
Awa Surfers: Riding the syncretic dynamics of sound art and traditional Japanese indigo

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Awa-ai is the indigo plant and dye made famous hundreds of years ago in Japan by the people living and working in the region now known as Tokushima Prefecture. This article explores the core concepts that link the aged traditions of indigo production, processing and dyeing with contemporary sound practice, and outlines the facets of a collaboration in which disparate fields not only coexisted, but used their technological and cultural differences to strengthen one another. Live field recordings, audio interviews and the sounds of Awa indigo production and practice were used in a large-scale, transcontinental installation which featured over 200 pieces of indigo-dyed cloth and multichannel, interactive sound. The collaborative nature of this project allowed the artists involved to understand and conceptualise their work in new ways, and can serve as an example for the ways in which syncretic exploration energises creative thinking and output.

1. INTRODUCTION

I am Ai, We are Ai was organised by fibre artist Rowland Ricketts and hosted by Japan's Tokushima Prefectural government as part of the 2012 National Cultural Festival. This public art project examined the history and future of Tokushima indigo by creating visual – and through my collaboration, sonic – connections between the artists, producers and consumers linked to the traditions originating from this region. This unusual combination posed a challenge: How do I use sound to explore the network and culture of traditional Japanese indigo? The answer emerged out of creative necessity. I invested my time in an immersion of the sounds, techniques and philosophy of Tokushima's indigo culture. And as clay fills a mould, I poured my practice into the methods of this foreign mode of working and creating. In the end we were left with something best described as 'syncretic':

In the syncretic context, extreme differences are upheld but aligned such that likeness is found amongst unlike things, the power of each element enriching the power of all others within the array of their differences. (Ascott 2005)

In Ascott's definition syncretism is neither a process of synthesis in which many become one, nor mere eclecticism. It is a process by which disparate elements

are experienced in a state of 'being both' (Ascott 2005). In the final artwork, the physical presence of indigo was dominant in dyed textiles and dried plants. I used sound to convey many of the intangible aspects of this culture and practice. Notions of community, tradition and the immanent qualities of an agricultural product were audibly present.

Time spent working so closely with this tradition was creatively and personally fulfilling. I strengthened existing practices, developed new techniques and discovered useful metaphors related to my sound practice. The entire experience is a testament to syncretism and the value of seeking knowledge in all potential sources, no matter how old or 'exotic', and learning what is technically, conceptually, philosophically and spiritually possible given the efforts of those who have preceded us.

The project started with a few initial concepts, an idea of the available resource, and an awareness of the limitations of time and money. It is fair to say that we followed the advice of Stafford Beer, who wrote:

Instead of trying to specify [organise] it in full detail, you specify it only somewhat. You then ride on the dynamics of the system in the direction you want to go. (Beer 1972: 69)

The specifics of what we tried to organise could not be stipulated in full detail; uncertainty was unavoidable. Fortunately, the 'dynamics' were provided by our individual art praxes, and the recursive process of developing and testing new ideas within the 'somewhat specified' parameters we established for the project. The 'ride' that ensued was marked by cultural discovery, the development of creative awareness and a number of lessons I can take with me for the next set of waves.

2. JAPANESE INDIGO PAST AND PRESENT

The indigo that thrives in Tokushima is *Polygonum tinctorium* (Kawahito 2012: 12), an annual plant that looks somewhat like basil and is distinguishable by its raspberry-red and white flowers. The specific origin of indigo in Japan is unclear, but many think that the plant and knowledge of its usefulness were brought from China (along with Buddhism) by Korean artisans

in the fifth century AD (Balfour-Paul 2000: 26). By the fifteenth century, *Polygonum tinctorium* was farmed in large quantities throughout the country and the dried leaves were sent to Kyoto to be processed into *sukumo* (Ricketts 2006: 8), the composted indigo leaves that are mixed with ash, wheat bran and other materials (Balfour-Paul 2000: 121) to make dye. Demand for indigo increased in the Edo era (1603–1867) and production was increased to meet it (Kawahito 2012: 12).

At this time, the area now known as Tokushima Prefecture was called *Awa*. The indigo produced there, *Awa-ai* (or Awa indigo, which is what I will use here) was widely considered to be superior to any other available type. According to Kawahito (2012: 13), there are several reasons for the success of the crop. Annual typhoons caused flooding of the Yoshino River, which brought fertile soil to the indigo fields. Recognising their good fortune with regard to the natural world, the people of Tokushima invested in business and technology to further nurture this industry. These moves were complemented by the scale and success of cotton production in Osaka and other areas nearby, where freshly woven textiles increased the demand for indigo dye. By the eighteenth century, Tokushima traders were said to control the indigo market in Japan (Kawahito 2012: 13), thereby making Awa indigo the country's dominant blue.

The colours born in Tokushima became indicative of the entire country. Foreigners travelling and working in Japan could not escape this national characteristic. The British chemist Robert Atkinson coined the phrase 'Japan Blue' (Japan Arts and Crafts 2007) in response to the prevalence of Awa indigo. Similarly, the travel writer Lafcadio Hearn (also known as Yakumo Koizumi) has observed that 'Japan is a country full of mysterious blue' (Edwin 2013). This phenomenon was not merely the result of aesthetics. Reflecting on legal matters in feudal Japan, Ricketts writes:

Under the *Edo Bakafu* (the military government which ruled the country from 1608–1868), sumptuary codes dictated the dress for each level of the strictly delineated cast society. These laws focused mostly on fiber content and color Indigo was one of the dyes permitted for use by the lower classes. (2006: 8)

In addition to the law, there were practical considerations that led to this popularity. Indigo has the ability to strengthen the fibres to which it adheres. And, when used with bast or cotton, indigo is one of the most colour-fast natural dyes (Ricketts 2006: 8). Awa indigo has always been valued for its relationship with art and design, and is economically significant for helping to establish the financial vitality of Tokushima. But it is also notable from a scientific perspective. Its unique fermentation process is, according to Kawahito, 'revolutionary in conception' (2012: 14). Together, all of

these qualities produced a cultural artefact that touched the lives of everyone living and working in Tokushima prefecture (Kawahito 2012).

The industry that was born and raised in Tokushima hit its peak in 1903. From that point on, indigo imported from India (*chindenai*) and synthetic dyes from Europe caused domestic indigo production to decline (Kawahito 2012: 13). Starting in 1966, with help from the Tokushima Prefectural government, the industry was able to rebuild. Figures from 2005 reported 200,000 square metres of indigo under cultivation, but this is small compared to 'golden age' of years past (Kawahito 2012: 14). While it is unfortunate that the region has been unable to sustain the vitality of its former years, there is one positive outcome. The Indian method of indigo dye production, while less complicated than Tokushima's *sukumo* process, was not viable for Awa indigo. This horticultural and chemical quirk helped to preserve the traditions and processes that made Awa indigo unique, and consequently has been celebrated in Tokushima throughout the years as a vital part of its cultural heritage.

3. I AM AI, WE ARE AI PUBLIC ART PROJECT

The project began with an invitation to professional dyers throughout Japan. Those who use Awa indigo were asked to participate by dyeing lengths of cloth in a personally meaningful shade of blue. This request was met with enthusiasm and over 200 different shades of blue were sent to Tokushima to be used in the project. Portions of these cloths were used for buttons (see Figure 1) made by festival visitors at *I am Ai, We are Ai* events and worn as a sign of their participation.

The remaining (much larger) lengths of cloth were assembled as an art installation that included an evolving, interactive nine-channel sound work (see Figure 2). This part of the project was staged in Tokushima City at a warehouse (see Figure 3) along the banks of the Shinmachi River where, in feudal times, the Awa Indigo was exported to dyers throughout the country. Visitors were treated to a

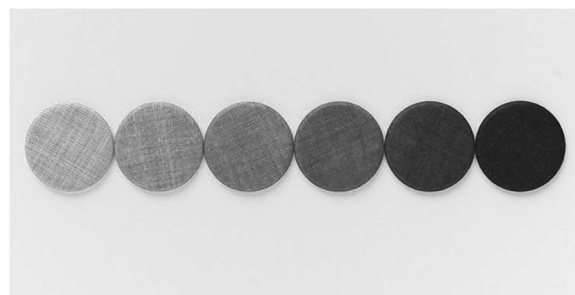


Figure 1. A sampling of buttons made by festival visitors.



Figure 2. Wide-angle shot of the *I am Ai, We are Ai* installation.



Figure 3. The *I am Ai, We are Ai* installation was exhibited in the Bandai warehouse.

sonic and visual experience that exposed them to many additional underlying connections related to the indigo industry, its community and the dye itself.

4. POLITICAL AND CULTURAL ACOUSMATICS

A predominant feature of the installation was the sound of voices. I used recorded interviews of dyers from throughout the country, as well as farmers and indigo processors in Tokushima. This component helped to foreground the symbiotic network of indigo growers and processors of Tokushima and the dyers throughout Japan who rely on Awa indigo for their own work. Ricketts' invitation to the dyers emphasised the importance of community:

It is not just one person growing indigo, nor one dyer transferring the color to cloth. Rather it is a collection of everyone who has worked to make this unique dye possible both historically and today. (Ricketts and Herber 2014: 39)

While the tone of his invitation was positive, there is a more serious undertone. Over the years, Ricketts has observed a growing fragmentation and 'pettiness' in the Awa indigo community that hinders productive and collegial relations necessary to continue these traditions. The warehouse installation served as a

reminder of the beauty that emerges when everyone participates in the cycle of planting, growing, processing and dyeing. Ricketts drew visual attention to the efforts of 'the collective' by organising the arrangement of the cloths with an awareness of who was not getting along with whom. In many cases, the work of people who would be considered adversaries within the indigo community was featured side-by-side.

The sound of the installation amplified Ricketts' critique. People with conflicts that would never actually speak to each other could be heard together within the installation. The interview recordings were played back by a randomised algorithm that had the ability to create – borrowing from Schaeffer (2004) and Chion (1994) – an *acousmatic conversation*. Like the physical arrangement of textiles in the installation, this imposed juxtaposition of voice recordings removed speakers' visual identities. Various 'opponents' are heard together as if they were conversing, or, at the very least, offering their point-of-view to a discussion. The political message was powerful. Sound acted as a mirror, reflecting 'you are this' back at Tokushima's indigo community. It served as a non-didactic means to raise awareness of the community's strengths and the connections that exist in spite of current political differences.

As visitors moved about the physical space of the installation, eleven motion sensors placed throughout the room cued the playback of interview recordings (see Figure 4). This added to the randomisation of the voices. Not only was it unknown as to *which* voice would play, but depending on the number of visitors and their level of activity, there was uncertainty as to *when* and *where* voices would be heard. For example, upon entry to the installation, wall text directed visitors to their left. They had to walk past sensor no. 1, which cued a random interview recording that would be heard in speaker no. 1. Similarly, sensors 2–9 cued sounds that would be heard in the speakers of the same number. Sensors 10 and 11 cued interview sounds and randomly routed them to one of the nine speakers. Fortunately, the acoustics of the warehouse did not create any sense of a direct address, which added to the aural effect of an ongoing conversation or discussion. The proximity of sensors and speakers did, however, serve as a kind of feedback mechanism that alerted visitors to the fact that their presence had an effect on the sound of the installation environment. Ricketts observed that when no one was present in the installation, the sound remained relatively static, just as a tradition will stagnate if no one engages it.

The voice recordings I used were drawn from interviews by Ricketts or our colleague at the Tokushima Prefectural office. Interview subjects were asked about their work, their connection to the indigo plant, and their feelings or associations with

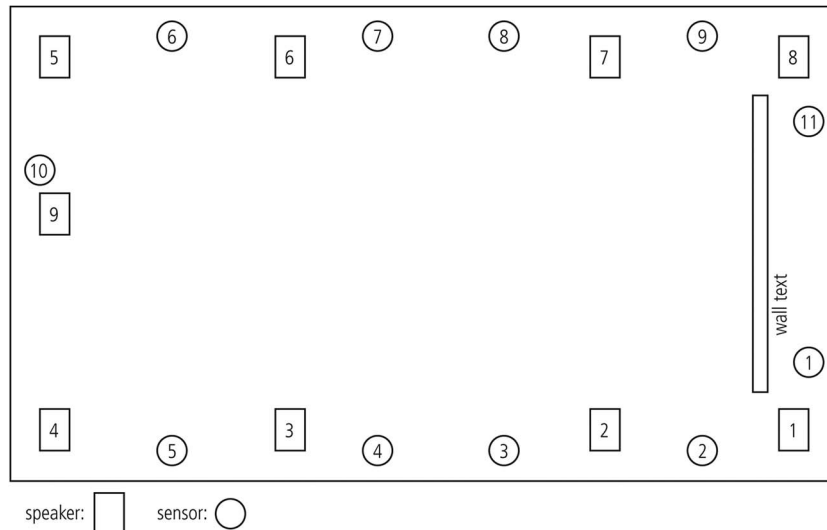


Figure 4. Arrangement of motion sensors and speakers at the Bandai warehouse.

the colour blue that comes from this dye. We promised our interviewees that their comments would be anonymous. What follows is a sample of some of the thoughts they shared with us:

'I feel like the colour is inhaling me'. (An artist speaking about a shade of the darkest blue that cannot be dyed any further (Sound example 1).)

'[Awa Indigo] calls out to the soul of the Japanese people' (Sound example 2).

'The work is done by the two of us [my son and me]. My grandmother passed it [the knowledge of indigo production] on to my mother [who passed it on to me]. Now I hope to pass it on to my son.' (Sound example 3)

The voice recordings emphasised that this installation was not about the work of Rowland Ricketts or Norbert Herber; it was about the community of farmers, processors, dyers and artists whose work sustains the traditions of Awa indigo.

When interviewees spoke about indigo (the shade of blue) they said *Awa-ai*. They used the word for the dye material when speaking about the colour. These and other nuances of spoken Japanese were lost on me (and others) who visited the installation and did not know the language. But while editing the original recordings, there were moments in which I could hear a change in a speaker's vocal timbre and delivery. There was a quality to the voice that seemed more purposeful and, while knowing nothing about what was said, I edited to preserve this change in vocal style. The conviction with which each person spoke was all that was needed to separate the meaningful statements from side conversations and chit-chat. Japanese speakers heard my edited files and confirmed that I had in fact captured complete statements that were relevant to the project. The passion

and confidence I heard in these statements was my only guide. I followed it somewhat unquestioningly, but found success through the elocution rather than the content of their speech.

One unintended consequence of using these recordings in the installation was that, to foreign ears, the voices were not always interpreted as part of the overall sound work. On site this was not a concern. The directionality of the speakers established a degree of difference between conversations of installation visitors and the voices featured in the work. In recordings or the live Internet stream, however, there was no separation. On several occasions, non-Japanese-speakers made initial remarks such as, 'It's too bad all those people were talking over your work.' They interpreted this as an actual – rather than mediated – conversation. Not until they learned more about the project, or heard the work in its intended environment, were they able to acknowledge the voices as a sonic feature of the installation. Initially I viewed this circumstance as one of the many anecdotes to take away from the project. But on further examination I realise that it raises questions about the presentation of a sound work, sound source and meaning, audiences and modes of listening, and reveals territory for further creative and scholarly exploration in the sonic arts.

Another potential disadvantage of working with foreign-language recordings such as these is the increased likelihood of repetition. Acutely tuned ears may be able to identify the reiteration of key phrases, but it takes far greater familiarity to pick up on, for example, frequent statements on an identical subject. I edited with careful attention to vocal delivery, but had no way of knowing about topical or thematic redundancies. Had I been editing recordings of spoken

English the selection process would have been very different. However, working on this material with a degree of ignorance did lead to interesting conclusions that may have gone unnoticed if I were a fluent speaker.

The voice recordings created a kind of *cultural* acousmatic effect. Or, to draw on Schaeffer again, a true *objet sonore* (2004). Without the ability to comprehend, I found myself experiencing these recorded voices similar to the way I did the field recordings and other non-speech components of the installation. I focused on the timbre and rhythm of the speakers' voices and the traces of *Eigentone* (room tone; Sonnenschein 2001) present in the recordings. Even without the knowledge that most of these recordings were made in the artist studios, the aural architecture (Blessner and Salter 2007) conveyed in each voice recording was just enough to create a speculative snapshot of a person and their environment. As such, these sounds provided an acoustic link to each speaker's studio and artistic practice, and were additionally effective in expressing the prevalence of Awa indigo throughout the country.

5. STREAMING SOUND AND NATURAL INTERVENTIONS

Awa indigo is not only prevalent in Japan. Interest in the plant, dye and related techniques stretches across the globe. *I am Ai, We are Ai* existed alongside a concurrent installation (Fields of Indigo) at the Krannert Art Museum (KAM) on the University of Illinois campus in Champaign-Urbana, USA (see Figure 5). Ricketts and I needed a way to link these separate exhibitions, because in spite of the geographic distance, they were conceptually very close. The work in Illinois was testament to the distances that Awa indigo has travelled throughout the world as artists and scholars have shared the traditions and employed the techniques that were initially developed in Tokushima.

The warehouse installation in Tokushima City (Bandai) and its 'sibling' in the United States (KAM) required two additional, international sites. The dried indigo used in each of these installations was grown either in Bloomington, Indiana USA or Kamikatsu, a city in Tokushima Prefecture. Sitting in an indigo field at each of these sites was a microphone. Both mics were connected to computer hardware that digitised the environmental sounds they picked up and streamed these over the Internet. The streams could be heard in isolation at the *I am Ai, We are Ai* project website (Ricketts and Herber 2012). More importantly the environmental sound was also streamed to the Bandai warehouse and KAM gallery, where it was used as a kind of sonic foundation for each installation. Visitors in Illinois could hear the sounds of Kamikatsu, and those in Tokushima City could hear the indigo patch in Bloomington. These



Figure 5. Fields of Indigo at the Krannert Art Museum in Champaign-Urbana, Illinois USA.

continuous, streaming field recordings were important for several reasons.

The streaming field recordings helped maintain the connection this work has with the patterns of weather and the ecology of the areas where the plants grow. The character or quality of a growing season ultimately has an impact on the dye that each season's crop is able to produce. For the most part these sounds were consistent and predictable. Bees, birds, wind, rain, a brook and waterfall in Kamikatsu, and freight trains in Bloomington were daily features of the streaming sound. Over the course of the day, one could perform a Rhythmanalysis (Lefebvre 2004) to better understand the ecology of each site. Following Lefebvre, the harmony, dissonance, density, intensity, arrangement, context, frequency and repetition of sounds at these two sites are the driving aesthetic behind their inclusion in the work. These aural dynamics connect listeners to these fields and their bounty. In addition, there were moments at which the sounds heard over the stream revealed actions and events that made listeners' connection to another place and environment palpable.

Indiana and Tokushima are 13 hours apart. Those in Japan listening to the installation in the daytime would hear the nighttime sounds of Bloomington. One of our colleagues at the Tokushima Prefectural office claims to have had a very close, albeit acoustic, encounter with a coyote. He heard it saunter up to the microphone, pant, lick its nose and call out with its distinctive howl! While he was not unfamiliar with coyotes, he had no frame of reference for an experience that brought him this 'close' to such a creature.

Similarly, while testing the streaming microphone that had been recently set up in Kamikatsu, Ricketts and I heard the most unusual, larger-than-life, cicada sound. Of course no one was there to confirm our ears, but he was sure it was one of the many kinds of Japanese cicadas. It is difficult to say *which* cicada we heard, but it is likely to be *Tanna ishigakina*, *Pomponia yayeyamana* or *Cryptotympana yayeyamana*



Figure 6. The field recorders sat on wooden bases and were built using Rycote zeppelin end caps and synthetic fur to protect the mics against rain and distortion created by high winds.

(Saisho 2011). The cicada must have been sitting directly on top of the enclosure that covered our microphone (see Figure 6). The mic and the insect were only about 7 centimetres apart, which made the sound seem to emanate from something many, many times louder and larger than was actually true. Ricketts's years of experience working in rural Tokushima confirms otherwise, but upon hearing this sound I insisted that this could not be a cicada, and that it was the sound of someone scraping a machete across an anvil. Throughout the duration of the installation cicadas were nearly always present. But in this very fortunate moment, audible contact with this single insect created something fantastic and irreproducible.

These experiences call to mind R. Murray Schafer's idea of *schizophonia*, though I prefer not to attach the nervousness that he intended that term to convey (1977: 91). However, in keeping with Schafer's intended meaning, this was (in the context of the work) an 'aberration' (1977: 91). Unlike the acousmatic effect of the voices that aurally complemented other sounds of the work, the coyote and cicada were disruptive and dramatically *unlike* everything else in the work. Direct encounters with 'exotic' wildlife were not something I had intended for this project, and given our focus on Awa indigo it is not something I would actively pursue. However, their 'disruption' was creatively interesting and aesthetically compelling. I gladly accept these sonic events into the overall mix of the work because *they happened* at the sites where indigo grows. These fields are a habitat for the coyote and the cicada, both of which have a part to play in the ecology of the environment that nurtures these plants. As such, they belong in the work as much as anything else that was selected through more deliberate means.

6. SOUND SOURCES

Before working on *I am Ai, We are Ai*, Ricketts and I had an established collaborative relationship. We share a deep appreciation for the beauty and imperfection of organic processes. Similarly, the transformation and manifestation of raw materials in a final artwork was a central concern of our individual praxes. We work in entirely different media, yet our approach had a common aesthetic that allowed for a productive collaboration.

Over 120 individual sound components went into this installation, and each of these had a different connection with the Awa indigo processes and traditions discussed here. In some cases, the sounds were immediate and direct: listeners heard exactly what a dyer or farmer experiences every day. Some were more conceptual in nature. Others emphasised a unique timbral or rhythmic quality of the original sound. While there was no particular set of rules or procedures that determined how various sounds would be treated, the overall organisation of sounds was approached as a collection of permeable layers that would fill the room. One visitor to the installation said, 'I'm really drawn in by the music/sound and its [galactic] sense of space. It has an elegance that's quite calming' (*Live from the National Cultural Festival* 2012). Salomé Voegelin writes that sound, in the context of an interactive, digital work such as this, has a unique, transformative ability:

sound, a sonic concept and philosophy, can illuminate the complex timespace of digital works at their networking intersections without limiting them to the parameters of their real, actual virtuality, but opening them up as conceptual virtual constellations: I am not visiting *Manhattan, Amsterdam, Karlsruhe*, the place is not there, it is here, where I produce and experience it. (2010: 153)

Her example cites the mediated production of a place. This installation was concerned with the production of a cultural practice, community and industry. My sound was intended to create an experience in which visitors would spend long stretches of time immersed in the intangible mixture of agriculture, art, commerce and tradition that together construct a personal awareness of Awa indigo.

I used the voices and streaming field recordings in a very direct and unprocessed way. The next sound layer comprises a collection of recordings that capture the events associated with farming indigo and dyeing textiles. With these, varying degrees of processing were used. Most of these sounds feature Ricketts, and were recorded while he was working on his farm and in the studio. As such, they were not staged. All of these sounds are artefacts from a larger creative process. These sounds include:

- **Winnowing:** This is the process by which the dried indigo leaves are removed from the plant stems.

Ricketts and his family spread the leaves evenly across a plastic tarpaulin and then rapidly stamp their feet (as if running on the spot) to separate the leaves and stems (Sound example 4).

- Harvesting: A sickle was used to cut the stems of the plants a few inches above their roots (Sound example 5).
- Dye dripping: Working in Rickett's studio with a hydrophone and a shotgun microphone I was able to capture many different dripping sounds. There was one lucky moment when the hydrophone was submersed in the dye vat and I was holding it just under the surface. A single, isolated drop fell right on top of the microphone and rendered a beautiful version of this event (Sound example 6). There were many versions of dye dripping at a various intensities. Sound example 7 was used directly and was also combined with the single dye drip mentioned earlier. With the help of a software sampler, these two created a bright, shimmering sound that I used like a melodic instrument in the overall sound work (Sound example 8).
- Ceramic dye vat: One of our colleagues in Tokushima – in the course of conducting the interviews we had requested – was able to record the sounds of equipment that Ricketts does not use in his studio, but that are common with dyers at large. The sound of stirring a ceramic dye vat presented a wonderful contrast to Ricketts' deep, resonant stainless steel vat. There was a rhythmic quality to the ceramic vat stirring (Sound example 9) that was not present in any of the other sounds that were available. This sound was used in an unaltered state, but I also seized the opportunity it afforded and processed the recording in such a way so as to dramatically emphasise its rhythmic character (Sound example 10). When played in the context of the installation, the processed version was subject to cycles that gradually lowered and raised its pitch. It could never go above its initial frequency, but would slowly drop to a point at which it was felt more than heard (Sound example 11).

An additional layer contains clock chime recordings that have been dramatically slowed down through a granular synthesis process. These more explicitly 'Rhythmanalytic' (Lefebvre 2004) sounds are used in Kamikatsu to mark the workday. Public clocks chime at 07:00, 10:00, 12:00, 15:00 and 17:00 and play a variety of traditional and popular songs such as *Sweet Memories*, *Mizu-Iro No Koi*, and *Yuyake-Koyake* (Sound example 12). When the harmonic texture of the melodies was elongated, these components lent the work a more musical quality, and complemented the melody of the single indigo dye drop instrument.

While there was no intended focal point in this sound work, all of these sounds did assume a degree

of foregroundedness in its overall structure. The main intention behind including such a variety stems from one of the initial concepts from my collaborations with Ricketts: *immanence*. Both of us are very interested in the idea of the parts of a whole that are present within an artwork but not immediately identifiable as such. All of my work as a musician and sound artist has sought a sonic identity that, regardless of the variety or homogeneity of its sources, finds internal balance with a character uniquely its own. Sound has the ability to reveal what Ricketts finds in his Awa indigo-dyed textiles but has struggled to demonstrate or express visually. When he holds a piece of cloth, he sees the blue fabric. But he also sees the effects of a growing season, the process of fermentation by which the dye is made and the qualities of the dye as it ages within a vat. These are traits that go almost entirely unnoticed to others, yet like a parent who sees a child build experiences and become an adult, there are traces of every environment and every choice that brought *this blue* to where it is at the present. Sound example 13 is the best demonstration of *immanence* manifest in the final work. This is a recording from the opening day of the installation. The live stream of an indigo field, along with the sounds of harvesting, winnowing, dyeing and so on are immanent to this work. All of the various sound components discussed thus far can be heard, yet the overall cohesiveness of the mix creates a sound work that stands alone.

7. SONIC CHANGE AND BEHAVIOUR

As a musician and sound artist my work has always been concerned with change over time. Much of what I do is situated in mediated environments, and, as such, the specific nature of change is mostly unknown. The environment of a computer game or art installation, for example, is configured when it is created. To use William Mitchell's succinct phrase, 'code is law' (Lessig 1999: 6). The coding that defines an environment is specific and only allows for a range of potential actions. But when given over to players or visitors, the environment is reshaped by virtue of their presence within it. And the range of potential for these modifications – given human nature – is speculative at best. The laws of code must be followed, but they will also be tested.

The uncertainty of these 'tests' – and the creative potential they contain – is experienced in a final artwork as change over time. Interactions within a mediated environment lead to a greater understanding of the nature of that 'place' or the ideas it explores. In my practice I strive to design interactive systems in such a way that understanding or awareness is constructed naturally and flows out of interactions rather than being imposed upon them. In

short, the experience should have an organic quality. Ricketts' practice and process revolve around organic change over time, and the shifts that occur across the days and weeks a process winds its way to completion. The natural transformation of plants, the relationship between these changes and a creative process, and (above all) the *meaning* of each step are central to his work. When he holds dyed fabric, its colour is the result of a number of steps that led to that blue in that moment. Over time, it will fade. Or had it been dyed when the vat was more or less concentrated, its hue would be different. The potential for these sorts of fluctuations is another dimension of immanence. While what is seen registers with our consciousness, any deviation from the original course will produce a different experience in that moment of perception.

This same phenomenon is of central importance in my own practice. What is heard in any moment is the result of the interactions within a mediated environment that have led up to that point. I achieve this affect by constructing my sound works in ways that are generative. After the individual sound components that constitute a final work have been created, they are coupled to parameters modulated by interaction and organised to play back unpredictably. Timers (both random and fixed), random number and seed generators, loops of incommensurable lengths, and an openness to perturbations from motion sensors were all used in the sound of the *I am Ai, We are Ai* installation. Sensor 'triggers' altered the overall signal routing and degree of effects such as reverb, cross-synthesis, equalisation and delay. All of these parameters were malleable, which afforded the work a far broader range of potential. As more people were present and moving throughout the space, the character of the sound shifted. Voegelin writes:

Sound describes my movement not against a permanent landscape but generates a fleeting performance as the continuity of my production. It evokes the permanence of participation and preserves culture and society as dynamic productions. (2010: 153–4)

My use of sensors made it possible to construct a metaphor for the concept of tradition: something that emerges slowly over time based on changing attitudes, available technologies and the ideas of each generation that works with it. In addition, it gave the work a life-like quality and enabled various kinds of sonic 'behaviour'.

Kyoto-based dyer Toru Shimomura reflects on the 'behaviour' of the fermented indigo mixture, saying, 'Indigo is alive, like human beings. A new born baby is full of energy while an old person has less energy but is full of depth and experience' (Kyoto Visitors Guide 2013). What Shimomura describes has to do in part with the 'micro-bacteriological reactions' (Balfour-Paul 2000: 116) within the dye vat. As dye ages, the

colours it produces can change within a single day as well as over longer periods of time. My use of 'behaviour' comes from Humberto Maturana and Francisco Varela. In *The Tree of Knowledge* they discuss the plant *Sagittaria sagitufolia* that can transform between aquatic and terrestrial forms depending on the current water levels in its environment. These transformations are considered behaviour because there are 'structural changes that appear as observable changes in the plant's form to compensate for recurrent disturbances of the environment' (1992: 142). They argue that it is easier to think the plant grew that way because it sprouted in a place with water around it when in fact this behaviour is a structural response to external forces and can be reversed when the *Sagittaria's* environment becomes dry.

While working on the installation in Tokushima, I felt that my sound work behaved in ways that made it seem 'alive'. Ricketts and the others that were helping us experienced this too. At the end of the day we would conserve electricity by switching the speakers off. This moment was always filled with a tinge of sadness because with no power, the sound stopped abruptly – as if I 'killed' it. Of course, the sound was not actually alive, but the impression it created was very lifelike, and there was always a collective sigh when it was suddenly made inaudible.

This lifelike behaviour stems from the character of the sounds I created as well as the internal mechanisms and functioning order responsible for their playback. I call this Emergent music in order to encapsulate the idea of organic, affective change over the course of time spent in a mediated environment. This work does not exist as a fixed recording, but is generative and must be experienced in real time. The algorithms responsible for sound playback are autonomous, and fall in and out of sync, creating a lifelike impression. The motion sensors installed throughout the installation space add depth to the initial behaviour established by the playback algorithms. The sounds change over time, but, more importantly, additional changes are made in response to the immediate environment of the installation. As visitors came and went, the work 'behaved'. It conveyed some sense of being alive because my sound was able to reconfigure its functioning order in response to external events and stimuli.

8. SYNCRETISM AS A CREATIVE CATALYST

This sound work drew on existing elements of my practice and incorporated new dimensions that drew on Ricketts' work and the traditions of Awa indigo. Ascott writes that, when using a syncretic approach, the differences between various elements are maintained, and within these it is possible to discover likeness 'amongst unlike things' (2005). A curiosity to

explore this sort of plurality was what first brought Ricketts and me together. The features and implications of this plurality, however, were not completely clear until the project had concluded.

Jenny Balfour-Paul writes about the ‘infinitely subtle’ differences between dye and paint. She says:

Each dye has its own characteristics but indigo’s unique bond with the widest possible variety of natural fibres creates qualities hard to define but easy to appreciate (2000: 147)

Unlike paint, dye does not indiscriminately cover the material to which it is applied, but carefully bonds to its fibres so that each element has both an individual and collective identity. In the past I have described my own work as having a ‘gauzy’ quality. By this I mean that while the sound is audible in the environment in which it exists, it complements the accompaniment of other (usually unintended) sounds and does not cover or mask the environment. Like indigo dye, it aspires to bond with physical and virtual spaces, recognising their acoustic, architectural or conceptual identity, while simultaneously maintaining its own characteristics.

This connection between sound and environment has featured prominently in all of my work in recent years, but it was not until I started to conduct research about Awa indigo that I was able to see the similarity. On the surface it may seem a novel connection. To me personally, it is a valuable metaphor that helps explain this very difficult-to-articulate quality. Realisations such as these demonstrate the value of syncretic explorations. I believe that working closely *within the traditions* of Awa indigo has provided a new vehicle for my work. I deliberately approached sound and music in ways similar-to and informed-by dyeing, and had the chance to view my practice through this new lens. And through all of this I have expanded and strengthened the metaphors by which I work. The ways in which the initial ideas or concepts that founded the work were able to persist without becoming moralistic or heavy-handed. They were *immanent* to the work, as was meant. Most importantly, I found additional ways to express the ideas and characteristics of my work that are drawn from instinct or intuition. This is helpful when communicating with colleagues and collaborators, but it also offers fresh insight that will undoubtedly lead to new works and forms of creativity.

Currently, Ricketts and I have been working with data-logging thermometers to track the temperature of composting indigo leaves. Using techniques more at home in the field of sonification (Hermann and Ritter 1999) than sound art, I will use this data to generate a new body of sounds and processing parameters for an upcoming installation at the Zuckerman Museum of Art at Kennesaw State University

(Georgia, USA). In the course of doing additional research for this article I learned more about the molecular properties of indigo in the dye vat and how these change when the dye is introduced to the air and oxidises (Balfour-Paul 2000: 116). Future work in the field of *Moistmedia* (Ascott 2003) looks to be a compelling means by which to explore the chemical interactions of the dye and its environment. These proposals are currently speculative to one degree or another: Syncretism cannot guarantee productivity. But it opens doors to the unknown. It disrupts habits. And it catalyses new modes of working and new paths of creative inquiry.

9. CULTURE, TECHNOLOGY AND ARTISTIC RESPONSIBILITY

“‘Culture’ is everything we don’t have to do”, writes Brian Eno (1996: 317). To clarify, he draws a distinction between the biological necessity for us to eat versus the invention of dishes such as ‘Big Macs or Tournedos Rossini’ (Eno 1996: 317). Similarly, humans wear clothing to protect themselves from the sun or insulate against cold temperatures, but the colour or decoration of a garment has less to do with its function than other concerns or priorities. Going a step further, it is unnecessary to dye fabric blue. And beyond that it is inessential to use a natural dye such as Awa indigo when there are synthetics that are less expensive and easier to use. Ricketts writes:

In an era of mechanized mass production, the choice to plant, transplant, weed, harvest, winnow, dry, and compost the indigo by hand is no longer one of necessity. ... with cost and time-saving synthetic indigo readily available, the dyer’s choice to perpetuate this tradition is a conscious one. (2006: 21)

On the surface, the traditions of Awa indigo may seem unique because they are distinctly a Japanese invention; something precious to the people of that culture. But more broadly, these materials and methods are culturally relevant because they are an outmoded means of work. In my discussions with Ricketts he said that the cultural uniqueness of Awa indigo has less to do with *Japan* than with changes in technology. A hundred and fifty years ago, 80–90 per cent of the Japanese population wore indigo-dyed clothes. As a result, these processes were not as unusual in the past. And while indigo dyeing and associated arts have never been a true necessity, economic and technological shifts have diminished the need for this practice.

Cultures and traditions, no matter how antiquated, are worth our thoughtful consideration. This is what Ascott refers to as ‘syncretic transdisciplinarity’ in which ‘there is no meta-language or meta-system that places one discipline or world-view automatically

above all others' (2005). While technology may have moved on, many of the fundamental questions we ask as humans have very likely been posed before. With new tools in our hands we have the ability – and ultimately the *responsibility* – to learn how others have thought and use their knowledge to inform conclusions and new ideas of our own.

NOTE ON THE SOUND EXAMPLES

Readers may also hear longer recordings of the installations and streaming field recordings at SoundCloud:

Fields of Indigo: <https://soundcloud.com/amerгентmusic/fields-of-indigo>

I am Ai, We are Ai: <https://soundcloud.com/amerгентmusic/sets/bandai>

Kamikatsu streamed field recording: <https://soundcloud.com/amerгентmusic/kamikatsu-indigo-field>

Hilltop Garden and Nature Center streamed field recording: <https://soundcloud.com/amerгентmusic/hilltop-nature-garden-center>

Supplementary material

To view supplementary material for this article, please visit <http://dx.doi.org/10.1017/S1355771814000090>

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