

SONGS OF RETURN

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As the title suggests, this paper looks at ideas of passage, accumulation and repetition. I record birdsong in southern France where I live and work and make prints by re-visualising them with a sonogram programme.

I walk and listen to the local terrain and while doing so am interested in the dynamic changes that surround me in nature and my emotional meeting point with them. The arrival, departure and movement of birds in the environment I would like to talk about specific works that illustrate how I use sonograms in the studio and about my low-fi techniques leading to my work with recordings and prints as a musical score for improvisation.

ground. They use repetitions and they sing during the day. However, it is in the theatre of darkness that the bird is most noticeable, and their song is extraordinary, particularly when seen visualised on a sonogram.

This was my first significant meeting point with birdsong. I began recording different birds, noticing particular spots where they congregated, and noticing how they listened to each other in the silences. This you can see in the sonograms¹.

The first work is a four-metre long woodcut made from my recording of one nightingale, the motif having been taken from its sonogram. Nightingales vocalise by having different motifs which they use in their repertoire of sounds, each bird building up a vocabulary. I chose the motif that was repeated by this bird most often in the recording. My choice of woodcut for this was one of scale; as I have said, the bird is very present and I wanted to make something that mirrored the physical loudness and that had a presence in the space. I was interested in the notion of looking through the print and wishing to expand and a kind of invisibility and movement. The paper I use is thin enough that it sways and moves as people pass by.



Figure 1

FIRST RECORDED BIRD

The very first bird I recorded was the Eurasian Nightingale. This bird has 100 variables of clicks, trills, staccatos and slurs within its vocabulary. Nightingales arrive in April and leave in early July. During this time, you cannot fail to notice them as they are one of the loudest birds here. On one walk during this period, I might encounter five or six. Almost always hidden, they nest close to the



Figure 2

Figure titles and information:

Figure 1: Nightingale, large scroll

Figure 2: Catalogue of a walk, ASC stairwell

¹ <http://www.victoriaarney.com/wp-content/uploads/2020/12/nightingale-walk-web-1.mov>

I use my woodcuts rather like a library of sentences so they can have different iterations. This second work illustrates the passage that I wanted the viewers to take with the prints. Suspended over a stairwell and 10 metres long, it used three nightingale motifs repeated along its length. Occupying the space, it incorporates the viewer, allowing people to look up and through the print, its song transparent and echoing on both sides of the paper.

The QR codes of each nightingale recording were displayed so that the spectator could play them into the space on their phone, thereby creating their soundscape, depending on how many people were present. I am using simple print techniques to look at complex structures and ideas of language. This installation has time within it, physically by walking along it and in its use of echoes of sound in the space. The matrix of print, its ease of repetition, and the use of overlay have enabled me to construct large-scale installations made by hand in a low-fi way. This is inherent in my printmaking practice but it is also a necessity because of my rural location and the limitations on the facilities available.

LOW-FI TECHNOLOGY

The programme I use to analyse my recordings is the Cornell University Raven lite. This app is widely available and it uses sonograms or spectrograms to distinguish a species. Sonograms are a graph of sound frequencies across time, rather like standard music notation. They are read from left to right with high notes at the top, and with longer notes taking up more horizontal space over time.

The more I recorded the more I listened.

My perception of places changed. I found some places had sound while others that looked the same had almost none. Through visualising the sound, I was more able to identify the birds and also to see the sonogram shapes of the songs in my mind. This meant that I became a better listener. For example, I could hear the songs more distinctly because I had accumulated the shapes in my visual brain through looking at the sonograms.

I became aware of another worldview that existed alongside my own. I am not a scientist or an ornithologist, but I did notice a slight visual change in how I was seeing the natural environment, and this led me to want to make a lasting visual reproduction of something so fleeting and intrinsically linked to myself and the land.

SONGS OF RETURN #3

As a species, we only comprehend the world in the way we have developed over millennia. Different senses make for radically different minds. Analysing the birdsong gave me a knowledge of birds' otherness and of a bird's experience of location, time, speed and place that was different to mine. We only grasp a fraction of the intonations and vocal dexterities that individual birds can hear. Birds' hearing is at a much



Figure 3

Figure 3: Dawn chorus, woodcut scrolls

faster and higher pitch: they can distinguish sounds in rapid succession and their time resolution is probably 10 times better than ours, so they can hear note separation while we cannot.* That is why birdsong often seems so short. So, to see all of this I slow down the birdsong to identify these smaller vocal inflexions².

I tend to work with a window of eight seconds of sound when using the sonograms; this gives me a fairly clear shape of the sound. I then divide this for my woodcuts into two seconds of sound for each Japanese ply panel. So, 48 seconds of recording becomes 24 individual woodcuts. For the work *Dawn Chorus 2020*, the recording was incredibly complex, being full of different birds. Thus, I wanted to create an installation where the viewer walked between the sound. I used rolls of suspended paper and divided the recording into parts that I printed up and down the rolls.

I feel that there is an affinity to the birdsong when working in woodcut. There is a sense of contact, both literally and ideologically. The collecting of birdsong involves walking and stopping. Most birds sing in a wood. This technique allows me to incorporate chance, but a slow chance, into the work. Once I have my sonogram recording printed out, I have to reverse it and draw it onto the surface of the wood or plate. With wood, the grain alters the song, as the ink is taken up and down it. I mark and cut timelines onto the wood to keep it as close as possible to the tempo in the sonogram. Somehow, this element of chance makes the artwork. The sonograms have a surface, of course: the grey areas the other sounds make give a grainy sense to the surface of the plate. I am interested in the idea that the sonograms contain some kind of elemental truth, if you like, a kind of missing reality (Fig. 4).

My most recent woodcut, *Atlas winter/spring*, was produced using two sounds recorded in the same place but eight months apart. The first sound, from May 2021, and the second, from late January 2022, were recorded using the same method and time frame. I was interested to see the visual difference in the same place. This is only 96 seconds of sound, but the complexity is enormous. It was by chance encounters that these works were made.

I make selections, of course, as I record more than one moment, but it feels as if these works have infinite possibilities. One last point about sonograms. They show harmonics above the central note and reveal other simultaneous notes. Birds can produce more than one sound simultaneously; they have internal tympaniform membranes on either side of their syrinx that can be adjusted independently, thereby allowing two notes to be produced at once.* Not all birds can do this, but songbirds can, in particular. This is what causes the visual echoes that are not present when you listen but become structural through the sonogram.

WORKING FROM A SET SCRIPT

The evolution of birds from reptiles began 200 million years ago. We only evolved about half a million years ago so the sounds and songs



Figure 4

² <http://www.victoriaarney.com/wp-content/uploads/2020/12/dawn-chorus-spring-web.mov>

Figure 4: Atlas Winter/Spring, 2022

of birds had already been established by the time we were present. It has been proposed that it is quite likely that early man was hearing birdsongs not dissimilar to ours today.* It is also interesting to note that music is something we share only with birds.

The French composer Olivier Messiaen seemed to connect with my ideas in print. He was a ground-breaking classical composer and an ornithologist, and he went out and transposed by hand, in note form, the birdsong that he heard, along with writing poetic passages about the locations where he heard it. He then used his harmonic frameworks to explore and develop this birdsong. He developed, in his twenties, 'modes of limited transposition' to work out harmonic scales. *Catalogue d'oiseaux*, a piece dedicated to the landscapes and birds of France, is a huge, ambitious work. In his epic seven volumes of *Treatise on Rhythm, Colour, and Ornithology*, he reveals his synaesthetic combinations of forms and colours that he used for translating his rhythms and time structures. Always pushing the boundaries, he included books of notations along with poetic passages of how it felt to be hearing birdsong in that place at that moment. He used his mathematical response to birdsong, with complex coding and harmonic limitations, 'to define unlimited boundaries to work with'. Here is an example of one of his descriptions of Ushaint, off the West coast of Brittany, and its defining bird for the work *The Curlew*.

*This is its song: sad slow tremolos, chromatic accents, wild trills, and a mournful repeated glissando which expresses all the desolation of the seashore...The water extends as far as the eye can see. Little by little, fog and the night spread over the sea.**

The boundaries of working within a set script of the sonogram have, in a strange way, meant that in my work the emphasis has shifted to colour, scale, surface, structure and sound. It has also allowed me to expand and explore ideas of time, music collaboration, and working with specialists in the natural world, such as my ongoing project with the Parc des Alpilles in Provence, where next year where I will be using bat sonar recordings to make work. The idea of transcribing birdsongs back into music became a possibility through my collaboration with Jim Howard, a musician and trumpet player. This project evolved during the lockdown. Jim had been following what I had been making and contacted me with the idea of using one of my scrolls as a musical score³.

I loved what Jim did. Suddenly the echo back from this work seemed perfect, particularly as he was vocalising on only one instrument. His use of echoes and silences fitted perfectly with the earlier recording of nightingales.

Music psychology has put forth the hypothesis that what makes music attractive for listeners is its dynamically fluctuating predictability. That is, by building and breaking expectations on multiple timescales, music is thought to create a dynamic succession of different feelings. Songbirds, like musicians, can use drifts or recurring rhythmic motifs to enable their listeners to form rhythmic expectations, which can then be

³ <http://www.victoriaarney.com/collaboration/>

*fulfilled, delayed, or broken. They might then, like musicians, make use of note timing to achieve expressiveness, driving their listeners' expectations, mixing predictable and unpredictable timing patterns.**

As well as responding to my work as a score, our focus has recently shifted to corresponding with the coloured sonograms in nine-second fragments. I send them to Jim with no explanation and he sends me back the improvisations. This strategy enables both of us to respond quickly to the birdsong and create ideas, building up a repertoire of sound which will develop into future visual works and print installations (Fig. 5).

CONCLUSION: THE RETURN

There are elements of silence or listening that are inherent within a bird's vocabulary. If we return to the nightingales, while each bird sings, taking up much of the vertical space of the sonogram with its dexterity, it shows it has silences too. This is very marked on the sonograms of nightingales; that is why I chose these sonograms when working with Jim, to build up a sense of space and time.

If these improvisations are put back into sonograms, there are moments when they cross in terms of complexity on the screen. But what we see in Jim's improvisations is a simplification of what we hear. His sounds are visualised and are a step into a visual construction that is built using long gaps and blocks, creating a slowed-down pitch, and changing our perceptions of sound within a slowed-down world. The complexity and constraints of working with these birdsongs bring a realisation, that their script contains elements of migration, displacement, acceptance, evolution, biodiversity and survival. They have an otherness, an urgency within and a connection with the world beyond. They are like writing fragments from another time, reminding me of the Roman College of Augury, when bird's migratory patterns, calls and flight paths were consulted by the augur before major decisions.

Ecoliteracy is on the rise with climate sustainability. The ability that the ancients had to read landscape signs is slowly being re-established through scientific research; for example through recognising that bird flight paths can predict tornadoes. Vestiges of these connections exist in spoken languages all over the world. It is a complex and historically interwoven subject matter, crisscrossing art, science and myth. For me, working with birdsong is also about witnessing. Only a few of my recordings are made in vast woods. The rest are made among mostly scraps of trees and vegetation left between things. This is important; we are trawling through these remnants of wildness in search of clues. Bird populations truly are representatives of a global community, as they bring with them a voice that defines our seasons, but which belongs elsewhere, where their journeys began. Ultimately, the flux and flow of observing one terrain lends an understanding, an overview, pointing elsewhere.

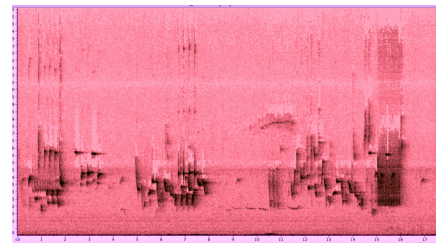


Figure 5

Figure 5: Nightingale sonogram rose

sound: <http://www.victoriaarney.com/wp-content/uploads/2022/06/Vic-pink-1.mp3>

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IMAGE GALLERY



Figure titles and information

Figure 1: Nightingale, large scroll

Figure 2: Catalogue of a walk. ASC stairwell

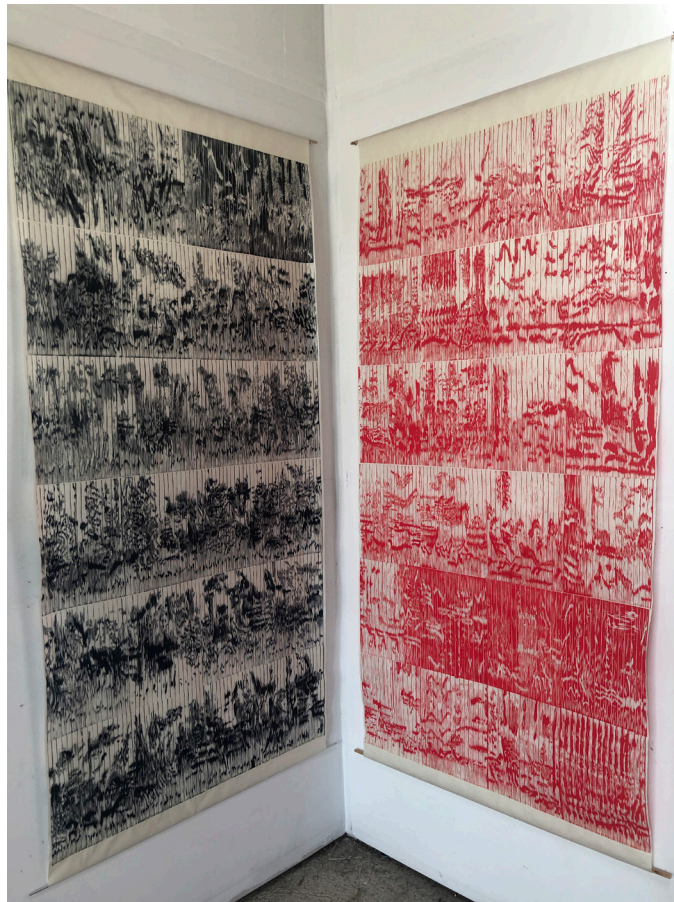
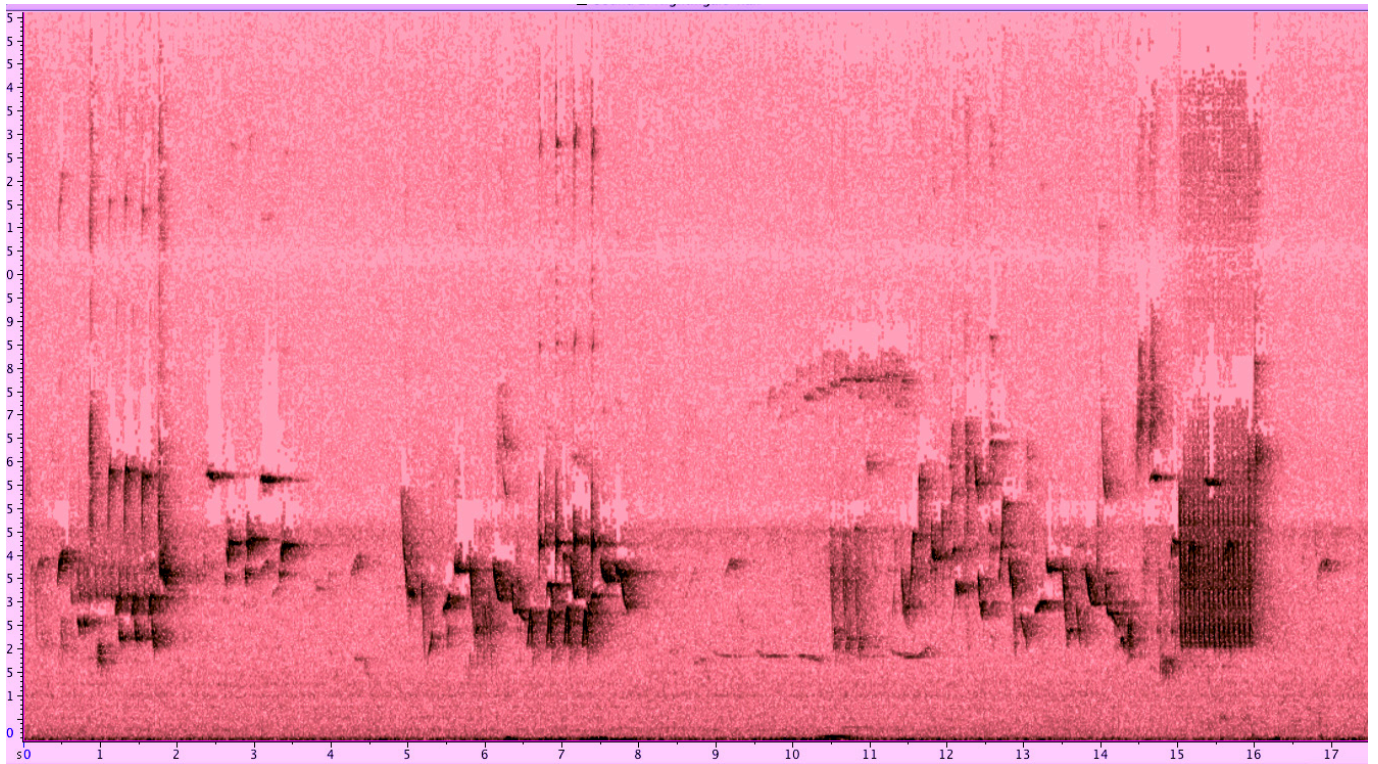


Figure 3: Dawn chorus, woodcut scrolls

Figure 4: Atlas winter/spring, 2022



Figures 5: Nightingale sonogram rose

Sound: <http://www.victoriaarney.com/wp-content/uploads/2022/06/Vic-pink-1.mp3>