TELLINGS OF TIME
7 October 2022

CHRISTINA
Good evening from Vienna, this is Fabian and Christina from the Institute for Art and Architecture at the Academy of Fine Arts Vienna.

We would like to invite you over and offer you a peek into our current research and experiments that we are working on the frame of the artistic research project „Unstable Bodies“, with an interdisciplinary team of architects, dancers, filmmakers, artists, and computer engineers and Vicki Kirby and Tom Lamarre. A central aim of this research project is to revisit our assumptions about what it means “to see”, “to measure”, “to know”, and to propose another frame of perceptual reference. In particular, we are interested in the modalities of vegetal perception and the experimental studying of shared, maybe unfamiliar and yet strangely and surprisingly similar, sensorial faculties.

So, tonight, today, in what we call „Tellings of Time“ we would like to present to you excerpts of our experimental investigations on „stereoscopic vision“. Why? We speculate about its potential to become a possible entrance into an spatial experience and embodied understanding of synaesthetically enmeshed perception and being-with, making connections with bodies, plants and humans. A kind of radiating, sensations that refuse a linear notion of experience, of time, and instead show an intertwining of senses, possibly with and through the vegetal and their timings.

This brings together ideas and questions around consciousness, the visual and the haptic, eyes and skin. Or, neurons, retinas, lenses, or ocelli as they are termed in the botanical science - a kind of „skin-eye“ on leaves that suggest plant vision. The idea that plants may have “eyes” is nothing new. In 1907 Francis Darwin, Charles's son, hypothesized that leaves have organs that are a combination of lens-like cells and light-sensitive cells. Experiments in the early 20th century seemed to confirm that such structures, now called ocelli, exist. František Baluška, a plant cell biologist at the University of Bonn in Germany, and Stefano Mancuso, a plant physiologist at the University of Florence in Italy, recently in 2016 provided some evidence for visually aware vegetation. Referring to acyanobacteria, *Synechocystis,* single-celled organisms capable of photosynthesis, that act like ocelli. I quote from a brief article in the ScientificAmerican from January 2017 „Do Plants See the World Around Them?“: “These cyanobacteria use the entire cell body as a lens to focus an image

of the light source at the cell membrane, as in the retina of an animal eye," says University of London microbiologist Conrad Mullineaux, who helped to make the discovery.

The many lenses and filters that accustomed us to an accelerated, multiplied and dislocated nature of being in this world, are leaving our perceptual range behind. In the many efforts to turn into „more- and-other-than-human" beings, what realities, what perspectives open from and within our
perceptual incompatibility with others?
We are interested in the subtle similarities and the slight dissonances that are essential for the creation of depth, which could become the receptors for seeing with incompatible eyes. And the principle of stereoscopic vision presented itself as a promising method to work spatially, conceptually and hopefully, also opening our receptive sensoria to the plant sphere, inviting them into a collective inquiry.

FABIAN
Stereoscopic
The focus on stereoscopic perception enables a collective mode of seeing. Rather than focussing on the 'illusoric' qualities of stereoscopy we try to see it as a radical repositioning of the observer's relation to visual representation. The fact that there are no tangible and reproducible 'images' turns around the codes of monocular photographic space and geometrical perspective as constructors of a coherent 'reality'. Furthermore, by inviting more 'eyes' into the process of 'seeing' questions around the subject and individuation become urgent. A layering of ghostly twins, layered spaces and afterimages.

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With this journey into this found footage, unreferenced image, printed in the marginal column of an article about the invention of the Cyclostéréoscope by François Savoye. In 1953, François Savoye managed to install his Cyclostéréoscope at Clichy Palace film theatre in Paris. The hole system was 11m (about 30ft) high and allowed the audience to see the 35mm film in 3D without glasses. So this zoom in is twofold, it zooms into the reference image of an apparatus that produces a three-dimensional image while also taking it apart. And the zoom in itself is a material study of the film grain, the components on a microscopic scale of what constitutes an image and ultimately problematizes the „coming closer" of human and plant vision. As we zoom in, we come closer, first through our eyes, then through optic devices of magnification, then through digital sensors - we want to expand the

moment of „touching“ the image, of colliding with our possible visual instruments on the image, bumping, pushing beyond the image.

By doing that, we spatialize the material and conceptual composition, architecture, construction of an „image“, its perception into a spatial arrangement of three colors that turn to white.
The layering of the initial three images, the neurons, the retina, the ocelli, directs to the materiality and the material properties of what „carries“ our images and imaginaries, if we look at film, we look at light-sensitive material, celluloid, later cellulose acetate, cellulose, plant.

Together with Parkesin, Celluloid is one of the first thermoplastics and marks the beginning of the thermoplastic industry, which is so important today. In contrast to Parkesin, Celluloid was able to establish itself on the market. A significant date is August 8, 1884, when George Eastman of the Kodak company applied for a patent on a celluloid-based photographic film. Thus, the name Celluloid became synonymous with the rapidly growing film industry. Cellulose acetate replaced celluloid as a film base in the 1920s. Cellulose acetate is not a purely synthetically produced plastic, but a modified natural substance based on cellulose.

We see a flickering between retina and sensor, the retina of the human eye and active pixel sensor type called CMOS, a complementary metal oxide semiconductor invented by physicist and engineer Eric Fossum at NASA’s Jet Propulsion Laboratory between 1993 and 1995 for onboard spacecraft cameras. The original image sensors included an array of photosensitive elements in series with switching elements. Each photosensitive element received an image of a portion of the scene being imagined. That portion is called a picture element or pixel.

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This is a DIY reconstruction of the Leeuwenhoek microscope, one of the first microscopes. It is said that he discovered bacteria in his mouth, a louse from his hair and and blood cells. How is the body, including the observing eye becoming a component of new machines, economies, apparatuses, whether social, libidinal, or technological? As we begin to dwell in the optical and temporal mechanisms of seeing, we become part of translation processes; we actually experience a transitioning of proportions and sizes, their temporality, resolution, depths, and colors.

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As we begin to dwell in the optical and temporal mechanisms of seeing, we also become part of translation processes. We actually experience a transitioning of proportions and sizes, their temporality, resolution, depths, and colors. No longer are we looking at spectacular scale jumps from the cosmic to the molecular. We calm down.
We perform modest, tiny gestures, with a curiosity towards the turbid in the image, the machine, the material. We practice a different focus, possibilities of shifting views (Blickverschiebungen) across and between human and plant modes of perception and wakefulness. Experiments with the mechanisms and anatomies of seeing and being in the world, as potential forms of world-making.

FABIAN
We work with a bright orange light, more specifically with movement, direction, and color spectrum of a sodium vapor lamp. Photosynthesis requires a wavelength of approximately 650nm, which makes the sodium vapor lamp a suitable instrument for plant cultivation. Spaces lit with sodium vapor lamps, commonly applied in greenhouses before the advent of led lighting as well as in street traffic, are not only immersed in bright orange color, but also perceived monochromatically for the human eye. A parallel between plant growth and human attentiveness?

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Philosopher Gilbert Simondon discusses the slight but relative discrepancies in the communication of information, as in the example of the sizing of grains of sand and the film material's grain capturing that sand, or the background noise inherent in an apparatus transmitting a signal. And, interestingly for this project, links to the phenomenon behind binocular vision producing three-dimensional images: disparation,
or the slight difference between the two images delivered to the retina. The stereoscopic principle creates depth, "it merely requires the image formed on the retina of the left eye to be different from the image formed on the retina of the right eye … the two images must not be superposable, but their difference must be slight". The range in the difference between the two images is limited, even though information increases the further apart. At a certain point each image abruptly becomes independent and thus the corresponding depth is lost.

We would like to think a collective seeing effort, moving away from the binocular setup to a diffracted mode of seeing, seeing with skin-eyes, distributed, restless, in-between.
If one returns once more to the anatomy and functionality of the human eye and the production and illusion of seeing, it is interesting to note that the fovea, crucial for reading and

other activities that require concentration and focus, is a tiny area covering less than 1% of the retina, but over 50% of the visual cortex in the brain. Our impression of seeing everything before us with equal sharpness is solely accomplished through our eyes moving back and forth, scanning the scene about three times per second, followed by compensation work of the brain. So our eyes are restless, moving to complete the picture so to say.
To focus on an object requires the letting go of the background information around it.
In order to see means a latency in the refreshment of the remaining information. Therefore what we see is highly fictional, the truth of the eye is a speculative collaborative effort between the sensory organ of the eye, the visual cortex of the brain and the nervous system.
Paradoxically, the anatomy of the human eye is built so that one sees nothing right at the point where vision happens. At this blind spot of the eye no color and light information can be processed: in a small depression at the back of the eye sits the optic disc, the field in the retina where the optic nerve passes through. This entrance to
the eyeball is without rods or cones, unable to detect light on the disc, thus creating
a blind spot in the eye. And again, it is the brain and the correspondence
between the two eyes compensating for the missing information and completing
the picture.

So if we understand the eye itself as restless, without a fixed position when looking at an object but in motion, performing constant micro movements scanning what it sees. Consequently, monocular seeing is not a linear projection, but a synthesis drawn from a multitude of dispersed individual projections each cast from another focal point.

This could become our potential entrance point into plant seeing, telling plant timings. Becoming light-sensitive beings that dwell in a shared, perceptive space. A speculative cohabitation with humans, plants and all species becoming receptive material for each other.

We end with this lotus breathing flicker in sodium vapor 650nm waves. Thank you