



University of Reading

Metamorphoses of the Cell

In what way does the mass surveillance of individuals, through Amazon's Ring and Echo products, correlate with Bentham's panopticon?

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Introduction

I am going to address the above question by analysing the panopticon. A proposed architectural design for institutes and workhouses. The milieu of the panopticon anticipated behaviour modification, greater yields of workforce output, and the reduced need for staff through the use of surveillance. I will examine whether there are any correlations between the panopticon and today's technology (tech) arena. Evidence of the panopticon will be looked for within current smart devices, data analysis, algorithmic and artificial intelligence (AI) technologies, culminating with Amazon's Ring and Echo products.

To inform my argument, I will refer to Jeremy Bentham's original thoughts and motivations on the panopticon. Michel Foucault's apperception on the panopticon will add depth and historical context. Jonathan Crary will help me to draw from these past ideas and bring them into the present, with specific focus on surveillance and its effects. My primary research will inform my knowledge on the current technological advances across the industry. I will refer to the research undertaken at the Barbican's 'AI: More than Human' exhibition, where businesses and groups exhibited their latest technological developments. Trevor Paglen: From 'Apple' to 'Anomaly' exhibition, and lecture, 'In Conversation: Trevor Paglen and Anthony Downey' will help me align my argument with current concerns, and the conversations that these apprehensions have ignited.

I will divide this dissertation into three sections, followed by my conclusion. Each chapter will focus on a different point. Chapter One will provide context by briefly exploring the history of the panopticon, how it came about, what it looks like, and its purpose, before moving onto its significance, and how it relates to discipline societies and societies of control. I will move into my analysis in Chapter Two, where I will outline ideas discussed by the aforementioned theorists to help me understand, dissect and scrutinise current concerns of panopticism within smart devices, with specific focus on the smart phone and the technology contained within. Chapter three will focus

on how these technologies have metamorphosed into people's homes. Analysing the efforts made by Amazon, a fortune five company and tech giant, which effectively turn their customers into content creators, and their homes into places of networked extractions zones. I will look at how Amazon have exposed their motivations through product development and strategy. My dissertation will end with a conclusion with my findings and how I would like to further develop my understanding

The reason I am asking this particular question, is because it is a highly relevant one. Considering the uncertainty surrounding politics, trade, human rights, free movement and regulation; private organisations are at the forefront of negotiations in every expanse. Big data companies are manoeuvring themselves into heightened levels of authority, whilst strategically making themselves indispensable to governments and individuals. Huge technological advances are happening every day, facilitating the powerful few with the instruments to carry out their agenda.

We currently find ourselves in increasingly monitored environment, with less control over how information about ourselves is processed and stored. Having one's data harvested is seemingly standard practice, common knowledge and widely accept by most people, with meaning and reason being derived from the most banal circumstances and instances in life. Exploring the topic will give me the opportunity to learn about why large corporations are so keen on placing technology in our environments. What does this mean for our future? Where will it end?

The Panopticon: From Discipline Societies to Control Societies

In 1775, Samuel Bentham, who was involved in various industrial projects, discussed an idea for an architectural design with his brother, Jeremy Bentham that could theoretically change the behaviour of the people contained within the building. During the period of 1775 to 1816, the two brothers continued to discuss and develop the imagined structure right down to the building materials that would be used in its construction. Jeremy Bentham, who was a lawyer, took a special interest in the idea and worked vehemently for the project to be actualised. Bentham wrote many letters to government officials explaining the basic concept and the intricate details of what he called the “Inspection House.”

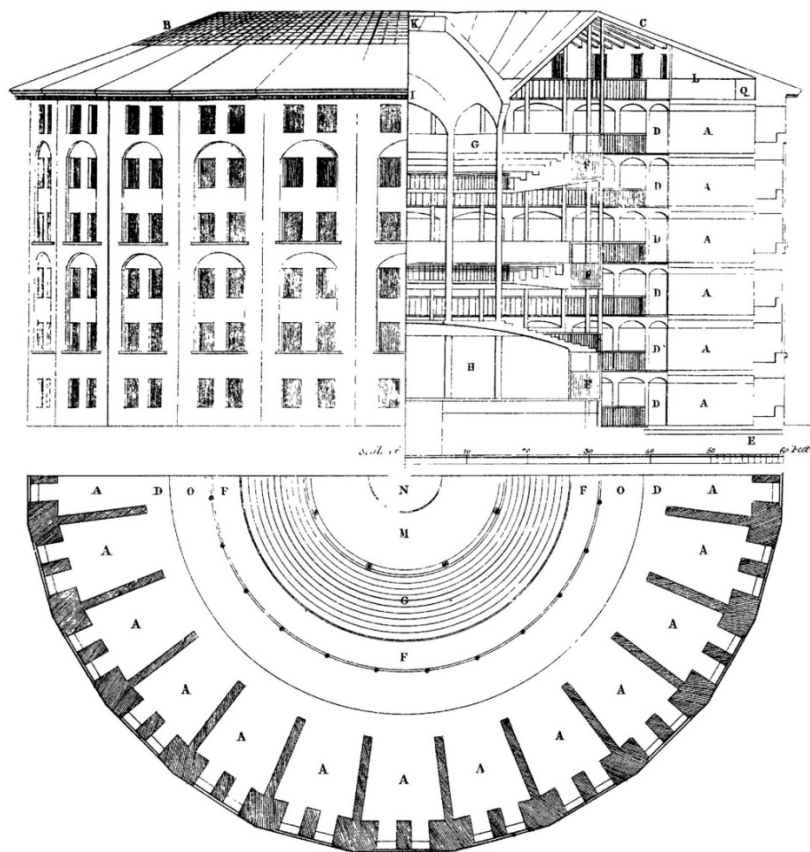


Image 1

Wiley Reveley, 1791, Architectural Drawing

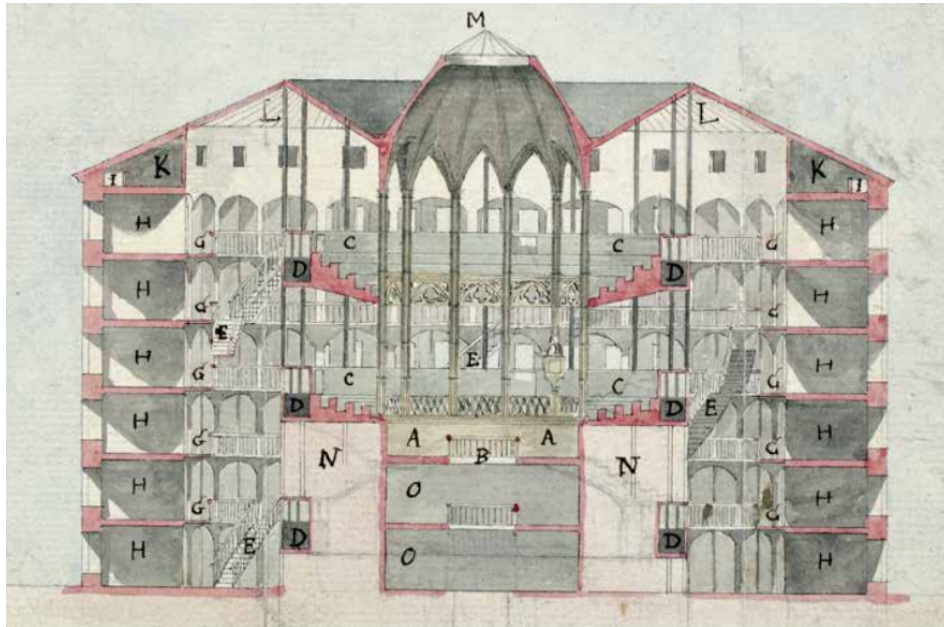


Image 2

Willey Reveley, 1791, Drawing, Cross Section

The design is a circular multi-story building that contains secluded cells around the circumference. Each cell has a large window that allows for plenty of light to flood through, illuminating whomever is contained within the cell. In the centre of the building stands a tower, which Bentham called the “Inspector’s Lodge.” The inspector’s lodge has windows with blinds to enable one-way viewing. Empty space surrounds the tower, allowing for the inspector to effortlessly see into every cell, giving instant visual feedback and allowing the inspector to keep a watchful eye on the occupants. Depending on the institute of the building, the occupants could include; convicts, patients, school children or workers. Bentham argued that the inspection house would be an especially useful architectural design for a correctional facility, however he strongly advocated for the design to be used across a variety of institutes. *“Indeed I look upon it as capable of applications of the most extensive nature... it will be found applicable, I think, without exception, to all establishments whatsoever, in which, within a space not too large to be covered or commanded by buildings, a number of persons are meant to be kept under inspection.”* (Bentham, 1791:5).

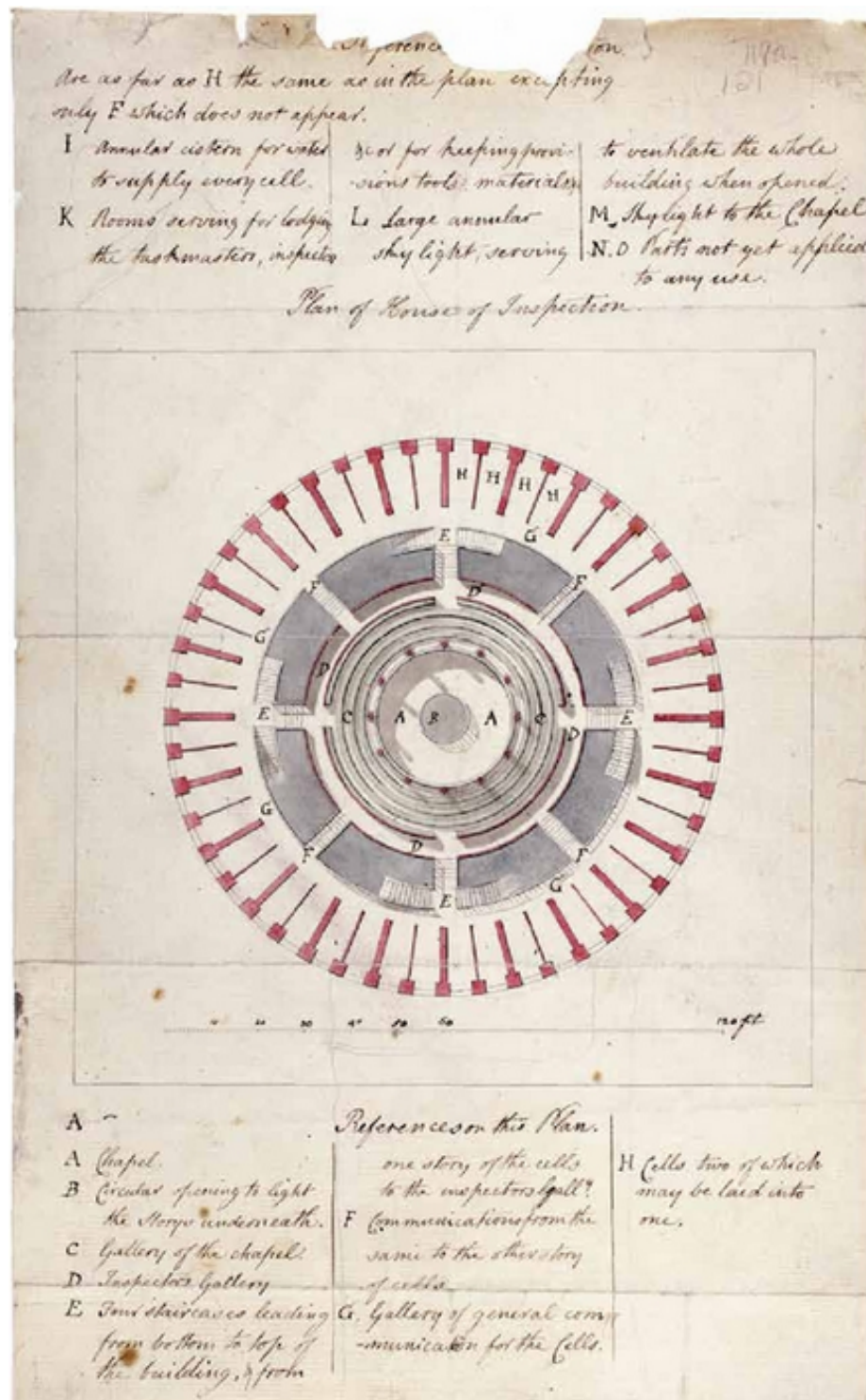


Image 3

Wiley Reveley, 1791, Drawing, Elevated View

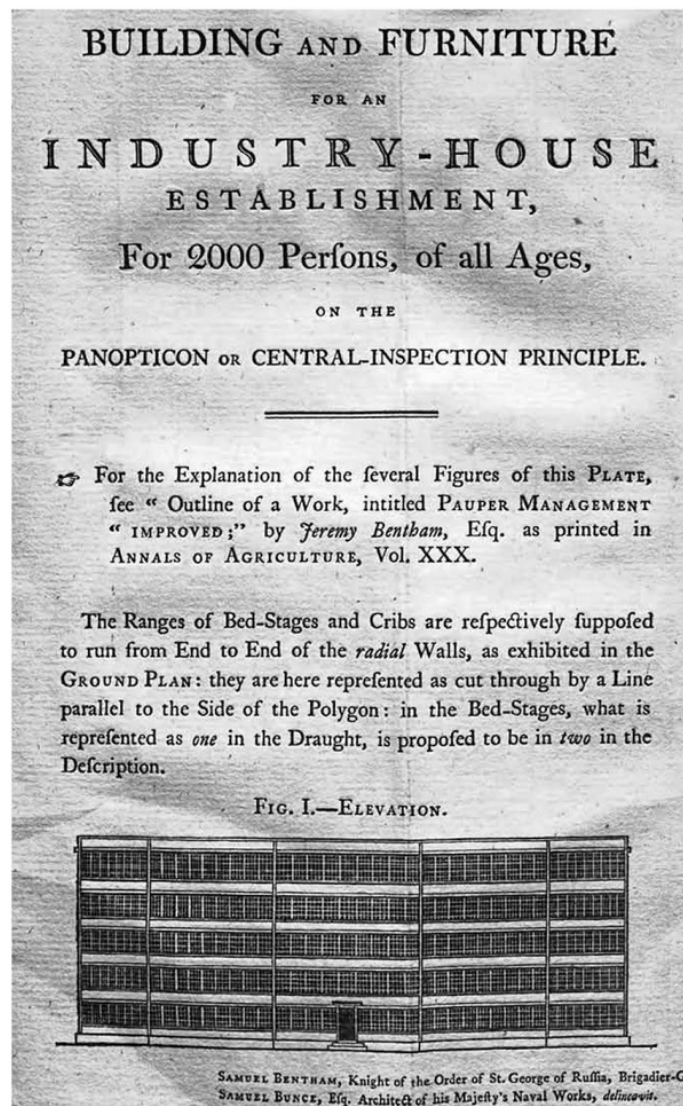


Image 4

Image of Newspaper Article, 1812

According to Bentham, the construction would benefit the authority in charge (prison warden, doctor, principle or boss) in a number of ways, but its main purpose was to ensure desirable behaviour from the occupants, in accordance with the concerns and priorities of the authority. The design achieved this by creating a visually dominant, one-way viewing tower that would allow the inspector to oversee everyone whilst maintaining complete invisibility and anonymity. *"The essence of it consists, then, in the centrality of the inspector's situation, combined with the well known and most effectual contrivances for seeing without being seen."* (Bentham, 1791:12).

Bentham goes on to state how the emphasised central tower would ensure the occupants were feeling watched at all times: “...perhaps it is the most important point, that the persons to be inspected should always feel themselves as if under inspection, at least as standing a great chance of being so...”

(Bentham, 1791:13).

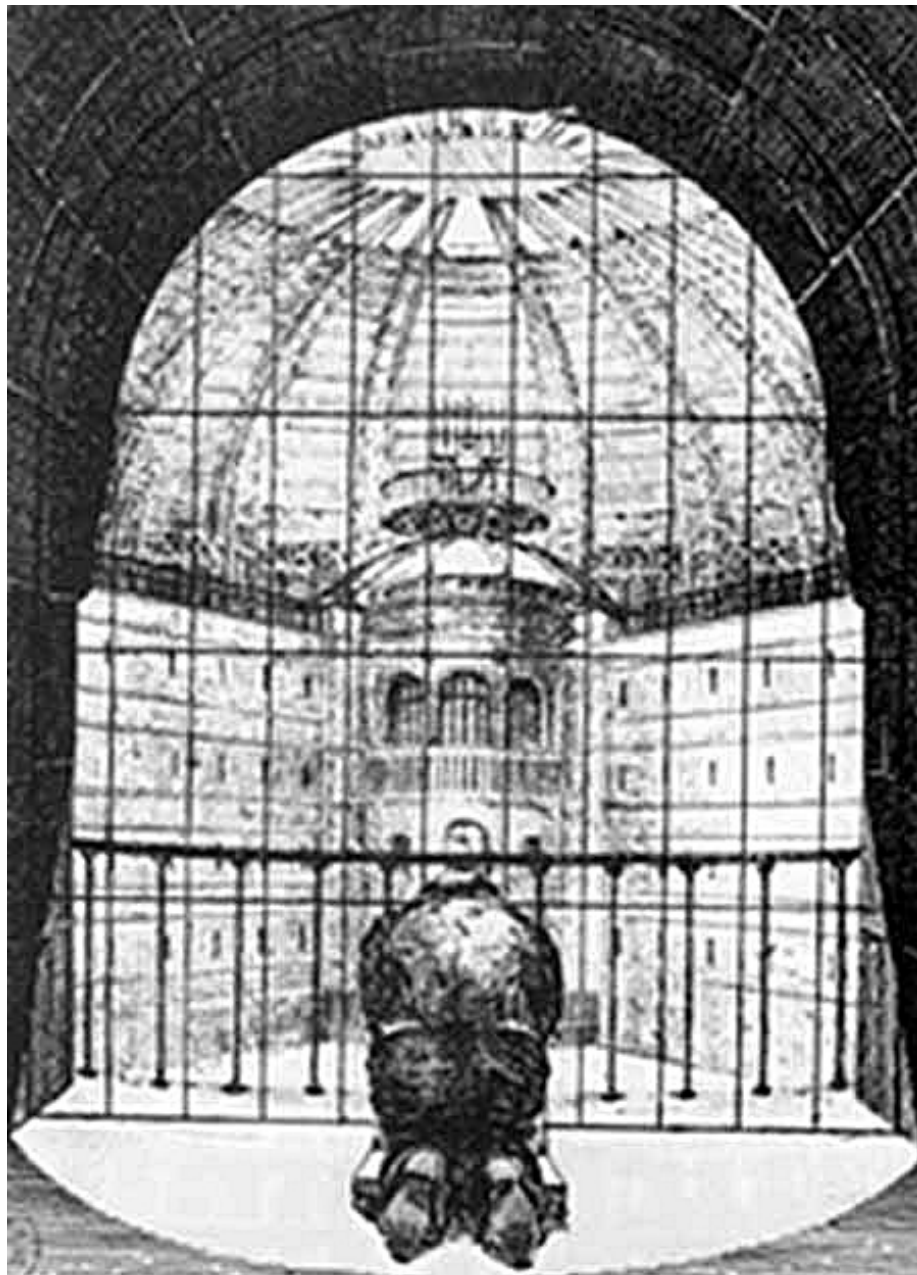


Image 5

Nicolas-Philippe Harou-Romain, 1840, Drawing, Originated from the book; *Projet De Pénitencier*

In the first chapter of *Discipline and Punish: The Birth of the Prison*, Michel Foucault discusses the gradual “...disappearance of punishment as a spectacle” (Foucault, 1975:8), in Europe during the early nineteenth century. People started to reject the spectacle of punishment as it evolved from being something one participated in by observing, to a form of self-regulation. This is relevant because it highlights an important development in the *minds* of the people, in regard to sentience. People became fearful of the conviction itself, which was an absolute inevitability of wrongdoing, rather than the physical punishment.

“...it leaves the domain of more or less everyday perception and enters that of abstract consciousness; its effectiveness is seen as resulting from its inevitability, not from its visible intensity; it is the certainty of being punished and not the horrifying spectacle of public punishment that must discourage crime; the exemplary mechanics of punishment changes its mechanisms... It is the conviction itself that marks the offender with the unequivocally negative sign...”

(Foucault, 1975:9).

This shift in, “abstract consciousness” allowed for foresight and created an enlightened person who adjusted their behaviour accordingly. This was a form of self-surveillance. The significant of this to the panopticon, is that the panopticon works in the same way. Foucault discusses the design mechanisms further. “*He who is subjected to a field of visibility, and who knows it...inscribes in himself the power relation in which he simultaneously plays both roles; he becomes the principle of his own subjection*” (Foucault, 1975:202). The design would keep the occupants in a constant state of awareness through form. This ignited fear within the occupants as they could be seen doing something that the authority might deem as an offence. This could simply include a worker not working at a quick enough pace to satiate the production needs of the authority. This architectural design is significant because it crossed a boundary that, perhaps, had never been crossed before. It was the realisation of power through form: “...without any physical instrument other than

architecture and geometry, it acts directly on individuals; it gives 'power of mind over mind'. (Foucault, 1975:206). The external form that embodies constant, unwavering authority results in forced self-regulation through internalisation. By actualising an entity of authority in the minds of the occupants, the Bentham brothers had achieved something extraordinary. Foucault emphasises this by paraphrasing (Julius, 384-6).

"Speaking of the panoptic principle, he said that there was much more than architectural ingenuity: it was an event in the 'history of the human mind'. In appearance, it is merely the solution of a technical problem; but, through it, a whole type of society emerges."

(Foucault, 1975:216).

The Relevance of The Panopticon Today

In 1816 Bentham oversaw the build of Millbank Prison, based in Westminster, London. This was the first prison to encompass the Bentham brothers design ideas, although adaptations have been made with varying design modifications since.

Millbank Prison, England

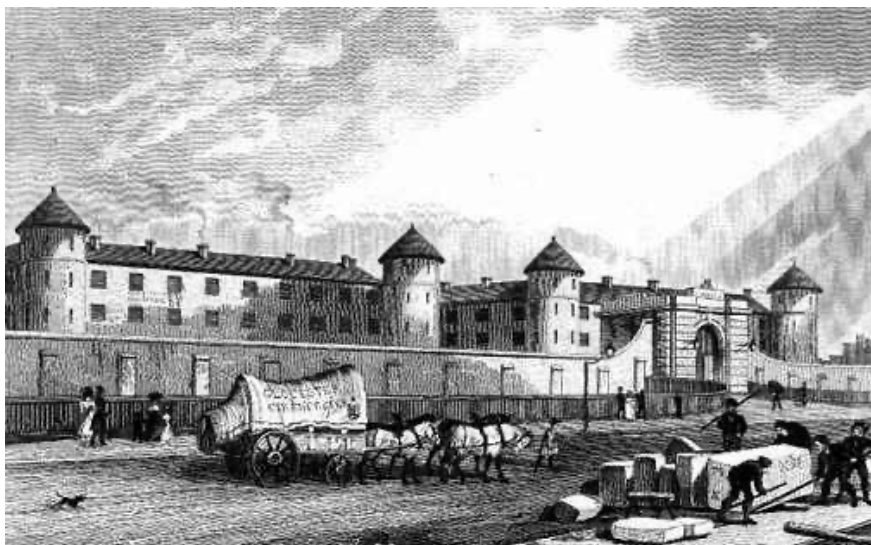


Image 6

Unknown, 1820's, Drawing, Exterior of Millbank Prison

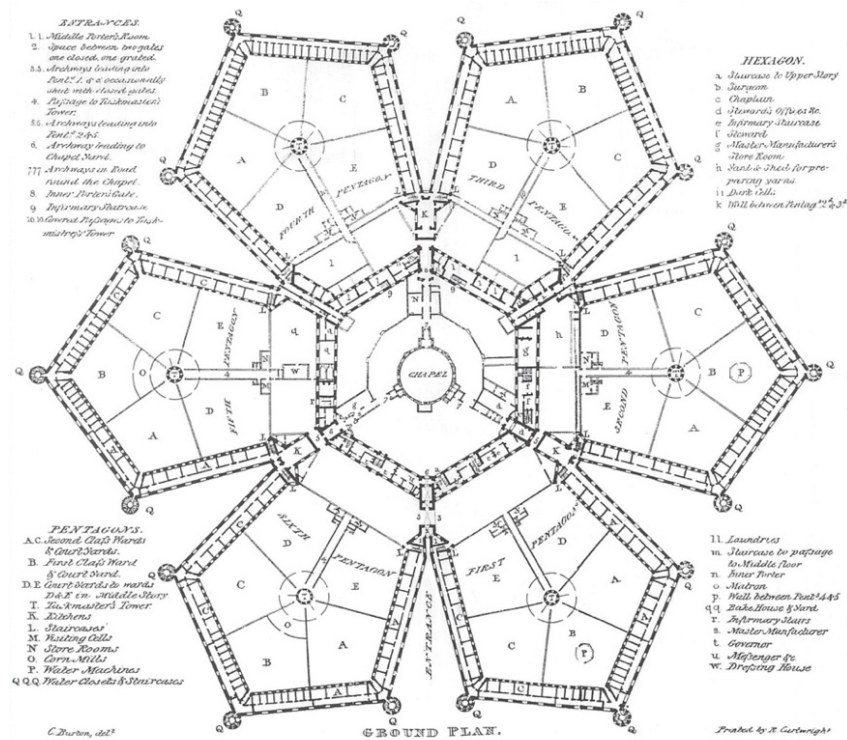


Image 7

G.P. Holford, 1828, Drawing, Elevated view of Millbank Prison

Presidio Modelo Prison, Cuba



Image 8

Unknown, 1940, Photographic Image, Prisoners stand to attention outside their cells



Image 9

Unknown, 2005, Photographic Image, Presidio Modelo Prison

The original panopticon design is both relevant and irrelevant today. The etymological meaning of the word “panopticon” is ‘all seeing’ and has been adopted as an overarching word that people use to describe the notion of being watched by an organised all-seeing eye. Although the architectural design is a poignant idea that still captures the imagination of people today, the word “panopticon” is widely used as a metaphor in relation to modern surveillance. Some people may argue that the panopticon has metamorphosed from its architectural form and embedded itself within daily digital technology. Fused in hardware, software and merged with spectacle. Existing in a cyberspace as part of the infrastructure. Perhaps “...*the disciplines crossed the ‘technological’ threshold...through the formation and accumulation of new forms of knowledge.*” (Foucault, 1975:224). Since Foucault’s thoughts, technology has advanced hugely and continues to do so. Becoming both more prolific and efficient with an ever-expanding influence, whilst still maintaining anonymity. Perhaps this better suits the needs of government and business, and even the individual.



Image 10

Unknown, 1926, Photographic Image, Presidio Modelo Prison

Talking on Bentham's panopticon, Foucault discusses the light that illuminates the cells, which holds the occupants' captive; "...one can observe from the tower, ...the small captive shadow...They are like so many cages, so many theatres, in which each actor is alone....and constantly visible." (Foucault, 1975:200). The use of light in this way is a tool, one which enables one-way communication. This is the key element of the panopticon's knowledge-power dynamic. "*Visibility is a trap. He is seen, but does not see; he is the object of information, never a subject in communication.*" (Foucault, 1975:200). This is a panoptic technique.

Enclosed Places and Interim Spaces

Foucault argued that in disciplined society, people's minds are trained to conform under strict methods, which enable societies to self-surveil. "*'Discipline'...is a type of power, a modality for its exercise, ...it is a 'physics' or an 'anatomy' of power, a technology.*" (Foucault, 1975:215). This is largely demonstrated within enclosed environments like the home, school and workplace. The rules differ and people abide by them. People accept that the family unit expects a different set of behaviours than that of the classroom or the factory. The panopticon is an example of an enclosed place where the occupants are subject to a disciplined environment; "...authorities ... find in it a means of reinforcing or reorganizing their internal mechanisms of power..." (Foucault, 1975:215). When the subjects leave the enclosed place, they are no longer under the institute's rule, and no longer the source of information. Gilles Deleuze adds further to Foucault's ideas in his essay; '*Postscript on the Societies of Control*' where he argues that the distinguishable characteristic between disciplined societies and societies of control lies within the interim spaces; the social spaces between the enclosed places. If the interim spaces are free of authority and surveillance, then it would indicate that the society is a disciplined one. "*We are in a generalized crisis in relation to all the environments of enclosure - prison, hospital, factory, school,... But everyone knows that these institutes are finished.*" (Deleuze, 1992:4). For Deleuze, when surveillance encroached into previously unmonitored areas, it ensured that the individual was being monitored most to all of the time. This is the deciding factor on whether a society had developed into a society of control or not. "*These are the societies of control, which are in the process of replacing the disciplinary societies.*" (Deleuze, 1992:4). Many years prior to Deleuze's ideas on control societies, Foucault had foreseen that different societal modus operandi could be fused together. Speaking on the different approaches towards the treatment of the leper and the plague contagions, Foucault speaks of how one society used banishment to gain social perfection and the other used discipline to confine and monitor it. "*They are different projects... but not incompatible ones. We see them coming slowly together...*" (Foucault, 1975:199). He quantified that discipline expanded and joined forces with

other means to create, "...a sort of social 'quarantine'..." (Foucault, 1975:216). Discipline had *"infiltrated the others ... linking them together, extending them and above all making it possible to bring the effects of power to the most minute and distant elements."* (Foucault, 1975:216). With the amalgamation of different methods, the concoction intensified, penetrated and fused into greater depths of control.

With the rise of neo-liberalism in the twentieth century, technology became more pertinent and so it advanced. It was seen as an opportunity to assist government and business in facilitating change through fine-tuning surveillance techniques. Speaking on the formation of knowledge in the eighteenth century, Foucault posits that *"...disciplines are the ensemble of minute technical inventions that made it possible to increase the useful size of multiplicities by decreasing the inconveniences of the power which, in order to make them useful, must control them."* (Foucault, 1975:220). Modern technology, with its infinite cameras and microphones, collates information by watching and listening to individuals. Perhaps technology is the new panopticon. A panopticon that is more useful to people, government and business, because the subjects have freedom of movement. There are *"...no more bars, no more chains, no more heavy locks..."* (Foucault, 1975:202). For government and business, control can be gained without costly overheads like property rent, amenities, employee wages and all the other expenses associated with materiality. Why not work with existing structures and institutes through the use of technology? It gives an increase in diversity and with little maintenance. Like Bentham's panopticon, all that is *"...needed was the separations should be clear and the openings well arranged."* (Foucault, 1975:202) As long as there is financial incentive, more control and less inconvenience, change is inevitable. *"A multiplicity, whether in a workshop or a nation, an army or a school, reaches the threshold of a discipline when the relation of the one to the other becomes favourable."* (Foucault, 1975:220). The

Modern Cell: The Portable Panopticon



Image 11

Unknown, 2018, Photographic Image

Many people around the world refer to their smart phone as their 'cell', short for 'cellular phone.' The etymological root for the word "cellular" is 'little chamber'. Similar to the panopticon, the smart phone can be seen as both the tower and as the cell, being that it serves as the eyes, ears, time and space. A cell in which individuals choose to contain themselves in because the benefits are mostly perceived to outweigh the disadvantages. In his recent book, *24/7: Late Capitalism and the Ends of Sleep*, Jonathan Crary discusses how "So-called 'smart' devices are labelled as such less for the advantages they might provide for an individual than for their capacity to integrate their user more fully into 24/7 routines." (Crary, 2014:84). Crary believes that a "...24/7 world is a disenchanted one in its eradication of shadows and obscurity and of alternate temporalities." (Crary, 2014:19). Many enclosed places and interim spaces are heavily saturated with cameras and microphones that are networked together where "... the opportunity for electronic transactions of all kinds becomes omnipresent..." (Crary, 2014:75) which ensures people live transparently. A strip-down of privacy has been normalised and accepted; "... there is no vestige of what used to be everyday life beyond the reach of corporate intrusion." (Crary, 2014:75).



Image 12

Geiger, A. 2015, Manipulated Image, SUR-FAKE collection

The smart phone can be seen as a personal, private platform of freedom which provides the owner with information, power and control. Smart phones are an extension of the individual, with their many applications and functions that expand into every facet of people's existence, "*...because ones friendship and ones bank account can now be managed through identical machinic operations and gestures...*" (Crary, 2014:59). The availability and user-friendly nature of the smart phone allows for "*...a growing homogenisation of what used to be entirely unrelated areas of experience.*" (Crary, 2014:59). The technology supports individuality and freedom, but in using it the owner relinquishes their freedom by distributing their information through infrastructure facilities, permitting access to device creators, application owners and internet service providers. This gives ample opportunity for government and private enterprise to collect fragments of digital information to analyse and trade.

The etymological breakdown of the word, “surveillance” is “sur”, from above, and “veillance”, to watch. In the research article; *Bentham, Deleuze and Beyond: An Overview of Surveillance Theories from the Panopticon to Participation*, Galič, Timan and Koops state that “*The subject of surveillance is being watched with a certain purpose...*” (Galič, Timan and Koops, 2016:1) and perhaps that purpose becomes evident if we look at the type of technology that is present in smart devices. Smart phones provide live location feedback, triangulated through signals by global positioning system (GPS) satellites, and cellular towers. Other technology includes the camera lens and microphone. If a smart phone were to be fully accessed, it would likely provide a current location on the individual, visual feedback through the camera, and audio feedback through the microphone. An easy way in which private enterprise can access this information is through applications (apps) that are downloaded onto smart phones by the owner. The apps request access to the device technology as part of a transaction - privacy for functionality. “*We are the compliant subject who submits to all manner of biometric and surveillance intrusion...without complaint.*” (Crary, 2014:60). This allows for multiple companies to simultaneously access the technology within smart phones, allowing for images to be accessed, conversations to be listened to and other information to be acquired. Deleuze’s understanding of control being in harmony with physical freedom and choice is a relevant and important one. In his book, *Two Regimes of Madness: Texts and Interviews 1975-1995*, Deleuze demonstrates this by declaring:

“*Control is not discipline. You do not confine people with a highway. But by making highways, you multiply the means of control... people can travel infinitely and ‘freely’ without being confined while being perfectly controlled.*” (Deleuze, 2016:327).

Here Deleuze gives a spatial example, but it is transferable to a digital one. The smart phone is the platform, or land on which to build, and each application a highway. Most people who own smart phones are aware of this level of surveillance, and it is widely accepted, “...which can be controlling

and disciplining the subject into certain behaviour or a set of norms..." (Galič, Timan and Koops, 2016:1).

The explicit information in the panopticon was the universal awareness of being observed by the person in the watch tower. The type of implicit information that was carried over through that, without direct conscious awareness, entailed prisoners adapting their behaviour to fit socially acceptable standards. This was based on the fact that they processed the hidden information of never knowing when they were being watched by the inspector. Like Bentham's panopticon, a universal awareness of being watched is present amongst people today. It has mutated across all areas of life where technology exists; it is both visible and invisible, in both enclosed places and interim spaces. Technology is the form in which the watch tower has evolved and with it a new form of self-regulation has occurred.

'...the Panopticon remains a powerful metaphor. However, the institutes that Foucault recognised as disciplining forces have altered in shape, place, visibility and dynamics. In addition, notions of self-surveillance point to new dynamics, where watching oneself via a mediated, mobile and networked gaze still raises questions of power...'

(Galič, Timan and Koops, 2016:27).

The Data Double

Since Bentham's panopticon, an additional control mechanism has appeared. This encompasses the observation of patterns of behaviour to decipher the human psyche, using technology. Behaviour analysis exists because *"...surveillance seems a technology-dependent concept..."* (Galič, Timan and Koops, 2016:17). Where technology has mutated, it has created digital versions of the individual, giving enterprise a better understanding of the user and the opportunity to capitalise on this understanding. Crary refers to the individual's digital-self as the *'data double.'*

"Data means raw facts and figures that can be analysed to become meaningful information. An organised collection of related data is known as a 'dataset'." (Barbican, AI: More than Human, 2019).

An awareness of one's data double is a clear indicator of how panoptic techniques are being used in conjunction with technology to create deeper levels of control. Complex datasets are of absolute importance in allowing effective analysis of people “...with the aim of predetermining one's future choices and actions.” (Crary, 2014:76). Whether that is on a one-to-one basis, or by demographics, “...corporation's success will ... be measured by the amount of information that can be extracted, accumulated, and used to predict and modify the behaviour of any individual with a digital identity.” (Crary, 2014:75).



Image 13

Siemens, 2016, Illustration

Galič divides the theory of structure surveillance into three “*chronological-thematic phases*”. Bentham's panopticon is an example of phase one, a material, spatial form that involves a “...*centralised mechanism...watching over subjects*”. Phase two involves infrastructure and networks to connect digital technologies. “*It involves distributed forms of watching over people, with increasing distance to the watched... and often dealing with data doubles rather than physical persons.*” The third phase is where we find ourselves now. A more refined apparatus of phases one and two but with the additional branches of “...*dataveillance, access control, social sorting, peer-to-*

peer surveillance...” (Galič, Timan and Koops, 2016:25). This means that people’s digital choices, particularly their consent to privacy, device purchases, functionality choices, platform registrations and networked technology have become even more significant in either supporting the modern panopticon in its victory, or in slowing it down. *“With datafication of society, surveillance combines the physical with the digital, government with corporate surveillance and top-down with self-surveillance.”* (Galič, Timan and Koops, 2016:18).

This greatly correlates with Bentham’s inspector’s lodge which architecturally gives constant and instant visual and audio feedback to the person contained within the tower. Surveillance through smart phones correlates with Bentham’s panopticon by creating open spaces to facilitate quick visual access and feedback on individual’s behaviour. Personal space boundaries are annihilated by the panopticon’s architecture, since the inspector has visual access to anyone at any time. Those who are isolated can be observed one-to-one or as a greater whole. Smart phones enable government and private enterprise to analyse individuals in a similar way. They have access to peoples whereabouts through GPS, their physical behaviour as shown through the camera and even their cognitive functioning through conversations using the microphone.

The additional element of controlling the human psyche by harvesting the individual’s data double using algorithms (problem-solving rules in meaningful patterns of data for statistical modelling, to socially engineer and predict future behaviour) is another facet that did not exist during Bentham’s era. *“The product or goal of these disciplining methods is to create docile bodies. This makes for even more predictive and plannable societies in which docile bodies have become units of information, not communication. Here, the link becomes clear with Bentham’s prison architecture: it is a one-way street in which individuals are mouldable and re-mouldable.”* (Galič, Timan and Koops, 2016:9).

Networked Appendages

Smart phones have the capacity to act as servers to other smart devices, which help create networks of technology for the owner to manage. Many smart devices are present in the home, and other enclosed environments, acting as appendages for the smart phone. As the main component in the network, the smart phone receives constant live feedback and keeps detailed information and histories for the individual to access at any time. The networked smart phone empowers the individual by turning the device into a watch tower, giving the individual “inspector” status. The networked technology has helped to incorporate the individual by acting on their behalf, creating feelings of empathy, benevolence or indifference towards the technological intrusion. This is mainly due to the assumption that the technology is working on the individual’s behalf.

The user experience (UX) designers, primarily concern themselves with the visual interface that their users engage with. The designs bubble-like applications that have fun and engaging interfaces, easy-to-understand graphs and point systems to create goals and for viewing patterns. They transform the inspector into something unthreatening by normalising the feeling of being watched, and watching oneself, which in turn encourages further acceptance and the eradication of personal boundaries. Underneath the friendly UX façade is the fact that the data given is exactly what is subtracted, for “...*the man of control is undulatory, in orbit, in a continuous network.*” (Deleuze, 1992:6). For Crary in his book, *Suspensions of Perception: Attention, Spectacle and Modern Culture*, the consequences of this are great being that; “*It is becoming clearer that a concurrence of panoptic techniques and attentive imperatives now function reciprocally in many social locations*” (Crary, 2001:76). Smart devices span across different operating systems and platforms that are owned by different groups or conglomerates, which means that not only does using the networked technology increase the distribution of data across multiple companies, but it also allows for more complex datasets to be analysed and processed using different algorithmic behaviour analyses. User’s data and behaviours can be tackled with different methods and then further split-tested (a

method of testing multiple groups through controlled experiments against alternative approaches) within those divisions. This is done as a form of behaviour modification and with the intention of soliciting a particular action.

With Bentham's panopticon, space was annihilated by removing access to the desirable outside, and despite allowing a natural perception of time through the windows, they themselves were used to make the world they are prohibited from entering salient. Digital devices annihilate space and time in a similar way, through their availability and nature. This is demonstrated today in both enclosed places and interim spaces, where people can move around freely, but they are likely appearing in networks, watched through cameras and listened to through microphones. The content is collected and can be used by government and private organisations to gather information on an individual. Another loss of personal boundaries is apparent through the effect owning a digital device has on the user, since they can be contacted, or their data harvested without their knowledge at any time. Most individuals are aware of this and grant access anyway, in exchange for convenience and additional functionality within applications and devices. If we compare these restrictive elements and how they have developed over time, an interesting improvement has accrued. Today we are only mildly inconvenienced at the irritation of intrusive surveillance, it doesn't physically confine us, nor does it interrupt our day, or we are too busy and involved with more important matters to do anything about it. Especially now that another major advancement has occurred. People are being given small amounts of inspector status through networked technology. This has created an empathising and acceptance towards technology, resulting in further docility.

If we look back at disciplined societies versus societies of control, then we can see that perhaps the enclosed places and interim spaces have progressed too. Leaving the relationship between the individual and their smart phone as the new enclosed place, since wherever the person goes the technology keeps the same mechanisms of coherent management and runs in the same way across many relationships. This leaves very few spaces in which people are not under surveillance. Even

when visiting a friend's house, for example, an individual may well be recorded through cameras and in-house microphones, without their knowledge or consent for such interactions. This even gives the opportunity for private enterprise to capture and harvest data on people who do not own smart devices. This is a clear indicator of just how far the control mechanism have stretched.

Metamorphoses of the Cell: Amazon's Surveillance Society

Today, instead of the watch tower, we have the camera. It is not only used to watch with, but also to be watched *by*. In Stephen Cornford's thesis, *Damage into Image: Exposing the Technics of the Digital Camera*, he explores how the "...camera has evolved into a technical element in a global-scale extraction ensemble whose sole purpose is to wring value from every act of its subject's waking lives." (Cornford, 2018:100). An interesting development has occurred over the past few years. We have seen technology jump out of our smart phones and into our living rooms. We can see intrusive technology undulate between interim spaces and then enclosed places. Firstly, appearing in social spaces, where people have little to no control over their occupation. Then mutating into a refined and re-packaged consumer orientated product, to be purchased and placed in enclosed places for the individual to embrace. This back-and-forth motion tactically breaks down barriers gradually, by normalising the technology into desirable products. Each time the cycle rotates, another element of privacy is subtracted, leaving the consumer raped, mechanicalised and thrown into what Jonathan Beller describes in his article, *The Programmable Image of Capital: M-I-C-I'-M' and the World Computer*, as "...the world computer." (Beller, 2016:1).

Amazon's Ring product places cameras and microphones at millions of front doors across the world. The smart device is motion-activated and alerts the homeowner when someone is at their front door. The device sends a signal to the homeowner via their smart phone app, which activates the camera and microphone functions. This enables the homeowner the opportunity to see and converse with their visitor, without being in the house. The camera allows for one-way viewing, which gives the homeowner complete control and anonymity; much like the tower in the panopticon. By normalising personal closed-circuit television (CCTV) cameras and microphones inside and outside of homes, we can see that "... society is not of spectacle but of surveillance... We are.... in the Panoptic machine." (Foucault, 1975:217).



Image 14

Amazon, 2016, Image

Similarly, we see the same thing happening with the Amazon Echo. A device that contains a voice-activated personal assistant, Alexa. The device is also connected to the user's smart phone where they can see voice-activated requests, the histories of the requests and conversations that have taken place in a room. Amazon has recently extended the Amazon Echo range by releasing a wearable ring called Loop, which is worn on the finger to allow the user access to their personal assistant at all times. This further extends the flow of information and conversation to tech giants.

“One of the goals is to normalise and make indispensable as the idea of a continuous interface – not literally seamless, but a relatively unbroken engagement with illuminated screens of diverse kinds that unremittingly demand interest or response.” (Crary, 2014:75).



Image 15

Amazon, 2017, Image



Image 16

Amazon, 2019, Image

The Commodified Image

Crary discusses the mass social effects that TV and monitors have on people. He has highlighted how the spectacle is being fused with surveillance.

“...capitalism continually push attention and distraction to new limits and thresholds, with an endless sequence of new products, sources of stimulation, and streams of information, and then respond with new methods of managing and regulating perception.” (Crary, 2001:14).

The constant undulation between over-stimulation and regulation through spectacle runs parallel with the patterns of my former point. The technology is firstly introduced in social spaces and purposely sold into enclosed places. A similar thing is happening here, but it has become automated using technology and spectacle. This has been achieved by big data companies merging multiple advanced computer systems together, collectively creating Artificial Intelligence (AI). AI is able to perform a number of intelligent tasks including visual and speech recognition, the processing of

information and making complex judgments. AI is an attempt to automate decision-making and even emotional responses that replicate human feeling and thought patterns. We can see how Cornford resolves that industry has shifted from a manual and tangible machine in to a digital and sensory one. Cornford turns his attention to Karl Marx's M-C-M formula, which calculates the exploitation of people and land against commodity, and the circulation of money in a capitalist society. Cornford speaks of the adjustments made to the formula by Beller, which take the digital age into consideration. Beller replaced Marx's C variable, which represented *commodity*, with a new variable C to represent *code*. Cornford adds to Beller's adjustment on C as *code* being synonymous with "...*codec, the algorithmic vehicles which produce the image as code and hence simultaneously as commodity.*" (Cornford, 2018:98). He also suggests that C could be interchangeable with *compression*, being that it adds hugely in "...*the circulation of images in the social factory.*" (Cornford, 2018:98). The need for content size to be considered is hugely important, given that Cornford believes data storage plays a significant part in value. "*The raw camera image has intrinsically less value than its compressed counterpart...*" (Cornford, 2018:98). If content is reduced it can be easily distributed and shared over a greater audience, digested and disposed of in the ever-expanding digital machine. Cornford also points out that "... *encoded digital objects... are compressed to minimise required server space and maximise revenue.*" (Cornford, 2018:98). Server size and data storage have become increasingly prominent components of big data budget and strategy in recent years.

Trevor Paglen has brought much attention to AI. The majority of his artworks are informed by technology. He is particularly interested in ImageNet, a software program created by Stanford University that contains over 14 million images. Kate Crawford and Trevor Paglen discuss ImageNet in their online article, *Excavating AI: The Politics of Image Machine Learning Training Sets*. The images that populate ImageNet have mainly been harvested from social media accounts, without the permission of the users: "*ImageNet's creators appropriated people's selfies and vacation photos*

without their knowledge, and then labelled and repackaged them..." (2019, Crawford and Paglen). ImageNet was mainly used in training sets for machine deep learning, which is how machines "learn" through the digestion and analysis of masses of data. Hence the need for the input of millions of images. This allows AI to find similarities and then harness the extracted patterns; a process which is self-perpetuating. The original aim of ImageNet was to perfect machine analysis for object recognition in images. This was the first steps in getting machines to "see", however it quickly became a platform to judge and label people with. Biases began to arise based on the clothes people were wearing in the images and the environments they were in. This is mainly due to the biases of the developers of the code on which the AI is built. They started the labelling process but it has since been taken over by people all around the world. *"There is much at stake in the architecture and contents of the training sets used in AI. They can promote or discriminate, approve or reject, render visible or invisible, judge or enforce."* (2019, Crawford and Paglen). This technology has developed further and has facilitated the development of facial recognition.

Facial Recognition

Amazon's facial recognition software, "Rekognition" allows for full facial analysis. This software is contained within their Ring doorbells. Police forces across England and Wales have embraced the technology in a bold partnership with Amazon. The facial recognition software is used in conjunction with police databanks (centralised banks of images and data that can be accessed remotely). The databanks are populated with images and data on criminals that is updated daily. Amazon Ring can recognise a criminal's face through the cameras contained within the smart technology. Turning the country into a privatised CCTV home surveillance network.



Image 17

Amazon, 2018, Image

Emer Scully reports in her online article, that many police departments were given thousands of the doorbells by Amazon for police “...to give to victims of crime...” (Scully, 2019). This raises the question of, who approached who in this partnership? The omnipresent watchful eyes and ears of these doorbells are on many streets across the country which make for an interesting move and clearly demonstrates another rotation between interim spaces and enclosed places that has resulted in further privacy being subtracted from the individual, under the pretence of protection and security. Given to vulnerable people by law enforcement and provided by Amazon, your friendly neighbourhood watchtower. The network of doorbells allows for Amazon Ring to privately monitor residents’ movements, their visitors and the entire areas outside of the homes of their subjects will be captured, analysed and processed. The strategy here is clear; there are no instances where one can dare to believe themselves as not surveillance, whether that be appearing in networks, watched by cameras or monitored by one’s neighbour. Privacy is on its way to extinction.

Although Amazon's partnership with police is beneficial for both parties, I am left wondering who in this dynamic has more to gain. Authorities do have the ability to capture criminals using this technology, which can be beneficial to people who are in danger, however it facilitates Amazon, a private fortune five conglomerate, access to governmental information under the provision of home security. McKenzie Wark discusses this in his latest book, *Capital is Dead: Is this something Worse?* Where he states; "...information would be alternatively policed and encouraged: policed where it infringed on corporate monopolies: ... where free labor and nonlabour could be captured and information that had value." (Wark, 2019:72) This emphasises how the scales of power are nebulous, and government authority is in a state of disintegration. Content is accessed, owned and stored by Amazon. Police can request recordings and data from the homeowner; however, many police departments have been given the doorbells away, free of charge, in exchange for residents to waiver their rights the images and audio captured. If the owner relinquishes their rights then we see another transaction surrounding privacy for functionality happening here, but in this instance, like so many of Amazon products they are either reduced in price massively or given away for free. This shows how the product itself is not of value, peoples are the content and people are where they are capitalising.

Although police "...will be able to request to view images and film acquired through the devices,..." (Scully,2019) what is perhaps concerning is that we, in the UK, appear to be heading down a path already taken by certain States in America. Amazon Ring is more established overseas and over the past two years it has become increasingly utilised by their police system. Houston Police Department "...send alerts to the neighbor's app. Such as crime and safety incidents in real time..." (Scully, 2019) and frequently access the data in a move that is claimed to "...make the community safer..." (Scully, 2019) In a press release from Amazon, on 12th August 2019, regarding the software developments of their facial recognition AI, they state:

‘With this release we have further improved the accuracy of gender identification, in addition we have improved accuracy for emotion detection for all seven emotions: happy, sad, angry, surprised, disgusted, calm and confused, and added a new emotion: fear. Lastly, we have improved age range estimation accuracy...’ (Amazon, 2019)

Alarming rumours have been circulating in America that Amazon intent to alert American police when illegal immigrants appear in their networked facial recognition technology. If this is true, then we can see the the third phase in Galič, Timan and Koops article of which encompassed, *“peer-to-peer surveillance”* would certainly be relevant. Amazon’s Ring product shows a new and direct development in this area. A clear panoptic technique. With this level of surveillance around houses and neibourhoods, Amazon has managed to outgrow government intelligence agencies. They have surpassed state technology and now inform the military. Authorities no longer see the need to develop their own surveillance methods because they can heavily rely on private enterprise. Government agencies are now secondary because of this, and not surprisingly. Who would purchase cameras and microphones and place them in their residence for the purposes of allowing government organisations to eavesdrop on their personal lives? Enterprise has ingeniously created a demand for the very scenario. Just like the annihilation of space and time that comes with the regular use of a smart phone, since users can be contacted at any time and their information harvested without knowledge, the same is now happening on a much more integrated level. Even our own private time and space is being intruded and capitalised upon, *“...we have run out of world to commodify.... Commodification can only cannibalize its own means of existence, both natural and social.”* (Wark, 2019:48) This allows further insight and malleability of our data because of the opportunities provided for the analysis of our time distribution, allowing further pressures and parameters to be placed on us. All of which is provided from shiny gadgets we excitedly buy and place in our homes.

Conclusion

The mass surveillance of individuals through Amazon's Ring and Echo products, correlate with Bentham's panopticon in the following ways.

Using illumination as a tool.

Bentham's panopticon illuminates' cells with light. The light is used as a tool to enable one-way viewing. GPS, cameras and microphones allow smart phones to access location and visual feedback along with audio; but it can only derive content when it is beside the individual. If left in isolation it cannot gain knowledge. Amazon's smart devices illuminate people, places and spaces in similar ways; however, they have stretched the square footage in which they occupy, mainly in people's homes. This has ensured that regardless of whether the smart phone is in proximity to the individual or not, they are still able to gain feedback and therefor able to harvest data. "These networks of information subsume... the human as "user," who becomes a producer of information even when not working." (Wark, 2019:78)

One way viewing and anonymity.

Bentham's watchtower was a visible one-way viewing tower that could clearly gain visual feedback to the inspector because of the empty space between the tower and the illuminated cells. Its subjects could be viewed on a one-to-one basis or as a greater whole. Smartphones achieve this through the aforementioned technology contained within, however application functionality permit private enterprise to access personal data. The phone is a cyberspace where instant visual, and audio feedback can solicit data doubles. Data doubles are harvested and allow private organisations to look and relook over past choices. This does not just create clear open spaces for instant feedback, but is records every account of people's digital choice, effectively turning every action into live and historical content. Further development to this include new tools and strategy. Networked technology

gives further insight and knowledge to better manipulate people with. Amazons doorbell and Alexa have normalised microphones and speakers. Interactions between humans and AI are increasing, with the assimilation of information the devices personalise the experience to the user to encourage further use and reliance. Working on behalf of the individual. Here we slowly see elements of inspector status being passed over to the subject which allows for an empathy to occur, as being in control and having the one-way viewing tower is not as scary as we might have previously thought. But these networked technologies turn every environment into extraction zones. Where content can be taken, with or without permission.

The management of large numbers of people.

Smartphones distract people and allow for the management of attention to be easily achieved, and on mass scale. They can facilitate a connection to work whilst on the move, and of course this is very good news for the opportunities for purchases to be made, and production to continue. It manages large numbers of people and gives data to create data doubles to further manage people through the knowledge-power dynamic. Mobile phones go wherever the person goes; this means that they can be managed on a one-to-one basis but more importantly in all environments. Amazon products manage people in and across more enclosed places and the surrounding areas. This is a more static stance, and because of such creates a security type feel to their Ring product. Especially now that they are working with police across the world to capture criminals and keep neighbourhoods safe. This is a more outward looking management style. It looks at the greater whole and manages through technology and government departments providing information to Amazon. Turning the country into a privately ran surveillance state where discipline exists, control exists but so does constant surveillance, in all places and spaces. Amazon are the central hub in which all information feedback, they are the server and authority.

People self-regulate through a split in the mind.

People are aware of their actions now more than ever. This awareness has unfolded into additional areas, where people avoid searching for specific keywords in order to avoid being judged by private companies. This correlates to an entity of authority that has split the psyche into being both warden and prisoner. This has forced discipline and control, being that technology occupies all spaces, which help to achieve the malleability of individuals.

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