

energie
sean o'connell 2015

exploring embedded forces of nature
through electrophotonic film imaging,
kinetic jewellery, and cinematography.

energie

The world seethes with energetic intent. Beneath every action, every motion, and beneath the seemingly static forms of everyday life, a shifting flux of energetic exchange is constantly underway.

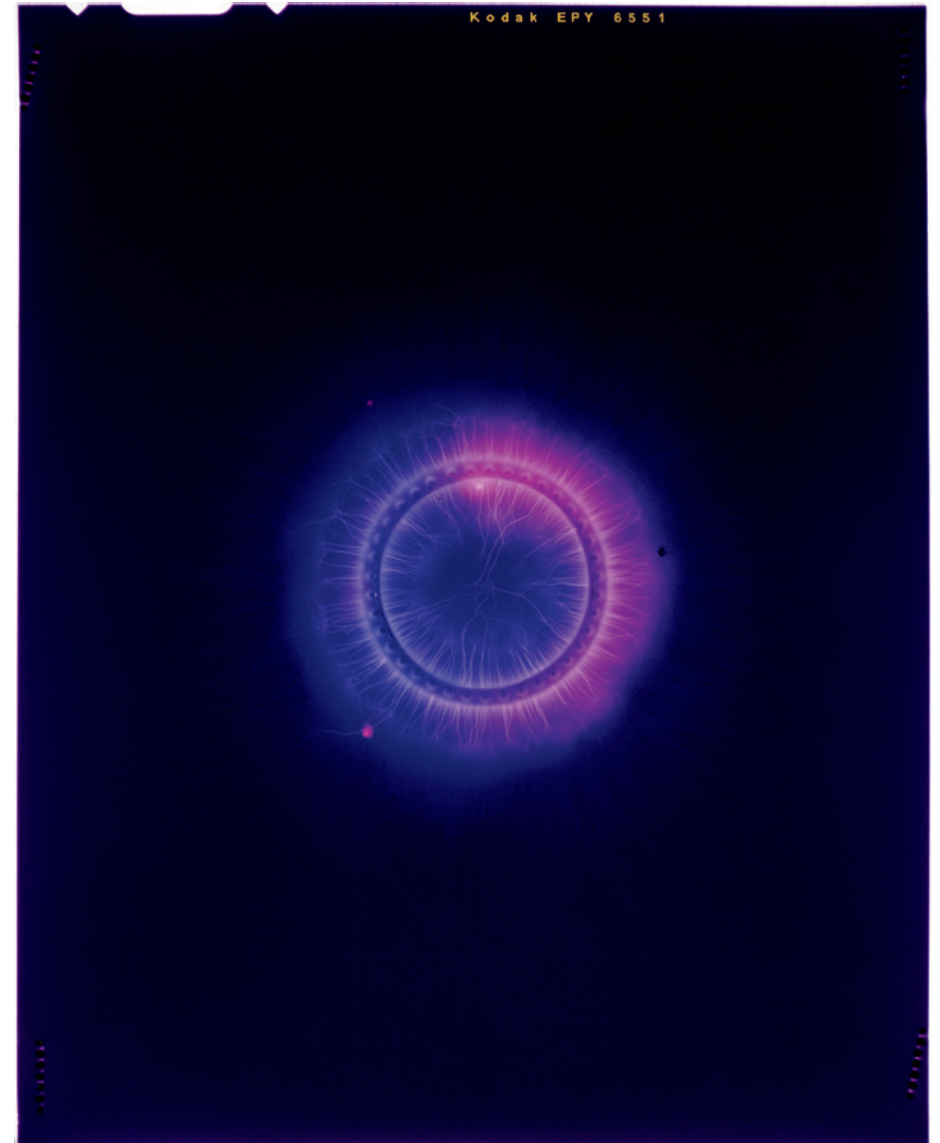
This is the way I see the world. We all choose to view the world in ways that make sense to us and allow us a little control and understanding. Whether we view the world as solid materiality built upon atomic units, the outpouring of a divine will, unstructured chaos, a balanced play of karmic response, or as a ceaseless flux of energetic exchange - whatever way we view the world, whatever model we choose, we take on a range of fundamental preconceptions.

Every way of apprehending the world has its own preferences and differences - differences that could potentially complement and enrich one another. Would it not be wondrous to allow all possible perspectives equal value? To foster alternative notions? Imagine a world where difference and disparity could lay alongside each other peacefully without the need for resolution into a single truth - a place of multiple possibilities.

To this end, I am fostering a little difference within myself, allowing new ways of seeing to emerge, ways that make sense to me. by courting subtle



but fundamental shifts of perception, through little experiments I am undertaking in force and motion, I am exploring the world through energy. One of these experiments, imaging the flow of electrical energy through solid matter, is shown here. Other works are presented here, including a series of rings that store excess movement - amuletic cures for the frictions of everyday life, as well as still frames from an audio-visual ode to roundness made with my lathe, and several pieces of jewellery created over the past year.



“the form of an object is a diagram of forces”

- D'Arcy Thompson, *On Growth and Form*, 1917.

sparks and rings

These spark images show the flow of electricity through material. Simple rings, in bone wood, plastic, metal, and other materials, sit on top of photographic emulsion and are bombarded with electricity from above. Using a range of small machines built for this experiment, the electricity can be powerfully blasted through the rings, gently washed through them, or allowed to resonate back and forth within them at any frequency. Each material has a complex electrical character - it is not simply a matter of seeing what conducts best and makes the biggest spark, but rather to explore the individual energetic character of each material.

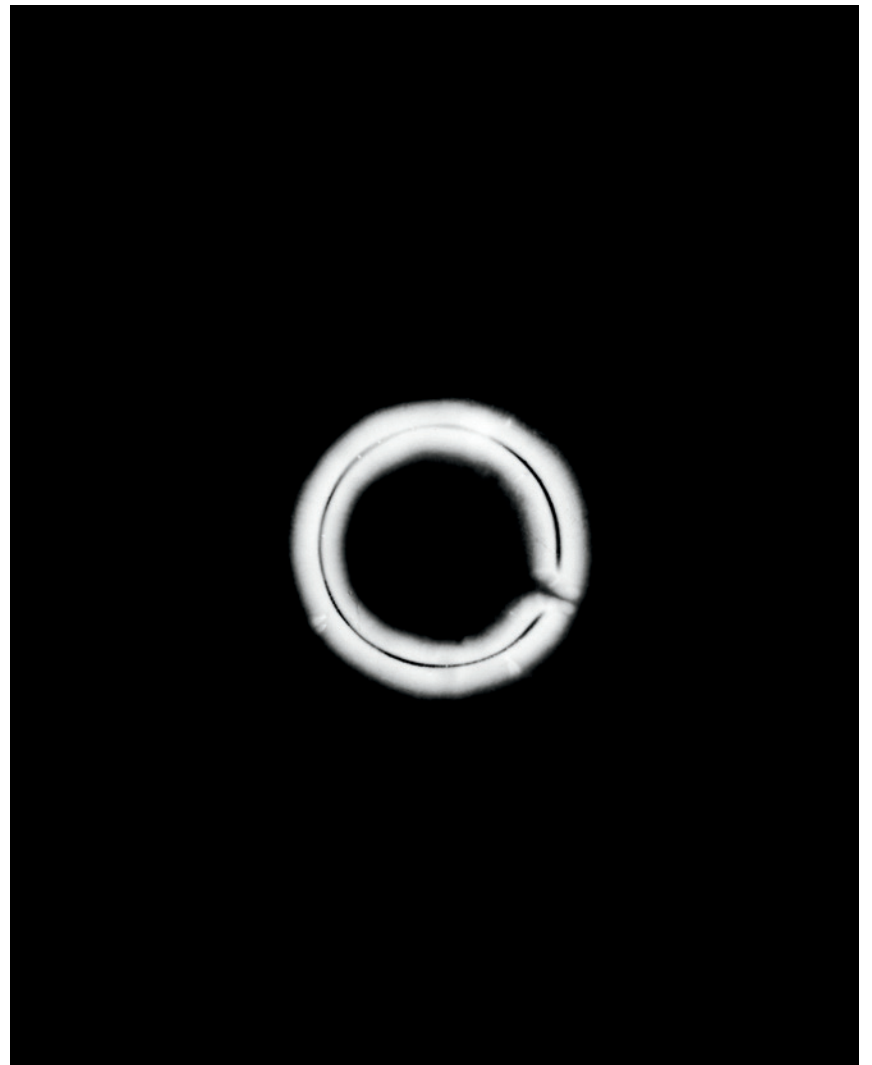
What you see in the images are electrical arcs, ionised trails of light, channelled through each ring, directly exposing onto traditional photographic emulsion. The images are not presented here as an aura or the motion of the aether, but simply as excess electrical energy trying to find a way to ground as fast as possible - like a ball rolling down a hill - potential energy naturally seeking out the lowest place.

But this does not mean these images are simple or meaningless at all. Such electrophotonic imaging techniques were used to examine metal castings, checking for flaws, searching for cracks

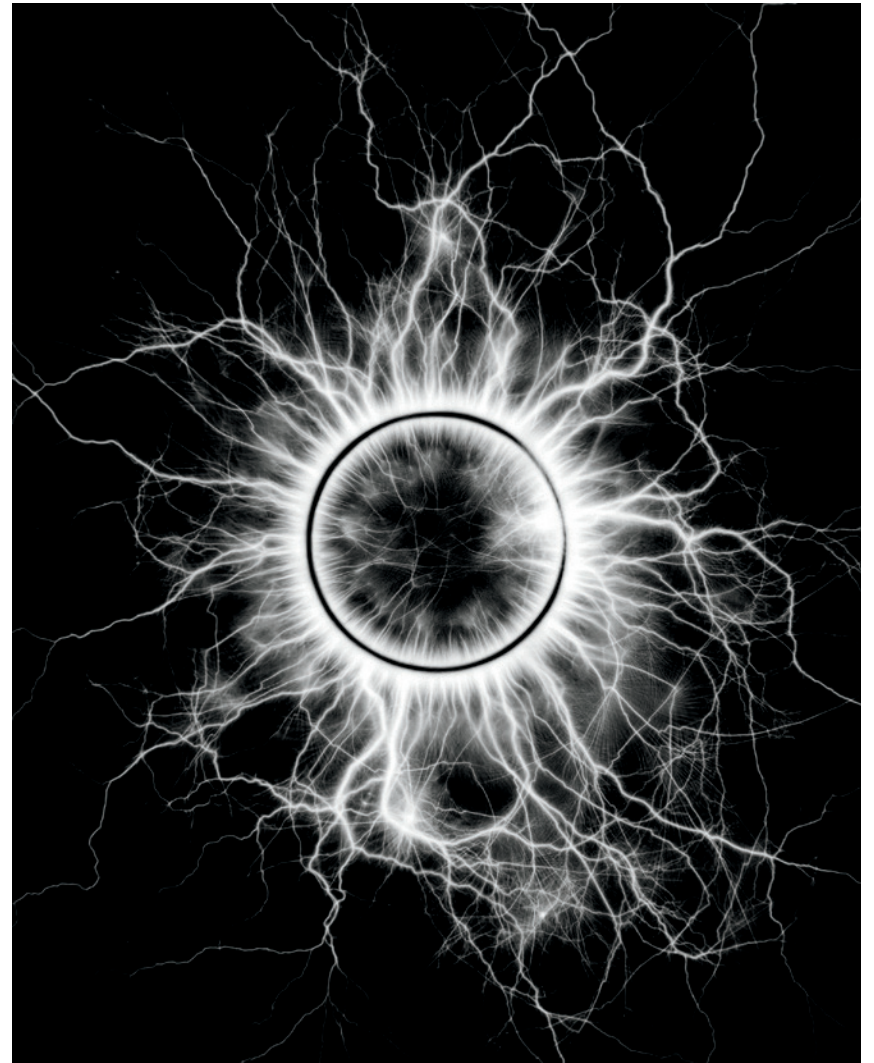
or porosity not visible to the eye, but shown clearly by the flow of electricity through the material and form. A very similar technique is also called kirlian photography, and has all sorts of new age connotations, though was originally developed to assist medical diagnoses in Russia during the middle of the last century. Here, with these simple rings, it is being used in two ways: firstly, to explore the nature of different materials as they conduct, store and resonate electrical energy, requiring subtle examinations of each image and carefully documented experiments; secondly, and much more importantly, these pictures are a poetic trigger to imagine the material world as embedded within a flux of energy - perhaps even to imagine the world as fundamentally energetic. This idea, that reality can be perceived as ever-changing patterns of motion and force, seems clearer to me than the usual scientific model of discrete atomic units, all combining together in repeated patterns to make the "stuff" of our lives.

The materials these rings are made of vary greatly. There is pure metallic copper, so rosy red when first cut, regal gold that hums like the winter sun, and the dark grey stormy depths of tantalum, my favourite metal of all. There is the soft waxy secretion of bees, the growth of hair from a jeweller's head, and the growth of horn from a bull's head. The hard dark

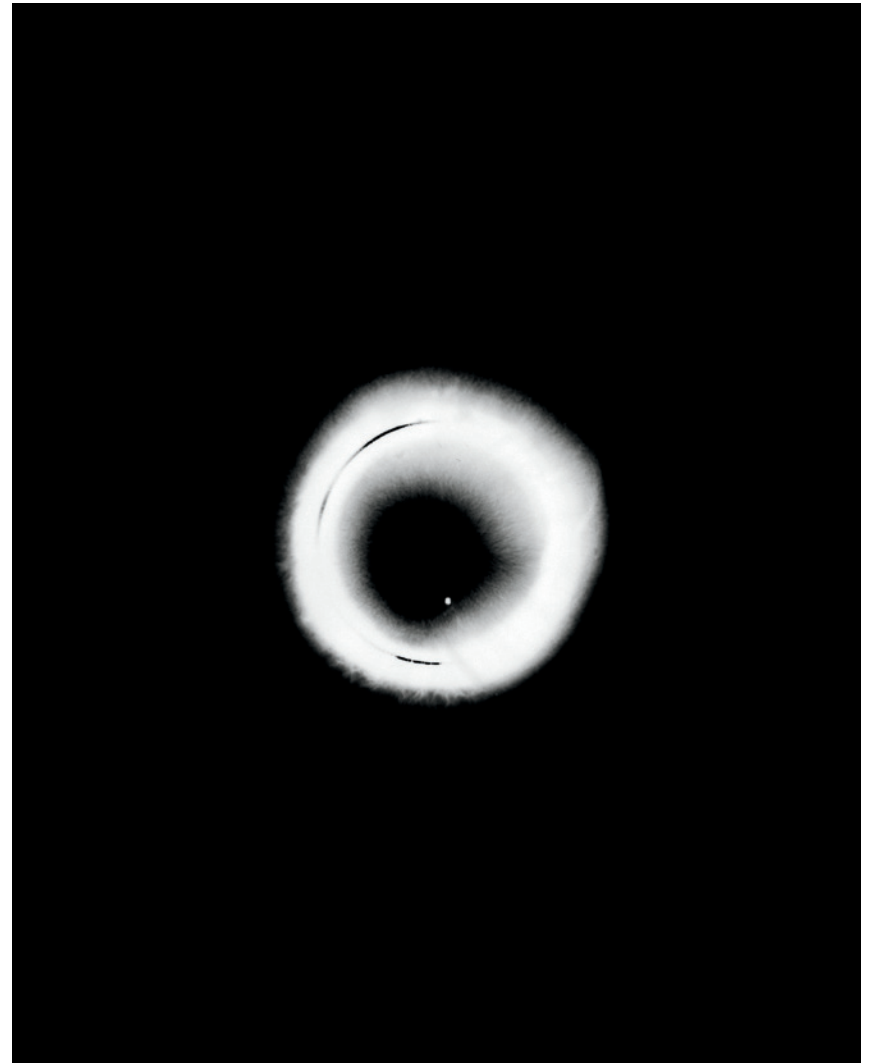
wood of the ebony tree and the gentle butteriness of huon pine. There is bright orange plastic from a huge multinational factory, and the tough black ceramic of silicon nitride. Of course there is ubiquitous stainless steel, my standard material, there is hand-crafted titanium and zirconium mokume-gane from a master craftsman in America, and extraterrestrial iron from a meteorite that fell from the sky millions of years ago. These diverse materials, borne from the belly of stars, the mouths of bees, or the factories of modern man, all channel forces in radically different ways, whether those forces are light, heat, physical impact, or as here, electricity.



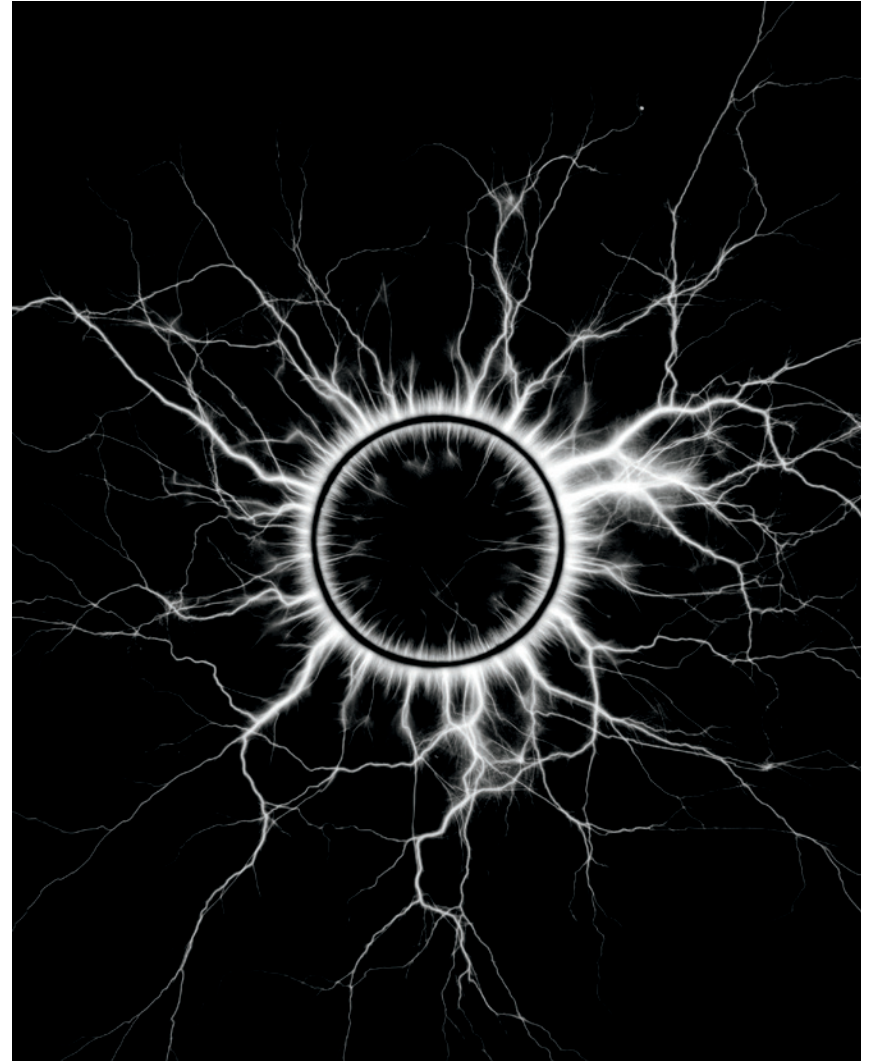
bone - cow



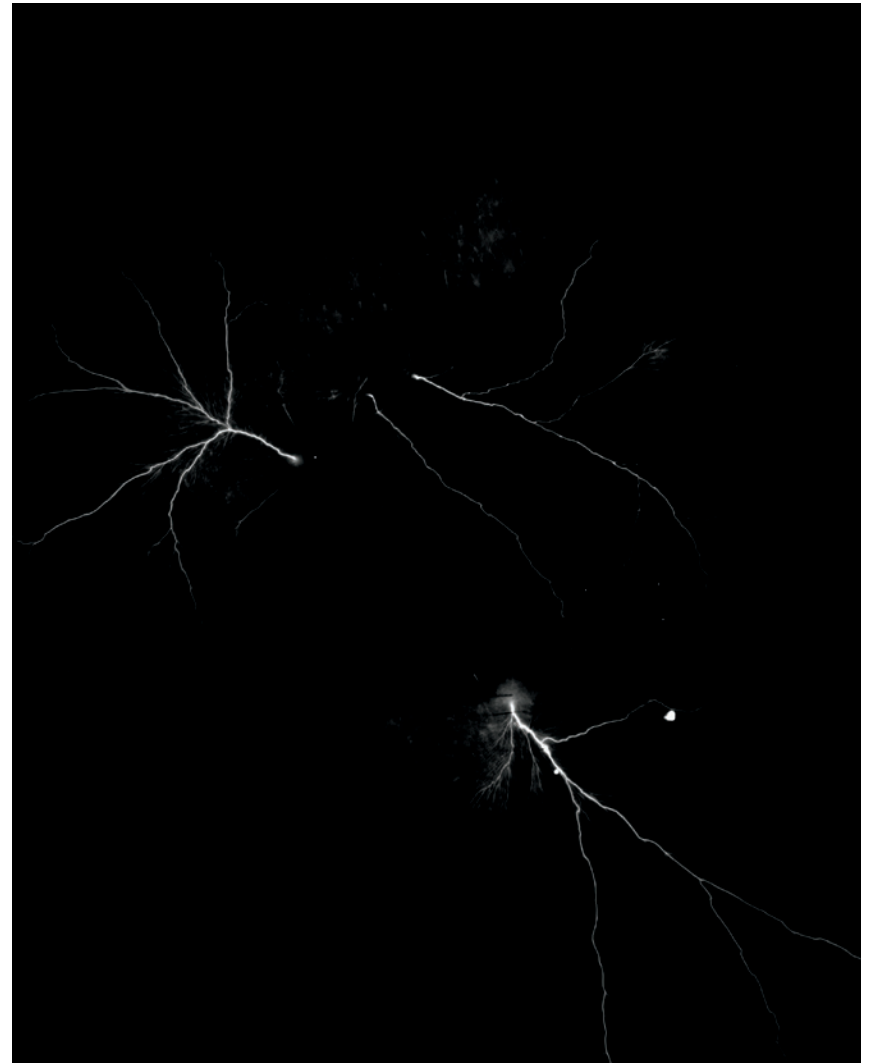
copper



ebony



gold



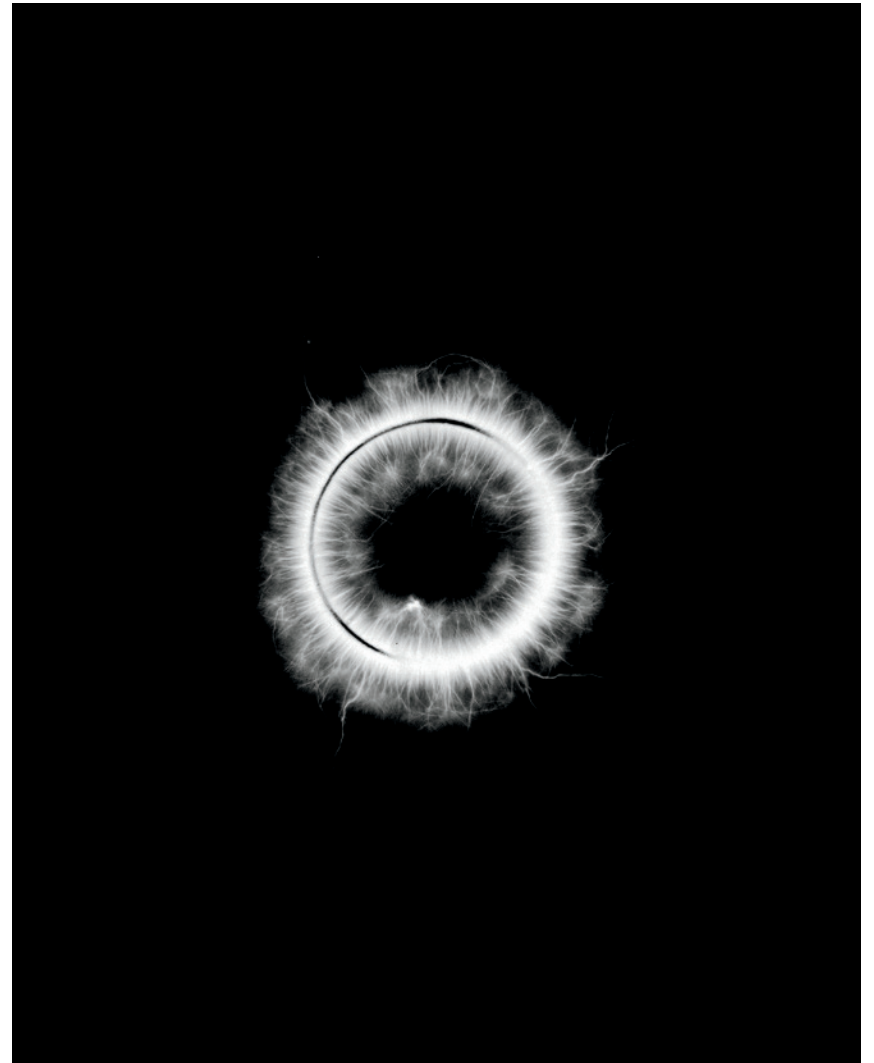
hair - human



horn - buffalo



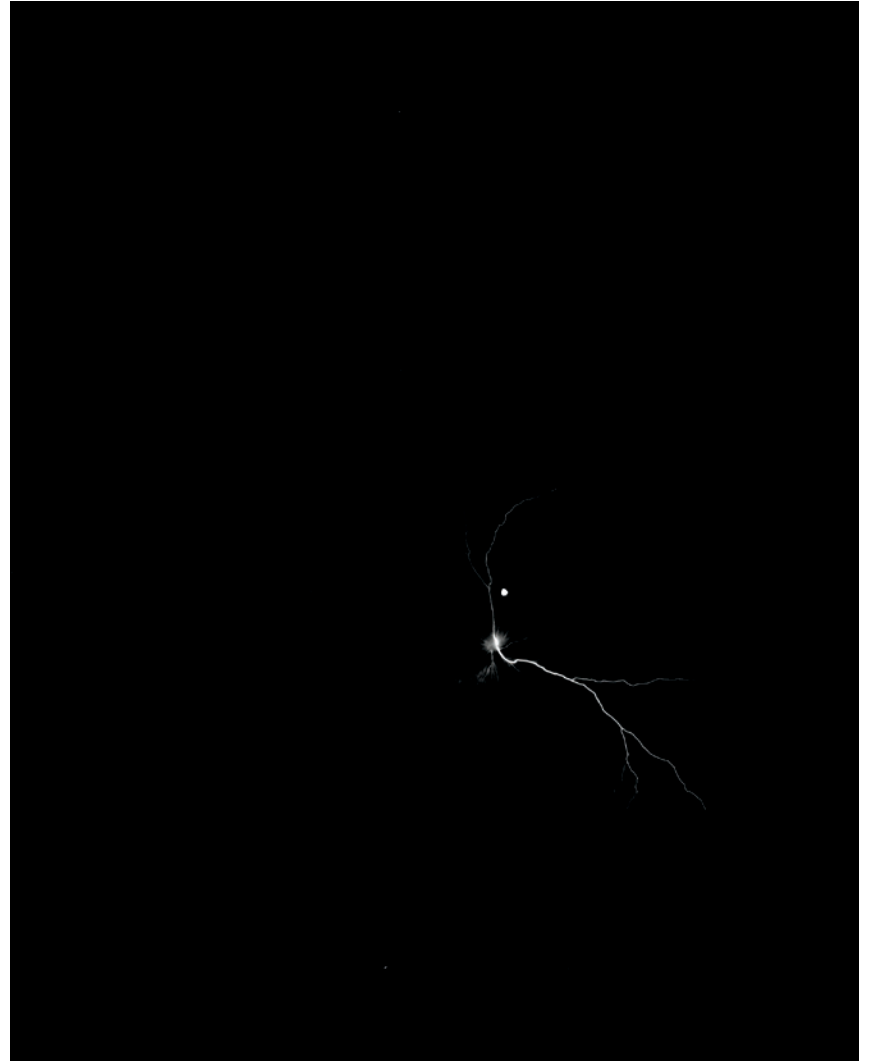
huon pine



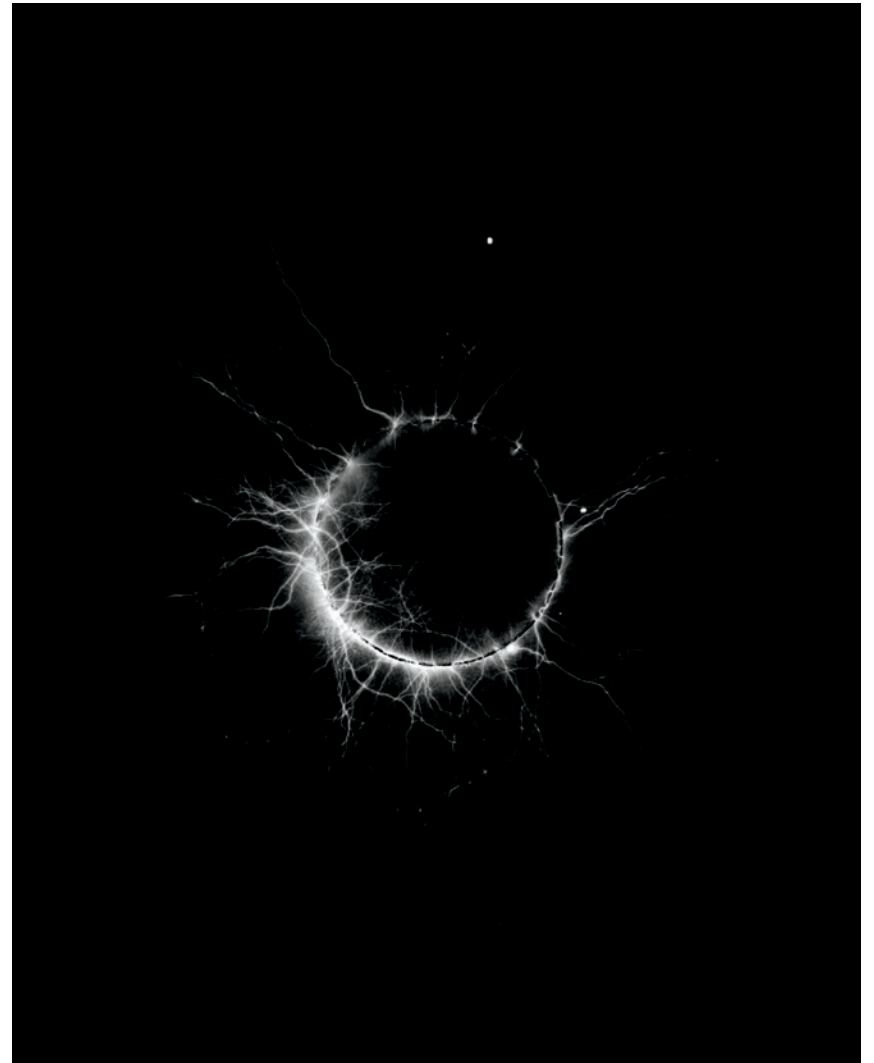
meteorite - gibeon octahedrite



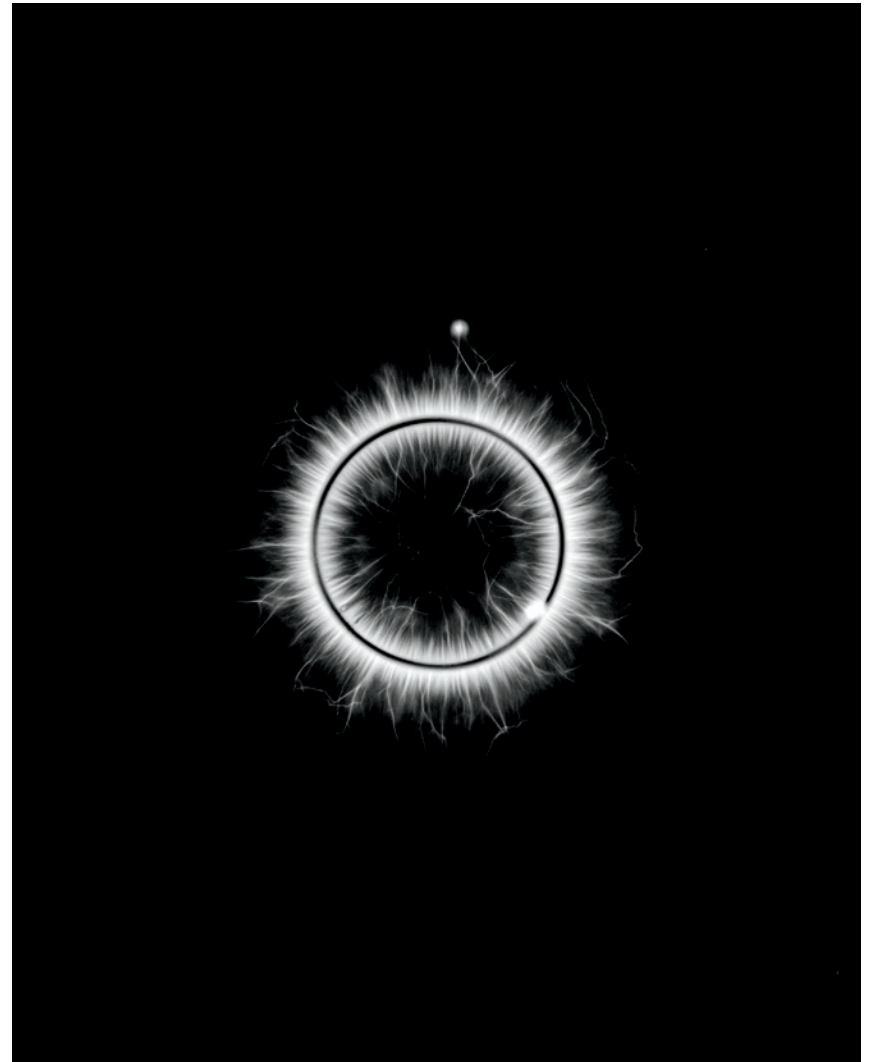
mokume gane - titanium and zirconium



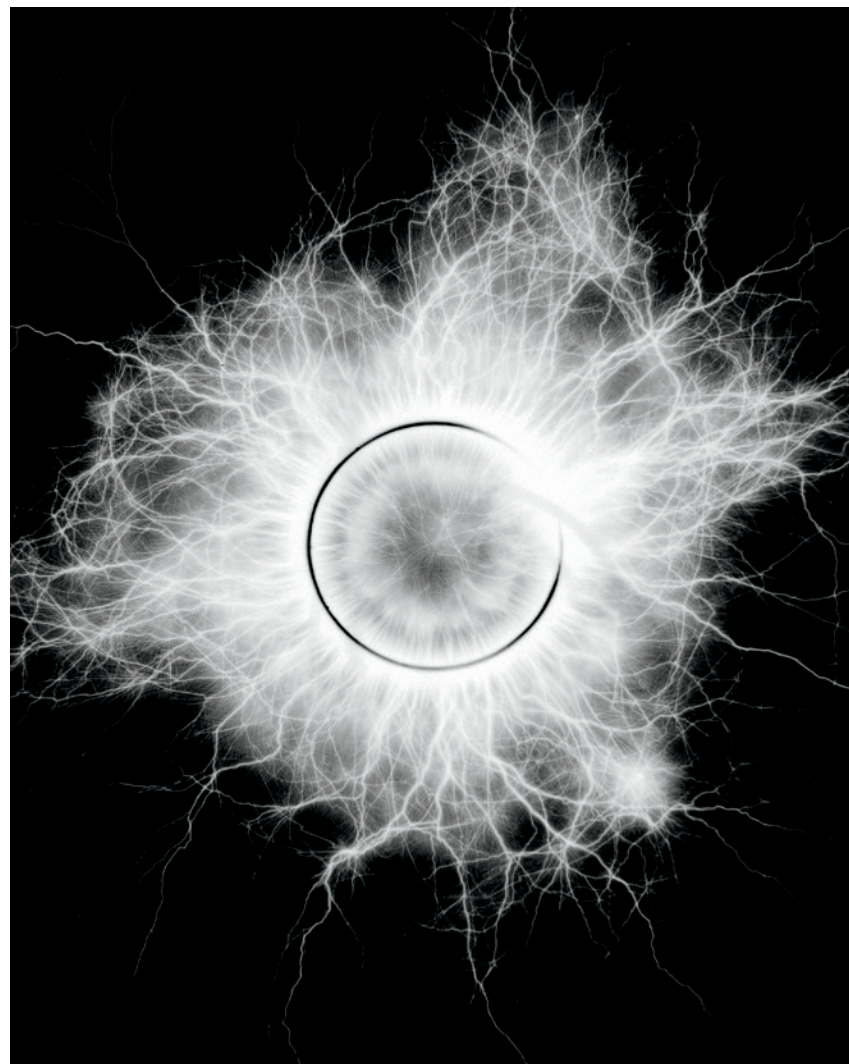
plastic - corian®



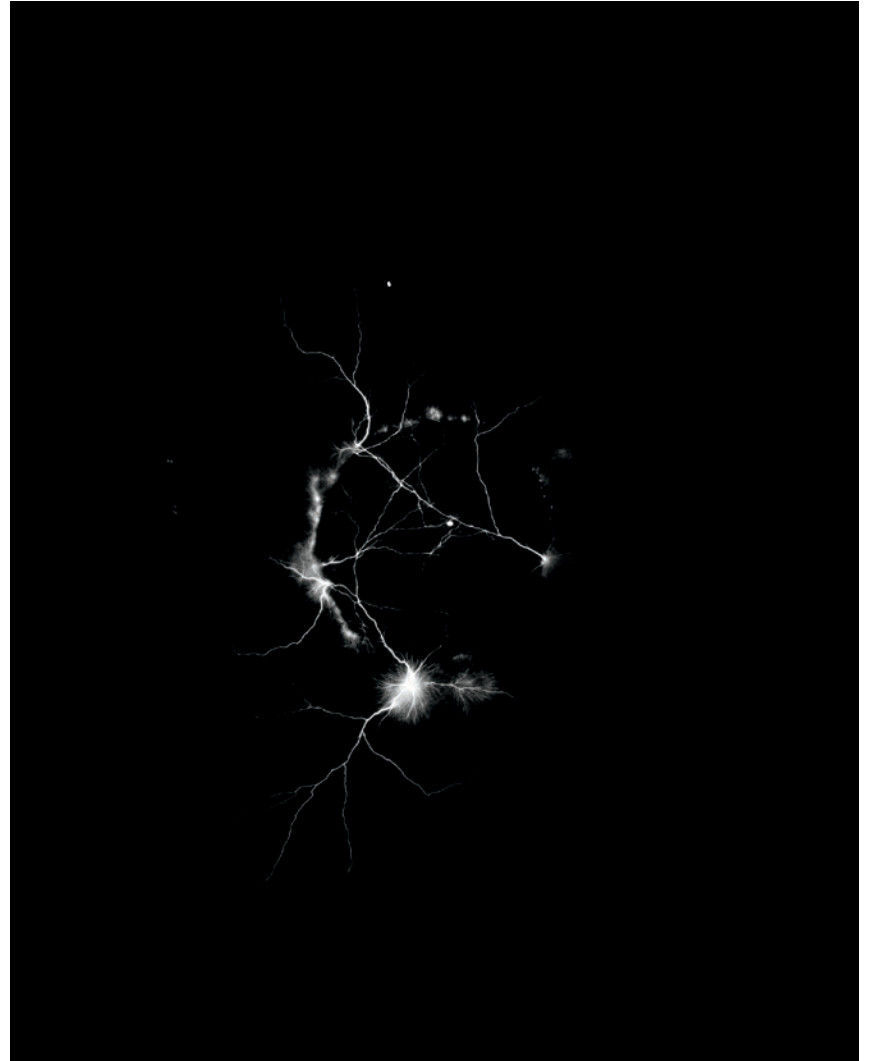
silicon nitride



stainless steel



tantalum



wax

Many of the metals channel electrical energy in similar ways, with differences in their conductivity, or in their structure, such as in the crystals of the meteorite or the wavy alternated layers of the mokume-gane. Plastic and wax do not conduct very well, but have other characteristics, as often used in capacitors, to store charge and filter electrical signals - their interaction with electricity becomes more apparent with higher frequencies. As mentioned earlier, it is not a simple matter of the biggest spark - all of these materials have their own complex electrical characteristics.

Seeing the way that solid materials conduct, how they alter the flow and insulate against the movement of force, gives us a hint as to the overall nature of each material, and a notion of their energetic character. I am sure that if we examined the way they interact with thermal energy, or other forms of energy, the results would be just as complex, and even more revealing. While we may see and feel the solidity of these materials with our eyes and hands, many are actually permeable and transparent to the flow of different forms of energy in the world. The world is really not that solid, and it is perhaps easier to imagine reality as interconnecting fields of force, rather than a series of mostly solid objects, as is traditionally taught in schools.

All of these rings, so simple in shape, have been made by hand wherever possible, with hammer and saw, file and sandpaper (or my lovely lathe). The intimacy of contact with materials and processes is important - it is deeply informative at a level that is too complex for thought to follow. In that close contact with material and processes, I find it becomes a little easier to allow different modes of making sense to come together - thinking, making, acting, reflecting, responding, observing, letting go.... In that space of possibility, where the flux of change is moving under your fingers, new things take shape....

ball movements



hidden roll

single race of balls hidden inside for covert energetic assistance in everyday movements.



shinjuku roll

two separate shells rolling over two races of balls for heavy-duty help in moving through times of sticky immobility.



exhibitionist roll

double external race of balls to roll down the hill, fast and with style.

I think everything should move smoother, so I am trying to do my small part and save the world. Starting here, with this effort to make movement and reduce friction, I make mechanical parts that fit comfortably on the finger and spin with fluid ease. These rings are made with precision balls and a range of metals which are turned, welded, soldered, filed and polished in a process that creates an over-abundance of motion. They store an excess of movement which can be drawn upon by the wearer in times of friction and stress.

These kinetic rings are pared back and minimal, their simple functions dictating their aesthetic. They exist as discrete things - small machines in their own right - even though they may seem like a spare part for an old motorbike. Their purpose is to create movement and they all do it in their own way. A typical *hidden roll* ring is a secret device that can be worn everyday, helping to negotiate simple everyday frictions without bringing undue attention to its use. A *shinjuku roll* is a more serious tool and can help smooth out the rougher patches of life, like inner city driving. Other movements are more specific, such as the directionally-focussed action of a *forward roll*, the pretty little *elegant roll* to increase the fluid beauty of motion, the broad

forgiving movements of a deceptively complex *drunken roll* to help eliminate boring straight lines, or the ultimate in complexity and slipperiness of motion in the three separate shells and quadruple races of a *pleonastic roll*. Like all simple tools, their uses are endless, and it is up to the wearer/operator to find ways to maximise their use in everyday life....



drunken roll
internal spherical ball-race for help with movements that need a little wiggle in them.



forward roll
single race of balls pointing one way only, for freeing up motion in specific directions, or just to roll around on the floor after drinking too much coffee.

delicate roll
single race of small balls for those not so heavy days.



pleonastic roll
quadruple ball races on three separately moving shells to facilitate complex acrobatic motions in death-defying situations.



ninja roll
two hidden ball races for aid in moving really fast without anyone seeing.





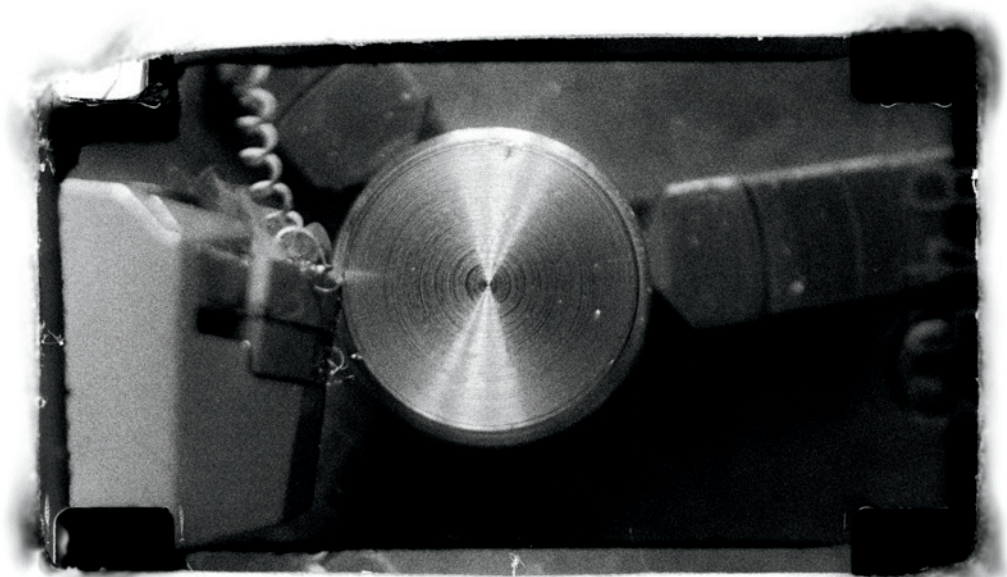
elegant roll

two races of balls and two separately moving shells in an elegant form, especially good for help in ballroom dancing.



gaudy roll

single race of balls on the outside for those days when you need some assistance moving and aren't afraid to say it.



on roundness

Every piece of metal that I turn on the lathe speaks to me of roundness. The act of latheing not only cuts - it embeds spinning forces of roundness into the metals it cuts. Sometimes I take a ring that has just been turned, and it almost humms - it feels like it is still moving - you can see it in the marks of the tool, the sharpness of the cut, the perfect circularity of form, the way it rolls effortlessly across the table. I dream away and i imagine that if time was more like a river, you would be able to draw upon the forces upstream of this ring, of how it was when it was being made - the compressive spin of its speed, that tightness at the centre of its axis, the shearing forces that cut its edges, the endless loop of its travel - all the forces that move it towards a state of ideal roundness.

I imagine every time I work on the lathe that such forces are laid into the rings i make, that there is a part of them somewhere else in time, still spinning, forming, aligning with some archetypal sense of circularity more perfect than geometry and more potent than any god. I think that this act of making things very round invokes a certain feeling of completeness in the air around the maker. This sense of completeness transfers from the maker to the wearer - it is there in the ring. It grants us a

little power, to push back at the forces of entropy that press in upon our lives and strain at the edges of all we do. It helps us to keep steady, on axis. Such mighty ideas for such simple acts and simple pieces of jewellery!

So as an ode to all these grand forces of roundness, I document steel being turned in the jaws of my lathe - the spirals of metal swarf, the curling trails of smoke, and the steel bar being trimmed ever closer to ideal roundness. The footage is shot on 16mm film with very old high speed movie cameras retired from NASA and various crash test companies. The film was developed by hand, transferred to digital frame by frame, and edited together on computer. Sound, recorded through contact microphones on the lathe bed and standard microphones near to the spinning steel, reveals the noise and vibration of the cuts, stretched out to match the speed of the slow-motion footage.



jewellery

The jewellery I make often has balls and movements, joints and springs. I love fiddly playful things and all manner of toys. But like with the motions of the ball rings, they all have a serious purpose, as amulets that promote their effects upon the wearer. Whether they encourage a strong sense of flexibility, like with the uni-joint chains where a dense rigid set of units acts together with stable integrity to create a fluid motion, or whether it is the simple free spinning movement of hidden balls protected by a metal shell to free up those static times in the day that are so full of friction - this jewellery all performs energetic adjustments upon the flow of normal life.

I imagine them not just as mechanical things, but also as adjustments to the day, in the sense that they alter the energy around us. They are a little magical. And in keeping with this, a lot of effort and time goes into each one. They are not rapid prototyped or cnc'd in multiples, but are individually created and deeply connected to the hands of the maker. I do not want someone else to take the laborious sanding off my hands - I like doing it! The many combined aspects of making, undertaken with care and attention, bind force and intention into the objects we create. Every moment



sterling silver ball-race bracelet, with silicon nitride balls

we spend in direct contact with objects - as makers and also as wearers - increases our connections to them. In making, our ideas, and the marks and forms we create, become deeply integrated into the work that takes place, and likewise the materials and processes direct and inform us - extending our understanding of the world around us. Relating to the world through making is a wondrous thing!



wooden uni-joint necklace in rock maple blackened with charcoal ink



stainless steel uni-joint bracelet



stainless steel double shell ball-race bracelet

For more jewellery, sparks, moving image and
sound, or to contact me regarding commissions or
for any other reason, please see my website -
www.oneorangedot.com

© sean o'connell 2015

This project was assisted by a grant from Arts NSW, an agency of the New South Wales Government and supported by the Visual Arts and Craft Strategy, an initiative of the Australian State and Territory Governments. The program is administered by the National Association for the Visual Arts (NAVA).



Trade &
Investment
Arts NSW

