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The Human In Superposition

Visibility in the age of digital dissemination and technological acceleration, and the effect of observation on the observed.

Abstract

This text examines different ways in which observation affects human and non-human states of being and aims to understand the way visibility relates to human performance. By questioning: ''Do we always perform in the awareness of being watched? - And if so, should we then speak of observations as a less-reliable representation of reality?", we part from the idea that there might be a certain fundamental identity lying at the core of ourselves.

The first three chapters aim to contextualise the main question by showing its relevance within today's hyper-visible world In the information age, every step we take can be turned into useful data for ourselves - and/or others. Meaning: visibility has a lot of value, and the invisible simply 'doesn't count'. A fascination with and a slight resistance to, is what inspired me to start this research and made me reflect on my own, and on the thoughts of others concerning this topic.

The next three chapters will be concerned with the following key concepts present at the core of this text: Lacan's psychoanalysis of 'the gaze', quantum physics and the 'wave/particle issue', Butler's notion of *performativity and* Barad's *agential realism.* Herewith I attempt to get a broad perspective on what the consequences of observation can be for *existence* on a micro and macro scale.

The last chapter aims to draw the line back to today's hyper-visible world, offering a thinking strategy for within 'objectifying' environments, and includes a notion that could be used for an empowerment within these environments.

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1. Pics Or It Didn't Happen

The so-called 'internet age' created many new possibilities for us to be visible to the whole world. We photograph, film, sound-record, map, track, register and share as much of ourselves as possible and can choose between an enormous amount of platforms to distribute this mountain of data. Sociologist and philosopher Siegfried Kracauer wrote about photography's fixing of the ephemeral moment as the paradigmatic example of modernity, casting into crisis the transcendence that religion promised: "That the camera gobbles the world is a sign of the fear of death." (Kracauer. 2014 p. 40) The idea of having access to the source of meaning is a facility that religion has privileged to itself. Photography of course neither ended that presence of religion in culture, nor is it simply a continuation of religion in another form. But our obsession with capturing images could be seen as the modern way of re-imagining, re-defining and re-presenting the sacred in a post-religious culture, through photography-based engagements.

Through the lens of a camera we observe ourselves and the world around us. Long sticks poke high in the sky in search of the right angle, reaching our phones out to almost every situation, we use the camera as an extension of our own body. A big part of what we view, we don't view directly - but through a lens or screen. Therewith we've become the tourists of our own lives. As if the camera somehow possesses the power of creating a better version of reality than the reality constructed by our eyes, one that is indestructible and everlasting, unlike ourselves. According to Kracauer, modern people are uncomfortable with religious assertions on the eternal and use photography to see the whole world, take it all in. Social media, like photography before it, extends that ambition: it is partly about turning the world into knowledge, because to make something knowable is to all appearances making it everlasting. Yet the ultimate subject of all photographs is *absence*, whatever their content or purpose because, as it produces an image, it also emphasises the principle of its limitation. Nathan Jurgenson elaborates on Kracauer in his book *The Social Photo: on Photography and Social Media,* by saying:

Documented, we feel eternal, relieving the modern anxiety over incomprehensible risk, omnipresent simulation, and personal authenticity - our world and self that are decentered and unmoored from Truth. The nostalgia of the traditional photographic gaze is an understandable reaction to that uncertainty and, of course, to death, to stave impending loss by way of recording to remember. (Jurgenson. 2019 p. 46)

Kracauer and Jurgenson both refer to contemporary relationships between 'the documentation' and 'the documented', as something that derives from the vulnerable quality of human existence, and see photography as an attempt to control presence. Jurgenson argues that the demand for a more current photography can be seen as a response to the collection of our images building up and threatening to suffocate us, and that the permanent nostalgic gaze of social media is creating a tension between an experience-for-itself and an experience-for-documentation. (Jurgenson. 2019 p. 48) With this theory he points out that Social Media and our modern use of cameras might also be the result of our piled-up footage staring at us. Instead of seeing Social Media as the cause of footage redundancy and the reason for users' suffocation, he sees it as "a reaction to" such piles, helping us to archive and streamline. More importantly he states

that experience changes when lived for-documentation. From the fourth chapter on we will delve into the problematics of this difference in experience, caused by the awareness of a (possible) audience.

Capturing ourselves and being visible online also serves as an economical strategy. Platforms like YouTube pay their video up-loaders mainly for the number of 'views' and subscribers that the videos attract. Another way to make a buck is by monetising your content/video (allowing YouTube to place ads in your video), now advertisers pay you for the number of times their ad is being viewed. This is above all what turned social networks from merely a tool for social connection, into a business of financial profit, and is the main cause of advertisement strategies within these social networks such as the occurrence of click-baits and click-baits on how-to-clickbait. The capitalisation of online social visibility is therefore also partially responsible for our obsession with capturing and sharing imagery and content.

Furthermore, I'd like to build on Kracauer and Jurgenson by pointing out one other important cause of the current popular status of photography and social media. In my opinion, the most noticeable cause would be the subconscious belief in a relationship between 'being' and 'being seen'. Through the *quantity* of 'views' we measure our productivity and (social) "being", rather than its substantive quality. Activities take on meaning not for the experience but for the way they are turned into content, disseminated through the digital network, and responded to. In this context, your everyday experiences are only limited by your ability to share them.

The phrase *"Pics or it didn't happen"*, has become an anthem for photo-sharing apps like Instagram, and states that one or more people refuse to believe the creator's claim - unless it is shown by a photograph. Today this mindset is reflected by our widespread belief on how visibility and reality are related: we don't believe it, if we can't see it. It has become a fundamental part of how social media functions, and has raised the bar for what we share and how we share it. If you didn't upload a photo from last night's concert - you probably didn't go. If you don't share photos from the time spent with friends - you probably don't have them. No selfie posting means you probably have no face and if you don't update stories of your journeys on your Facebook timeline - you're probably dead.

The fundamental event of the modern age is the conquest of the world as a picture. The world appears as re-presentation 'for man'. Put simply: In the classical age, the gods or God used used to look upon us and we perceived their vision of us; now we look at the world and we understand the world as that which we can see. (Heidegger. 1977 p. 129-130)

Martin Heidegger explains in his book: *The Age Of The World Picture*, that in the age of modern technology, the world is seen as an image. He sees this as an act of objectification: in the act of 're-presenting', the world is converted into an object that can simply be represented as an object for a subject. I feel strongly aligned to Heidegger's vision that in modern times the process of "conceiving" or "grasping" the world has become inseparable from the act of seeing or picturing - that is, the visual objectification of the world.

2. Visible And Vulnerable

Media platforms locate people's interests by collecting web-clicks for targeted advertisements, eye tracking software applications follow our pupil movement to improve marketing strategies and in some societies we can expect a camera on every corner of the street, recording its citizens and every step they take. Surveilling governments gain power over their citizens simply by owning and controlling visual registrations of their behaviour. Because these registrations can be held against them at any time, citizens are turned into prisoners. More than ever we are involuntarily being watched by other individuals and various parties with the aim to control our behaviour. Nowadays, the possession of information (or visual registration) equals the possession of power. Surveillance societies make a great example of how visibility can cause vulnerability due to its capacity to exploit people. This is what Jacques Lacan refers to as "the fascinum":

The evil eye is the fascinum, it is that which has the effect of arresting movement and, literally, of killing life. At the moment the subject stops, suspending his gesture, he is mortified. This anti-life, anti-movement function of the terminal point is the fascinum, and it is precisely one of the dimensions in which the power of the gaze is exercised directly.
(Lacan. 2004 p. 164)

Lacan's idea of a "evil eye", an oppressing power watching over us, is similarly yet very symbolically used in the movie trilogy *Lord Of The Rings*, written by J.J.R. Tolkien. Anyone who has seen a Lord Of The Rings film will remember the evil whispering sound produced by Sauron's Eye: "I see you", strategically watching from a high perspective atop a mountain, taking in the whole world, and speaking to our subversive protagonist that would then freeze into nausea and consternation, withholding him from his quest to freedom. Both Lacan and Tolkien warn us for the oppressing power of surveillance structures, where we are being controlled as we are being watched, resonating with our modern paranoia on recent revelations about governmental and non-governmental organisations monitoring us and collecting our data for their own profit. [1]

Shoshana Zuboff has produced a provocative compelling moral framework for understanding the new realities of our digital environment and its anti-democratic threats. Her definition of *surveillance capitalism* describes human experience as a freely available, raw material for translation into behavioural data. Although some of this data is applied to product or service improvement, the rest is declared as a proprietary *behavioural surplus,* fed into advanced manufacturing processes known as "machine intelligence", and fabricated into prediction products that anticipate what you will do now, soon, and later. These products are traded in a new kind of market place for behavioural predictions that Zuboff refers to as "behavioural futures markets". The trading operations made surveillance capitalists become immensely wealthy, for many companies are eager to lay bets on our future behaviour. Nowadays automated machine processes not only *know* our behaviour but also *shape* our behaviour at scale. With this reorientation from knowledge to power, it is no longer enough to automate information flows about us; the goal is now to automate us.
For this reason surveillance capitalism might be the biggest drawback for our online behaviour: sharing data as much as we can. It deflates the myth of the internet as a

forum for autonomous self-expression and construction, revealing the horrifying opposite. The fact that the internet could spring up independently of governments and big business led many to believe that the internet could bring us freedom. But that this individualist technology realises anything anarchist now appears rather utopian.

Surveillance capitalism runs contrary to the early digital dream, consigning the Aware Home to ancient history. Instead, it strips away the illusion that the networked form has some kind of indigenous moral content, that being "connected" is somehow intrinsically pro-social, innately inclusive, or naturally tending toward the democratisation of knowledge. Digital connection is now a means to others' commercial ends. At its core, surveillance capitalism is parasitic and self-referential. It derives Karl Marx's old image of capitalism as a vampire that feeds on labor, but with an unexpected turn. Instead of labor, surveillance capitalism feeds on every aspect of every human's experience. (Zuboff. 2019 p. 9)

The question whether we "always perform in the awareness of being observed?", can be seen in a different light when considering these capitalist structures at play. In the digital age we strive to be seen. Understanding structures of surveillance could be the biggest counterforce to this global glorification of visibility, as we get to understand that being visible sometimes means to give others the opportunity to to assert their power over us, and therefore loosing freedom. Surveillance capitalism makes a great example for how today we are easily exploitable, by simply being visible. From this perspective an invisible position could be seen as the most *powerful* position.

In Hito Steyerl's artwork and instructional video: *How not to be Seen, A Fucking Didactic Educational .MOV File* **6**, she presents a number of humorous ways in which one can hide and become invisible under the watchful eyes of digital technology. Steyerl is interested in the circulation of images of the body in an image-saturated world, and she has written extensively about the politics of online surveillance systems and data collection. *How Not To Be Seen* was filmed in an abandoned Unites States military site in California desert, which was used in the 1950s and 1960s as a photo calibration target of spy-planes and satellites. Military surveillance would focus their analog plane cameras so they could collect detailed information about their inhabitants. According to Steyerl, the Cold War spy-plane camera's represent a long historical development of recording technologies, aiming to enclose the world as a knowable, visible target. The video draws together questions of visibility and invisibility and suggests that in picturing the photographic modes of surveillance, the world is conceived as a target and as an object to destroy.

In this visual culture, our digital identities are increasingly embedded into everything we do in daily life and the mass of information collated about ourselves online is growing every day. Although Steyerl's manual tells us that we can become invisible, she mocks this increasingly difficult task through her playful imagery of superheroes and dead pixels as the course of action we must take to escape the eyes of our technologies. It makes clear how difficult it is to become invisible, not only because society is driven by surveillance, but also because it is driven by an addiction to online images and documentation.

3. Never Trust A Vlogger

Being visible online became normal to such an extent that some walk around pointing cameras at themselves every step they take. Reality-tv, documentaries, social media, live-stream services and lifestyle vlogs are all examples of formats that produce hyper-visible and 'real' content and use that as their trademark, as we became especially fond of watching and producing *'real-life'* footage.

People who create video-blogs from their daily lives, in which they appear in their personal environment, that get showcased on social media platforms like Youtube - we call vloggers. The very first vlogs are the best examples of YouTube's slogan "broadcast yourself," which in most cases translates to "express yourself" (as opposed to political or social events). Vlogs and their makers became incredibly popular in the previous decade and turned our girls and boys 'next-door' into world-famous stars. The success of a vlog is measured by the number of online 'views' it gets and the same publicity is believed to be affiliated with a vlogger's social popularity, no matter the content.
Vlogs come in various types, think of prank-vlogs, tutorial-vlogs, education-vlogs, beauty-vlogs etc. However, the 'life-style vlogger' is especially known for capturing everyday life, recording normality and day-to-day activities. In these vlogs we don't necessarily see a lot of spectacular things happening and the storyline could evolve around simple activities like cooking or walking around the house, giving an insight into someone's 'natural' state of being in complete non-performance. In contradiction to actors, we often use the word *'real' (*meaning authentic/un-performed), to describe vloggers and their output. Life-style vlogs promise us highly 'real-life' footage and is often appreciated for this exact reason. Yet, it is precisely this idea of 'real' that I aim to question.

> *Social media also makes obvious how identity is to some degree performed rather than revealed in uncalculated bursts of authenticity. Anyone who has put together a profile page might recognise this. … Photo's don't just depict the self but are a procedure for self-knowledge, a mode of thinking about the self. This identity work is deciding to remember something as quintessentially me, a choice, a performance, memorialised within the frame.* (Jurgenson, N. 2019 p. 53-54)

Jurgenson points out that the performativity of identity in the online digital landscape and especially on online profiles is due to our decision-making, giving us the chance to construct ourselves, and is therefore rather performed than authentic. Vlogs, despite their 'real-life' content, are constructed similarly as they are highly edited and controlled after the recording is made, and therefor can't represent the authentic image of the vlogger. But does that mean that only when choice is at play, we perform ourselves? Is 'dry' (un-edited) and spontaneous (non-scripted) footage portraying our 'real' and 'natural' self?

Live-Streaming is another way to broadcast video and sound of an event over the internet. Yet, live-streaming differs from vlogging as it is broadcasted *as the event happens*, so instead of spending a lot of time on editing and altering the recorded footage, live-streams remain 'untouched' and are viewable in real-time. Does that mean

that a live-stream is capable of producing 'real' and 'authentic' content - in contrast to vlogs?

Anyone who has ever been in front of a recording camera would recognise a switch in awareness, awareness of the frame (a frame you can step in and out of), and by extension of a spectator/spectators. You might change your posture slightly and make different movements to stay either in or out of the frame, maybe become more aware of the tonality of your voice and your current hairdo. As we naturally adjust ourselves, aren't we slightly performing? Is a live-streamer performing or displaying authentic behaviour when he/she produces content, when knowing that viewers will witness his/her words and actions? Even though they take less control over their public image, the live-streamer might be performing self-expressive behaviour carried out in awareness of the camera. This leads me to raise the question laying at the core of this text: Do we always perform in the awareness of being observed? And if so, should we therefor view observations as a less reliable representation of reality?

In Jean-Paul Sartre's ''Being and Nothingness", an essay in phenomenological ontology, he argued that as human beings we only become aware of ourselves when confronted with the gaze of another. Not until we are aware of being watched do we become aware of our own presence. The gaze of the other is objectifying in the sense that when one views another person walking a dog, he or she sees that person simply as 'a dog-walker'. Realising that we are visible objects leads us objectify ourselves in the same way that others do, simply by looking at us.

Everything is both a trap and a display; the secret reality of the object is what the Other makes of it. (Sartre. 1960)

According to Sartre, the phenomenon 'the gaze' (being observed), robs us of our inherent freedom and causes us to deprive ourselves of our existence as a being-for-itself and instead learn to falsely self-identify as a being-in-itself. The distinction between the being-in-itself and the being-for-itself could be describes as follows: being-in-itself is concrete, lacks the ability of change and is unaware of itself. Being-for-itself is conscious of its own consciousness but also incomplete. This undefined, non determined nature is for Sartre what defines man. The for-itself (man) is forced to create itself from nothingness as it lacks a predetermined essence. Instead of simply being as the object-in-itself (a tree is a tree and lacks the ability to change its being), man, as an object-for-itself, must actuate his own being. In Sartre's view the gaze of the other is alienating as our awareness of being perceived causes us to deny the consciousness and freedom inherent to us, and makes us "falsely self-identify as a being-in-itself". Meaning that from Sartre's perspective humans 'are' in a *less-natural* way when they're effected by gazing.

With this idea in mind, we could argue that even live-streams are unable to capture true representations of ourselves. A human's most natural state of being is destructed by the gaze and replaced with a more performative one. As soon as one is being live-streamed, in the awareness (actively or passively) of the camera and by extension of the spectator, one changes.

4. To Be Seen Or Not To Be

According to Jacques Lacan's psychoanalytic theory, "the gaze" is the anxious state of mind that comes with the self-awareness that one is/can be seen and looked at, or more general: the act of seeing and being seen. Yet, if we want to examine the effects of being visible for a camera, instead of directly for others, we could question if this concept of 'the gaze' still holds, as the camera as observer differs from the human as observer in a few ways. First of all, when a camera points at you there is a chance that the camera is not recording without you being aware of this fact. So depending on the amount of control you have over the camera (are you recording yourself, or is someone else recording you), the camera possesses a different quality than the human eye. When human eyes point your way is it almost inarguable that you are being observed. So it might be that the observable is in control of the on/off option of a camera, yet the act of recording doesn't *necessarily* promise any current/future audience. A camera could be recording but that doesn't mean anyone will ever see what is recorded. One other given is that *one* camera lens could give entrance to an entire audience, whereas the eyes of *one* person can't.

Lacan states that the gaze produces a psychological discomforting effect upon the person subjected to the gaze. This difficulty that is experienced in being looked at is contributing to a self-centered anxiety about our identity. Becoming aware that one is a visible object therefor means a loss of autonomy. Because the awarenesses of inanimate objects surrounding us are also capable of inducing our self-awareness, he sees one's awareness of *any* object as an instigator for the gaze and its effects. I can strongly associate with Lacan's idea that even the witness of objects changes our experience and behaviour, and it's the same principle that is broadening up the idea of what human performance actually means.

Regarding the main question laying at the core of this text: "Do we always perform in the awareness of being observed?", we need a clearer definition of the word 'performance'. Is Lacan's idea of the effect the gaze has on us what makes us perform? We often use the word *performance* in relation to forms of play like theatre and film, when actors actively *perform* an act for others. Modern language often refers to an existence of a fundamental identity, laying at the core of our being, one that we can either fully express or ignore. We tell each other to "stick to yourself" often within the context of others having influenced our identity or expression. From this perspective identity can be either performed or un-performed, truly expressed or falsely expressed and badly (consciously or unconsciously) cheated upon. It also makes clear how we see the performance of identity as something that only takes place *in interaction with others;* a professional audience, friends or other kinds of observers. Therefore the gaze of the other might be the main stipulation for us to call something 'performative'.

Judith Butler, philosopher and gender theorist, occupies centre-stage in debates about gender identities. Her key concept is *performativity:* the way in which gender is embodied and enacted, rather than an adequate reflection of some underlying bodily reality. She argues that: "There is no gender identity behind the expression of gender, identity is performatively constructed by the very 'expressions' that are said to be its

results." (Butler. 2006) Bulter's concern is to understand identity as a social process. Identity is always provisional rather than complete, a deeply ambiguous and unstable moment. This notion of performativity provides a way of understanding the ambiguities and paradoxes of contemporary identities at work.

If the inner truth of gender is a fabrication and if a true gender is a fantasy instituted and inscribed on the surface of bodies, then it seems that genders can be neither true nor false, but are only produced as the truth effects of a discourse of primary and stable identity. (Butler. 1999 p. 174)

Butler is not stating that gender does not exist, (nor something to be expressed truly or falsely), but rather that it is *performative*, and *"only real to the extent that it is performed"* (Butler, J. 1988 p. 527) Herewith she states that gender is not a quality of being, but rather a quality of doing, an act. The performance of gender itself creates gender, and since gender is performative, it only exists while it is being performed. Whilst Butler's theory is specifically talking about gender identity, she makes points that can be applied to an even broader idea of identity as a universal concept and indirectly offers a key concept for a better understanding of identity in general.

To answer the question whether we always perform in the awareness of being observed, I'd like to apply Butler's theory of performativity to a definition of overall identity, by stating that; identity is performative, it only exists while it is being performed, and combine this with Lacan's idea of the gaze. Within this context, the gaze is what I'd like to see as the thing that enacts performativity; yet with gazing I do not mean simply 'observing', but rather *the act of measuring*. We could say that we don't necessarily only perform when being observed, but rather: that identity only *exists* within measurement. I use measurement instead of observation or gazing, to apply a broader idea of what observation is; the act of *knowing.* Because in order to gain knowledge about identity, we need to measure it. To answer the question whether there is a way of measuring/knowing ourselves objectively, our next subquestion should be: Is there a way to measure/know *anything* objectively?
In order to get grip on this question we will engage with scientific theory on the most elementary parts of all existence: quantum mechanics.

5. Measuring Particles

Quantum theory is the theoretical basis of modern physics and describes the nature and behaviour of matter and energy at an atomic and sub-atomic level. The effects of observation on the observed is profoundly confronted within this field, as it speaks about a particles *state-of-being* that changes when being observed/measured.

Let me shoot from the hip. Surprisingly, according to one quantum experiment called "Double Slit", atoms and particles - the building blocks of all ordinary matter - don't choose a specific state to be in until they're actually observed and in-between observations these particles are in a so called state of *super-position.* In classical science, particles such as electrons where always though to behave just like all macroscopic matter, meaning they always choose one specific momentum and position the same way a chair stands in the room. Chairs can only be at one place at the same time and in a room filled with 6 chairs we know that these are 6 different chairs. Though, one fundamental experiment of quantum theory showed that when particles are *not* being observed: they will *not* behave like matter, but differently. [2]

Before we go deeper into this so-called "Double slit experiment", I need to briefly dwell upon the definition of 'observation' within quantum theory. In quantum mechanics, 'observation' is synonymous with 'quantum measurement', 'observer' with a 'measurement apparatus' and 'observable' with 'what can be measured'. Meaning a quantum mechanical observer doesn't necessarily have to be present or interpret anything on top of the measurement.
The Double slit experiment, boldly explained, shows that when we *do* measure atoms, electrons or photons (the elementary particles of light), as we randomly fire them at a screen counting two small opening slits, - a pattern would occur on the light sensitive screen behind, that's caused by its 'particle behaviour'. As the figure below suggests. Though when we *don't* measure the path of the atom/electron/photon, a different pattern appears.

double slit
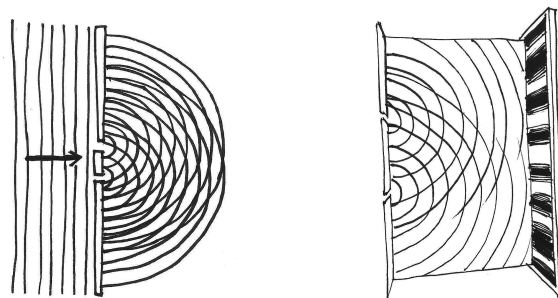
screen

particle

particle beam gun
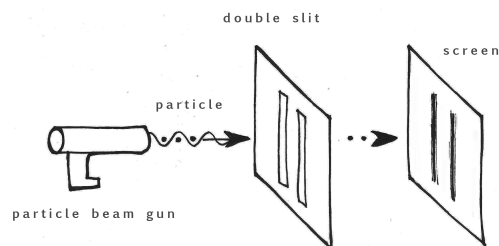
When we measure, the fired electrons land on the light-sensitive screen precisely where they went through the opening slits. If we would remove the measuring instrument from the instalment, the detection screen would look as follows:

double slit

screen

particle

particle beam gun

interference pattern
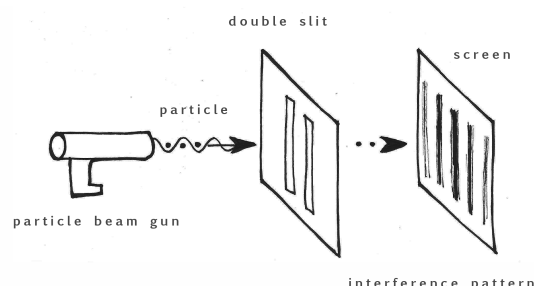
Without measuring, an interference pattern or diffraction pattern shows up on the light-sensitive screen, meaning the electrons didn't behave like a particle, but like a 'wave'. The electrons landed on spots on the detection screen where they shouldn't be able to arrive at, as if a tennis ball would be able to bend its direction in the air *without any external pressure*. And the pattern caused by 'particle-behaviour' only appears when the pathway of the electron is *observed*.

Now we have to keep in mind that waves are very different phenomena from particles. In our physical world, all matter we know behaves like a particle: a cat needs a cat flap to be able to go through a wall, a cat is at one place at the same time and this place is indistinguishable from time. Particles are material entities and each particle occupies a point in space at a given moment of time. Waves, on the other hand, are not things per se, rather, they are disturbances that propagate in a medium, that cannot be localised to a point, like water and sound. The wave-pattern (that occurs without observation) is best understood when thinking of how water ripples behave when pushed away from one side, or when dropping a rock in the water and seeing it create circles of slightly higher and lower water levels that will cancel each other out when meeting each other. The pattern as seen on the light-sensitive screen is created by two ripples of two sources interacting with each other. This is suggested by the following images:

When not measured, the light-sensitive screen shows the atom/electron/photon to behave the exact same way as two interfered wave functions, even when shot only one electron at the time (in case electrons could interfere with each other). Meaning that when we observe the electron it shows up at one specific spot, and if we *don't* observe it will be in different states and multiple places at the same time. These *waves of probabilities* are called quantum *superposition.* This principle states that if a physical system may be in one of many configurations (arrangements of particles), then the most general state is a combination of all of these possibilities. [3] [4]

The experiment shows a fundamental force behind observation on the most microscopic level of existence/reality. So, what can we learn from this experiment to get a closer understanding of our identity in relation to observation? If we want to examine whether there is a way of measuring/knowing ourselves objectively, we should first ask ourselves: is there a way to measure/know *anything* objectively?

The measurement we get when we measure something is not a property of the thing measured. (Bohr. 1928)

6. Surfing The Quantum Waves

Till this day, quantum theory and its implications for the nature of reality are still very much debated, leaving us with nothing but different interpretations. In the 1920's Niels Bohr proposed one major interpretation known as the "Copenhagen interpretation". This asserts that a particle is whatever it is measured to be (a wave or a particle), but can't be assumed to have specific properties, or even exist, until it is measured. In short, Bohr was saying that objective reality does not exist and reality occurs *within* observation. [5]

In Karen Barad's book *Meeting the Universe halfway*, carrying the subtitle: ''Quantum physics and the entanglement of matter and meaning", she makes fundamental contributions to science studies and elaborates on Niels Bohr's so called *philosophy-physics* by drawing lines between the micro and the macro, the quantum and the social. Her central idea is that 'the thing' we research, is enacted in entanglement with 'the way' we research it. This is an onto-epistemological offset: meaning that measurement/observation and agencies of observations are not isolated from - but always part of - reality.

Practices of knowing and being are not isolable; they are mutually implicated. We don't obtain knowledge by standing outside the world; we know because we are of the world. We are part of the world in its differential becoming. The separation of epistemology from ontology is a reverberation of a metaphysics that assumes an inherent difference between human and nonhuman, subject and object, mind and body, matter and discourse. (Barad. 2007 p. 185)

According to Barad, the deeply connected way that everything is entangled with everything else means that any act of observation makes a "cut", separating the included and excluded from what is being considered. This means that nothing is inherently separate from anything else, but that separations are temporarily enacted so that one can examine something long enough to gain knowledge about it. Barad named this agential realism and uses it for different kinds of feminist analysis, even if the connection to science is not apparent. In an agential-realist sense, the smallest units of analysis are phenomena, which Barad describes as follows: "A phenomenon is a specific intra-action of an 'object'; and the 'measuring agencies'; the object and the measuring agencies emerge from, rather than precede, the intra-action that produces them." (Barad. 2007 p. 128) **14** In Barad's *Posthumanist Performativity*: *Towards an Understanding of How Matter Comes to Matter,* she described how the causal relationship between the apparatuses of bodily production and the phenomena produced is one of "agential intra-action".

Apparatuses are the exclusionary practices of mattering through which intelligibility and materiality are constituted. Apparatuses are material (re)configurations/discursive practices that produce material phenomena in their discursively differentiated becoming. (Barad. 2003 p. 820)

Herewith she explains that the way we observe a subject is always becoming a part of the segment of gained knowledge on this subject, as any kind of observation inevitably

influences it. From this agential realist perspective apparatuses are not static arrangements in the world that embody particular concepts to the exclusion of others; rather, apparatuses are specific material practices through which local semantic and ontological determinacy are intra-actively enacted. Knowledge can not be separated from the way the knowledge is gained - meaning the way we observe something is becoming one with the 'thing' we observe.

As we learned from the Double Slit experiment: the measuring agency/apparatus doesn't necessarily have to be the human-eye, in quantum physics, any kind of observation-tool causes the effect of turning a wave into a particle, meaning any kind of observation influences and (therefor partially) creates the reality that it observes. All with all, Barad argues that any kind of reality exists within the intra-action between the object and its measuring agencies - and not just within the realm of quantum physics. She is not necessarily stating that objective reality doesn't exist, but rather that it only does within separate observations, that are always exclusive.

Exclusions matter both to bodies that come to matter and those excluded from mattering.
(Barad. 2007 p. 57)

As Bohr and Barad emphasize; that which is excluded in the enactment of knowledge-discourse-power practises plays a constitutive role in the production of phenomena. This notion of measurement and agential-realism is therefor seemingly elaborating on Butler's concept of performativity, and defending it from a scientific perspective. To get back to our question: whether there is a way of measuring/knowing ourselves objectively, we can use agential-realism and Butler's concept of performativity as a framework to understand the constitution of human existence and (more specific) human identity. To gain knowledge about identity, we need to measure it; measurement is never objective because to measure we always have to presume a set of values, which means you inevitably create a framework through which you measure the measurable. The idea of a framework is always subjective as is it always partially secluding knowledge. To apply this to ourselves; we could say that our identity only exists to the extent that it is performative; it is real to the extend that it is performed, only occurring within separate (subjective) measurements.

7. Our Body's In Superposition

Michel Foucault already pointed out decades ago how thinking to 'know' something objectively and consider it permanent, is harmful. In *The Subject and Power* he describes how the most certain of all philosophical problems might be the problem of the present time and of what we are in this very moment. He suggests that the target nowadays is not to *discover* what we are but to *refuse* what we are.

> *We have to imagine and to build up what we could be to get rid of this kind of political "double bind," which is the simultaneous individualisation and totalisation of modern power structures. The conclusion would be that the political, ethical, social, philosophical problem of our days is not to try to liberate the individual from the state and from the state's institutions but to liberate us both from the state and from the type of individualisation which is linked to the state. We have to promote new forms of subjectivity through the refusal of this kind of individuality which has been imposed on us for several centuries.* (Foucault. 1982 p. 785)

Foucault's formulation of power is inseparable from his understanding of human subject formation. He sees two meanings in the word 'subject': subject to someone else by control and dependence, and tied to his own identity by a conscience or self-knowledge. He states that both meanings suggest a form of power which subjugates and makes subject to. (Foucault. 1983 p. 212) The subject who becomes tied to an identity and to the illusion of some inner truth is thereby produced within and through a network of power relations. In other words, to attach ourselves from identities we remain caught in 'a conscience or self-knowledge', which is the effect of a more profound form of subjection. In my opinion Foucault is herewith (unknowingly) offering us a more complete notion of the gaze as Lacan described it.

I'd argue that Foucault's thought of promoting new forms of subjectivity by refusing individuality, is a form of resistance that could help us to empower ourselves and especially of relevance in this age of information; where our identities are constantly being monitored and converted into data.

Now we've come to the point where I'd like to propose Barad's "agential realism" and Butler's notion of performativity as tools and thinking strategies to defy the pressure of today's hyper-visible world. As we've seen, social-media performance as well as surveillance states are examples of how visibility gets turned into data, that is then taken (by ourselves or by others) as our objective 'truth' and (consciously or unconsciously) forcing us back into these (partially) constructed identities. Hyper-visibility is still growing in popularity within these (and other) objectifying environments. This asks for a new behavioural take. A strategic reaction to such objectifying environments could be for the individual to keep identity in motion, constantly performing different behaviour. By pushing against the 'all-knowing' and captivating frame of the camera, one might be able to reclaim the freedom that subjectification takes away from us. From this perspective the individual will stop being subjected to the gaze and other power structures based on visibility and knowledge. In a world ruled my imagery, playing with our image might help us to produce power over the camera, and disconnect from the power that the camera

has over us. For this kind of 'freeing' self-deconstruction, vlogs and life-streams could make the perfect formats.

To see the world as deeply entangled, and observations/knowledge as something that temporarily enacts, we could perhaps free ourselves from the stagnating effects of the gaze and structures of hyper-visibility. To believe in our superposed nature, means to realise that our vulnerable position in the information age is not our visibility itself, but rather the believe that some kind of objective knowledge can be gained from this visibility. To see every observation as a temporary and subjective reality, we come to realise that knowledge doesn't provide power, but rather that knowledge is something powerful, as knowledge is gained from any act of observation that makes a "cut" and separates the included and excluded from what is being considered. I'd argue that understanding our identity according to Butler's great insight of performativity (that sexual difference is constructed and must, therefor, be reified through ritual practice to acquire its material, bodily presence), could help us to liberate ourselves from ourselves and others if we try to resist these unconscious ritual practises of our 'self'.

Freeing ourselves from certain 'fixed' identities, together with 'the idea' that identity can be fixed at all, is in my opinion what can empower us both politically as socially. By becoming 'shapeless' and staying in motion we can increase strength; our being is uncatchable, invisible, at multiple places at the same time, in complete indestructible freedom - almost like a quantum wave. To act from our place of superposition, means to become one with everything. When constantly deconstructing the illusion of the 'self', we become unavailable as a subject/target for the manifestation of *knowledge* used for others' ends. Therefor I believe it could be beneficial to refuse individualisation and instead of discovering what we *are*; repeatedly imagining and building up to what we *could* be.

Notes

1. https://www.theguardian.com/technology/2014/jun/08/big-data-mined-real-winners-nsa-gchq-surveillance

2. https://www.quantamagazine.org/famous-experiment-dooms-pilot-wave-alternative-to-quantum-weirdness-20181011/

3. https://physicsworld.com/a/do-atoms-going-through-a-double-slit-know-if-they-are-being-observed/

4. https://www.nature.com/articles/nphys3343

5. https://www.sciencealert.com/reality-doesn-t-exist-until-we-measure-it-quantum-experiment-confirms

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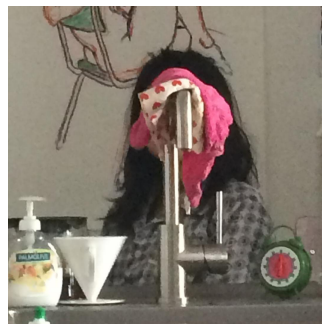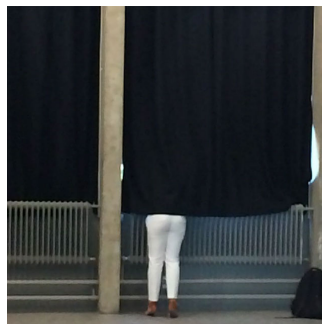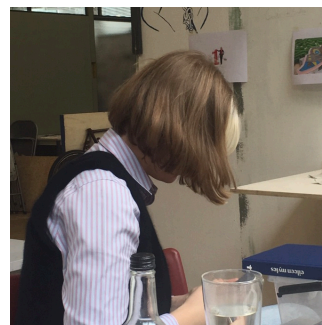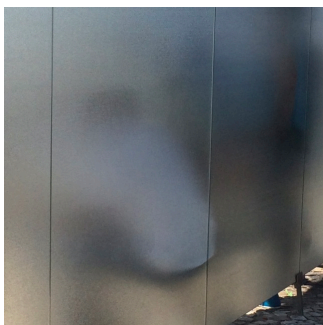
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