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Planes of illusion: music soundtrack, rendition and attribution in *Sanctum* (2011)

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Abstract

Mainstream commercial cinema's increasing access to highly advanced computer-generated imagery (CGI) has allowed it to produce convincing evocations of places and experiences that increasingly blur the line between the represented 'real' of actual locations and digitally generated fictional spaces. This article discusses one such evocation: the spectacular cave system featured in the film *Sanctum* (2011), directed by Alister Grierson. The first part of this article examines the manner in which audio-visual elements of the film produce a representation of a Papua New Guinean landscape and locale and, in particular, analyses the manner in which David Hirschfelder's score provides an element of musical exoticism that serves to complement this. The second part of the article discusses issues of cultural use relevant to the film score's prominent use of an unattributed vocal sequence.

Keywords: attribution; Papua New Guinea; *Sanctum*; soundtrack

1. Rendition

As a result of backing from a group of producers, including Hollywood luminary James Cameron (director of major box office successes such as *The Terminator* [1984], *Titanic* [1997] and *Avatar* [2009]), Australian director Alister Grierson's adventure feature *Sanctum* was produced on a budget of c.US \$30 million¹ with elaborate sets and digital post-production effects. Its narrative concerns a group of cave divers who encounter problems when a cyclone floods the huge cave system they are exploring in Papua New Guinea (PNG), resulting in the demise of all but one character, who finally manages to access a subterranean passage and emerge in the ocean. The film was internationally successful, earning over \$US 74 million during first run cinema releases alone.² One result of its positive international reception was a discussion string initiated on the tourism dialogue website 'Trip Advisor' by an individual from Saint Petersburg (Russia) inquiring as to the actual location in Papua New Guinea where the film was shot.³ The post resulted from the individual's unsuccessful attempt to search Google Earth for photos of the location (identified in the film as at Esa'ala). Twenty postings followed, including ones that discussed the topography of Milne Bay province in PNG, the restrictions on access to the province caused by mining companies and flight routes from Saint Petersburg to Milne Bay; until an individual from Bristol (UK) posted that the cave featured in the film was actually in Mexico. After querying the claim, the original poster commented that the 'news broke my heart', prompting a response from an individual in Yogyakarta (Indonesia) who posted 'Yep, me too'.⁴ The sense of veracity offered by the film is an example of the ability of the cinematic medium to create convincing illusions of geo-cultural spaces that viewers experience as credible representations of the 'real'. While this facility is hardly novel, the range of technological applications available to early 21st century audio-visual producers increasingly requires less suspension of belief to interpret the spectacular as verisimilitudinous by blurring the lines between quasi-documentary representation and digital 'planes of illusion'.

The practice of shooting in one (or more) location that is then represented as another (through caption cues, voiceovers, dialogue, signage etc.) is, of course, a well-established cinematic tradition. The 'Papua New Guinean' location of *Sanctum* actually comprises sequences shot in a variety of locations:

1. <http://boxofficemojo.com/movies/?id=sanctum.htm>
2. Ibid.
3. http://www.tripadvisor.com/ShowTopic-g294115-i3592-k4261366-Where_did_Sanctum_movie_on_Papua-Papua_New_Guinea.html
4. Ibid.

- in and around Sótano de las Golondrinas (the 'Cave of Swallows'), an open-air pit cave in the central eastern Mexican state of San Luis Potosi;
- in Tank Cave, near Mount Gambier (South Australia);
- on Dunk island and around Moreton Bay (off the Queensland coast); and
- studio sequences filmed at Village Roadshow studios in Gold Coast (Queensland).

Footage from these locations was then digitally enhanced, composited and edited by a team working for the Australian digital production company Iloura, supervised by David Booth, to produce a convincing unitary location that the film's subtitles and dialogue overtly identify as Papua New Guinea. Audio sequences also provide a significant sonic rendition of a tropical jungle environment complementary to the visual representation of PNG in the film's opening sequences. Indeed, the diegetic sound for the jungle sequence that precedes entry into the cave system is as dense, lively and varied as the jungle that it sonically represents, immersing the listener within the screen location. Entirely assembled by sound designer Paul Pirola from individual sonic components (including environmental sounds he had previously recorded and library material), the soundtrack includes bird and insect noises, rustlings and indistinct ambiances. Illustrating the sophisticated nature of digital audio manipulation available to contemporary sound designers, Pirola used audio references from locally originated PNG material available from YouTube as referents for sound design and modified disparate library samples to create desired sounds. In the sequence at the top of the cave, for example, the evocative birdcalls heard by audiences were actually produced by modifying sped-up recordings of dolphins and pigs (Pirola, personal communication, 5 August 2011). The environmental aspects outlined above convey a generic tropical jungle-ism, but additional credibility as a representation of Papua New Guinea is provided by voices, implicitly of those of the Papua New Guineans, communicating in *tok pisin* (PNG pidgin), who are actively assisting the mission (on- and off-screen). The vocal elements were not recorded on location in PNG but were instead facilitated by Australian composer-performer David Bridie in Melbourne using the talents of members of Melbourne's Papua New Guinean community. The vocal elements comprise brief calls and chants that were sampled into the sound design to create an organic continuity of human and environmental sound. Further veracity is provided by the presence of two PNG pop songs whose sound is compressed so as to resemble material broadcast on radio within the film's diegesis, blending a modern PNG sound into the (implicitly) atemporal jungleness. The songs in question are Junior Kokoratts' 'Rabaul Town' (2001) and Tusiti Roots' 'Maipope' (c.2006). There is a 'sliding scale' of sonic 'authenticity' at play here. For audi-

ences who can identify the tracks and/or their musical style as contemporary PNG pop, the songs' presence clearly signals that the film makers are trying to represent the location as PNG. For audiences without such prior familiarity, the tracks sound non-Western in manner that allows them to be understood as coherent with the specific locale that is being represented. Mixed in with dense jungle sounds the musical tracks can be interpreted as providing a locational specificity to the sound mix (at least for those able to identify them).

In addition to the fabrication of a PNG location for the film, its opening musical sequence (entitled—and henceforth referred to as—'A Sacred Place' on the accompanying soundtrack CD) accompanies the initial text-based credit sequence and opens up the thematic address of the film, helping to create what film reviewer Daniel Schweiger describes as a 'grand feeling of cross-cultural wonder' that precedes the 'death-defying adventure' of the film's main action sequences (2011). The first visual image (appearing at 1.29) indicates that the film also aims to convey a sense of awe in the presence of the beauty and power of nature, and the moody opening music provides an equally effective underscore for this element. The figure of a young man is seen in the distance, drifting gently underwater. As the floating man moves slowly into the foreground, it becomes apparent that he is wearing flippers but no breathing equipment. His eyes are closed, as if he has drowned. When the music becomes more animated, the floating man suddenly opens his eyes (a fleeting hint of what transpires to be his ultimate status as sole survivor of the drama) and the movie immediately shifts to a busy scene at a marina for the commencement of the narrative.

The film's composer, David Hirschfelder, has identified his 'idea for the opening mood' of the film as being concerned 'to evoke a distinctive earthy PNG feeling co-existent with a spiritual sense of timeless transcendence' (personal communication, 18 August 2011). He attempted to realize this through combining processed sound materials and newly recorded orchestrations. With regard to the former he has described how:

The director Alister and his team had previously recorded hours of Papuan material, with the thought of using Papuan elements in the score. After coming on board late in post-production, I went through all of these raw recordings and, after selecting and editing the phrases that 'spoke to me', I then crafted them (utilizing granular time-stretching and pitch manipulation technology facilitated by my music editor/programmer Jason Fernandez) into the melodies and PNG vocalizations, which now form an important layer of the Sanctum score (personal communication, 18 August 2011).

The compositional approach described above is an increasingly common one among digital music producers (and is discussed further in section 2). In the paragraphs that follow, the musical material supplied to Hirschfelder by Grierson is

referred to as 'Papuan', following Hirschfelder's characterization and emphasizing the lack of more specific identification for the materials concerned.

The film's (and soundtrack CD's) opening musical sequence ('A Sacred Space') begins with short melodic fragments generated from a processed wind instrument. The natural tuning of the instrument contrasts with the equal-tempered tuning⁵ employed by the orchestral string instruments, creating an interesting dissonance that also serves to emphasize the unusual, 'exotic' nature of the original 'Papuan' source sound. The opening musical texture is minimal, with the wind instrument sound supported by individual string lines that outline the 'organic' sound of the perfect fifth interval. The key centre is ambiguous at this point (if anything, it points towards Ab minor). Vocal fragments enter very subtly, taking the form of single wordless sounds placed low in the mix. The music eschews any strong rhythmic pulse, and the mid- to low range vocal sounds gently meander between a few sustained notes, before disappearing into a briefly swelling wave of musical sound—a likely musical metaphor for a human being disappearing into a wave of water. Vocals re-emerge at 1.01, this time more prominently in the mix, and articulate a three-note, minor-key melodic theme (following scale degrees 1 mi3 2) that highlights the descending semitone between the third and second notes in the minor scale. The key centre has now subtly morphed into Eb minor.

The voice again disappears into the expanding musical texture as orchestral strings take over the descending melodic theme and begin to expand into chords rather than individual notes. At 1.23 the vocals become more prominent and we hear an expanded version of the melody, with a second phrase that moves up to the fifth of the key. Hirschfelder now supports the simple melody with a rich-sounding harmonization—following the chord sequence Ebmi Db Gb Absus Ab. The minimal melody could have been harmonized more simply (without using the Gb or Absus) but the 'extra' chords imbue the melody with a layer of warmth that makes the mellow vocals sound even richer and even more evocative. The new harmonization also provides another descending semitone melodic 'hook', with the tension note in the Absus chord (i.e. Db) falling to its resolution note (C) in the Ab chord. The sound of the human voice is now clearly highlighted in the mix, and Hirschfelder creates a sense of multiple voices by using clever studio manipulations to produce soft vocal echoes, overlaps and harmony lines. As 'A Sacred Space' ends, the voices begin a more extensive repetition of the three-note theme before they are taken over, in emphatic fashion, by a string version of the theme.

5. The 'equal-tempered' system commonly used in Western classical music is an artificial tuning system in which the twelve semitones in the octave are made equal, to facilitate key changes of key without tuning clashes. In a natural tuning system (based on overblown octaves) semitones are not exactly equal.

The 'Papuan' vocals are of central importance in creating an appealing and distinctive musical score and, even more significantly, in helping set the 'tone' of the film. In terms of sound quality, the warm, earthy, mid-range vocals provide an interesting timbral 'hook' that stands out against the seductive, but unsurprising, sound of the orchestral strings. The natural-sounding voice provides a strong humanizing element within a movie that highlights a number of human relationship dramas within the disaster/adventure narrative. A hint of the tragic outcomes of the caving expedition can also be found in the almost mournful quality of the vocal utterances. Hirschfelder's use of an indigenous singer provides the film with a tangible link to the 'otherness' of the PNG location, while the prayer-like, meditative quality of the vocal melodies and melodic fragments create strong aural associations with Indigenous spirituality and its integral connection with the land.

As the film progresses, 'Papuan' vocals continue to be used sparingly but effectively. One of the strengths of the score lies in the fact that voices are reserved for certain key points in the movie—most notably when director and composer aim to generate a particular sense of awe at the beauty and power of nature. For example, when Josh, Carl and Victoria fly a helicopter through the PNG mountain valleys (from 3.43), the visual sequence is supported by high-range vocals set over rhythmically-pulsing orchestral strings. For this exhilarating scene Hirschfelder opts for a major key and overlapping vocals that articulate a short Mixolydian melodic theme. The new theme is a variation of the opening three-note theme, with a similar descending semitone idea (now in the form of scale degrees 5, mi7, 6, 5). As in the case of the opening three-note theme, the motif passes from voice to orchestra. The dialogue at the end of this scene reinforces the idea of the 'special' moment, as Carl describes the area as: 'The last primeval wilderness. We go down out here even God won't know where we are.'

At 4.43 the high vocal theme is heard again in the underscore as the helicopter flies over the vast entrance to the cave system, and the music occurs again at 16.04 when Carl performs a base jump into the cave as Josh and Victoria abseil down the sides. At 19.09 there is another reprise of the Mixolydian vocal melody, now presented in a softer and slower version and without the rhythmic pulse. A slowed-down version of the theme occurs again (with vocals set very low in the mix) when Frank and Jude look up into a newly-discovered underwater cave section. Dialogue is used to make the spiritual resonance of this awe-inspiring moment as explicit as possible, with Jude saying 'It's like a cathedral' and Frank suggesting that the place should be called 'Saint Jude's Cathedral'.

Other 'Papuan' melodic elements appear at various times in the film. For example the wind instrument that is heard at the beginning of the opening track

re-appears a number of times, again in association with the awesome power/beauty of nature. At 17.12 there is a reprise of the opening wind melody (and an instrumental version of the opening vocal melody) as we see Jude and Frank enter the beautiful underwater environment for the first time. The wind instrument sound is heard again as Josh and Luko plan to climb out of the cave as the devastating storm approaches, and again at 32.51 as a PNG 'sanguma' (wise/magic man) looks up to the sky with a knowing, reverential expression.

As will be apparent from the above analysis, the vocal sequence (in particular) and the modified 'Papuan' sonic melodies and textures play a key role in the establishment of the film's narrative and the colouration of the thematics and locale that provide a basis for the film's shift into a primeval struggle between humans and indifferent and threatening natural forces deep in the bowels of the earth. In addition, the vocal sequence (in particular) and the modified 'Papuan' sonic melodies and textures are integrated in aesthetically and compositionally impressive passages of scoring that are significant musical accomplishments in their own right.

2. Attribution

Schizophonia thus needs to be imagined processually, not as a monolithic move in the history of technology, but as varied practices located in the situations, flows, phases and circulation patterns that characterize particular cultural objects moving in and out of short and long commodity states, being transforming with the experiential and material situation of producers, exchangers and consumers ... located in historically specific and national global positions (Feld 1994: 260).

Feld's discussion of schizophonia (i.e. the splitting of a recorded sound from its source and context) occurs as part of a seminal study of 'struggles over musical propriety' with regard to the incorporation of elements of non-western music into western media forms identified by him as 'world music' and 'world beat' (1994: 257). While the terms 'world music' and 'world beat' have faded from popular and academic discourse over the last decade, the practice of commodifying non-western music within western media forms and contexts has continued. Indeed, the debates are still pertinent, as Feld's opening remarks suggest, within contemporary 'situations, flows, phases and circulation patterns', such as, for example, mainstream cinema soundtracks and their associated CD commodities. Reiterating Feld's contentions some sixteen years later, in a markedly different 'techno-scape', Hafstein has identified that, in 'a digital environment artistic works circulate in unprecedented ways and with unprecedented speed, and so do claims to copyright' (2010: 315); and has argued that:

Digitization expands the horizon of creative possibilities—as well as means of circulation—and in doing so puts pressure on the viability and applicability of legal regimes constructed around analog technologies of reproduction (ibid.).

Feld's emphasis on 'propriety' is particularly important, since the term refers to a historically contingent set of values and perceptions of socially acceptable behaviour or conduct. Propriety is therefore always under negotiation, always in flux (hence the 'struggles' that occur over disputed interpretations)—just as new cultural practices and technologies exert 'pressure' on legal regimes established in response to previous moments in media history. Within these contexts, debates about propriety require re-visitation and renewal to reflect changes in 'experiential and material situation[s]' (ibid.).

Researching the musicological and filmic discussion of *Sanctum* presented above, an aspect of the film's score that immediately attracted our attention was the lack of any reference to the vocal performer featured prominently in 'A Sacred Place'. While the film's lengthy credits detailed the names of production personnel who had less than crucial impact on the film's final audio-visual text (caterers, drivers etc.) the name of the vocal performer was noticeably absent. Google searches for promotional and press materials on the film uncovered informative discussions of cinematography and acting performance but similarly gave no mention of the singer. Purchase of the soundtrack CD and perusal of its cover notes drew a similar blank, raising questions as to the singer's identity and how the absence of a performer credit for the vocal sequence in the film's score related to the moral rights of the performer. In the course of an interview conducted by way of email exchange with the film score's composer, David Hirschfelder, co-author Philip Hayward asked:

I can't place the voice (and language) of the vocalist [on 'A Sacred Place']. Is this a library sample? And, if so, I would be interested to know the singer, song and source recording.

Hirschfelder responded as follows:

This is not a library sample. The director Alister and his team had previously recorded hours of Papuan material, with the thought of using Papuan elements in the score ... Unfortunately, I never had the privilege of meeting the singer who provided the raw materials. In any case, the film-makers' cache of field recordings offered more than enough gems, so it was not necessary for me to call on him for further recordings, nor was there the opportunity to do so, given the tight delivery schedule of the film-score (personal communication, 18 August 2011).

Pursuing the matter further, Hayward asked Hirschfelder to forward a request for more information on the singer and source of the recording to the film's director, writing:

I'm interested in how involved the director was in the sound of the film, to the extent of providing you with Papuan recordings, it's unusual to have a director who is that 'hands on' with that aspect of production (in fact only Terence Malick comes to mind, who organised those beautiful Solomon island choir songs used in *The Thin Red Line*). I'd be interested to ask Alister Gordon a few questions about that—would you be able to give me a contact email for him? (19 August 2011).

Hirschfelder replied that he had raised the matter with Grierson but the director was unable to provide further details.

Co-author Hayward then asked ARIA award-winning film composer David Bridie (who has worked with Papuan musicians on projects such as Bill Bennett's 1998 film *In a Savage Land* and its accompanying double CD of score and associated PNG music recordings) for an opinion on the thematic prominence of the vocal part of the 'A Sacred Place' recording in the film and its lack of attribution in the film and soundtrack CD's credits. Bridie's personal assessment was unequivocal: 'the vocal is, of course, central to the track. It indeed should be credited' (personal communication, 20 August 2011). As will be explained below, such credit is not a strict legal requirement where the singer has consented to non-attribution.

A further email request about the provenance of the vocal performance in 'A Sacred Space'—written in a tone of concern about the treatment of the singer—was sent to Hirschfelder by co-author Hayward. It elicited this response:

This now feels like an investigation rather than an interview; it's a shame that you've jumped to such a wrong conclusion.

I can assure you that your 'strong impression' of the vocalist being 'not permissioned' is totally unfounded, and there is no 'issue' to be addressed here.⁶

Let's make one thing perfectly clear: these PNG vocals are NOT samples appropriated from the forests of PNG. They are recordings of a PNG singer, who actually lives in Australia. He was recorded in Melbourne and was remunerated accordingly for his work.

That's all I know. If you have any further queries, you'll need to contact the film producers directly yourself (personal communication, 19 August 2011).

This clarified the position.⁷ As the lead production company of *Sanctum* was Universal Pictures, an inquiry was made by co-author Brennan to NBCUniversal—the

6. Co-author Hayward's email of 19 August 2011 included the following: 'I have a strong impression that the PNG vocal sample that is a key motif/melodic element of the "Sacred Place" track—and the film as a whole—may not have been permissioned by the singer concerned'.

7. Co-author Hayward replied by email as follows: 'Thanks for your email. I am relieved and gratified to be corrected, I completely apologise for any offence and will attempt contact the director and inquire as to the singer's identity' (20 August 2011).

parent company of Universal Pictures. That inquiry, as at the date of this essay's publication, had not been responded to. NBCUniversal was asked:

- (i) Could you or Universal Pictures provide us with the name of the singer featured in 'A Sacred Space'?
- (ii) Regardless as to whether the specific identity of the singer can be provided to us, could you or Universal Pictures confirm that the singer had duly consented to the non-attribution of his performance included in the sound recording of 'A Sacred Space' which features in *Sanctum* and on the accompanying soundtrack CD? (14 May 2012)

In addition, Hirschfelder's email also provided a more direct avenue through which to identify the performer since Melbourne's small and tight-knit PNG and West Papuan communities would presumably be aware and proud of the contribution of one of their members to the soundtrack of a major release film associated with James Cameron. Having ascertained from David Bridie that the vocal performance was not one that was undertaken during the sessions he organized for Paul Pirola, information was sought from Melbourne's PNG and West Papuan communities via various colleagues about the singer but drew a complete blank; there being no apparent awareness of any such singer or, indeed, of any such Papuan contribution to *Sanctum*. All subsequent attempts to identify the singer have, similarly, proved fruitless.

As Adeney explains (2006: 153–57) the WIPO Performances and Phonograms Treaty (WPPT), concluded in 1996, recognizes a moral right of attribution for performers who contribute sounds to a performance. Article 5 provides that:

Independently of a performer's economic rights, and even after the transfer of those rights, the performer shall, as regards his live aural performances or performances fixed in phonograms, have the right to claim to be identified as the performer of his performances, except where omission is dictated by the manner of the use of the performance...

After being so required by free trade agreements with Singapore and the US, Australia gave effect to this treaty obligation through copyright law reforms that came into operation in mid-2007 (Adeney 2006: 564–65 and 604–11).⁸ In relation to a recorded performance, infringement of the Australian attribution right occurs if someone in Australia undertakes 'attributable acts' without due identification of

8. Performers' moral rights protections are interwoven within Part IX of the Copyright Act 1968 (Commonwealth) 'Moral Rights of Performers and of Authors of Literary, Dramatic, Musical or Artistic Works and Cinematograph Films'. Of particular relevance are Division 2A ('The Right of Attribution of Performership') and Division 6, Subdivision B ('Infringement of Moral Rights of Performers').

a (human) performer who contributed to the sounds of the performance. 'Attributable acts' for a recorded performance involve making a record from an original record of the performance (e.g. from a studio master) or communicating (i.e. transmitting or making available online) the recorded performance to the public. To avoid infringing the right, identification of the performer must be reasonably prominent. When copy records are made of a recorded performance, this obligation will be met if identification on each copy is included in such a way that a person acquiring a copy will have notice of the identity of the performer. It seems clear enough that the maker in Australia of each copy of the film *Sanctum* and the Australian-based communicator of *Sanctum* to the public should—subject to the two legal excuses discussed below for not so doing—ensure reasonably prominent identification of the PNG singer, whose recorded performance was copied to form part of the *Sanctum* soundtrack.⁹

The two legal excuses to not identify such a performer are: (i) that the non-attribution is reasonable, or (ii) that the performer has consented to the non-attribution. It is difficult to conceive of why it might be reasonable not to include identification of the performer on any copy of *Sanctum* made in Australia under the authority of its producer, or on any copy communicated in Australia under that authority. In short, reasonableness is not obviously a defence to the non-attribution. However, the question of consent (bound up here in terms of the agreement between the Papuan singer and the film producer) is another matter entirely.

While a performer cannot under Australian law waive (i.e. extinguish) a moral right of attribution, an equivalent outcome can be arrived at another way; failure to attribute is lawfully excused if it is within the scope of a 'written consent given by the performer'. Such consent may be given in sweeping terms: 'to all or any acts or omissions occurring before or after the consent is given'. Also, where the consent is for the copyright owner of the recorded performance (i.e. most likely the producer of the Melbourne-studio master here) that consent is presumed to extend to the owner's licensees, and to anyone else authorized by the copyright owner. The latitude created by this excuse is constrained in one way; if consent was procured by wrongful threats or deception the consent has no legal effect.

9. Likewise importers or sellers may be legally liable for dealing in copies that do not include due attribution, subject (among other things) to possessing a particular state of knowledge. More generally Australian law recognizes that a pre-existing sound recording that is copied into the soundtrack of a film retains its identity as a copy of the sound recording; *Phonographic Performance Company of Australia Ltd v Federation of Australian Commercial Television Stations* (1998) 195 CLR 158.

Thus, focusing on the moral rights of the performer set out in copyright law can take us only so far. Ultimately it is the agreement between film producer and the performer that is most likely to shed light on the lawfulness of the non-attribution within *Sanctum* of the PNG singer. In this regard, Hirschfelder's reference to the singer being 'remunerated accordingly for his work' helped focus a line of inquiry since the employment of a singer in Australia to perform written song materials narrows down the range of legal issues that are involved (which are different for any PNG 'field recordings'¹⁰). In terms of dominant media industry practice, if a singer is employed as a session performer to sing pre-composed melodies and/or words and melodies supplied to them for use in a subsequent media product, a minimum hourly-based rate of \$168.23 is prescribed by Fair Work Australia under the 'Broadcasting and Recorded Entertainment Award 2010'.¹¹ Terry Noone, Federal Secretary of the Musicians' Union of Australia, has also identified that 'singers would usually negotiate over and above this rate, they may even negotiate some percentage of the film's earnings' (personal communication, 30 September 2011). The award is silent on matters relating to attribution (or consent for non-attribution), a silence which is unsurprising in view of the types of matters lawfully able to be included in modern awards which are predominantly tied to what remuneration should be paid and to when work should be performed.¹²

In the case of the 'A Sacred Place' sound recording included in *Sanctum* and its associated soundtrack CD, the performer has not been attributed in circumstances where it was seemingly reasonable to do so. It is unclear (and from our position not knowable) what arrangements were concluded between the film producer and the performer. That is to say the specific contractual position is a 'black-box'. The relevant award is (almost necessarily) silent on issues of attribution or procedures for securing consent for non-attribution. In view of the current state of copyright law, it is clearly possible—so long as the consent was obtained free from any unlawful threat or deception—that a sound performer may genuinely consent in his or her contract with a producer to the non-attribution of a recorded performance. It can be assumed that the 'Papuan' singer consented in entirely proper circumstances to the non-attribution of his performance within the 'A Sacred Place' sound recording featured within *Sanctum* and on the associated soundtrack CD.

10. As at the date of publication, PNG is not party to the WPPT, but has enacted sound performers' moral rights protections that effectively inscribe the rights conferred by article 5 of the WPPT into domestic PNG law by section 21(3) of the Copyright and Neighbouring Rights Act 2000 (PNG).

11. The full award conditions are available online at http://www.fwa.gov.au/documents/modern_awards/award/ma000091/default.htm. Thanks to Terry Noone, General Secretary, Musicians' Union of Australia, for identifying this.

12. These limitations are imposed by section 139 of the Fair Work Act 2009 (Commonwealth).

As such, any non-attribution within the scope of such consent is entirely lawful under the legal regime that applies in Australia to protect the performer's moral rights. However, this gives rise to legitimate concerns about the efficacy of such protections with regard to the manner in which—notwithstanding the existence of a sound performer's moral right of attribution being somewhat respected in Australian law—the PNG singer who features prominently as the first voice heard on the soundtrack of a major motion picture could remain unattributed without legal wrongdoing. This invites the obvious question: whether performers' moral rights protections in Australia are fit for purpose.

Different interpretations of the use of 'Papuan' musical elements in *Sanctum's* score underline the need to retain Feld's emphasis on critical engagement with media industry practices 'located in the situations, flows, phases and circulation patterns' enabled by particular developments in technology (1994: 260) and, in particular, Hafstein's address to the 'expanded horizon of creative possibilities' provided by advanced digital technologies (2010: 315). In particular, we must attend to the distinct nature of contemporary audio technologies. Whereas early controversies over musical sampling concerned unauthorized use of samples collaged into instrumental beds—such as Deep Forest's unattributed use of a sample of a Solomon Island singer in their track 'Sweet Lullaby' (see Feld 2000);¹³ contemporary digital music producers engage with source materials in a more subtle manner. As Hirschfelder emphasized (above), he 'crafted' 'raw recordings' using 'granular time-stretching and pitch manipulation technology', substantially modifying elements of the original tracks.

Although not in the case of Hirschfelder and *Sanctum*, in some instances, this facility for modification of source sounds seems to have inured and emboldened contemporary producers into considering that digital modification gives them license for unrestricted use of sonic materials. Such views were, for instance, clearly stated by composer Miles Whittaker (of British digital music duo Demdike Stare¹⁴) in a recent issue of the avant-garde music magazine *The Wire*. During the course of a dialogue with interviewer Joseph Stannard, Whittaker identified his approach to the process of sampling as similar to that described by Hirschfelder ('We're sampling for mood, for palette more than anything. It's to create sound' [Stannard 2011: 25]). However, Whittaker goes on to offer a justification for not clearing, crediting and remunerating sources in terms of an anti-corporate position:

13. Also see Zemp (1996) for related discussion.

14. Known for a quasi-cinematic style that Whittaker has described in terms of 'music that conjured images without having the extra dimension of visuals' (in Stannard 2011: 22).

The reason why we're a bit cautious about it is obviously for legal reasons. It seems to be that the three big major labels in the world have nothing left because they've been shoveling shit down people's throats for the last 30, 40 years, so all they're trying to do now is capitalise on the bloody catalogues which they bought for pittance. I hate that world. I absolutely despise it. So this is my way of saying sampling really is a creative way. It's modern music. If you think you deserve a writing credit because I've sampled one second of a string that you got a session musician to play, you've got another think [sic] coming—I will obfuscate it and I will make sure that you can't tell what it is (Stannard 2011: 25).

While the anti-corporatist slant is a relatively common one within the indie (i.e. 'independent') music scene, its entanglement with a *creative* justification for sampling merits comment on two grounds. First, and most obviously, the example of 'one second of a string' refers to the sampling of a very basic sonic unit, which is at the extreme end of copyright validity; longer and/or more complex samples might well have a greater claim for recognition and clearance. Second, faceless corporations are something of an easy target. Switch the source to an indigenous performer not protected by corporate lawyers, and the politics of 'obfuscating' held by Whittaker become far more questionable. Whittaker's views are not reflective of the issue arising from the lack of the vocal performer's credits in *Sanctum* and in no way should the above be interpreted in any way to conflate Whittaker's and Hirschfelder's attitudes and practices; but rather identify what appears to be a concerning perception in the contemporary music production sector about the need to attribute and regarding what consideration occurs of the ethical implications of industry practice (as long as they do not breach copyright that is primarily policed by major industry players). This perception is at the heart of the issues raised in the second section of this article and needs to be addressed by the whole range of stakeholders in contemporary music culture, in developed and underdeveloped economies, in corporate and community environments, in corridors of power and at grass-roots level.

While the inquiries outlined in section two of this article were not successful in their goal of identifying the performer concerned they do at least serve to highlight the issue of adequately crediting performers whose work is incorporated into western commercial media texts in order to provide adequate recognition to such performers. Had such identification been made in relation to the vocal performance in 'A Sacred Space' the need for the entire line of inquiry contained in the second section of the article would have been obviated and discussion would have remained focused on the film's very accomplished deployment of score for narrative and thematic purposes. Without this credit identification—and while the identity of the PNG singer remains unknown—*Sanctum's* soundtrack draws attention to questions of the appropriateness of current industry practice and current copyright laws relating to the attribution of performers.

'Struggles over musical propriety' (Feld 1994: 257) are dependent on musicians, audiences and cultural activists engaging in debate with cultural producers and industry figures around issues of propriety within the ever-shifting field of contemporary media production. This case study of the textual centrality of 'Papuan' source materials in the score of *Sanctum*, and of issues concerning the difficulty in identifying the vocal performer concerned, attempts to explore three things as matters of opinion and evaluation. First, to refresh public and professional awareness of the issues involved in digital sampling and sound manipulation. Second, to prompt reflection by the film industry on the propriety of industry attribution practices. Third, to highlight seeming deficiencies in Australian laws that protect a sound performer from the lack of attribution of his or her performance in situations where they have in effect waived the right to such attribution. The notional representation of Papua New Guinea in the film may simply be a 'plane of illusion' but the 'Papuan' source of a key element of the film's soundtrack is actual and specific, as are the normative and legal issues involved in the non-attribution of that vocal performance.

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