

GEOGRAPHIES OF FLICKER

Interview with Matthijs Munnik
Arie Altena

In Matthijs Munnik's *Citadels: Lightscape* flickering lights combine with sound to produce a stunning colour experience. The flickering lights trigger in the viewer the sense of 'seeing' colours and colour combinations that are not actually there. This interview took place in Amsterdam, in October 2012, two weeks after Matthijs Munnik's performance of *Citadels: Lightscape* at Kontraste in Krems, Austria.

Arie Altena Could you explain how *Citadels: Lightscape* works?

Matthijs Munnik The version of *Citadels: Lightscape* I showed at the Kontraste Festival is a light wall incorporating a large number of LEDs. The wall is illuminated with very diffuse light. The frequency range of the LEDs is between 0 and 80 Hz and I use them to create intense stroboscopic patterns. The light wall changes colour very rapidly, using various combinations and patterns I program into it. One kind of pattern is when you see green being alternated with its complementary colour magenta, and with black. The colours, patterns and frequencies interfere with the signal the retina sends to the visual cortex of the brain. The effect is that you see different patterns, colours and shapes. It's like a hallucination. I can adjust the colours, patterns and frequencies live, and by selecting a certain sequence I can increase the effect. My hope is that the audience goes into a kind of meditative state. I also play around with the intensity of the light. I can gradually dim the lights so that your eyes perceive the dimmed lights as bright. If I then bring up the intensity really quickly it fills your entire field of vision with colour and the whole light field seems to come free of the wall.

AA While explaining, you were making movements as if you were opening and closing faders. Do you control the patterns and colours using channels on a mixing desk?

MM I select an RGB colour - green for example - for the first channel, and I'll link it to a pattern. I've got six patterns and I know what effect each of them has on the eye. The pattern is created through the alternation of colours. There are four 'stages' to it. I set the frequency, and I might know, for example, that if its complementary colour magenta is on the third channel, it'll have a specific effect on the pattern. So I can fade out that colour on another fader, and then you'll only see green flickering, and if I then fade in the third channel, you might see strange discs or some other sort of pattern.

AA Did you invest a lot of time studying the effects of different combinations?

MM That's what took up the most research time: I experimented with it for at least two years, on and off. After a while you begin to understand which combinations of colours and patterns work. You know it's working when it produces interesting patterns. There are a few specific frequencies that generate a strong visual effect when combined with colour patterns such as stripes or discs. And there are lots of combinations that don't work. The first step in the research was to find out what did work and the second was to explore their different potentials and then do more experiments with them.

AA You're also playing with perception. The viewer 'sees' patterns that aren't there...

MM What I'm most fascinated by is that 'flicker' is raw and direct. You can set it in motion, but exactly what happens is beyond your control. Seeing things they don't normally see frightens some people. They might wonder if it's safe - if it could damage their eyes. But you keep on looking. It's an experience that verges on the sublime. I recently read an interesting article that gives a

mathematical explanation for why we see particular patterns when watching films and installations that use flicker. The conclusion was that flickering can generate certain interference patterns due to the architecture of the retina - the way the cells are connected within the eye, and how they link to the visual cortex. Once they get to the visual cortex, these patterns go through the same transformations as our normal visual input. The patterns are transformed into the spherical shape of the eye, and this results in characteristic tunnel shapes. So by examining these flicker patterns you're actually studying the architecture of your own eye. I find it intriguing that many of our religious symbols correspond to patterns generated by flicker or other hallucinogens. I'm attracted to the idea that these symbols don't just have symbolic religious significance, but that they have physical origins in the architecture of our eye.

AA What is the relationship between your work and the history of the sublime and of colour experimentation in painting and film?

MM There's a long history of art that concerns colour or the relationship between colour and sound. Opportunities for combining colour and sound go hand-in-hand with technological innovation. People experimented with colour organs from the mid-nineteenth century to the beginning of the twentieth century, and colour experimentation in film started around 1920. Colourfield painters try to capture the sublimity of colour in paint. Marc Rothko was a master at bringing colour to life on the canvas. Then in 1961 there was the *Dreamachine* by Brion Gysin and Ian Sommerville, which was the first use of stroboscopy in an artwork. That was followed by Tony Conrad's film *The Flicker* [1966]. The arrival of computers brought new ways of experiencing the sublime through technology. It goes a step further each time.





The Dark Universe

Matthijs Munnik, *Citadels: Lightscape V*, installation, 2012, *The Dark Universe* exhibition, NASA - New Art Space Amsterdam, Sonic Acts, 2013.

AA: You use very powerful LEDs in your work, and that allows you to play in a very controlled and subtle way with nuances of colour, frequency and light patterns. You have tools at your disposal that the makers of colour organs or the flicker films of the 1970s could only have dreamt of. Is that difference in technology important? You can do something that would have been impossible for Paul Sharits using film, or Marc Rothko using pigment.

MM: I can't work with that same intensity and precision without the LEDs. And I can't generate such a rapid flicker without the technology. So *Citadels: Lightscape* couldn't exist without LEDs. But Sharits and Rothko perhaps created much subtler work with the technology available to them, than I am now. They had their own solutions to achieve the desired effect. Sharits layered projections on top of one another, which caused interference. I want to get to the point where my work is subtle and overwhelming. I'm not *making* the flicker world, I'm opening up a window onto it. In his lecture at last year's Sonic Acts [2012], the author John Geiger talked about 'geographies of flicker' that still need to be explored, and I find that an interesting thought.

AA: What do you mean by that?

MM: I see the flicker world as a sort of virtual layer in our reality that is outside the bandwidth of normal perception. It's concealed in the visual world of the eye itself. We've been aware of its existence since the nineteenth century. The Czech scientist Jan E. Purkyně was one of the first people to write about. He discovered it by moving a hand in front of his eyes while looking at the sun. The flicker world is normally invisible, but some art - including my own - gives access to it. I don't create the flicker world; I try to compose an entrance to it.

AA: In your work *Microscopic Opera* we see a projection of the world of the tiny worm *Caenorhabditis elegans*. This seems to be an entirely different kind of work.

MM: It is an entirely different work, but there is a single overarching theme. Like *Lightscape*, it reveals a hidden world. It opens a window onto a world that normally eludes our perception - the microscopic world of micro-organisms. *Microscopic Opera* is a way of shifting the sensory focus to a hidden domain. We live in the same world as micro-organisms, but to the eye they are almost separate dimensions. The difference in scale is so huge that we're almost entirely unaware of the microscopic world.

AA: In a more recent work, *Truest Green*, you attempt to do the impossible and show us pure green light.

MM: We never see pure green. Most people have three types of cones in their retinas, for red, green and blue, each for a series of wavelengths that determine whether something is red, green or blue. But if you're looking at something green you'll also see a bit of blue, and the red cone cells are also always firing. The same is true if you're looking at something blue, but less so. What I do in *Truest Green* is first show a composition consisting only of red light until your eyes have totally adapted to the red. At this point the red cone activity subsides, the white balance in your eyes automatically adjusts itself if just one colour keeps firing. If activity in your red cones has been completely subdued and then you look at something green, then you're looking almost exclusively with the green cones. That's something that never happens normally. So when I show green at the end of *Truest Green* you see a really strange kind of green, something you've never seen before.

AA How do you combine sound with your visual work?

MM The first half of *Citadels: Lightscape* is a sort of soundscape prelude, with the harmonics coupled to colour. The modulation of the sound then parallels the frequencies of the flickering of the light. Sound plays a supporting role. It brings focus and contributes to a meditative atmosphere. For the audience, it heightens the sense of being immersed in the work.

AA Could you also work without sound?

MM You'd think so, but strange things happen because of the sound. Listening to white noise at the same time increases the intensity of contrasts and complementary colours. There's a link between sonic and visual experience. Certain sounds intensify certain kinds of images or the effects of specific colours. And the effect is intensified if you hear the same modulation in the sound as you see in the light.

AA Why do you sometimes present *Citadels: Lightscape* as an installation and sometimes as a performance?

MM The two versions lend themselves to different experiences of the work. An installation is calmer and you can take your time exploring the space. When I perform I'm taking the spectator into another world and there's a direct link between the patterns I see and create and what the spectator sees. There's always something magical about doing it live. I'm at the controls and I see the same patterns as the audience - it's going directly into the brains of the people watching. If I move a single button it changes what they get to see. There's a set composition, but there's space for improvisation.

AA How did your interest in flicker come about?

MM Well it was actually through William S. Burroughs. There's a nice Burroughs quote that goes, 'Anything that can be done chemically can be done by other means'. He saw the *Dreamachine* as a revolutionary object: bringing enlightenment to humanity through machines. It's an interesting utopian idea, I think. It would be great if we could get the right technology and use it - or abuse it - to conjure up new sensorial worlds, instead of enveloping ourselves in a digital bubble that closes us off from the world. I think that the simplistic app culture is holding back the potential for intense technological experiences. Perhaps there's a role here for media art.

AA And in your live performance you do create a personal presence - and you throw the audience back on their own resources.

MM That's what I like about Bruce McClure's performances. They completely throw you back on your own resources. There's nothing you can do but submit to it. You go in and there's no way out. One doesn't usually do that sort of thing.

AA After seeing McClure's performance at Kontraste the Australian musician Robin Fox enthused that, 'At one point it violently put me asleep!'

MM Yes, that's beautiful. It's a really strange reaction, but that's exactly what happens. It's really overwhelming. It's loud and it flickers and you sink into a kind of dream state. That's the way I want to go with my performance too: it has to have an even greater physical impact. It needs to become dangerous, as it were, because then the sublime can manifest itself - something you can't control... something bigger than yourself.

TO SWAY IN SOUND

Interview with Yolanda Uriz Elizalde
Arie Altena

The work of Yolanda Uriz Elizalde, who studied music and ArtScience in The Hague, ranges from experimental music to installations. Her immersive installation *~Kulunka~* (2012) evokes visual, auditive and tactile ways of perceiving vibrations. This interview took place in November 2012 after the Kontraste Festival, and was edited after the Sonic Acts festival.

Arie Altena *~Kulunka~* was shown at both the Sonic Acts exhibition and at the Kontraste Festival. What are you aiming at with this work? What do you hope people will experience?

Yolanda Uriz The fundamental idea of the installation comes from perceiving sound through other senses. The title *~Kulunka~* literally means 'to sway' in Basque. The initial idea was to create an immersive experience based on my explorations of sound as a phenomenon. I was researching how sound behaves in liquids, how it behaves in solids, and how it behaves in the air. How can we perceive sound differently, or perceive it in various ways? The underlying question is, how can you perceive reality from other angles? The installation is a darkened room with platforms on which the audience lies down. Infrasonic frequencies are played through speaker membranes that are placed in a container with water, making it vibrate. This creates ripples in the fluid, which are projected on an undulated screen hanging from the ceiling. The platforms also vibrate sonically. I use pure sine waves, without any harmonics, for the speakers in the water and as the sound that is fed into the solid materials. The frequencies that are played through the speakers in the water are also the building blocks of the audible composition that is spatialised by using four speakers in the room. The composition uses the harmonic series of the infrasonic frequencies, so that the relation between what you see [the ripple patterns created by the