Interrogating Comprovisation as Practice-led Research

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Abstract
In this paper the author describes his practice of comprovisation, the making of new compositions from recordings of improvised material, and interrogates its validity within the debate about creative practice as research. Although the practice has random and intuitive elements he concludes that it is likely to produce new knowledge and is grounded in the tacit knowledge of composition technique.

Interrogating Comprovisation as Practice-led Research

'Comprovisation' is a term I have adopted to describe my practice of making new compositions from recordings of improvised material, either performed by myself or by other musicians under my direction. This paper interrogates its validity within the debate about creative practice as research. Although the comprovisation practice has random and intuitive elements, I contend that it is likely to produce new knowledge through its strongly experimental approach, and that it is grounded in the tacit knowledge of professional compositional craft.

In a recent conference paper (Hannan, 2004d) I made a case for the idea that my creative practice can be considered as research by reflecting on the writing of the music for *The Flood*, a large-scale music theatre work produced by the Northern Rivers Performing Arts (NORPA) in April 2004. Part of my case was organised around the fact that I had already produced a number of exegetical papers (Hannan, 2004a; Hannan, 2004b; Hannan, 2004c; Thom & Hannan, 2004) on the score and its sources. More

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specifically in describing my involvement in the creation of *The Flood*, I outlined a number of research strategies that I used either informally or formally, as follows (Hannan, 2004d: 195):

· analysis of background literature which positions the artist in a particular artistic field or provides a theoretical framework for the artist;

· analysis and/or critique of art works to inform technique, content or aesthetic;

· reflection on creative processes, on production processes, on collaboration, and on the reception of the art works;

· ethnographic fieldwork with other practitioners or persons involved in the subject matter of the work;

· the investigation of new materials and new ways of organising materials; and

· writing that is meant to be an adjunct to experiencing the work (artists' statements, articles written by the artist about the process of making art).

I also noted that traditional research, whether it is in the arts or sciences, usually involves the following features (Hannan, 2004d: 191):

1) A clear intent of purpose
2) A thorough consideration of the literature
3) A specific methodology and research design
4) Systematic and extensive collection of research data
5) Logical analysis of the data
6) Public presentation providing the potential for further evaluation (reproducibility).

After further reflection on my compositional practice I have, however, concluded that

there are many aspects of it that are *not obviously* based on any systematic research strategies. Rather, part of my practice (ironically the part I believe is the most innovative) involves a strongly intuitive process of recording freely improvised performances (of my own and of others under my direction) and editing this material on a trial-and-error basis. Can this approach to musical creativity be considered as research? And if it can, how can one articulate its research basis? Furthermore, can the research-basis of the act of creation be recognised by the (trained) listener without explication?

In questioning the need for higher degree exegeses Dawson (1997) suggests that:

> …the text produced in a creative writing class is not just a 'first order' practice available for critical scrutiny. It is already a dialogic engagement with theory, with language, with a range of social and cultural discursive formations.

This may be the case for language-based texts, but is the comment valid for the more abstract language of sound texts?

This paper reflects on my compovisation practice drawing on examples from *Terrains* (Hannan, 2000) and a current CD project using virtuoso trumpet player Scott Tinkler as the improviser.

Background

My use of the term comprovisation arose from my discussions with Scott Tinkler about our project in late 2002. I described the process outlined above to Scott and he immediately offered the term 'comprovisation' as an appropriate descriptor. In fact from a recent web search I have discovered that the term is more generally used for written compositions that involve improvisation when they are performed or recorded (e.g. Cline, 2005; Richter & Ireland, 1989). None the less I will persist in using this term for what I do because it has achieved a resonance within my creative practice discourse.

I first became aware of the idea of editing recorded improvisations into new composition from my collaborations with the Los Angeles-based composer Elaine Barkin in 1983-1984. An important part of Elaine's artistic practice involved inviting like-minded musicians to music improvisation sessions at her home. These sessions were recorded by her, and the recorded material was often used later to create 'mixes', sometimes years after the original improvisation session (e.g. Barkin, 1992). Elaine was interested in 'engaging in RealSoundTime socio-music-making activities, on the lookout for ways to advocate and support interactive Group-Play' (Frey, 1993: 255), but she also practiced the compositional act of manipulating this improvised material to make new works.

Later in 1987-88, I was involved in a collaboration with Lismore-based musician Fred Cole where we wrote four dance theatre scores and two documentary film scores using a process of improvised MIDI sequencing and editing. We applied often drastic editing processes to the MIDI data we recorded in layers, and took turns to improvise the layered tracks. The results of this process were very different from what either of us might have done individually.

Using the interior of the piano and improvising piano sounds through unconventional means has also been a long-standing creative and performance practice for me. I was working as an assistant to the Australian composer Peter Sculthorpe when he composed his first piano interior works, *Landscape* (1971) and *Koto Music I* (1973). In 1974 I was sub-contracted (with David Matthews) by Sculthorpe as a composition collaborator for an Australian Broadcasting Commission (ABC) television feature film score, *Essington*. For this project I composed and performed music entirely for piano interior using analogue multi-tracking techniques. The creative method involved a mixture of composition and improvisation.

In 1975 in Paris during the International Society of Contemporary Music's World Music Days I met the polish composer and pianist Zygmunt Krauze who played me a tape of extended piano technique works by himself and a number of other Polish composers (Krauze, no date). Back in Australia I acquired this recording and it became a source of

inspiration for my piano interior practice, although I am still mystified by how the techniques were executed. In particular the techniques used in Krauze's own *Stone Music* for amplified piano (1972) still seem difficult to imagine, although the sleeve notes indicate 'sound effects which are derived from the piano strings stimulated by a steel rod, and from various arrangements of stones' (Bargielski, no date). Other works I studied in detail for their extended piano techniques were Henry Cowell's *The Banshee* (1925) and *Aeolian Harp* (1923) from his collected piano works (Cowell, no date), John Cage's *Sonatas and Interludes* (first performed 1948; published 1960) and George Crumb's *Makrokosmos,* Volumes I and II (first performed 1972 &1973; published 1974 & 1973). Generally I have since tried to keep abreast of compositions that involve extended techniques of the piano.

In 1976, Sculthorpe's music was featured in an ABC radio program called 'Composer Plays'. For this program he recorded his keyboard piano pieces and I was contracted to record *Landscape* and *Koto Music I*, and a new companion piece, *Koto Music II* (1976), written especially for the program. These recordings were eventually issued by Move Records (1981) on vinyl and later reissued on CD.

In 1996 I began using the Digidesign ProTools hard-disk recording and editing system in collaboration with a university colleague, Mic Deacon, in the roles of recording engineer and co-producer. As an initial project I revisited the Sculthorpe pieces described above to see if I could achieve a better result than the analogue recordings initially made in the ABC's Studio 221 in Sydney. The idea of creating my own pieces was the next logical step to this, especially once I realised the editing potential of the new digital technology.

Comprovisation Process

For my own new pieces the principle of composition was to make recordings of individual piano interior sounds or sequences of sounds using improvisation. The next stage was to try to devise a textural and structural concept for a piece keeping in mind the available sounds. In the final stage a piece or a number of pieces were assembled using the multitracking, editing and signal processing facilities of the system.

For the *Terrains* piano interior project (Hannan, 2000a) I created works using techniques such as bouncing glass rods, plucked and keyed harmonics, plucked melodic material, harmonic glissandi, percussive sounds on the frame and case, prepared piano strings, and scraped strings using various scraping objects such as guitar plectra.

I offer the works *Desert Dance* (Hannan, 2000b), *Cicadas* (Hannan, 2000a), and *Whale Song* (Hannan, Deacon & Tinkler, 2005) as examples of my method of working.

Desert Dance is basically constructed from sounds made by randomly bouncing various sizes of glass rods on the short segments of the strings immediately in front of the tuning pins in the highest octave of the piano. The sounds thus made are of the duration determined by how long the glass rods will bounce (between a half of a second and two seconds depending on the surface). A different single sound made by scraping one of the low strings of the piano with a strip of metal sheeting is also used in the piece.

Hundreds of bounces of the glass rods were recorded with the guiding principle of attempting to achieve as much variety in the possible sounds from that source. The process was nevertheless a fairly trial-and-error one. Then these hundreds of sound segments were edited together by removing the gaps between them. At this stage there was the basis of a piece of perhaps five minutes duration. The next part of the process was to remove any sound segments that did not fit into the flow. Then a number of the shorter sounds (around 10 of them) were looped a few times to create some exact repetition. The raw sounds segments tended to sound fairly repetitive anyway, but with subtle variations. Once the foundation of the track was established, the scraped sound was added on a second track, positioned six times at fairly regular intervals of time throughout the bed track's duration. The scraping sounds coincided with key structural points determined by textural changes in the foundation track. To demonstrate the idea of the work, the last minute of the three-minute *Desert Dance* is provided as an audio excerpt.

Play example Audio CD track 1 (*Desert Dance* excerpt)

The second piece, *Cicadas*, was subsequently made by taking at random one of the approximately one-second sound segments of *Desert Dance* and looping it for six minutes. Further tracks were created from the same initial six-minute track by randomly layering it out of phase with itself by a number of different time lengths. The resulting texture was densely repetitive, reminiscent of the stridulations of masses of cicadas on a hot summer day. A further random element was created using the volume curve facility on all tracks in a random fashion, composing visually so to speak. This created an effect akin to the pulsating volume fluctuations of cicada sounds. A thirty-second audio segment of *Cicadas* is provided to demonstrate the resulting texture.

Play Audio CD Track 2 (*Cicadas* excerpt)

The third piece, *Whale Song* is from Mic Deacon's and my latest, as yet unfinished project using Scott Tinkler's improvisations as the source of material for the comprovisations. For this CD project I commissioned Scott to play through his entire repertoire of extended techniques for the trumpet. For example he performed all the known multiphonics for Trumpet so that I could establish a library of trumpet multiphonics to draw upon for the project. For *Whale Song* I asked Scott to improvise *fortissimo* a large number of short quick melodic phrases directed towards the strings of a grand piano that had its dampers raised by depressing the sustaining pedal. The idea I had was to record the resulting sympathetic vibrations of the piano strings and then to discard the actual trumpet melodic fragments that stimulated the strings to vibrate.

The instructions to Scott included the idea of covering different areas of the trumpet's range and using a variety of exotic scales and atonal intervallic constructions. The idea behind this instruction was to create as much chordal and registeral variety as possible. Around a hundred of these melodic fragments and the resulting piano resonances were recorded and sixty four were retained as being usable (some had extraneous noises such as foot shuffling in them and were therefore unsuitable for use in the comprovisations).

To give the reader some idea of the process here are two raw audio examples. In each example I have discarded all of the trumpet melodic fragment except the last fraction of a second of the last note. Thus in each example a very short loud distorted trumpet tone will be heard, followed by the piano strings vibrating in sympathy with the whole trumpet melodic fragment.

Play CD Track 3 (2 examples of piano resonance activated by trumpet fragments)

The initial idea of the piece was to use these piano resonance effects cross-fading one to the next to create a kind of ethereal chord progression.

The original idea was that the trumpet playing would need to be extremely loud in order to get sufficient recording level on the piano strings and that distortion on the trumpet sounds was therefore unavoidable. However, as five of the melodic fragments were played soft enough to avoid microphone distortion these were also able to be used along with their resulting piano resonances in the construction of the piece. One of the melodic fragments was used to begin the piece and to signal the second half of the basically binary structure. A second cadence-resembling fragment was used to conclude the piece and the three other fragments (all reminiscent of whale calls) were introduced as a kind of emotional climax towards the end of the work.

In *Whale Song* the compositional process was a bit more systematic than in *Desert Dance* and *Cicadas*. Classificatory annotations were made on each sound. These basically divided the sounds into pitch-area groupings but also included subjective comments on the timbre of each sound (e.g. dark, airy, dull, shimmering, etc.). Then a lot of juggling of the order of these sounds was conducted to achieve what appeared intuitively to the ear to work as an effective chord progression. However, the process was not exhaustively systematic (where, for example all combinations of sounds might have been tested to ascertain their linear compatibility).

Here is the recording of the second half of *Whale Song*.

Play Audio CD track 4 (*Whale Song* excerpt)

Discussion

Using the examples I have provided as test cases in my comprovisation practice, to what extent have I adhered to the six requirements of research introduced earlier in this paper?

1) A clear intent of purpose

I believe I have a clear intent of purpose even if it is the general idea of trying to create new materials for composition through the free improvisatory process, and to experiment with random ways of assembling the material which can then be modified if found to be ineffective.

2) A thorough consideration of the literature

Although I can't say for sure that no other composer has already created any works that use these techniques, I am, as I have already claimed in the background section above, fairly well aware of the written and recorded literature of non-traditional piano techniques and also of free improvisation. Similarly during my collaboration with Scott Tinkler, I became very aware of the extended techniques repertoire of the trumpet. Tinkler himself has created distinctive extensions to trumpet techniques and is currently planning a book on his extended techniques practice (Hannan, 2005). Thus one could say that in these two comprovisation projects I have covered the relevant literature to a significant extent, although perhaps not as thoroughly as a conventional researcher might.

3) A specific methodology and research design

Composers usually develop an individual systematic method of working and a design for each work that is written. Some composers have attempted to explain their method (for example Messiaen, 1956) or even develop theories about compositional method using their own works as exemplars (e.g. Reynolds, 2002). I know that for some of my own concert hall works (e.g. *In the Utter Darkness* for solo flute), I am able to explain my every choice of note and all the structural relationships between movements, sections, and even phrases, and I often do so for my composition students as a demonstration of this approach to composition. This phenomenon in compositional technique clearly represents an equivalence to method and design in research practice. But in the case of the comprovisational works presented here, the method seems by comparison somewhat arbitrary and non-systematic. However there are aspects of experimental method that demonstrate some resonances with my comprovisational practice. Mauceri (1997: 201) makes a connection between scientific experiment and the Cagian idea of experimental music:

> Cage's definition of experimental action, "one the outcome of which is not foreseen" (Cage 1973, 39), corresponds to the experimental anomaly in science. The unforseen musical event exceeds our ability to make sense of it; it ruptures our interpretive framework. For both science and music, the moment of discovery is structured in the same way; the experimental event cannot be accommodated by the framework of meaning-giving relationships that preceded its appearance.

In the case of events thrown together in a semi-random way there is the chance to extend the possibilities of the technique that would not be available using logical and systematic processes. The method, then, is in the subversion of accepted methods.

Another key aspect of method in research is the expectation of transparency. With many of these comprovisational works, it would be difficult for even an experienced listener to understand how the works were made by merely listening to them. When Scott Tinkler first heard the comprovisation work *Quaquaversal* (Hannan & Deacon, 2004), produced by layering many of his own recordings of trumpet multiphonics (distorted split-tones produced by playing one note and singing a different note simultaneously), he was so surprised that he remarked: "That doesn't even sound like a trumpet." And as

related earlier in this paper, I still have little idea how Krauze performed his *Stone Music* even though I studied the recording and attempted to reproduce the techniques.

Methodological transparency can, however, be easily provided by explanatory information provided by the composer. After all an exegesis is, in its original usage for canonical texts such as the Bible, an explanation of a work that cannot be expected to be understood without explanation and interpretation (Krauth, 2002:2).

4) Systematic and extensive collection of research data

The equivalence in comprovisation to the "systematic and extensive collection of research data" could be the idea of assembling a library of sound events for a work. Certainly with *Desert Dance* I was intent on collecting over a hundred variants of the simple idea of bouncing the glass rod on the strings and adjacent tuning pins. It was systematic in that I tried to exhaust the possibilities of different timbres and textures obtainable by this particular instrumental technique as applied to a limited area of the piano.

Similarly with Whale Song the objective in creating the individual piano resonance source recordings was, as explained above, to create as much sonic variety as possible. This was achieved systematically by instructing Scott Tinkler to play patterns that would yield a broad range of outcomes.

5) Logical analysis of the data

In the case of *Desert Dance* the "logical analysis of the data" collected was carried out by discarding the data that did not seem to fit. Here a process of artistic discrimination is taking place based on the ear's ability to categorise sound events into compatible groups by timbre and texture.

As indicated above, comparatively more aural analysis of the data took place in the arrangement of the sound events in *Whale Song*. The process is perhaps akin to deciding what works effectively, a decision made through one's accumulated knowledge and understanding of the processes of harmonic progression, although there was also compatibility of timbres to consider. Just as composers are able to make the leap from the theoretically codified languages of diatonic and chromatic harmony into more abstract atonal harmonic structures (that may none the less be explainable using concepts derived from the history of harmony and acoustical theory) so too the same principles understood intuitively by years of listening may be applied to the sound event progressions of *Whale Song*. These sound events resemble chords, but in the composition process, they have not been analysed for tonal content. By listening to them next to each other in various ways it seems possible to decide what order of sonic events works best. As an experienced practitioner, I was thus able to make valid artistic decisions about organising the material through what has been described as 'tacit knowledge', a concept developed by Michael Polanyi). As Barbiero (no date) puts it:

> The distinction between tacit knowledge and explicit knowledge has sometimes been expressed in terms of knowing-how and knowing-that, respectively (Ryle 1949/1984, pp. 25-61), or in terms of a corresponding distinction between embodied knowledge and theoretical knowledge. On this account knowing-how or embodied knowledge is characteristic of the expert, who acts, makes judgments, and so forth without explicitly reflecting on the principles or rules involved. The expert works without having a theory of his or her work; he or she just performs skilfully without deliberation or focused attention. Knowing-that, by contrast, involves consciously accessible knowledge that can be articulated and is characteristic of the person learning a skill through explicit instruction, recitation of rules, attention to his or her movements, etc. While such declarative knowledge may be needed for the acquisition of skills, the argument goes, it no longer becomes necessary for the practice of those skills once the novice becomes an expert in exercising them, and indeed it does seem to be the case that, as Polanyi argued, when we acquire a skill, we acquire a corresponding understanding that defies articulation (Polanyi, 1958/1974).

My study of the theory and practice of harmony began, I should say, almost a half century ago, and indeed continues today in my musicological research through analysis of musical works. However in composing *Whale Song*, my accumulated tacit knowledge

of this activity has allowed me to work with the material in a way that 'defies articulation'.

6) Public presentation providing the potential for further evaluation (reproducibility)

A case may be made that the 'public presentation providing the potential for further evaluation' takes place in the independent assessment of the work by critics and peers. The critical process may establish the unique contribution to knowledge or otherwise of the work presented. Reproducibility is another matter. Clearly these works are reproducible publicly by playback through a sound system. They could not, however, be considered reproducible in the way a notated work might be. It would not be possible to re-record them exactly as they are now, because of the difficulty of controlling some of the performance techniques that were used to create the individual sound events. For example the glass rods bouncing on the piano strings is a technique impossible to control and therefore impossible to replicate. However, as with scientific experiments which are often reproduced under different conditions to ascertain whether the original results might still hold, the sound events, the techniques of making them, and those of assembling them, might be applied under different circumstances to create other very different kinds of musical works.

Conclusion

Although on the surface my comprovisation practice may appear to lack the rigour expected of creative work if it is to be considered as research or equivalent to research, I have attempted to argue that like the creative writing example provided earlier by Dawson (1997), my practice can be considered "a dialogic engagement with theory, with language, with a range of social and cultural discursive formations."

When looked at against the general requirements of traditional forms of research in the arts and sciences my comprovisational practice also appears to have features that correlate to these. In fact, the experimental methods used are likely to produce new sounds and new and unexpected ways of combining them. As Mauceri (1997: 201)

explains it: “When scientific experiment yields unexpected results, and it repeatedly does, theory is called into question. The unexpected must be explained by new theory; thus, new theories are invented or discovered”.

There may be aspects of the ‘intuitive’ compositional decision making processes that I have described that can be explained by reference to my tacit knowledge gained from many years of professional practice of compositional craft.

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