**Principles of Interaction for Recording Sessions**

**Reflection upon the role of Producer during the QUT's Indie 100 Project 2013**

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**Abstract**

This project aims to define some important principles of interaction for record producers by examining the preparatory state and values of the record producer in readiness for a project that imposes strict constraints on the scope of the recording session. I examine the intersection of these influences in the execution of multiple recording sessions to draw conclusions about the way in which the producer and the project design interact to influence the artist, the session, and the recorded outcome.

**Reflective practice**

This essay uses a 'reflective practice' (Haseman, 2006) framework to draw insights from my experience as a music producer for QUT's Indie 100 project in 2013. Swanwick (2008) notes that, in the Arts, there is an intrinsic link between 'reflection and theory' and that reflective practice is unavoidable in the development of musical skills (pp 223-232). For Haseman (2006), reflective practice is an essential form of 'performative' research, the findings of which can include non-textual creative works. Haseman notes that, for the performative researcher, research is 'initiated in practice' and that the needs of practice and practitioner are foregrounded in such processes (cf also Gray, 1996, in Haseman, 2006).

The link between audio recording and reflective practice is intrinsic. The process of review and reflection is the constant companion of the producer and engineer. The suitability of technical and artistic aspects of a performance, and ways to improve upon those, are the essence of music production and engineering. Having completed any project, the music producer evaluates their performance based on their experiences of the session and the quality of finished product against the aims of the project. This self-review informs the values and performances of tasks the practitioner takes to next recording project. Put simply, I argue that reflective practice is how producers and engineers get better at what they do and, further, that there is no other way to do so.

Shunk and Zimmerman (1998) state that for a skill to be learned in any sophisticated way,

learners must behaviorally apply cognitive strategies to a task within a contextually relevant setting. This usually requires repeated attempts to learn mastery and involves coordinating personal, behavioral, and environmental components, each of which is separately dynamic as well as jointly interactive.

In this essay, I use my performance as a record producer in QUT's Indie 100 project to generate knowledge about the art of record production. With reference to Shunk and Zimmerman's (1998) approach, the analysis is as follows. The 'contextually relevant setting' is the recording sessions for Indie 100 project held at Gasworks studio Brisbane May 20-26 2013. My 'repeated attempts at mastery' will be considered through the examination of several of these sessions. The personal aspects considered are the preparatory principles, skills, values, and communication practices of the producer. The environmental aspects are the parameters of the project imposed on the artists and producer by the nature of the event, the setups used, and the technology available during the sessions. The behavioral aspect is the context of execution of the sessions by the personnel involved in collaboration with the producer. I consider the interaction of these aspects through a reflective analysis of the completed recordings I made during these sessions. Through my reflective examination of this event I develop insights into the art of record production that I hope will be of benefit to those who would seek to practice this complex craft in an effective manner.

My field notes for this project are the recordings themselves, examples of which I have presented here in Appendix 1. I have an aural memory, and every sound on every recording I have ever made serves as a vivid reminder of the recording process itself. Smith (1985) defines this as 'context dependent memory' where music is a mnemonic device that helps trigger detailed memories.

**Becoming a producer**

**What makes a record producer?**

Beyond the ownership of recording equipment or access to studio time, or merely the gall to proclaim oneself as producer, I believe that there are two most common pathways to the producer's chair: that of an experienced musician or that of an experienced recording engineer. In some cases, the producer may just function as 'fixer', having little background or formal skill in music or recording engineering. This third kind of producer may typically hire others to realize the production. But the non-musician, non-engineer is certainly less common and may be even categorized as an Executive Producer, A&R (Artist and Repertoire) professional, or entrepreneur.

In his examination of what makes a record producer, Howlett (2009) defines the role as the connection or nexus '[c] harged with the responsibility for delivering an outcome that will satisfy not just the aspirations of the artist, but also the expectations of the commercial interests that finance the process'. (p. 6) He further states that the producer 'is the ingredient in the process of recording a musical idea that interfaces between all the factors necessary for the production of a satisfactory outcome'. (p. 18). In this way the producer deliberately becomes the "meat in the sandwich" with the sometimes unenviable task of reconciling conflicting desires and aims. This balancing act may include duties as musical director, arranger, coach, or psychologist. Throughout the recording the producer manages the personnel, the process, and content for a high quality outcome that satisfies all those with an interest in the outcome. The producer's own artistry is present as 'a colour transparency that affects the light passing through it' (Howlett, 2009, p. 7).

**Situating the author: My path to record production**

When I reflect upon how I became comfortable with the title of record producer I have journeyed through the roles I have listed: that of both musician and recording engineer. In my early teens my childhood solo vocal endeavours and early study of piano led me to membership as a chorister of the Brisbane youth choir *The Happy Wanderers*. At age fourteen the choir recorded an album at Channel Nine Brisbane's Mount Cootha television studios. This marks my first experience with the fascinating (then sixteen track) multitrack recording process. The next year my role in the choir

was substantially expanded when I was asked to tour New South Wales as piano accompanist and Musical Director.

Those early experiences remain vital to my current skills as a producer in the following ways: As a vocalist in an ensemble I developed the ability to listen and adjust my own singing to that of others around me. The skills of perception of ensemble and micro pitch adjustment are core to my professional practice to this day. I have always felt a strong love of vocal harmony and my early debut as a musical director saw me charged with the task of writing vocal arrangements. I was required to conduct, direct, cue, balance and set tempo for performances. I still retain these skills and have developed them throughout my career.

I began learning piano at age six. I was fortunate to have a mother who saw that I was not responding to classical piano training and sought out a professional musician as teacher. Bruce Sherar was an accomplished player, arranger, and musical director who introduced me to new ways of understanding my instrument through chord structures and voicings that became an invaluable building block for my contemporary music production, composition and playing, as well as being a key skill for my musical communication with artists.

As a result of being able to read and play chord charts on piano, accompany singers, and sing, my musicianship led me to the recording studio. Fascinated by the scope of creativity offered by the process, I was drawn to the control room side of the glass and set about getting a role in the production team. Although it may take hundreds to make a motion picture film, I would argue the necessity of three hierarchical roles in the control room and studio record production process: the Producer, the Engineer, and the Assistant Engineer. Having set my goal on a professional career in recordings, I set my sights to build on my skills as a musician and work through these studio roles in reverse order.

My first full time job at eighteen transitioned from that of assistant engineer to chief engineer within three months. Although young and relatively inexperienced, I became responsible for the engineering duties in a thriving, automated 24 track studio specializing in advertising soundtrack or "jingle" production – the iconic Brisbane studio called *Suite Sixteen*. Its main business was carried on by an in-house production team, though often with external jingle writers.

The time alllowed for such productions is typically short and a normal day would often consist of recording a freshly composed jingle in the morning and mixing down and dubbing the finished product by mid-afternoon. The tight schedule was achieved through the use of state of the art computer music instruments such as Fairlight's CMI and with excellent players and singers who were also highly experienced session musicians.

This early advertising experience was valuable in a number of ways. Because material would be transitioned from demo to final with sometimes minimal change or little addition I learned to record everything to the best of my ability at all times and to forgo any rough or "demo" mode of recording. I had only one standard of quality and only the sophistication or density of arrangement of production would change with budget. My recording and mixing was to my best possible standard at all times. Another benefit of tight time frames was the developing the skill to mix quickly and to make decisions regarding how sounds would fit together during the recording session to save time in the mix. To 'pull' a usable finished sound from an instrument or vocalist at the time of recording is an excellent technique that I would contend has been somewhat damaged by the move to digital audio workstations and the procrastination in the construction of a performance that their mirror-like quality, massive editing power, and enormous track counts allow.

Regarding the use of and methods imposed by analog equipment, Bennet (2009) states that "vintage" 'technologies, such as the consoles, processors and tape recorders made pre-1980s, are synonymous with quality, fine engineering, sonic character and lasting value' (para. 51). Bennet argues that, in use, 'the reasoning is one relating to process: fewer tracks create limitations, which in turn demand 'whole' performances from the musicians' (para. 51).

The process of recording jingles to analog tape taught me to work with the artist to achieve a finished result at the time rather than as a post-performance construction, compile, or edit. The session players and singers were chosen not only for their abilities to perform but to respond to and take direction from engineer, producer and even advertising agency client to improve the product in a "real-time" and collaborative way. I cannot undervalue the benefit of many years of engineering analog recordings in this manner and the affect that has had on my role as a producer. Having been trained by excellent producer-engineers and moving slowly between

"studio hierarchy" roles over 15 years, I still engineer my own sessions. I will always see substantial overlap in the responsibilities of the engineer and producer because of my history.

Following my apprenticeship in Brisbane at Suite 16, I went on to record and produce music for major studios, labels, and publishers in Sydney and Melbourne. My work included jobs for Virgin, Sony, EMI, Warner Chappel, and many others. It included recordings for iconic Australian acts such as Masters Apprentices, The Lime Spiders, Defryme, and many others. I was fortunate enough to continue in the profession until the mid 2000s when the state of the local industry became far too precarious to support the numbers of professional producers that it had in previous years. My current role as a music production educator in the VET sector keeps me in touch with developments in the field and I continue a professional profile in the field of Mastering as a "sideline" to my day job.

## Context of the study: Indie 100

## The parameters of the project

In this section I describe the parameters of the *Indie 100 Project* (IMP, 2013) and how those parameters framed what producers did during the recording sessions. The event was held at QUT's Gasworks Studio between May 20-26, 2013. This was the third time the project had run, being previously known as the 100 Songs Project (IMP, 2013). The event is divided into four-hour sessions conducted simultaneously in Gasworks studios A, B, and C. The studios operate from 10 am until 2 am the following day, twelve sessions per day for six days for a total of 72 sessions. The 72 participating acts are selected on the strength of a demo recording submitted prior to the event as assessed by an independent panel. The aim of the event is to record and mix 100 songs in 100 hours.

Gasworks Studio A is a large Pro Tools equipped studio, Studio B, a small Pro Tools equipped studio, and Studio C is a medium sized Pro Tools equipped studio. All studios are equipped with analog consoles and a standard set of instruments including drum kits, guitar amplifiers, and acoustic pianos. There is an ideal "standard" set up for each studio with much of the microphone and instrument setup remaining as fixed as possible throughout the project. The restriction to limited instruments and setup per studio for the sessions was a parameter of the project designed to save setup time.

Some acts make small changes to drum kits by changing a snare drum or tuning, but for the most part equipment was standardised and this strategy was successful in saving time during the changeover and setup of the sessions.

There are multiple producers involved in the project. They are engaged for their ability to ensure the event delivers its 100 songs. One producer is assigned to each of the 72 sessions and, depending on need, either an engineer or first assistant engineer is assigned to work with the producer for the duration of the project. The project is part of 3rd year production for QUT's Music & Sound department and additional teams of students are assigned to assistant engineering roles and rotate through different production teams to maximize their experience of the event.

My role and task was to produce thirteen sessions with thirteen bands and record at least one song per session (more where possible to help reach the event target). I also engineered and mixed my own sessions. I use these skills to support my production style by adding the necessary speed to the engineering and mixing processes required to achieve a good result in only four hours. My assistant throughout the project was Michael Smallman, a third year QUT production student.

The conditions and constraints of the project created specific conditions that need to be considered as production influences. Song choice was largely left to the artist and usually included the song submitted for entry into the project. Studio choice was made by organisers and based on the space and instrumentation required to record each act's music. Many conditions, such as the time limit on sessions, add unique pressure to the process, as does the relentless pace of the overall event. However, this and others constraints also provide significant benefits as well and so it is worth examining on both sides of the ledger.

Though the fixed sets of instruments and microphones may have reduced the available palette of sounds, they provided certainty of a minimum standard of quality of instrument and tuning and maintenance. The time saved in changing drum kits and amps and is vital in the conduct of the sessions. The four hour time frame is probably a third of the time of what would normally be allotted to the recording of one or two songs, not including mixing. The positive affect was to focus all involved on the task at hand and discourage procrastination, pondering irrelevant detail, and the over use of experimentation or elaborate methods. The narrowing of choices in these areas is

vital to the completion of the Indie 100 project. There is only ever essential time spent on the consideration of multiple possibilities during the recording process.

**Execution and analysis**

**The Sessions**

In this section I outline my general aims for the sessions and then individually examine and reflect upon three of the thirteen sessions I produced. Having heard the demo recordings of the songs submitted for the project, I determined that the songs generally were good and most arrangements were also satisfactory for the project. What was apparent was that the standard of the recordings was the weak point with most of the mix presentations less than confidently supporting the intention of the songwriter and the emotion of the songs.

I decided that another facet of my general plan would be to present high quality performances of the songs achieved during the recording process as well as achieving a quality in the mix that represented an honest enthusiasm and optimistic validation of the worth of the composition – something akin to the love and pride that a good chef may put into the preparation of a meal to friends.

I hoped that patience and kind support in the recording phase and my experience as a mixer would allow me to achieve my goals as long as I did not allow my desire to achieve these qualities to cause me to run out of time. I also intended to use a generally humorous attitude and generally make a fool of myself in order to de-pressurise the atmosphere of the session and define a broad range of acceptable behavior. I strategised that if I was prepared to appear foolish then the artist may likewise feel free to perform less self-consciously with less of fear of embarrassment. I have observed this 'Producer as clown' approach have positive effect in many sessions over many years and felt comfortable in that role, although this approach is certainly best applied on a case-by-case basis as there is no 'magic bullet' approach to a successful recording session and individual personalities will always need to be treated with sensitivity by the production team.

**Megan Cooper 'Side of Love' and 'Life n Love n War'**

Megan Cooper and band had been included through the submission of a song with a strong country flavor. The band consisted of Megan herself who would perform a lead vocal and acoustic guitar, a drummer and a piano player who all arrived on time and set in Gasworks Studio A though the bass player was late this was not a problem firstly due to the relatively quick set up time and secondly due to my decision that

very little would be seen as a problem. The players proceeded to set up in the studio room as another production team's mix down was completed in the control room.

This overlap of sessions was quite a common occurrence during the project and was generally not a problem as the new session set up in the studio room initially and it afforded the previous session extended mixing time although it would affect me on another project 'Seven Sermons' that I will examine in this essay.

In consultation with Megan it was decided, to try to record a finished vocal with her acoustic guitar take with the band take and effectively perform and record the song live. The band were comfortable with this approach and it was a desirable method because it maximizes the feel of the performance as Megan's vocal and acoustic when performed simultaneously would embody the melody and backbeat, defining a large percentage of the track. If the rest of the band could follow Megan (which she assured me they would) then the capture of a cohesive performance should prove straightforward as this was my overall desire for the recording and especially desirable within the country genre.

I have heard a good country song described as "three chords and the truth" and this quote rings true for my approach to Megan's sessions. The band was also comfortable with this and we set about setting up in a way that allowed us to achieve this through the capture of all the instrumental and the lead vocal simultaneously. Megan was positioned in a separate vocal booth with her acoustic guitar and the rest of the band was in the large studio room. In an extremely smooth and untroubled fashion, Megan and the band delivered two songs in good time and the mix down was undertaken to present the recordings in an honest and open fashion, free from sophistry or gimmick.

In this way this session serves as a control experiment or best case scenario for the intentions I brought with me as producer and the performance of the artists as well prepared and competent performers. In my post project reflection on the finished tracks I am aware of where I may have improved my execution of the session.

**'Side of Love'**

The first of the two songs recorded and mixed includes a vocal overdub that supplies harmonies at various times in the song. After the instrumental solo a breakdown verse includes two lines 'Forty days I crawl' and 'Hear his name no more' harmonized with a single note.

I now regret the over simplistic inclusion of the tonic note in the first harmony and am only a little more pleased with the dominant seventh note on the second line. Perhaps the breakdown would have been better expressed with the omission of these two harmonies. I also wonder if the inclusion of a 'slap' type single echo on the lead vocal from the second verse onwards has enhanced the old time rock and roll quality of the track without detracting from the simplicity of the presentation I had planned.

**'Life n Love n War'**

Although an effective version and of suitable quality, the finished recording of life and love and war seems to be missing an instrumental element that plays fill type motifs to fill in the low or sparse points in the musical arrangement. An electric guitar with an undistorted sound would have been perfect for this but unfortunately the backing band did not have an electric guitarist and I did not suggest a guest player at the time. Although the band did include a pianist to play fills in the arrangement I had asked him to play the acoustic piano in studio A and not the electric piano instead.

Upon reflection I regret this decision for a couple of reasons. Although I had attempted to close the lid on the piano with the microphones inside, I still unfortunately recorded quite a lot of drum 'spill' from the kit that was in the same large room. As the piano player played at what could be described as only medium volume this spill was worsened by the ration of piano to drum spill in the piano microphones being a little less than ideal.

In order to get the piano up in the mix the spill from the drums and the distance between the piano and drums resulted in the piano microphones becoming effectively the room microphones and reverb source for the drums. The overall result of my error was that the piano was probably lower in the finished mixes than what the music required and the drums were a little to 'roomy' or live in the finished mix. If I were to remix or repair these tracks I would move the Piano microphones closer to the kit by slipping the tracks back towards the start of the song to lessen the time delay in the drum spill and tighten up the sound, perhaps I would get the Pianist to add more to his part with an overdub and play stronger, louder, and more thematic fills, perhaps even in octaves. If more time was available this song would also benefit from a well-arranged backing vocal overdub session.

**Seven Sermons 'The River' and 'Thinking in Hours'**

Having heard an excellent demonstration recording of the band Seven Sermons I was excited to record a well crafted and catchy song in the hard rock genre, the playing skill evident in this recording was of a high standard and I imagined a straight forward session based on the quality and potential of what I had heard.

The Session was the first of the day for myself and I was ready to begin at 6pm in Gasworks Studio A. As another team was finishing a mix in the control room, I determined that the session would begin with a set up in the studio room itself, as the control room had not yet become available.

The pressure of the four-hour session format was somewhat amplified when the band arrived forty minutes late and the bass player another fifteen minutes after that. My choice was to ignore this fact and proceed as if nothing was wrong as any negativity would be counter productive to the 'vibe' that I wanted to capture in the band's performance.

The band proceeded to set up and in keeping with principles of being as acquiescent as possible when the guitarist asked to use his own amp I agreed and his amp was placed in the isolation room in Studio A. I knew this would contribute to a positive atmosphere and I hoped it would ultimately save time in getting sounds as well as the guitarist had probably spent a long time perfecting his 'sound', an assumption I had made from the quality of the demos that I had heard. This turned out to be the case and I was rewarded from this departure from the procedure of using the amps supplied with a most useable guitar tone from the outset, using the vocal booth to isolate it's sound from the drum microphones in the main room. The bass guitarist played through a DI box as well as the studio's amplifier head with a slightly overdriven sound that was also not fed into a speaker box but also recorded directly to keep the drum microphones free from spill.

These choices meant that the vocal recorded with the rhythm section take would be for guide purposes only and I suggested the that the vocalist merely sing quietly into a dynamic microphone that would not pick up too much of the drums to flag the various sections of the song for the band and save his best performance for an overdubbed lead vocal which we would do later in the vocal booth with a high quality, more sensitive condenser microphone.

**'The River'**

The first song recorded was not the song I had heard on the demo recording and I was surprised at the long winded nature of the introduction section and the general departure from the more commercial sound I was expecting as 'The River' seemed to be very much an album track and not a showcase single that I had hoped to record. As I was determined to be the acquiescent producer I knew that I could not omit the song as it was obviously the band's desire to record this new piece they had written.

After a few moments disappointment and private pondering on my dilemma I realized that the only solution was to complete this piece and then ask the band to record the other song as well. True to my expectation of their high quality musicianship, the band was able to complete this request in good time despite the late start. Although I had expressed a little concern the band did not have to make a choice between songs and my gamble with time paid off somewhat although my mixing time was substantially reduced.

Music of this heavy rock genre can be complex to mix and my approach had to be restricted to a very simple one as I attempted to mix the two songs in a very short time. On 'The River' I attempted to add interest to a somewhat static arrangement through the use of a simple switching in and out of a large vocal space live as I printed the mix. I could only hope the listener responds to this and would have made many more elaborate special effect type additions to the mix of the River if time had permitted.

I regret that a recorded synthesized drum part for the intro of the song became lost by myself and my assistant who was running the Pro Tools system and time did not allow us to locate it for inclusion in the mix. I took responsibility for this error and did not blame my assistant for his part in this omission. Overall I believe this track would require significantly more time in pre production to be fully realized and at best this recording represents a good early writing version of this song.

**'Thinking in Hours'**

'Thinking in Hours' was the second track I recorded with Seven Sermons but the first track that I mixed in the session. After laying the beds for both songs the guitar part was double tracked in its entirety as this effect is represents an excellent technique for adding power to rock guitars. The guitar solos were added and also doubled and lead

vocals were overdubbed to both songs and harmonies were included on 'Thinking in Hours'. I was pleased with the addition of this simple harmony and it's effect in emphasizing the chorus of the song.

As I reflect on the mix down of thinking in hours I wonder if I made error with the distorted rhythm guitars and placed them too high in the balance and thereby reduced the power of the other elements of this recording. I made this decision to ensure the guitars and their aggression was most apparent. In retrospect I maybe could have had less rhythm guitar in the balance.

Reflecting upon the *Seven Sermons* session overall I feel the players ability was key in making up for problems arising from their time management. I am pleased that I recorded 'Thinking in Hours' and wonder if the final assessment of all may not hinge upon the overall quality of the recordings but whether the similarity of the bands music to that of another, more popular band, 'Tool' might decide how they are perceived by the market. Given more time or another opportunity to work with this band I would carefully counsel them on perhaps developing their influences into a more personal style.

**Astrid and the Asteroids 'Blame'**

Astrid and the Asteroids "Blame' session was conducted on the final night in the final time slot of 10pm to 2am. The session was significant because it represented a kind of perfect storm with regards the preparatory conditions a producer would desire for a recording session.

The song was a commercial and catchy composition entitled 'Blame'. The band was very well rehearsed and comprised of highly skilled musicians capable of playing to a very high standard. All band members were possessed of high quality instruments and in the case of the guitarist added FX pedals to their instruments to create sounds that were well considered with regards the arrangement and composition. A significant amount of forethought was evident in all the players brought to the session and had obviously rehearsed and thought about their sounds in relation to the track. Vocalist Astrid Jorgenson presented herself as an accomplished singer with a very pleasant tone and excellent pitch. The bands preparedness was evident through this and other small touches like the bass player bringing her own high quality headphones showed

this was a band that had thought ahead about the recording process and prepared very well.

Through consultation it was decided to track the song with a guide vocal and overdub lead vocal and harmonies after finishing the bed track. After a brisk setup using the supplied kit and amps the band proceeded to track the song live in a minimal number of takes. A click track was used for tracking but as the band seemed to drift about midway through the song as the arrangement got busier I decided to switch the click track off at that point for the rest of the song rather than attempt to get the band to conform to it. This had the effect of allowing the track to become more free and liberal as it progressed and the transition to this was smooth and imperceivable in the final mix.

When drums, five string Fender Jazz Bass, Korg electric piano and guitar parts were complete it came time for overdubs. A trumpet part was added. I recorded this very close to the bell of the instrument and with compression and reverb achieved a sound that I thought paid some homage to recordings from Herb Alpert and Sergio Mendes from the 1960's. I believe the reverb was responsible mostly for this illusion and the creation of such references within music I produce is a common deliberate practice.

Astrid then overdubbed her lead vocal using the same microphone as used on the trumpet, an AKG 414 which is a favourite of mine for female vocals, displaying excellent high frequency response, tone and an overall clear character. After recording the lead vocal in two takes, Astrid proceeded to request and direct as she overdubbed a complex vocal introduction in an impressively well planned and executed manner. Other harmony overdubs followed and I was happy to again acquiesce to an obviously highly professional vocalist with clear and creatively planned ideas. After completely trouble free recording sessions I set about mixing. To me the track had suggested a kind of powerful jazz rock style I had heard on Mid 70's recordings by artists like Gino Vannelli especially on his 1978 album 'Brother to Brother'. I applied the dry treatment and balance I heard on Mark Craney's kit on that record to the Asteroids drummer and mix and tried to get a sense of raw power overall.

That approach worked very well and with further suggestions from the band the mix was completed and the session finished a half an hour early. It was only at this point of completion of the last mix that I was to stop taking suggestions from the band that

perhaps were not aware that the mix was printed and complete. Overall I reflect upon a near perfect execution of the band's and my own desires in a near four hour session were achieved with the talent and hard work in preparation from the band and a willingness to trust in their displayed professionalism from the production team.

**Reflections: Principles and values for effective record production**

In this section I detail the main principles and their underpinning values that crystallised for me during the execution of Indie 100. I believe that these can be helpful to producers during a recording session. Although they arise from my own reflections on my own practice, as Swanwick (1998) says: 'although a study based on descriptive ethnography may not permit generalisation to wider populations, it is possible that such descriptions "are generalisable to theoretical propositions"' (Swanwick, 1998; Yin, 1989 in Swanwick, 1998).

The inevitability of every producer bringing a set of values to a session is key to the role of producer as judge or referee of proceedings. As Mike Howlett (2009) puts it:

> The producer … is shaped by his or her cultural and social context, and is also a shaping, creative agent. The producer as interpreter, as critical arbiter, is relying on the commonality of his sensibilities, his or her "feelings", the reliability of which will be tested in the cultural marketplace: if enough listeners agree with these choices the recording becomes a hit. (p. 24)

I believe that the 'feelings' Howlett mentions here are shaped not only by talent and culture, but also by the values of the producer. Those values are, I would argue, a combination of conscious choice and unconscious innate tendencies. This applies, in varying extent, to all involved in a recording. This leads to the first principle.

**1. Sometimes becoming a better producer means becoming a better person**.

The overarching insight for me from this project is that record production requires mastery over such a complex set of skills, attitudes, experiences, and technologies that the concept of "musical integrity" becomes a nonsense. The Oxford Dictionary online defines 'integrity' as 'the quality of being honest and having strong moral principles. The state of being whole and undivided. The condition of being unified or sound in construction'. (2013).

In a recording situation, it is common to hear musicians speak of their musical or artistic integrity as the basis for creative or aesthetic decisions. Such a view of

professional integrity may lead to a mistaken belief that sub-categories of integrity exist mutually exclusive to one another and not merely as part of one's total integrity. I would argue that this belief that integrity exists in aspects or separate planes peculiar to separate fields of endeavor is creatively damaging.

To subdivide one's integrity into categories is by definition non-integral. Having integrity is the state of being whole and undivided. All parts contribute to the whole. I contend that it is the integral self that influences and informs creative practice. The recorded work is an intensely personal product in which all the recording personnel invest and it becomes embodied within the product. The producer should be aware of this and act as arbiter of what is fit for sale.

In a recording process, conscious and unconscious thoughts, feelings, talents and actions of many are integrated into one output. Any self-imposed division or ignorance of one's integrity may be self-delusion and therefore a dilution of creative potential. Therefore, at some point, in order to become a better artist one may need to consider becoming a better person.

Indie 100 is a very instructive event in terms of this essentially moral principle. Apart from the peak of my work in high pressure, fast turnaround advertising, I have encountered nothing else like Indie 100 for sheer mass, speed, mix of personalities, and diversity of material. In a few short days I recorded close to thirty songs with almost 50 musicians whom I had never met before. I worked with up to 40 different assistants during the week – also strangers –and supervised two students through the steps of mastering. One meets all sorts in such a situation. To negotiate such a complex socio technical environment, maintain a high level of interpersonal connection with all, and maintain a high level of creativity is a challenge not merely to intellect or skill, but also to empathy, calmness, good humour, and creative passion. Literally, the need to "keep it together" is the very essence of integrity and the event made the importance of this principle quite clear.

## 2. Don't work with sound; work with how sound makes you feel

The process of recording a performance should begin with a good musician playing a good song or part thereof on a good instrument in an appropriate acoustic space. The arrangements for this to take place are hopefully completed in the pre-production and planning process before the recording session begins. Having chosen the studio space,

the recording in the studio room involves the capture of a music or sound performance with deference to the acoustics of the room. This should mean that a good recording of sound can be achieved by placing the subject, playing a good part on a good instrument in the right place in an acoustic environment and placing an well chosen microphones or microphone in very well chosen place relative to the instrument.

Once the microphone has done its work and the sound is captured as an electrical or digital signal, the analysis of sound and acoustics can end. The skilled producer may approach the art of mixing as a purely psychoacoustic process. Sound can be manipulated purely for the feelings it draws from or creates in the listener. The skilled mixer will blend and balance emotions as they balance and blend sound sources to create an effective and marvelous audio program. Some styles of music may demand a presentation akin to the natural world, but many genres of music may be presented as sci-fi or hyper-reality, and it is through significant arrangements that the mixing process can magnify and emphasise the emotional intention of the songwriter, performer, and project as a whole.

At a certain point of mastery the mix engineer may rationalise the outcome of their craft purely as feelings as a poet or painter may transcend literal interpretation of language or media and become impressionistic in the wielding of their craft. Abstract concepts can be applied. For example, a mix down may be likened to a supermarket, calling the consumer's attention to sale items but also allowing them to browse the shelves and choose for themselves at will and examine each part or item displayed for their consideration without impediment.

At the mix down stage communication based on such abstract analogies and emotional reactions may be more useful to the mixer than more measurable assessments such as frequency, amplitude, and balance. The producer should know this, although the player or artist present during the mix and still focused on their instrument or part may be surprised to find the mixer has moved on from such things to focus entirely upon the feelings that the song can impart. Those present in a control room may gently need to be made aware of this as mix progresses beyond a simple balance.

The result of a recording process is a singular audio signal: a whole sound, a significant arrangement ready for human consumption through an audio system. A mix may be regarded as distance from the separate sounds that comprise it as a chef's presentation of a meal is distinct from its individual ingredients. Some of the ingredients like garlic or seasoning, may become invisible and only detectable by omission. This fact can sometimes be hard for individual players to accept and the producer may need to manage the perceptions of the artist to include the consumer's experience of the finished product. The recording process has shown me that there can be a massive difference between the feelings experienced by them during the recording process and those embodied in the finished product they produce.

The raw and intense experience of Indie 100 made this principle abundantly clear. There is almost no time to mix in the four hour session, and it is this aspect that drives the producer into a necessarily instinctive mix process. There is simply no time to deal at the level of technicalities with individual sounds. This need for unbridled instinct was both instructive and fruitful. For me, the aim of music is primarily emotional. In a four hour session, there is no room for anything else and in this respect, the event highlights the essence of experience: dealing with sound in an emotional way.

3. **Don't argue. "Give the Cat a Budgie".**

Dale Carnegie (1936) suggests that it is unwise to enter in to any argument. He explains that if you enter into a losing argument you have made a bad decision to begin with and if you win an argument you may alienate or be resented by the losing party (p. 144). As a strategy both outcomes are undesirable and best avoided.

As a young engineer I used to be at pains to keep my producer apprised of my engineering decisions. That was until one particular producer, Chris Copping, urged me to "Give the cat a budgie". What he meant was that if I wanted to apply a particular change, technique, or decision that I should trust myself and go ahead and follow my instinct. In a creative space such as a studio recording session, a negative opinion can be unhelpful. The production strategy of allowing people do what they want communicates trust and freedom and aids the artist and their decision-making process to focus on the positive.

Of course, not every decision is correct or every inspirational idea useful in the creation of sound and music. And there are times the producer will know an artist's idea or suggestion to be unwise. This is where the skills of a fast-working production team can be vital in providing time for the artist to give their ideas a try and allow a different set of outcomes to become possible while keeping the session on track for deadline. The main advantages of adopting a "Give the cat a budgie" attitude are:

1. A flawed concept is quickly revealed in practice and becomes evident to all, thus negating the need for speculation on the worth or merit of an idea.

2. An idea thought to be of little merit proves worthwhile and everyone is pleasantly surprised.

3. A tested idea, whether judged positively or negatively, often leads to further inspiration.

A related principle involves the avoidance of criticism framed in a negative way. A negative review or statement about an artist's performance in the studio may shift the focus away from creativity and force the artist into a self-conscious or negative mode at a time when a non-self-conscious, confident performance is required. The self-consciousness essential to rehearsal must be abandoned in performance. Rather than suggesting a performance was not good enough, the producer may express that a performance could be improved upon. Encouragement is more productive than criticism and in turn makes it easier for the artist to act upon suggestions and guidance from the control room.

Likewise a band member or engineer playing 'devil's advocate' may be an unwanted member of the production team or control room dynamic. Unless you have a solution, the naming of the problem may be unhelpful to the creative flow. A producer may choose the strategy to not bring attention to a problem until they have thought of a solution. An experienced engineer or assistant will choose to alert the producer to a problem in a whisper rather than announcing it to the room.

This principle crystallised for me throughout each session in the Indie 100. I quickly made a conscious decision to simply say "yes" to every suggestion and try it quickly. The returns were obvious and positive. The experiment of consciously doing this in every single session paid off for the artists and the productions alike.

**4. Don't be a "vibe vampire"**

The recording studio control room should be a shrine of creativity, a special place where the very best of feeling in performance is sought, nurtured and captured. It is the place where the sometimes chaotic and unfocused energy of the studio room is channelled, organised, and sorted into a cohesive musical product. Although not a sanctified or holy place per se, the control room should be treated in a manner appropriate to its purpose. In his examination of what studios do, Bates (2012) says that

> … studios must be understood simultaneously as acoustic environments, as meeting places, as container technologies, as a system of constraints on vision, sound and mobility, and as typologies that facilitate particular interactions between humans and nonhuman objects while structuring and maintaining power relations. (para 1)

> Isolation is a key trait of many studio designs, but one that is typically talked about solely in relation to acoustic designs that keep outside sound from intruding into the studio, or inside sound from polluting the outside world. In the case of residential studios located in the remote wilderness, we might be inclined to think of the isolation of studios in social terms as well, as something that isolates the studio's inhabitants from society, or protects the inhabitants of studios from outside scrutiny. (Para 21)

Those present in a recording studio session should be aware and focused on the goals and outcome of the project. A person whose intention is not focused toward a positive musical experience may consciously or unconsciously disrupt the flow of creativity or positive vibration within the studio.

I jokingly call such people 'Vibe Vampires' as I have learned the following from experience that just as Stokers's (1897) famous vampire may drain the life force from a human victim, the vibe vampire may drain the creative force from the recording session albeit in a passive and far less violent way. This may occur merely through their presence in the control room which is the "beating heart" of the recording studio. The well-meaning visitor may believe that they can 'lay low' and be a neutral observer rather than a participant in the group dynamic. But it seems that this is not possible as it appears there is no such thing as creatively vibration neutral and an observer affect is in play. The presence of a person in a creative situation will always have an effect and without an effort to exude positivity it seems that a negative or reverse vibration is the result.

So delicately balanced is the state or vibe that even a sleeping person will slowly drain the momentum and positive vibration from a recording session. I have been guilty of this, experiencing some of the most blissful rest of my life in such a situation as repetitive musical vibrations are absorbed into sleep. However, this is a selfish pursuit and unfair on the victims. It is because of this phenomenon that a producer may need to ask a sleeping or overtly negative person to remove themselves from the control room. This may seem a drastic reaction but the focus of positive energy and "vibe" in a recording session is of vital concern to the productive flow of a recording process. This phenomenon is supported anecdotally by other producers who also report that each person in a control room can even change how the music is heard. While there is ample anecdotal evidence to support this position, there is little scientific research on such seemingly "psychic" phenomena, although Anne Tarvainen's (2008) work on 'empathetic listening' may provide a promising basis for future research into this phenomenon.

This principle was critical in the completion of the Indie 100. I was on the late shift every night, starting at 6pm and finishing as late as 4 am on some occasions. Because I was also overseeing the mastering of all 100 tracks, I was required to be "on deck" quite early in the day. By day 4, any kind of lull in progress threatens the entire progress of the session and the relationship with the acts (many of whom were quite naturally tired). While I did not eject anyone from the studio I was aware of the "vibe vampire" principle and did whatever I could to keep energy levels high in the room, play down negative comments, and respond positively to all suggestions.

**5. F*ck 'em if they can't take a joke**

Producers should encourage artists to strive to be excellent yet forgiving of themselves for failures and shortcomings. Like an elite sportsperson who strives for their personal best, the artist should be encouraged at each opportunity to improving upon previous performances. Both the successes and failures of past creative performance influence the arrival at the creative present moment in a real and indelible way. The producer must guide the focus of the artist to the positive while providing support as the artist applies personal critical reflection usually far in excess of the demands of any audience member. It is important that a producer encourage the artist to free themselves from fear of scrutiny by their real or imagined audience.

To try to second-guess the listeners' preference may be counterproductive and "behind the times" due to the time taken by the production and release process creates a lag in the public perception of current trends and expectations. The time taken in between inspiration, creation, and production makes popular opinion a late arrival in the prediction of trends in audience appreciation. To manifest fear of judgement during performance is even worse. Unselfconscious and honest effort in the giving of a performance is endearing and impossible to fake. The artist's performance given honestly and fearlessly are qualities that may well be valued by the audience as much as, or indeed more than, the actual technical quality of the material presented. I would like to believe the confidence required to perform through freedom from the scrutiny of the crowd may be closer to the spirit of Dame Nelly Melba's famous quote – 'Sing 'em muck; it's all they can understand' (1901) – than a judgement about the audience's level of musical comprehension.

This principle crystallised for me during the Indie 100 throughout my dealings with the artists. I am known for a humorous approach in the studio. My approach is to make light of any performance challenge through gentle humour that is aimed at bolstering the confidence of the artist and thereby helping them to improve their performance. The use of humour in such a high intensity context is a delicate balancing act and can easily go wrong. I am fortunate that my experience has taught me how far I can go with humour, when to remain silent, and to always keep positive.

**6. Start at the end and work backwards**

Sometimes the path to realising imagined and desired outcomes in the studio can become unclear for artist and producer alike. According to composer Richard Wagner (n.d), 'imaginition creates reality' However, imagination alone does not guarantee an outcome no matter how clearly it is presented to the mind.

When forward planning becomes blocked by an obstacle or unknown quantity, progress can be planned from 'completion backwards' (Tubes, 1981). By first visualising the end goal and then planning one step short of that outcome or goal, one can plan from completion back to the point at which forward planning has ceased to progress.

This principle is defined well in the introduction and long form music video of American band, The Tubes album of 1981, *The Completion Backward Principle*.

This process may not remove an obstacle but can certainly have plans in place in anticipation of when the obstacle is overcome and allow inspiration and aspiration to continue unabated. The combination of planning from the present position forward as well as completion backward may result in a happy meeting at the halfway point.

This principle crystallised for me during the Indie 100 through the process of hearing the demo tracks submitted by the bands I was to record. In most cases, I imagined what would happen to each track once I had produced it. In all cases, the session was a surprise and threw up obstacles, whether through lack of performance, insufficient or inflexible sound choices, completely surprising song choices, or difficult attitudes, the sessions were other than I imagined, sometimes for the better and sometimes for the worse.

## 7. A fast engineer is a good engineer

The efficiency of a production team is the determining factor in the speed of a recording session. The session simply cannot go faster than the engineer can work. Any recording session can be viewed as a process during which the producer and engineer make several thousand decisions all of which affect the quality of the product by varying amounts. Engineering is time consuming. Each time a new instrument is introduced into the recording the engineer needs to choose the right microphones, processing chains (equalisation, compression, etc), and gain structure. Fast engineering allows the producer and the artist more freedom to experiment musically. Slow engineering dulls the creative process and can threaten to damage the production process through boredom, stress, and distraction.

In order to achieve time savings, acute problem solving is of key importance. The ability to think backwards and forwards at speed along multiples of linear signal paths and musical outcomes is vital to the engineer's problem solving process. The step by step elimination of components or variables in a somewhat scientific manner, when performed at reasonable pace, may appear to the observer to be "magic".

When working without a producer present, the engineer becomes the vital facilitator of the recording session and is responsible not only for the technical excellence of the recording but also judgement of the artistic standard of performance during the recording process. Though possibly not as concerned with content creation and composition as the producer, the engineer can also function as the arbiter and

champion of musical and technical quality, and as umpire in the areas of not only sound production but also parameters relating to performance like pitching and tuning, diction and pronunciation. Most importantly the engineer should strive to be as concerned and attuned as the producer to the feel of the music. For the engineer every session is an exercise in artistic judgement, problem solving, and musical decision making from start to finish.

The engineer also often mixes the tracks they record. Though guided and directed by the producer, the mixer engineer may be mostly influenced by the emotional intent of the song as arranged as a finished recording. The work of the producer is largely embodied in the recording by this stage and it is the engineer who presents the song as a mix, reducing the many tracks to stereo (unless cinema formats are required) without loss of intention or meaning and these aspects should in fact magnified to represent greater artistry than the sum of the recording's parts.

The mix should not only sound and feel great but should stand as a testament and affirmation of the validity of the product. Any mix also stands as a historical snapshot of the culture and musical fashion and intent at the time of its creation. The mixer is not only responsible for this assertion, but also for the presentation of the mix as a worthwhile representation of the performance and production, recommending the listener to spend the time it takes to hear it. This confidant assurance of worth may be a contributing factor in what may contribute to the feeling and ultimate production compliment that the mix "sounds like a record".

It is through the experience of mixing that the engineer learns the producer's art of arrangement and understands the important balance between the elements of rhythm and tone, and the importance of the emotion that the piece communicates. The desire to transcend the available mixing tools to affect the contributing factors to the songs effectiveness in a more direct way is a clue to why engineers including myself aspire to become successful producers and arrangers.

My involvement in Indie 100 highlighted the need for speed in engineering. Apart from the extreme time constraints of the project, there is a visible effect of increased confidence in the artist when the engineering is seamless and "ahead of the game". There is no waiting around in "dead air", minimal time taken in "pulling" the sounds, and consequently no going "stale" with practice takes for the artist while a good

sound is being set up. The greatest benefit in speedy engineering is the time it creates for new and creative choices, even among deadlines as tight as those in Indie 100.

**Conclusions**

The outcomes of the Indie 100 Project are very much shaped by its design. The independent panel led choices of material ensured a good standard and variety of fresh songs across a variety of genres. All had song quality as a common thread. The fact that this choice was based on recordings ensured a certain standard of musicianship on the part of the participants. The commonality of well-equipped studios provided a vehicle for the music to be realized. Although the songs were individually different, the opportunities for each artist were egalitarian. The time constraint on sessions though obviously restrictive also provided an ever-present reminder to focus on the task at hand. The target of 100 songs in six days provides a festival-like atmosphere for the project and a common purpose and a feeling of community to those involved.

Because of the many parameters that were in place the producers in many cases pretty much got what they were given. That is, the artist walked into the session in possession of most of the potential for excellence in the recording. The values and skills of the production team were most valuable when channeled to realising this potential in as direct a manner as possible.

The results of my recordings vindicate my choice to 'Give the cat a budgie' and say yes to as much as possible as producer. Time and again I saw the artist flourish in the conditions created by that approach and, in turn, return the favour when responding positively to the requests of the production team. Overall I believe it is a correct approach and I feel the recordings presented support the adoption of that principle.

I know that my past experience in the fast pace of recording for advertising was valuable in providing a pace to the production and mixing of the sessions that was vital to the success of the sessions, and which also allowed me to contribute to completing the total number of songs for the organisers. I will continue to use engineering and mixing skills to my advantage in my career as a producer and pleased that my years of experience can be put to good use in the fostering of young talent and new commercial recordings.

I remember the first time in 1983 that I held down the play button and pressed record

on a 24trk multitrack tape recorder at Suite 16. The thrill of seeing that red light on the Studer's auto locator is still with me after 30 years of recording, mixing, production and mastering. In that time, I have learnt, often the hard way, many principles for recording sessions, applied in the studio's control room and in the studio itself. Making a good recording is both an art and science, involving music, technology and most importantly human emotion, expression, and feeling at its heart. Long days in the studio conducting repetitive tasks yield insights and wisdom, hard fought and won philosophical approaches to the art form and process that in turn can become distilled into simple sayings, catchphrases, adages, or parables. The sayings may seem humorous, silly, or lateral and may be deliberately cryptic so to broaden the scope of their use. "Turning barriers into guide rails" may be one summation of the producer's art form.

The process of recording music is described by songwriter and performer Tom Petty in the Motion Picture 'Sound City' (2013) as a 'different kind of art form, like trying to catch lightning in a bottle'. The committed producer will strain to hear distant thunder and rush headlong into the storm, vessel in hand at the opportunity to make history.

The principles I have presented here were merely crystallised throughout the Indie 100 project. Their formation has taken decades and the experience that informs them has been rich and varied. Rendering my decades of experience to the pressure of Indie 100 has been intellectually and practically valuable. As material for reflection it provided a massive and intense reiteration and demonstration of the metaphorical knowledge that informs my everyday practice. I think the principles put forward here, simple as they are, can inform much of value in the practice of record production.


Adam Quaife 2013

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# Appendix I-Recordings

**Produced, Engineered and Mixed by Adam Quaife**
**Indie 100 QUT 2013**

5 Track CD and Online at Bandcamp.com

1. Megan Cooper, 'Side of Love' Indie 100 Recording 2013
http://100songsproject.bandcamp.com/track/side-of-love

2. Megan Cooper, 'Life n Love n War' Indie 100 Recording 2013
http://100songsproject.bandcamp.com/track/life-n-love-n-war

3. Seven Sermons  'The River' Indie 100 Recording 2013
http://100songsproject.bandcamp.com/track/the-river-2

4. Seven Sermons 'Thinking in Hours' Indie 100 Recording 2013
http://100songsproject.bandcamp.com/track/thinking-in-hours-2

5. Astrid and the Asteroids 'Blame' Indie 100 Recording 2013
http://100songsproject.bandcamp.com/track/blame


Waveburner CD Image location
https://www.dropbox.com/sh/abscj53wl99xxe9/VMsZBDTYQf