

Brilliance As Cognitive Complexity In Aboriginal Australia

Myfany Turpin

Nigel Fabb

University of Sydney

University of Strathclyde

ABSTRACT

Writers on Australian Aboriginal ceremonial practices and contemporary commercial art have identified properties that can be described as producing 'brilliance', the term used by Howard Morphy (1989) for Yolngu visual art. Brilliance involves the emotionally charged knowledge that Ancestral power is manifest. We suggest that, in Australian Aboriginal ceremonial practices and art, two kinds of brilliance are at work, both of which we exemplify using evidence from songs and languages of the Arandic and Warlpiri region of Central Australia. One kind of brilliance is manifest as visual brightness and whiteness, the other relates to a variety of cognitive complexities that involve diverse combinations of parts both within and across modalities of expression. In extending the notion of brilliance from the visuality of brightness to include cognitive complexity, we follow other work on Australian Aboriginal ceremonial practices. Seeking to understand why these properties should produce particular emotional and epistemic effects in participants, we draw on psychological accounts of the sublime and awe (Keltner and Haidt 2003, Miall and Kuiken 1994), which we treat as part of the same broad family of experiences as the experience of brilliance. We suggest both visual brightness and cognitive complexity represent an 'extremity' that as such places considerable cognitive demands on the participants. These extraordinary cognitive demands stimulate emotion and produce the experience of Ancestral power and surprising moments of insight.

Key words:

Aboriginal Australia, aesthetics, awe, brilliance, ceremony, cognition, sublime

BRILLIANCE

Morphy on *bir'yun* or brilliance in Yolngu bark painting

According to Howard Morphy (1989: 28), '[i]t is the quality of brilliance that is associated in Yolngu art with Ancestral power and with beauty'. Following field notes by Donald Thomson, he translates the Yolngu term *bir'yun* as 'brilliance' and explains it to be a 'sensation of light, the uplift of looking at this carefully carried out work. They see in it the likeness to the *wangarr*' [Ancestral past] (Morphy 1989: 28, citing Thomson's unpublished field notes). The emotional effects of brilliance include joy and happiness, which arise from the 'shimmering quality of light'. The bark is painted red and over this background, figurative and geometric components are added in yellow or black ochre, then cross-hatched white lines are added, at which point the painting acquires brilliance. As Morphy (1989: 33) goes on to explain:

The technique of cross-hatching results in a painting whose surface shimmers with light and which appears full of movement and life. This brilliance represents the Ancestral power of the painting shining from within.

'Brilliance' has been associated in other parts of Aboriginal Australia with Ancestral power.

We suggest that brilliance comprises two distinguishable properties. The first is primarily perceptual and involves whiteness, brightness, and shine, sometimes with movement such as shimmering and flickering; often this property is transient. The second property arises from the fact that ceremonial practices of song, dance and painting often involve the complex combination of simple component parts. These component parts are combined not only sequentially but also simultaneously, such that they can be experienced at the same time, acoustically in the rhythm, melody or text of the singing or percussive accompaniment; and visually in the designs on canvas or the body and

movements of the dancers. We suggest that this simultaneity is a second property of brilliance.

Morphy describes brilliance as having an emotional effect accompanied by a belief 'in the magical properties or the spiritual power, or the effect of a particular object' (Morphy 2009: 6). Ancestors are always present in the invisible realm of the 'Dreaming', what Stanner (1956) called the 'Everywhen' and which we refer to throughout as *Altyerre*, as it is known in Arrernte and Kaytetye. But the Ancestors emerge into the realm of the visible because the communication channels are opened. We suggest that though only the participants experience Ancestral truths, these truths are nonetheless produced by general psychological mechanisms; in this our approach is similar to that of William James (1902) who thought of mystical experience as access to a deeper reality via the special operation of general psychological mechanisms. Central to our argument is that we associate participants' knowledge of Ancestral power with their skill and experience, which provides them with the necessary knowledge that the interconnected component parts of the ceremony have been performed correctly. (The term 'participant' uses Ingram's (2013) notion of a 'listening participant', which can be divided into different roles; e.g. someone being painted-up has a different role to the lead singer, yet both are participants.)

We do not have direct evidence of what participants' experience is. Where we quote expressions of emotional impact, they are almost always from Turpin's ethnographic observations during performances and statements by other fieldworkers rather than participants themselves. We assume that complex ritual performance practices are sustained because they satisfy the cognitive, emotional and epistemic needs of the participants. The problem of inference is the same in work on aesthetic practices (including ritual practices) in other cultures, since explicit introspection is unreliable (Nisbett and Wilson 1977).

In this paper we draw on Myfany Turpin's fieldwork on Arandic songs set into the wider context of the ethnographic research of Aboriginal religion and art. While we do not draw specifically on T. G. H. Strelow's monumental work in this area (which consists almost entirely of restricted Arandic men's songs of which we have no first hand experience), we are in keeping with Strehlow's

demonstration that songs are high culture comparable to the musical achievements in other cultural traditions. Most relevant for our discussion is that songs are cognitively demanding. While each element of song on its own is often simple and repetitive (e.g., text, rhythm, melody, design) the creation and processing of the thick layering of multiple auditory and visual components demands significant cognitive work. We argue that this cognitive work is one of the types of brilliance which produces the effect of power.

BRIGHTNESS AND TRANSIENCE

Brilliance as brightness, whiteness and transience

Yolngu brilliance includes brightness and transience, and these are found across Aboriginal Australia in body painting, ground art, sand story narratives, song, dance, and the overall effect of ceremonies. Brightness effects involve whiteness, shininess, shimmering, glittering and iridescence. These visual effects arise also from oil gleaming on the skin, flickering fire, rays of the sun, mirages, and surface water effects. Brilliance can exist in how the world is perceived and understood, as well as in ceremony. Transience is manifested in practices of momentary looking or touching, in the concealing and revealing of sacra, in the erasure of marks on the ceremonial ground, and in the perceived changing colours of iridescent objects such as pearl shell.

Morphy and John Carty (2015:110) describe 'shimmer' in the acrylic dots of desert paintings, and compare these dots to ground sculpture and the balls of 'bush cotton' which are attached to men's bodies and shaken off in performance, producing 'traces of ancestral power'. Françoise Dussart (1988:37) discusses shininess in Warlpiri painting, which 'recalls the Ancestral Beings completely beautified when they originally emerged from the Ancestral ground'. Jennifer Deger (2006:190) says of a Yolngu-made film that 'these shots of water shimmer, deriving a power from something beyond representation. They are, and effect, a brilliance of surface and depth, reflection and illumination.' Iridescent objects such as pearl shells, which were used as ceremonial exchange items and as

objects of beauty, were traded over a thousand kilometres, which suggests the high esteem in which these were and are held (Akerman et al. 1994). In Arandic languages pearl shell is referred to with the same words used to describe the property of stars, the sun, glass, silver objects and reflecting water (e.g. *alim-alime*).^[i] Diana Young (2006:240; 2011:367) says that people on the Anangu Pitjantjatjara Yankunytjatjara Lands in northern South Australia find evidence of Ancestral power in the capacity of the land and sky to change colour and to fleetingly become highly visible and then again invisible at sunset.

That brilliance involves both whiteness and shininess has been observed for a number of Aboriginal cultures. Amongst the Anbarra of Arnhemland, colour is a binary division glossed broadly as 'light' and 'dark', whereby light requires 'a touch of brilliance or "animation" as well as a high degree of brightness' (Jones and Meehan 1978: 27). A similar binary grouping exists for Anindilyakwa speakers on Groote Island, which Velma Leeding (1989) refers to as a division into 'lustre' and 'lustreless'. Brilliant objects used in Central Australian ceremony include white headdresses and white headbands traditionally made from hair string and rubbed with white ochre, replaced now with white cloth or fabric cut into lengths (Figure 1, *Warlpiri dancers*). White natural objects are also used, including cockatoo feathers, 'bush cotton' (white down or crushed flowers), white ochre, and white tail tips of the bilby (or rabbit). Warlpiri performers wear what they refer to as 'white' (pale yellow) and red necklaces made from the seeds of the bat-wing coral tree (*Erythrina vespertilio*)(Figure 1, *Warlpiri dancers*).^[ii]

[insert figure 1 here]

Figure 1. Warlpiri dancers (L-R): Kathy Nangala, Dora Nampjinpa, Peggy Nampijinpa, Maisy Kitson, Marilyn Nampjinpa and Leah Nampjinpa) © M Turpin 2009 Has the spelling changed from Nampijinpa?

These everyday objects can be transformed into ceremonial objects when placed on people or *sacra* and 'sung'. Even a modern shiny object such as a belt buckle can be sung and thus transformed into a ceremonial and power-laden object.

Visual brilliance appears on the performers' bodies, which glisten with oil and ritual designs that can include white, yellow and red ochres as well as black obtained from charcoal. In women's ceremonies, white is the final colour to be applied to the body and performers say that this makes the design as a whole stand out (Turpin 2015: 79). Yolngu artists give the same explanation for the final outlining of body designs in white (Morphy personal communication 2016).

Visual brilliance can be seen in clouds, sun, stars, mirages, water, limestone, mica, butterflies, white ochre, flowers, feathers, glistening sunlight, sap and fat, as well as glass, mirrors and various metals. Verbs in Arandic languages that describe the potential 'shimmering' properties of such objects are also used to name representations of shimmer in art and dance, thus drawing an analogy between ritual practice and properties of the world: the dancers' movements 'shimmer' and paintings 'glisten' as do glass and water. Such verbs include *erlkwerlke*- 'flash, blink, glisten', *ile*- 'shine, flash', *arrke*-, *alharrke*- 'shine, flash', *amparrke*-, *amperrkarre*- 'shine, sparkle', and *array-arralyarre*- 'twinkle, glitter' (cf. Turpin 2015).

In ceremonial dance brilliance is produced by movement. Moreover, Peter Sutton and Michael Snow (2015: 96) suggest that movement is a perceptual property of stationary brilliant objects with structural colour (as when colour is produced not by pigmentation but by the layered structure of the object) even if they do not actually move: 'The iridescent has more power than the merely shiny because it does more visual work. It is the still, bright, dense thing that moves.' Dancing involves regular movement to the musical beat and ritual objects are synchronised in the hands of the dancers whose thudding feet and breasts echo the musical beat. Joseph Jordania (2011) associates such entrainment with solidarity and trance, while Judith Becker (1994: 50) sees that it 'invokes realms of knowledge to which we otherwise have little access'. In Aboriginal ceremonies, synchronised rhythmic dancing is often juxtaposed with a fast movement where thighs and ceremonial leaves are shaken and feathered headdresses and armlets quiver (Figure 1, *Warlpiri dancers*). Thighs were once oiled and painted, making the brilliant effect more salient. Rapid movement of leaves, clapsticks and boomerangs produces tremolo, and perhaps this is an aural equivalent of visual brilliance.

The representation of brilliance

Brilliance and whiteness as well as objects with these qualities are also the subjects of songs. Women's *awelye* songs include references to white ochre (1), as well as white ritual items such as the ritual pole (2), ritual headband (3, 6) and forehead adornment (4), and headdress (5). These are exemplified below with verses (which when repeated form a song).

(1.)

<i>Ngwenty-ngwentyelarl areyep arrernelhek</i>	<i>With <u>white ochre</u>, they adorned themselves</i>
<i>Aneyarr-therrel areyep arrernelhek</i>	<i>The two young women, adorned themselves</i>
	(w_Arnka070404_02, ^[iii] Alyawarr)

(2.)

<i>Mangaya kurrkurla jingka-jingka-wangka</i>	<i>The (white) feathers appear shining on the <u>ceremonial pole</u></i>
<i>Wirnparrku kurrkurla jingka-jingka-wangka</i>	<i>The feathers appear shining at Wirnparrku</i>
	(Gallagher et al 2014:20, Warlpiri)

(3.)

<i>Merrpewantyerraye</i>	<i>Tie it tight</i>
<i>Iterlerre merrpere arrerne</i>	<i>Tie the <u>headband</u> tight</i>
	(Turpin and Ross 2004, Kaytetye)

(4.)

<i>Alpitarle atyengarle ake arrkerl-aneke</i>	<i>The <u>forehead</u> decoration on my head shimmers</i>
<i>Akerlkentye atyengarle akerlkerl-aneke</i>	<i>My <u>white adornment</u> is shining</i>
	(JG02_020328-08, ^[iii] Arrernte)

The language of brightness can be complex and allusive. In (4) the verb *akerlkentye* 'head shine-NMZ' is literally 'that which shines or blossoms white'. In Alyawarr the verb can also mean 'covered in ash', 'sparkle'. In (5) the word for the white feathered headdress on a ceremonial pole (Figure 2),

karlkwerrarlkerre, is a compound of *ake* 'head' plus a nominalised form of the verb *arlkw-* 'to eat', which is used to mean 'out do', and thus a translation of this word could be 'the best crown of them all'.

(5.)

<i>Karlkwarrarlkwarrarl rtenhek</i>	<i>Where the spectacular headress stood</i>
<i>Irrtyarew renhap tyarewetyarel rnkernek</i>	<i>On the distant ceremonial pole</i>
	<i>standing</i>

(Turpin et al in press, Alyawarr)

[insert figure 2 here]

Figure 2. Ceremonial pole prepared by Clarrie Kemarr © M Turpin 2011

Often polysemy is based on a shared bright, white colour. For example, the Alyawarr word for 'white headband', *tyerlarr*, is replaced with a poetic word, *iylerlkarr* in (6). This word appears to be related to the pan-Arandic word *iylerlkennng* 'Sandover lily (*Crinum flaccidum*)', a rare plant characterised by its large white flower, supported by an unelicited observation by Arrernte singer M.K. Turner (pers.com 25 May 2017). [iv] In the dance accompanying this couplet the headband is held up in the air and moved from side to side in a characteristically brilliant combination of whiteness and movement (see Figure 3).

(6.)

<i>Alker ilewerr-ilewerrirrenty</i>	<i>The shimmering horizon</i>
<i>Iylerlkarrelarl alamperrkelhelek</i>	<i>The <u>headband</u> made it glisten</i>

(Turpin and Ross 2013:32, Alyawarr)

[Insert figure 3 here]

Figure 3. Eastern Anmatyerr and Alyawarr dancers (L-R): Lena Skinner, Rosie Kunoth Kngwarray and Rosie Pwerl ©M Carew 2011

In addition to words for white ceremonial items, the verses often contain words that refer to their brilliant visual effect, as seen in examples (2), (4) and (6). Words for 'glimpse', 'show', 'reveal' and 'see' are also common (7), perhaps highlighting the transient or fleeting aspect of brilliance.

(7.)

Arnkely-arnkelyelarl lwewarrerne

The grumpy woman revealed (them)

Arlkeny malangkarl lwewarrerne

Revealed the lovely ceremonial designs

(Turpin and Ross 2013:45, Alyawarr)

Some verses refer to yellow ochre (Gallagher et al. 2014) and yellow flowers, a colour that also has a brightness to it. There appear to be no verses that refer to red or black objects: we do not know whether this gap is unique to women's songs, or to all ceremonial songs. There are a number of brilliant objects referred to frequently in song texts that are not used in ceremony, such as butterflies, clouds and mirages.

If a verse refers to brightness, there are usually accompanying actions (not all verses are about bright objects), and conversely where there are no accompanying actions, verses do not generally mention brightness or brilliant objects. This points again to the significance of the intimate connection between brightness and simultaneity, which we have suggested are two aspects of 'brilliance'.

Brightness and power in other cultures

Brilliance is a property associated with power in the aesthetic practices of other cultures too, for example Abelam painting, about which Morphy (2005) notes that the geometric components and cross-hatching resembles those in Yolngu art. Brigitta Hauser-Schäublin (1996: 87) writes that in Abelam art the most valued colour is white, and the white line the most important line. Paul Roscoe (1995: 10) ties Abelam brilliance to the feeling of power: 'The ability of the Ka nimbia's

bright colours to arrest the attention, then, was experienced as a sensation of alien power and danger, a feeling of being in the presence of a powerful and menacing entity' (1995: 12). Eric Kjellgren (2007: 62) describes Abelam art as having 'a magnificence that overwhelms the viewer with the complexity, scale and brilliant colours of the sacred display', and describes the response as 'awe' (which we discuss further below).

Further in Papua New Guinea, Douglas Dalton (1996) describes how for the Rawa of Morobe Province, shell-and-tooth based valuable ornaments called *kunawo* 'make the eye rejoice', and that the men ritually cook the shells over a fire with lime powder and perform a magical incantation to make them bright and shiny 'like the sun'. Deborah Neff (1987: 67) observes for South Indian Keralan ground painting that 'the more eye-dazzling the floor drawing, the more powerful an object of concentration and invocation it is.' Turning to European art, Morphy compares Yolngu brilliance to the 'luminosity' of Vermeer's paintings. Studies of European art and architecture have emphasised how light, brilliance and magnificence may have an effect associated with profound religious experience. For the great 16th century Italian architect Andrea Palladio 'white was the colour most pleasing to God' (Anderson 2013: 46).

Critics have identified brilliance in mediaeval European religious art. For instance, Charles Dodwell (1993: 36, 376) discusses the interest in iridescence and brightness, and Christine Hunzinger (2015) shows that mediaeval European objects that have brilliance (dazzle, flash, sparkle, scintillation), multiplicity and visual complexity are 'marvellous' and produce wonder. Stephen Jaeger (2010) discusses how meditation on brightness, including colour and light signifying the unrepresentable, can lead 'the dull mind to truth', and Patricia Miller (2000: 234) discusses dazzle, glitter and flash in early Christian mosaics and other art 'in which the boundary between body and spirit, death and life, is dissolved in a shimmer of light'.

These examples, chosen from across time and cultures, raise the possibility that there is some psychologically generalizable property of bright, white or shiny objects and paintings that produces a generally valued kind of experience, across cultures – an experience associated with spiritual power and awe, and widely documented for the dying, near-death experience.

Brilliance and perceptual difficulty

Brilliance may make it harder to perceive the form of the image, song, dance or other element. For example, the white crosshatching on the surface of Yolngu paintings makes the underlying symbolic representations harder to see, at least for the untrained eye. Sutton and Snow (2015:138, 134-5) write of acrylic dot painting that 'the dotting tends to set up a shimmering in the eye', and that these are interference effects making it harder to see the objects. Fast performance of a song may make the song harder to hear. Perception can be hindered by brilliance-associated phenomena such as a mirage, rain falling, or the dust rising from the ground. In an account of general musical listening, David Huron (2006: 324) suggests that musical dissonance is similar to visual glare because both interfere with our perception of the form. In this regard, we note that group singing of Australian songs does not require the perfect matching of pitch, and instead there may be a heterophony or slight musical dissonance rather than exact unison. Additionally songs are sometimes performed by several performers out of phase, making the text difficult to hear (Hale 1984: 257). Alternations to the sounds and even morphology of words are found in many song traditions, along with performance practices that make the words difficult to perceive as distinct words, with specific meanings. These include the practice of starting a song anywhere in the verse and aligning the verse with different parts of the melody, as well as allowing words to be split by line boundaries, and putting stressed syllables in off-beat positions (Turpin 2007, 2015). Yet other obscuring factors might play a role, such as the simultaneous presence of other components, which produce background visual or aural noise. In this way, practices which we have specifically identified as producing 'brilliance' combine with other practices and properties to produce objects which are difficult to perceive and songs which are difficult to decipher. We here argue that perceptual difficulty is a major factor in provoking the experience of Ancestral power.

Transience

Time plays a significant role in the production of brilliance (Morphy 2009). For instance, brilliant Yolngu paintings are viewed only briefly (though the main

participants may have a longer experience of them; Morphy 2009). In Central Australian religious practices, sacra such as poles and clap sticks are put away when not used, so that their ritual power is only occasionally manifest (it is also dangerous outside the ritual context), and these sacred objects are made transiently potent again through the application of oil, ochre and feathers. The pole is briefly touched during the dance, and fluff flies off the men's bodies in motion. Once completed, ceremonial representations in the ground are erased and body designs are scuffed to eliminate the outline (whilst leaving traces to signal that one has been in the ceremonial domain). The materials are potent with Ancestral power which can be only briefly manifested. The temporal constraints are such that white ochre's colour potential for brilliance only becomes so when it is part of ceremonial designs, similarly oil makes the body glisten only until dry, and an object may appear bright only in a particular light. Moreover, the components of the ceremony take on a changing relation as they shift between moments of climax, which can have strong emotional effects, and lesser charged interims. Finally, brilliance is contingent on the participants being at a particular moment of knowledge accumulated over many ceremonies, bringing them closer to the Ancestral domain.

At a symbolic level, the transience of the material object contrasts with the permanence of the *Altyerre*. Songs are brief but their abidance is revealed in the fact that in many verses, verbs are uninflected for tense. Those verses that do have tense marking often have a presentational tense unique to song, or the tense varies between past and non-past with no apparent semantic effect (Koch and Turpin 2008: 176).

BRILLIANCE AS SIMULTANEOUSLY EXPERIENCED COMPONENTS

The simultaneity of components

In his analysis of the morphology of feeling in Aboriginal aesthetics, Sutton (1988: 59) notes that 'the renewed recombination of a limited number of elements lies behind the austere economy and the consistency of art'. In song performances, the components of melody, rhythmic text and beating occur at the

same time and many have an accompanying dance action. In paintings (body, bark and canvas), individual components that are added successively nonetheless reflect their simultaneous occurrence in life, for example, as body parts that are typically painted from multiple perspectives in the same place or adjacent, or overlaid with adornments such as headbands, feathers and necklaces. Specific verses must be sung to the actions of painting, adornment and dance. An 'austere economy' and 'consistency' of shapes make this simultaneity different from the everyday simultaneities in ordinary communication, where we communicate with language, aspects of voice, facial expression and gesture, in how we dress, and so on. Ordinary simultaneities are not often precisely matched in meaning and form, or subject to specific rules of combination like those which are required for the ceremony to be successful.

Visual simultaneity derives from the repetition of similar elements. Designs may have parallel or crossing lines, or circles within circles, often simultaneous to shapes of the dance. Dancers may move in synchrony performing the same actions next to one another, face to face, or in a circle, with each individual's dance a component simultaneous with the other. Tamisari (2000: 284) argues that it is in the empathetic connection between dancers, dancing simultaneously that meaning emerges:

As the meaning of the footprints can be said to reside in between, that is in the social, political and emotional bonds they fashion between ancestral events, people and country, I propose that the meaning of Yolngu dancing is between the steps, encountering another person in the intercorporeal space of desire and compassion, love and competition one enters through dancing.

The aesthetic reverberation is further elaborated when the actions of the dancers/painters are echoed in the song text. Thus an important aspect of Aboriginal aesthetic practices is that there are multiple components which are experienced simultaneously. For the knowledgeable participant, this involves identifying what those components are, that is, to 'decipher' form and meaning. Song components include the melody and its coded meaning, the lyrics and their

meaning, the rhythm, and the percussive beating. The words of the text must be identified and their meanings established, along with the relations between parallel adjacent lines (cf. examples 1–7). Painted designs must be identified along with their meanings. The knowledgeable participant must also locate the relations of form and meaning cross-modally, that is, between the parts of the verse and the parts of the painting, and between the song as a whole and the painting as a whole. We suggest that the totality of the components and any coded meanings must be experienced in order to confirm proper performance of the ceremony. This will require considerable cognitive processing effort, which in turn creates the psychological conditions in which Ancestral power can become manifest.

Simultaneity and the production of Ancestral power

As argued above, simultaneity of component parts is a factor in brilliance which induces awareness of Ancestral power. In this we follow Catherine Ellis, who says that in ceremony where the naming of Ancestors evokes their presence, ‘in order to maintain power at its optimum, overlapping / interlocking / cyclical processes must occur’, and ‘everything must occur correctly and simultaneously for the full power of the naming to be effective’ (Ellis 1984: 183). She too argues that many ideas can be communicated simultaneously (Ellis 1985: 93). Others have also emphasised simultaneity: Morphy (1998: 185) observes that brilliance involves simultaneity of the effects of shine and movement on the object’s surface, Young (2011: 364) describes a painting tradition in which ‘successions of becomings are represented simultaneously’, and Sutton (1988: 59) finds another simultaneity in symmetry.

To perform a ceremony is to do what one’s Ancestors did, and if carried out well, performance has the potential to influence social cohesion, the outcome of events such as sickness, fights, sporting competitions, and the weather. Performance thus creates a simultaneity of experience between the everyday visible world of the living and the invisible realm of the Ancestors. Deger (2007: 115-6) similarly notes how, in moments of brilliance, the everyday and the sublime coalesce, and Young (2006: 253) points out the simultaneous animation

of body and country. Jennifer Biddle (2007: 71-2) writes about Desert acrylic painting:

dots appear to 'float' above surface level, as cloud to ground or figure to shadow. This vacillating simultaneity of surface, depth and back again produces layers, texture, depth. Present and non-present at once, it is the movement between two realms, above and below, that matters.

Ceremonial performance is a contemporary event which is simultaneous with an event performed by Ancestral beings, as well as with an event originally created by the Ancestors in the distant past. A similar temporal blending can be seen with traditional sand stories, which Nancy Munn (1973: 88) and Jennifer Green regard as 'a blending of ancestral reality with the "ongoing pattern" or "the microtemporal cycling" of daily life' (Green 2014: 51). Both these practices are regarded as having the same ancestral origins (Green 2014: 65). Green (2014: 232) observes that characteristics of song are also found in sand stories 'on the more formal end of the spectrum' (that is, explicitly from the *Altyerre*).

The component parts of a song

At a minimum, the acoustic components of Central Australian (including Arandic) ceremonial song are as follows (Barwick 1989): There is a text or 'verse', usually consisting of two lines. The verse is sung to a specific rhythm. It is sung in rhythmic unison by all singers in a group. The verse is repeated for the duration of a melodic contour, lasting about 30-40 seconds, and the set of repetitions constitutes the 'song item', during which each iteration of the verse may relate in different ways to the melody. There is a short break after this song item and then the same verse is sung again, though it usually relates to the melody in a different way. In Arandic languages the singing of multiple song items of the one verse is referred to as 'spreading out' the verse (Turpin 2005: 95). Ellis et al. (1978: 76) call these song items of the same verse a 'small song'. A song item may also involve a particular percussive accompaniment, usually produced with hands, or instruments such as clap sticks. We first consider the relation between the rhythm of the sung syllables and the accompaniment.

Most verses have a single percussive accompaniment, but some have two, as illustrated in figure 4. Above the text, the percussive beats are shown with 'x', with the vocal rhythm on top (each note matching a syllable). In the 'slow duple' accompaniment of this song every percussive beat coincides with a syllable. In the 'fast triple' accompaniment some percussive beats coincide with syllables (beats 1, 4, 7 and 10) and others do not. Thus, a single song text has a consistent vocal rhythm but can have two different meters in song items of the one small song. In Figure 4 below, the one verse, represented here with just one of its lines 'The coveted smooth designs were put on', has two different accompaniments: a slow duple for some song items and fast triple for others.

a) Slow Duple

b) Fast Triple

le ra le ri me rlan ki tyi nya rre rne ka

The coveted smooth designs were put on

Figure 4 The two different meters to which a number of songs are sung in the Alyawarr women's song set from Tyaw (Turpin et al in press)

Juxtaposing a sequence of different meters for the one verse (with one rhythmic vocal line) can have an interesting acoustic effect, like an optical illusion where the song is perceived in brief moments as both triple and duple.

In some song sets, the percussive beating ceases and then returns, with the cessation signalled in some Warlpiri song sets by a brief tremolo of the clap sticks. The percussive beat can change tempo to double speed, with clapping also on the off-beat, then return to single-beat clapping. These changes in the percussive line change the relations between the vocal line, percussive line and dancing, and can signal changes in the dancing.

The vocal line and the beats form sequences which usually begin and end at the same point. However, in rare cases a pair of lines matches a sequence of 15 beats, and so each line coincides with 7.5 beats.

The figure shows two lines of musical notation, labeled A and B. Each line consists of two measures of music. The notes are quarter notes, and the lyrics are written below them. Small 'x' marks are placed under the notes to indicate rhythmic units. Line A has a key signature of one flat and a time signature of 15/8. The lyrics for line A are: Linjirrmарlinja linjirrmарlinja linma Linjirrmарlinja linjirrmарlinja linma. Line B has the same key signature and time signature. The lyrics for line B are: Linjarrayarla namarrayarla nami Linjarrayarla namarrayarla nami.

Figure 5 Non-coincidence of vocal line and percussive line (Verse 35, Warlpiri *kurdiji* sung by Henry Cooke and recorded by Carmel O’Shannessy 2011)

The repeating text is set to the sung rhythms in regulated ways, aligning the left edges of words to the left edges of rhythmic units (Turpin and Laughren 2013). This can result in altering the stress patterns of words, and setting the last (unstressed) syllable of a word to a long note. Since there is also vowel modification this can make it difficult to discern words. For example, in Figure 6 below the first word *ngúrrunka* is sung as *ngíringká;*, with stress and lengthening on the final syllable and articulation of the back vowel ‘u’ to a front vowel ‘í’.

Figure 6 shows a musical score for a text-melody setting. The score is in 2/4 time and consists of three systems. The first system (measures 1-7) has a tempo of 144 and features two A sections and one B section. The second system (measures 8-14) has a tempo of 138 and features one B section and one A section. The third system (measures 15-21) has a tempo of 138 and features one A section and one B section. The lyrics are: 'ngi rri ngka yi rra re rra re rla ngi rri ngka yi rra re rra re rla pa nya pa' (measures 1-7), 'nya pa rna ya ni pa nya pa nya pa rna ya ni ngi rri ngka yi rra re' (measures 8-14), and 'rra re rla ngi rri ngka yi rra re rra re rla pa nya (pa) (yirrare) (rrarerla)' (measures 15-21). The vocal line is in C & M (Cantata & Madrigal) and the percussion is in 2/4 time. The lyrics are: 'ngi rri ngka yi rra re rra re rla ngi rri ngka yi rra re rra re rla pa nya pa' (measures 1-7), 'nya pa rna ya ni pa nya pa nya pa rna ya ni ngi rri ngka yi rra re' (measures 8-14), and 'rra re rla ngi rri ngka yi rra re rra re rla pa nya (pa) (yirrare) (rrarerla)' (measures 15-21).

Figure 6 Text-melody setting illustrating the different pitch of syllables as they repeat

The vocal line and the percussive components have a shifting relation to the melody (Barwick 1989, 1990: 61, Ellis 1985, Treloyn 2007, Tunstill 1995). In Figure 6, the rhythmic text repeats in an AABB pattern while being performed to a longer melody. It can be seen that the pitch of each syllable often differs when it is repeated. For example, the first syllable of line A, *ngi*, is sung to G in its first iteration, F in its second and thereafter. The first syllable of line B, *pa*, is sung to A in its first and second iteration and F in its third (final). The percussive accompaniment is at every quarter beat for the first two lines (AA) and then goes to half speed until the end of the song (the quarter note clap in bar two is not significant).

Our aim in this section has been to show that while each auditory component of a song is in itself relatively simple, the varying combinations of components with one another are complex. The singer must devote considerable effort to maintaining the structure of each component whilst interlocking them in different ways, and without 'getting lost' (the term used by Ellis 1985, 1997). The fieldworker herself might co-experience cognitive satisfaction. Turpin, discerning words and their significance in the moment of ceremony, experienced aha-moments, something similarly described by field linguist Ken Hale (1984: 259):

I can report from my own personal experience that arriving at even the most elementary understanding of a traditional centralian couplet generates a feeling of considerable intellectual joy. Indeed, the mere discovery, unaided, that the yurrampi verses which I heard at Yuendumu were not in Warlpiri but in an Arandic language (a process which took me two days, I must admit with some chagrin) was nothing short of thrilling.

Ellis on 'iridescence' in Australian song

Ellis (1984, 1985) notes the presence of multiple simultaneous components such as verse, melody and percussion, and proposes that the listener attends to a single component and then 'flips' to another: 'at first one, then another [pattern] occupies the centre of attention' (Ellis 1984: 160). This is a type of musical perception in which one component is heard as figure to the other components as ground, and she says that the listener can experience first one and then another component as the figure, 'flipping' between figures (as described in relation to multiple meters above). She says this is like visual iridescence, where different colours appear on an object depending on angle of perception.

Though Ellis is right that listeners can separate out one component for attention as figure to ground, there is evidence that listeners can also hear different components at the same time. Thus Leonard Meyer (1956: 186) argues that polyphonic music can have multiple figures without a ground, and Pressing, Summers and Magill (1996: 1127) see that a musical polyrhythm can be perceptually organized as a combined pattern instead of a figure-ground relation.

Whether a figure-ground relationship emerges in listening also depends on compositional practice (Deutsch 2007: 4473), individual listener variation (Handel 1984: 481), and performance (Tsur 2012). Furthermore, an apparent figure-ground relation might involve only conscious perception, but at the same time listeners might be unconsciously processing the other simultaneous background components (Huron 2006: 42). All this suggests that while Ellis might be right that listeners hear figure to ground and can flip them, they also might be listening in a more complex way involving greater simultaneity of components. In either case the important point for our purposes is that listening to Aboriginal song involves complex cognition, and focused attention. In experimental tests, attention to a created temporal interval has been found to be associated with the slowing of subjective time (Coull et al. 2011, Jakubowski et al. 2015, Tse et al. 2004). Perhaps attention to musical form, given the relation between musical and temporal cognition, has this effect of also slowing subjective time. Furthermore, studies of attention suggest that perception is facilitated for emotionally significant stimuli (Vuilleumier 2009), such as the stimuli of ritual, while emotional responses to music can also be accentuated by attention to the music (Grewe et al. 2007). Commenting on the transformational effect of music, Ellis writes that the perception of Aboriginal music is 'significant in changing the participant's awareness of the musical event, of his own personality, and of the nature of the time experience through which he is passing' (Ellis 1984: 168).

Our interpretation of Ellis fits with Linda Barwick's development of Ellis's ideas, which retains the emphasis on selective perception of parts, while emphasizing a grasp of the whole:

The simultaneous presentation of independently cycling temporal structures has an iridescent quality, where first one structural aspect, then another, may be in the foreground of our consciousness. Grasping the whole requires abandoning analytical listening and may be a profoundly disorienting experience. How much more overwhelming when to the independent auditory patternings of melody, rhythm, beating, and text are added, in ceremony, the simultaneous presentation of

information through dance and design, sometimes partially obscured by flickering firelight and smoke! (Barwick 2000: 332)

Noting that the song components take on a combined meaning greater than the aggregate meaning of the parts (Barwick 2005: 2), Barwick describes an 'inductive space' between the components which 'leaves room for ambiguity and slippage'. Sally Treloyn (2007: 91, 94) adds that this 'invites listeners to consider the connection or equivalence between distinct elements' ... 'in which relationships between dancers, singers, ancestral beings and listeners are formed'.

We suggest that the demands of listening to this music involve considerable cognitive effort, especially since the various components are perceived simultaneously. Note that the singers must do this in order to coordinate the parts (as noted above) but that it is possible that listeners do the same, and indeed necessary for expert listeners in order to be sure the songs have been performed correctly. We thus expand the notion of 'iridescent' to describe the complex combination of parts similar to Susanne Langer's description of music as 'iridescent. Its values crowd each other, its symbols are inexhaustible' (1948: 194).

Components can be simultaneous in memory

In working memory, a person integrates their current perceptions with their long-term memory; working memory contains what we are attending to at any time, whether consciously or unconsciously, and it has a very limited capacity. This means that components of ceremony can be processed simultaneously, even if they are not performed at the same time (but are close in time, as are adjacent lines of a verse). Australian Aboriginal songs are short enough that all the words of a verse, usually consisting of two separate lines, could all be held at the same time in working memory. ^[v] This is of particular relevance when considering the characteristic relation between adjacent lines. A verse is usually two lines A and B, with line A repeated (with minor variations) before line B, also repeated, in an A1-A2-B1-B2 pattern. We suggest that line A1 can be held in working memory while line A2 is sung and brought into working memory alongside A1, then A2 is

held in working memory while line B1 is sung, and then B1 held in memory while line B2 is sung. This is the case even for the longest of verses, such as those in (8). If the adjacent lines can both be held at the same time in working memory, the parallelism between them can be established in working memory (as Fabb 2015 argues is generally true of parallelism in poetry). Thus though the lines are sequential in performance, they are simultaneously held in working memory.

(8.)

A1	<i>Ngwenty-ngwentyarl arrernerlhenhek</i>	<i>Adorning ourselves with white ochre</i>
A2	<i>Ngwenty-ngwentyarl arrernerlhenhek</i>	<i>Adorning ourselves with white ochre</i>
B1	<i>Anwekakerrenharl arlkeny malangkarl alimarrarnkek</i>	<i>Our lovely designs glistened</i>
B2	<i>Anwekakerrenharl arlkeny malangkarl alimarrarnkek</i>	<i>Our lovely designs glistened</i>

(Turpin 2015:79, Alyawarr)

Long-term memory enables another kind of simultaneity between components which are separated in time. Thus Ellis (1984: 159) notes that components may be said by the participants to be 'at the same time' when they are not at the same clock-time, but are conceived of as simultaneous and brought together in memory. As Morphy (2009: 17) argues, long-term memory (the culture's 'virtual archive') plays a major role in creating the experience of brilliance. Drawing on Danièle Klapproth's analysis of Central Australian narrative structure, Jennifer Green (2014: 43–44) highlights 'the blurring of the distinction between fiction and non-fiction and the potential for humans to coexist simultaneously in their human and totemic forms (Klapproth 2004: 76)' as 'one of the keys to understanding *Altyerr* as an overarching creative principle'.

Memory also plays a role in producing tactile simultaneities through intermodal and interpersonal transpositions, processes derived from the experience of having paint put on one's own body, and of putting it on another's body. Seeing someone painted can evoke the feeling of being painted, and of painting somebody else's body or other pictorial surface like a canvas of bark. Vice versa, images of the design can evoke the sensation of touch. Other

intersubjective transpositions involve a ‘bodily exchange between human and Ancestor’, which, as Biddle (2007: 75) explains, may be understood as an ‘epiphany of touch’. A structural binarity or dual unity that inherently presents simultaneity is the division into moieties. Ceremonial roles and ritual objects are often divided along the moiety division. Even when only one moiety is involved in ritual action or represented, it implies the absence of the other. This is most apparent in Warlpiri women’s performance (Laughren et al. 2011).

Arguably then, both working and long term memory are not only intertwined in a general sense with creativity; they are more specifically pivotal to the production of complex simultaneities.

Songs which are simultaneous with body painting and dancing

In Warlpiri women’s ceremonies, particular songs are performed when painting the body in order ‘to activate the power of the Dreaming’ (see also Morais 1998: 465 on Warlpiri). In both Arandic and Warlpiri women’s ceremonies, there must be no change of verse before the completion of the relevant part of the visual design or the dance, that is, the visual component must coincide with the ‘small song’ (Turpin 2005: 95). With complex dance actions the small song may last up to ten minutes. In Warlpiri ceremony, the ‘small song’, which is made up of repeated song items of a verse, increases in intensity (of dance actions, dynamics and tempo) as the performance approaches the climax of the Ancestral action, such as closing in on the ceremonial pole, or snatching the ceremonial board (Laughren et al. 2011).^[vi] Morphy (pc 2016) likewise found that increased intensity produces brilliance in Yolngu ceremony. Tamisari (2014) argues that participation in dance, where crucially people dance together empathetically, offers access to the ‘numinous’.

Correspondence of the semantics of verse and associated dance action constitutes another form of simultaneity. For example, there are verses that must be sung during the application of fat or oil, as in (9). Note that here ‘oil’ is referred to both with its everyday word *anter* and with its ceremonial word *rtway*.

(9.)

Anterel arernerl-anem

Preparing our bodies with oil

Rtwayel arernerl-anem

Preparing our bodies with healing oil

(Turpin and Ross 2013:27, Alyawarr)

Verses about white ochre must be sung when white ochre is applied, and verses about yellow ochre when yellow is applied (Gallagher et al 2014). As one Alyawarr singer put it, 'the designs tell you what song to sing' (Katie Kemarr pers.com. 2007).

Verses that have an accompanying action frequently have a text that refers to this action or the objects involved in this action (Barwick 2006). For example, the verse in (10) has an accompanying action where the dancers look to the east.

(10.)

Akngirrerlarle arerl-an

Looking to the east

Aherrk-aherrkele arerl-ane

In the early morning

(Turpin 2005, app. 1:71)

In some Arandic languages a woman complete with ritual designs and adornment can be referred to as *wetyerrpetyerrpe*. Such a person is ready to dance and inspires praise and awe. In everyday speech the word means 'full' (Turpin and Green 2011:305). This word occurs in a number of verses, such as that in (11). It is sung when the painting is complete.

(11.)

Welye-le wetyerrpetyerrpe

In the shade all painted up

Welye-le wetyerrpe-wetyerrpe

In the shade all painted up

(Turpin 2005, app. 1:176)

We have not encountered any verses about singing or playing clapsticks in Warlpiri or Arandic ceremonial songs (although there are references to divas or bards). It thus appears that verses that refer to an aspect of ceremonial performance only refer to the dance and visual domain, and not the auditory

domain. In other words, simultaneities are preferentially distributed in different modalities. The simultaneities across modalities are so essential as to merit further illustration.

Ancestral designs are not only painted on the performers' skin, but also on the 'symbolically multi-referential paraphernalia, which the dancers wield or emphasize' (Morais 1998: 465). In addition to understanding the meanings of these ritual objects in context, the dance involves other distinct components presented simultaneously. These components include the structure and symbolism of 'mimetic' dance actions (Dail-Jones 1998), and the relationship of movement to stationary objects, such as the ritual pole, cardinal directions and any other symbolic spaces in the dance arena. In the Warlpiri region a fundamental feature is the division of dancers in terms of the binary kinship categories of managers and owners. For the participant or observer, whether one is manager or owner varies depending on where they themselves fit into this system.

Movements of the body coincide with percussive beats. Dancers move to double speed when the beating does, and likewise reduce speed as soon as the beating does. The dances are not memorized but recreated from 'singing, myths and manager's directions' (Morais 1998 :467). Dance is an interlocking of multiple components realised in the moment of performance.

Semantic parallelism, or correspondence of meaning, is also found in the song set as a whole, involving larger scale simultaneities. This is most evident in the travelling songs, where the song set is coterminous with the travels of particular Ancestral characters. In many central Australian languages the word for melodic contour refers to the essence of an Ancestral being, as well as to the concepts 'taste', 'scent' and 'skin name' (subsection) (Ellis et al. 1978, Turpin 2006, Barwick and Marett 1995). Similarly, a ceremonial body design is worn throughout the entire song set, and is never removed before the ceremony finishes though it may be covered by a shirt. (Some song sets are associated with more than one design, as these usually relate to different regions within a single territory.)

The complex surface

Brilliant practices sometimes involve the addition of layers (paint, fluff, headbands etc.) to a surface such as the skin, an artefact, or the ground. The surface of the ground can also be affected by digging into it, sticking a pole into it, wiping it clean, or stamping on the ground and raising dust. Green (2014: 66) observes that 'Arandic people regard the ground as ... simultaneously a drawing surface and a conduit which connects the visible surface world to that of the ancestors' who 'are covered over, but [they] can be recalled at any time.' (A similar claim is made for Balgo art by Christine Watson 2003.)

These ways of making a surface complex are ways of encouraging Ancestors to emerge through that surface. As Franca Tamisari explained (2002), Ancestral beings originally affected the surface by imprinting the ground by hitting, piercing, or standing an object up in it, which in combination with naming, created the topographical features. We have already seen how standing a ceremonial pole into the ground is a feature of the dance and lyrics in central Australian song (2), (5). Piercing is also a feature of the dances and verses of ceremonial songs, as in (12).

(12.)

Namaywengkel rnternepernem

The spirit women are dancing

Taty-tatyelarl rnternepernem

With dancing sticks they are piercing the air

(Campbell et al. 2015: 40, Anmatyerr)

Alyawarr ceremonial designs represent different estates (Moyle 1983), and typically one wears the designs of one's father's father's estate in ceremony. Mappings of kin on the body can be seen in other contexts too, including sign language, and twitches in particular parts of the body, which are said to signal the approach of particular kin (Turpin et al 2013: 13). Kin, country and totems are considered parts of a person (Wilkins 1993: 74), and it is these parts of the self that, captured by the brilliance of the design, transitorily emerge from within the body through the skin. In other words, ceremonial body designs symbolically change the surface of the body so that one's father's father's country 'emerges' from the self and becomes visible. As Tamisari (2000: 278) says, 'knowledge

associated with country is thus absorbed and transmitted through the body'. Body paintings are typically produced with a layer of oil on top of which colours are applied in repetitive patterns, without, however, superimposition. Others have noted the 'depth of field' that this technique produces (Morphy 1998: 187; Deger 2006: 194). There is an implied relation between such perceptual depth and the spiritual and epistemic depth of the Ancestral order, along with Ancestral movements between the invisible realm below the surface of the land, objects and body, and the outer visible realm.

Human action is integral to this dynamic, as ethnographers have long shown. Deger (2006: 193) says that 'Yolngu undertake the cultural work of painting or singing to actively open up and reconfigure spaces between the subject, image and imaged', and referring to Biddle (2001), she emphasizes the 'bidirectional, intersubjective and intercorporeal dynamics that underpin Warlpiri cultural practice'. Similarly John Morton (1989: 285) describes the pressing of objects onto the initiate's body so that power penetrates deep inside his 'guts', along with other movements across a surface including where the Ancestor takes some object out of his body. There are parallels in other Indigenous life-worlds. This includes 'the self-decoration of Papuan Hageners' described by Young (2011: 365), 'whose social efficacy is brought out from within and displayed on their skins by oiling and adding paints, feathers, and leaves'. Another example is the Abelam tradition of attaching feathers, leaves, and shells to the body, which binds 'the body to the external environment', producing continuity with the Ancestors (Hauser-Schäublin 1996: 103).

BRILLIANCE AS AN INSTANCE OF THE SUBLIME

In this paper we have offered extensive evidence for two aesthetic characteristics of Aboriginal ceremony and its component parts. One is a perceptual brilliance, involving visual brightness (including whiteness, iridescence, etc.). The other is the conceptual brilliance of complex simultaneities in ceremony, where body, song and dance make for a plethora of component parts that are variously combined, often expressing similar meanings in different ways, but also producing different meanings that must be grasped the same time.

Here, the cognitive and emotional responsiveness of performers and skilled listeners is intensified.

Morphy used the term 'brilliance' to describe the characteristic of visual brightness. We suggest that 'brilliance' might be extended to include the componential complexity of ceremonial and artistic practices and argued that this is implicit in much previous discussion, including through the use of brightness-related terms such as 'iridescent' to describe componential complexity. Furthermore, we see that both visual brightness and componential complexity produce psychological effects on participants (and hence are likely to work in similar ways) which create a sense of Ancestral power as tangibly present. Such epiphany in Aboriginal aesthetic experience can be usefully thought of as an instantiation of the sublime. Both the sublime and Aboriginal brilliance are culturally specific experiences, which may be based on universals of human psychology. In relating the experience of brilliance to the experience of the sublime, we follow Douglas Dalton's (1996) use of the Kantian sublime in his account of brilliant Rawa shell and tooth ornaments

According to Dacher Keltner and Jonathan Haidt (2003) awe is the central emotion in experiences of the sublime; just as has been argued for the sublime, awe can be triggered by various kinds of extremity. The two characteristics of Aboriginal ceremony we have highlighted can be considered as kinds of extremity. The first, perceptual brightness and associated phenomena, is pivotal to the experience of Ancestral power in a way similar to how in other cultures brightness is associated with awe, the sublime and so on. The layered complexity of ceremony produces another kind of extremity – how much must be mentally processed by the participant in order to fit all the parts together. Arguably, the attention and effort required to do so produce psychological effects identified with the sublime, awe, or Ancestral power. Edmund Burke (1987: 78) perceived exactly this in the 'descriptions in the poets and orators, which owe their sublimity to a richness and profusion of images' which dazzle the mind, and may overwhelm it.

In a related approach to the sublime, David Miall and Don Kuiken (1994) draw on Viktor Shklovsky's idea of defamiliarization: 'The technique of art is to make objects "unfamiliar," to make forms difficult, to increase the difficulty and

length of perception', and thereby 'to make one feel things, to make the stone stony' (Shklovsky 1965: 12, cited in Miall and Kuiken 1994: 391). They discuss 'foregrounding' as a way of deploying the complexity of literary form to effect a 'defamiliarization' in the reader, and to thereby invoke the sublime. We suggest that the componential complexity of Aboriginal ceremony constitutes a kind of foregrounding, which produces defamiliarization in the participant in which the objects, events and utterances are no longer ordinary, but take on Ancestral power. Miall (2007: 155) writes that 'the sublime represents an extreme mode of defamiliarization', where the complexity of cognitions demanded from the reader push that reader into a powerful emotional and epistemic experience. Some emotions such as sadness may enhance the 'sublime' effects of a ceremony and sadness may arise when the performance recalls past performances with people now dead; Sikora, Kuiken and Miall (2010) and Kuiken and Oliver (2013) argue that sad emotions increase the attention to the text and hence foregrounding and defamiliarization. The result is an intense emotional and epistemic experience.

Defamiliarization has been observed in the alternate register used during initiation. Morton describes Aranda 'shame talk' or Warlpiri 'upside-down language', where the initiate is first confused and humiliated by the use of the language until he experiences poetic joy 'in a sudden flash of insight' (Morton 1989: 291, Hale 1971: 475, 482). We suggest that the intensity that is said to be experienced by the participant is related to the sublime, as part of a broader family of experiences which involve powerfully felt moments of insight – as William James (1902) noted, these include mystical experiences. Thus there may be a distinction between a general feeling of Ancestral power which may hold throughout a ceremony, and distinct special moments. These special moments come as a surprise. Where the insight produces a fluency in processing, as the task of understanding becomes suddenly easier, then we would expect various 'fluency effects' such as a sense of pleasure, of the truth of what is being represented, and so on (as described by Reber et al. 2004), and these may all contribute to the emotional and epistemic effects of brilliance. Furthermore, we note that moments of insight might be more likely when the subject is put to greater processing effort, as we have argued is the case in ceremony. In turn,

greater cognitive effort raises the perception of surprise, as Mark Foster and Meadhbh Keane (2015: 80) suggest.

In conclusion, we suggest that the two kinds of brilliance – perceptual and conceptual – both involve the experiencing subject in psychological processes which have elsewhere been associated with awe, the sublime, and moments of surprise and insight. These culturally specific practices thus draw on general aspects of human psychology.

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NOTES

- i. Arandic is a language dialect chain which includes Arrernte, Alyawarr, Anmatyerr and Kaytetye. For words in these languages, and Warlpiri, we follow the standard orthography used for each of these languages. For pan-Arandic words we use the Kaytetye orthography (Turpin and Ross 2013).
- ii. Note that in Anbarra, *-gungaltja* 'light' can include red if it is 'highly saturated' and 'brilliant' (Jones and Meehan 1978:27). Morphy (pers.com 2016) also notes the use of glistening and naturally burnishing red in Yolngu ceremony.
- iii. Archive number of the field recording held at the Australian Institute for Aboriginal and Torres Straight Islander Studies archive, Canberra.
- iv. Both words may be compounds based on a putative form *iylerlk* 'white, bright' : *iylerlk+arr* plus the relativiser *-arr* 'headband'; and *iylerlk* plus *anng* 'eye' 'Sandover lilly'.
- v. See Fabb (2015) for discussion of poetic lines and their fit to working memory capacity. Baddeley (2012:16) estimates that about fifteen words of English prose can fit as a whole. There is no measure for Australian Aboriginal songs (or languages) but given the greater complexity of the words we would expect fewer words to be held at any one time; on the other hand, lines of verses have relatively few words. Note that Miller's 'magic number seven' is no longer considered valid as a measure of working memory capacity by psychologists of memory (Miller 1956, Cowan 2000).
- vi. Morphy similarly observes a gradual build up in Yolngu ceremonial performance to a moment of catharsis (pers.com 2016).

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