DO ANDROIDS
DREAM
OF
SUSTAINABILITY?

MUO-E8023 / ASSIGNMENT 2

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INTRODUCTION

Picking up on the original title by Philip Kindred Dick, this essay will explore the realms of sustainability in Blade Runner (1982) and its successor Blade Runner 2049. To keep an easy to follow structure, I will outline relevant value-giving elements depicting sustainability according to the triple bottom line framework in the following order: environmental, economic, social.

Looking at the opening titles of the original Blade Runner, we get a precise image of the early 21st century, that is going to be laid out in the movie: The "hazardous exploration and colonization of other planets" lets us assume that planet Earth can't supply enough resources for society to survive. A single corporate called Tyrell, apparently even holding executive power, creates robots not only "used offworld as slave labor [sic]" but also as "combat team[s]". And finally, even though the latest so-called "replicants" are "virtually identical to a human", special police forces, "Blade Runner Units", hunt and shoot insubordinate replicants while this is "not called execution [...] [but] retirement". (Blade Runner, 1982, Opening Title)

The succeeding movie, Blade Runner 2049, introduces a planet Earth after "[t]he collapse of ecosystems" and the introduction of "synthetic farming" to prevent famines. This new farming technology allowed its "master", the "industrialist Niander Wallace", to substitute the bankrupt Tyrell corporation and design "replicants who obey". Those who don't, "are [still] hunted down and 'retired". (Blade Runner 2049, 2017, Opening Title)

Not even before we see the first picture in one of the movies, we know about eco-system degradation and collapse, harvesting of resources in space and artificial farming in the realm of environmental sustainability. The economic realm is represented by monopolistic corporates, their rise and fall, takeover and rapid innovation. Socially, we get to know about "bioengineered humans", that are either used as slaves in unhuman conditions or - in case of disobedience - killed on demand without any legal consequences.

WHAT DO HUMANS DREAM OF?

The scenes that follow the opening of 1982 depict an intense urbanisation and increase of density, powered by fossil fuels as to be seen in the oil rigs throughout the mega-city. A dark and dusty or dusky atmosphere throughout the whole movie keeps up this feeling of being trapped between concrete and exhaust. Apart from the final scene, we barely see anything in nature nor sun light. In Tyrell's office, he uses technology to darken the windows and keep the sun out. Waste piles in the rainy streets, a vacant and decrepit city "palais" giving home to a brilliant genetic designer: this city shows a society that blindly raced into progress and development while giving its environment. When Deckard tries to order sushi at a mobile noodle bar he only gets half of what he wanted because there is simply not enough fish.

Tyrell corporations headquarter on Earth dominates the cityscape with it's ancient pyramid like structure. The intertwinement of corporate, power, religion and technology paints a society that based all its hope on technology, ultimately depicted in the slave-like androids or replicants. Since Earth is getting less and less habitable, "off-world" planets are advertised. A general omnipresence of marketing screens gets even more intrusive by the flying vessels that promote "a brand new world". With technological advancements increasingly allowing fulfilment of the needs for consumption, humans can now move on the next planet and continue their exploitation at the same pace:

"The Dominguez-Shimata colony wants supervisory recruits and families.

Join us in a clean, fresh environment featuring the invigorating Johnson and Murikami California Climate!

(WE NEED YOU YOU you you you)

Enjoy the numerous recreation areas and resorts such as the famous Elysium Crater Resort!

(WE NEED YOU YOU you you)

Let our abundant man-made labour force cater to your personal needs!"

Socially, there is a distinction between "little people" and the rest of humanity. The latter seem to be superior to the first, but the exact relation is not explained. The man-made androids aren't counted towards humanity and therefore threated in an inferior way. They are consumer or investment goods with a pre-defined lifetime even though they are technically superior to humans and could function open-ended. Tyrell corporation implants memories to trigger human-like emotional responses that allows the control androids. We therefore see a society that is not only build on a lack of inherit equality, but also introduced an artificial, per definition inferior "species", to dominate upon. (Blade Runner, 1982)

Blade Runner 2049 begins with a flight over a dense but more organised and structured mega-city, than the one in the original. Vast areas outside the city are used for production of protein-rich organisms by replicants. The farming itself is performed in hermetically sealed-off tent-structures, while the natural environment is a dry wasteland showing only scattered, dead trees. It is a planet, that was turned close to inhabitable that lacks any interaction between humans and eco-systems. In contrast to the Blade Runner (1982), we also get to see places outside the city, either massive landfills of waste - or the abandoned ruins of Las Vegas, where Deckard and the rebelling androids hide. The general ambience is more positive, less chaotic and in general more "modern" and "futuristic" than before. Technology seem to be an answer to some of the problems introduced mainly by technology in the first place.

Mutiny and rebellion of disobeying Tyrell replicants made their production illegal and turned the corporate bankrupt. Enabled by the new farming technologies, Wallace's economic power allows him to take over Tyrell and introduce "better" androids. Corporate power is still (or maybe again) the dominant force in a society which is based on virtually free labour through machines since it allows the manufacturing and technologic advancement of those machines. K's apartment is a retro-fitted office, which was rendered unnecessary. A pyramid-like Wallace headquarter, like the one from the 1982, is inhabited by an even more religiously painted leader: The blinded being (it is unclear if Wallace is human or replicant) summons hovering techno-artefacts that allow him to observe his surroundings while he tinkers around with the bioengineered humans, which he treats as his creation and therefore own property. Outsides, advertising and consumption got even more immersive with e.g. over-sized holograms of "Joi", a virtual A.I. that serves as a companion for both, humans and replicants.

We can still see a difference in social status between humans, but at least replicants seem to be more integrated into society since the advertised products address both humans and androids. What is becoming more obvious, is that there are increasing social inequalities between the replicants. They don't only work as slaves any more but have different occupations from prostitute to detective. Apart from that, they are still socially inferior to their human counter-parts but tend to be more self-aware and courageous: Luv taking the initiative to hunt K (or Joe) and then killing Joshi (or Madam) along with an underground group of rebel androids planning to free their own kind. (Blade Runner 2049, 2017)

WHAT DO ANDROIDS DREAM OF?

Both movies are wonderful illustrations of Science Fiction in Western future studies, while at the same time lacking the imaginary alternative to a capitalistic pathway in a society that centres itself around technology instead of humanity. (Son, 2015) Economic growth and innovation undermined the realms of environmental and social sustainability. There is a disturbing absence and lack of transparency in the separation of powers. Humanity distanced itself from a natural living environment, slowly degrading it until the point it collapsed and thereby drove humanity on the verge of existence. The blind trust and frenetic pursue of progress shifted the focus of society ever more to the individual instead of the collective. When confronted with a problem, this society comes up with a technological solution instead of a social innovation. (Manzini, 2015) Colonisation of new planets eradicated the problem of eco-systems or behavioural change on Earth. Android slaves would in theory render work for humans unnecessary. Surprisingly, we learn almost nothing about what substituted work in this society. What we mainly see, is those who are left behind the stream of progress and those who have been forgotten. Even the creators – Tyrell, Sebastian, Wallace – alone and obsessed with their act of creation instead of enjoying the result.

Even though we clearly see a dystopian sci-fi future, there are surprisingly realistic path-dependencies illustrated in the movies. From social isolation in increasingly dense settlements to the collapse of ecosystems due to human incapability of co-existence with nature; we can get a glimpse of the possible consequences of today. Some of the elements could even be aligned with contemporary future or transition theory: Wallace's economic rise is in the middle of a disturbance of the *socio-technical landscape* (eco-system collapse > famine) that allows his *niche innovation* (synthetic farming) to permeate and dominate the *socio-technical regime* (which then allows new replicants). (Twomey & Gaziulusoy, 2014)

"The questions, What do we want to sustain? and For whom? are deeply challenged by the technoscientific ideals of indefinitely optimising life, extending the definition of natural resources and substituting them by rationally designed artefacts. [...] This vision redefines our relationship with life-supporting infrastructures and processes, and with the other living beings (including the humans) that we implicitly integrate or dismiss in the meaning of 'we'. In this techno-scientifically grounded universe, complexity is the main obstacle to overcome for securing a sustainable future, [...]. The smart Leviathan [...] eliminates the analogic complexity from our economic, political and social life, and the synthetic Leviathan of the new life sciences restores logic in the chaos and redundancy of biological evolution and provides rationally designed organisms on demand."

(Benessia & Funtowicz, 2015)

Individuality, identity and inequality are among the core values discussed in both Blade Runner movies. Implanted memories to control behaviour via emotions makes one think about how emotions triggered by our memories control us. On the other hand, they are what is making us individual and "real". We start thinking about what life in general means: "All those moments will be lost in time [once we die]", no matter if we are human or replicant. What for if it is all gone in the end? Besides the fact, that replicants in theory do hold the capability of storing their memories - digital memory storage doesn't lose its information the same way the human brain does. Most of the time, replicants are depicted "more human than human" in their behaviour and social interaction.

I recently thought a lot about what an artificially created, intelligent entity would think about the purpose of life. What it would think about the concept and values behind sustainability. A machine might not necessary want to sustain the Holocene. The idea of wealth or economic growth might seem somehow irrelevant as well. Socially, it might come up with a completely different set of constructed values than we did. Or do we want to limit it to our values? Can something made by humans even be socially sustainable? How do we define life if we can create it artificially? Are we necessarily part of this life? The rebellious replicants mainly have one thing in mind after they realise their potential of reproducing: Being "more human than humans" and being their own "masters", destroying what created them. But how is that surprising if everything they have is what we gave them.

"In the shadows are more Replicants... hiding... allied. Her silent, slithering army. A collection of those awakened to a dream.

We can sense their dissatisfaction like we can [sense] their number. Both vast.

The shadow of the coming, violent storm."

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All quotes are, if not stated differently, taken from the motion picture scripts accordingly.

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