAT THE TECHNICAL PROCESSES INVOLVED IN THE COMPOSITION ARE RECOGNISED BY THE LISTENER AND WHY?

16) DO YOU THINK THAT DETECTABLE TECHNICAL PROCESSES ARE AN INTEGRAL ASPECT OF THE COMPOSITION'S OVERALL AESTHETIC?

(Is it important in this composition that the listener is aware of the technical processes?)

IF YES, WHY?

IF NO, WHY?

17) UNDER WHAT LISTENING CONDITIONS IS YOUR COMPOSITION INTENDED TO BE HEARD AND WHY?

(In stereo, multi-channel, through headphones, in a concert hall, diffused etc.)

18) IF YOU INTENDED FOR YOUR COMPOSITION TO BE DIFFUSED OVER A MULTI-CHANNEL SYSTEM, HOW DID THIS INTENTION AFFECT YOUR COMPOSITIONAL TECHNIQUES?

(In what ways did you structure the composition and its contents in order for it to be best heard in a diffused performance?)

19) IF YOU INTENDED FOR YOUR COMPOSITION TO BE DIFFUSED OVER A MULTI-CHANNEL SYSTEM, IN WHAT WAYS DO YOU EXPECT THE LISTENING EXPERIENCE TO BE CHANGED BY A STEREO PERFORMANCE OF YOUR COMPOSITION?

**THE INTENTION/RECEPTION PROJECT:
REAL-TIME LISTENER RESPONSE
QUESTIONNAIRE**

Please complete the following (BLOCK CAPITALS)

Name:

Date of birth (dd/mm/yy):

Sex (m/f):

Ethnic origin:

Country of permanent residence:

What is (are) your general musical taste(s):

(You may state specific genres, e.g. metal, orchestral, indie, bangra, rock and roll, jazz etc; and/or specific groups, bands, artists, E.g. Elvis, Stereophonics, Beastie Boys, Miles Davis, Aretha Franklin etc.)

1st Listening

Please list any thoughts, images and/or ideas that come to mind as you listen to the composition:

2nd Listening

Now that you are aware of the *title* of the composition, please list any new or altered thoughts, images, ideas that come to mind, or try to expand on any ideas that you have as you listen:

What might this piece be about?

Did knowing the *title* help you to understand the composition?

If yes, why?

If no, why not?

3rd Listening

Now that you are aware of the *composer's intentions*, please list any new or altered thoughts, images and/or ideas that come to mind, or try to expand on any ideas that you have as you listen:

Did knowing the *composer's intentions* help you to understand the composition?

If yes, why?

If no, why not?

How did repeated listening help you in understanding the piece?

**THE INTENTION/RECEPTION PROJECT:
DIRECTED QUESTIONNAIRE**

(Candidates may refer to their initial listening notes when answering the following questions.)

PRINT YOUR NAME:

1) What might this piece be about?

2) What sounds did you recognise in the composition?

3) If you heard sounds that were strange and/or unnatural, please describe (if you can) one/some/any of them?

4) Did the composition conjure images/pictures in your mind?

If so, please describe them?

5) Did the composition suggest a narrative, be it a story or any other time-based discourse?

If so what might this concern?

6) Did the composition seem to convey any emotion(s)? And/or did you have any emotional responses to the piece?

If so, please describe them?

7) What aspects, musical or otherwise did you find most engaging in the composition?

8) What aspects, musical or otherwise did you find least engaging in the composition?

9) Did the composition make you want to keep listening or was it uninteresting?

Why?

10) Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future?

If yes, why?

If no, why not?

11) Now that you have heard the composition, would you choose to purchase a CD containing this type of composition?

If yes, why?

If no, why not?

12) Now that you have heard the composition, would you choose to attend a concert featuring these types of compositions?

If yes, why?

If no, why not?