THE TESLA IN THE WORLD OF SIGNS –
BETWEEN GOOD AND EVIL

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Abstract: In the context of the environmental debate, the popular dichotomy of good and evil becomes the dichotomy of ecological and unecological. Since its introduction in 2012, the Tesla Model S has become the synonym of environmentally-friendly driving. The car has become much more than its use-value, not only because its creators have chosen to fill it with meanings ("0 engines, 0 emissions, 100% electric" is an early advertising slogan) but also because by entering the world of signs, the objects begin to live independently of their subjects. Although the status of the Tesla as a sustainable means of transport remain questionable, it still manages to function as one in the sphere of the virtual.

Keywords: electric cars, hyper real, sign, semiotics, Tesla.

1. Introduction

Since its introduction in 2012, the Tesla Model S has become synonymous with environmentally-friendly driving, and it has been marketed as a sustainable means of transport. However, the relation between Tesla and the idea of sustainable development is far from straightforward. The aim of this article to shed some light on this relation, but also on some semantic complexities of the term *sustainable* itself. In order to account for these complexities, it seems necessary to make use of the developments of the 20th century semioticians, particularly Roland Barthes and Jean Baudrillard, and their concepts of *myth* and *the hyper real*. These will hopefully prove useful in explaining the complexities of the relation between the pioneering electric vehicle and the idea of sustainable development.

2. Defining sustainable development

Before it is possible to discuss the relation between electric cars and the sustainable, it is vital to define the latter. Even though the term "sustainable development" had existed before (Schmuck, & Schultz, 2002, p. 5), the 1970s saw the concept reemerge in the context of the development in poorer nations and the lifestyle within industrialized nations which was deemed incompatible with the carrying capacity of planet Earth (Schmuck, & Schultz, 2002, p. 5; Olson, 1985; Meadows, Meadows, & Randers, 1972). The 1987 Brundtland Commission report defined "sustainable development" as a compromise between continued economic growth and environmental protection (World Commission on Environment and Development, 1987). From then on, the term has been used in reference to all kinds of environmental issues and the UN has defined sustainable development as meeting "the needs of the present without compromising the ability of future generations to meet their own needs". The September 2015 agenda presented 17 Sustainable Development Goals and it formulated 169 associated targets, which include eradicating poverty in all its forms and dimensions. It also reaffirms the importance of human rights and international law and it emphasizes the necessity to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change (Transforming Our World, 2015).

3. Sign structure and the typology of signs

According to Umberto Eco, 'semiotics is concerned with everything that can be taken as a sign' (Eco, 1976, p. 7). For Charles Morris, it is the 'the science of signs' (1938, pp. 1-2), whereas Charles Peirce defined 'semiotic' as the 'formal doctrine of signs'. Originally semiotics was mainly concerned with the meaning of natural languages (e.g. Saussure, 1916/1983), but over the years with the work of such scholars as Mikhail Bakhtin, Algirdas Greimas, Roland Barthes, Yuri Lotman, Christian Metz, Roman Jakobson, Jan Mukařovský, Louis Hjelmslev, Jacques Lacan, Claude Lévi-Strauss, Umberto Eco and Julia Kristeva, it has embraced a wide range of studies including those in art, literature, anthropology and mass media. Barthes remarked that what all semiotic studies have in common is that they are not content with meeting the facts, but rather they define and explore the facts as tokens for something else (1957/1993a, p. 111).

According to an early definition by Saussure (1916/1983), a sign consists of the signifier and the signified. The signifier is the form of the sign, which for Saussure was primarily the spoken form of a word, but in subsequent studies it could also be a photograph, a facial

expression, a painting or a road sign. The signified is the concept or object that is represented. That concept or object might be the actual object represented by a painting, a sculpture or a photograph, the command to stop (in the case of a road sign), etc.

Peirce added a third part of the sign, the interpretant or what the audience makes of the sign. In Peirce's own words: 'A sign stands for something to the idea which it produces, or modifies… That for which it stands is called its object; that which it conveys, its meaning, and the idea to which it gives rise, its interpretant' (Peirce, 1960, section 2.228). Eco (1976, p. 68) notes that the interpretant must not be mistaken for the interpreter and defines it as 'another representation which is referred to the same object'. The interpretant can come in different forms. For example, it could be the equivalent sign-vehicle in another semiotic system, or a drawing of a dog may to somebody correspond to the word 'dog', or a cartoon Tesla Model S appearing in the animated film *Bojack Horseman* will most probably produce in one's mind an image of a real-life Tesla before it is finally interpreted. Eco also notes that it can be an emotive in an association that acquires the value of an established connotation: dog signifies fidelity (Eco, 1976, p. 69).

According to Peirce's classification, the signifier, i. e. the form of the sign, can be classified as one of three types: an icon, an index, or a symbol. An icon has a physical resemblance to the signified. In the index, the relationship is 'concrete, actual and usually of a sequential, causal kind' (Eco, 1976, p. 69; Hoopes 1991, p. 30). A pointing finger is a classic example of a signifier whose relationship to its signified is indexical in mode. Another example could be a knock on the door, which may be an index of someone's presence. Boris Gasparow (1967/2002, p. 33) notes that these first two types of signifiers have one thing in common, i.e. they are motivated. The kind of motivation, however, is different, being metaphoric in the case of icon and metonimic when it comes to index. In the symbol, the relationship between signifier and signified is said to be arbitrary; it requires the 'active presence of the interpretant to make the signifying connection' (Eco, 1976, p. 69). According to Hawkes the major systematic manifestation of signs in this mode occurs in natural languages (2003, 104-105).

One of Roland Barthes' significant contributions to the theory of semiotics is the development of the concept of mythological sign or myth, a concept widely used in analyses of popular culture signs. In myth, we find the Saussurean sign structure of the signifier, the signified and the sign. However, myth is a more complex system, utilizing a semiological chain which existed before it: it is a second-order semiological system in which a sign (the total of a concept and an image) in the first system, becomes a mere signifier in the second (Barthes 1957/1993a, pp. 114-115). So within a mythological sign, one sign becomes but a signifier of another sign. In other words, there are two semiological systems in myth. One of them is 'staggered' in relation to the other. The first is a linguistic system, 'the language (or the modes of representation which are assimilated to it)', the other is myth itself, which Barthes refers to as metalanguage, because 'it is a second language in which one speaks about the first'. In other

words, the myth transforms language into form, which is why it is also described as 'stolen language' (Barthes, 1957/1993a, pp. 131-132).

Another attempt at adapting the semiotic theory to the challenges of analyzing meaning in the era of mass-media was enunciated by Jean Baudrillard in his seminal article *Simulacra and Simulations* (1981/1988). The French philosopher and cultural anthropologist related to the problem of generation by models of a real without origin or reality – a hyper real and a signs without a signified – a simulacrum. In his discussion, Baudrillard pointed out that we live in an age where attempts are made to make the real coincide with models of simulation so that we are not able to tell one from the other. He claimed that the 'new real' is produced from miniaturized cells, matrices and memory banks. It can be reproduced an indefinite number of times from these and there is no need for it to be rational because 'it no longer measures itself against either an ideal or negative instance' so it is simply 'operational'. Baudrillard points out that it is no longer really the real, because there is no more imaginary that could envelop it. He also believes that by crossing into a space 'whose curvature is no longer that of the real, nor that of truth' the era of simulation is inaugurated. It is marked by a liquidation of all referentials. What is more, with their 'artificial resurrection in the systems of signs', they infect all systems of equivalences, all binary oppositions. They are much more than just imitation, duplication or parody. The 'signs of the real' substitute the real, every real process is deterred by its 'operational double', a 'programmatic, metastable, perfectly descriptive machine that offers all the signs of the real and shortcircuits all its vicissitudes'. Baudrillard further argued that it will never again be possible for the real to have the chance to produce itself because 'such is the vital function of the model in a system of death, or rather of anticipated resurrection, that it no longer even gives the event of death a chance' (Baudrillard, 1981/1998, 166-167).

Accordingly, we live in the hyper real created by mass media, and in the second decade of the twenty-first century the main medium is the Internet, which extends to all areas of life. According to Baudrillard, the real and the virtual no longer have anything in common, nor is there any communication between them: the unconditional extension of the virtual (which includes not just the new images or remote stimulation, but the whole cyberspace of geo-finance, the space of multimedia and the information superhighways) brings with it an unprecedented desertification of real space and of all that surrounds it (2002, 57-58).

To sum up this rather succinct discussion of signs and semiotics, it is worth emphasizing that semioticians believe that all culture is made up of signs. According to Uspensky (1967/2002, p. 29), culture is a system of signs existing between man (as a social being) and the reality that surrounds him and it is a mechanism of processing and mapping out information coming from the outside world. It is worth noting that within a given culture, some information may turn out to be important, while other information is ignorable. However, in the language of another culture, the very same irrelevant information may be very important.

4. Cars as signs: automobility versus nature

The aim of the following sections is to discuss but a few instances of cars functioning as signs in modern culture. One of the aspects of this is their relation to Nature. The evolution of the car-nature dichotomy is going to be analyzed with reference to the classic semiotic text of *The New Citroen* by Roland Barthes, as well as Jim Conley's analysis of modern automobile advertisements and a now-obsolete advertising slogan for the Tesla Model S.

In *The New Citroen,* Barthes argued that cars are an exact equivalent of the Gothic cathedrals – 'supreme creation of an era, conceived with passion by unknown artists, and consumed in image if not in usage by a whole population' (1957/1993, p. 88) The DS – an acronym, whose pronunciation is the same as the French for 'Godess' (déesse) – delivers on its promise. It looks as if it 'has fallen from the sky'. Bathes noted that an object is the best messenger of a world above that of Nature, 'one can easily see in an object at once a perfection and an absence of origin (…) a transformation of life into matter' (88). He also remarked that matter is much more magical than life. It is smooth, and smoothness is always an attribute of perfection because its opposite reveals a technical and typically human operation of assembling: Christ's robe was seamless and so is the metal of which airships of science-fiction are made. Barthes further noted that the DS marked the new phenomenology of assembling, progressing from the world where elements were welded to one where they are juxtaposed and held together by sole virtue of their wondrous shape, which is meant to prepare one for the idea of a more benign Nature (p. 89).

Most importantly, Barthes argued that the DS marked a change in the mythology of cars. It proceeded from the category of propulsion, to that of spontaneous motion and that 'until now (1957), the ultimate in cars belonged rather to the bestiary of power'; here it became 'more spiritual and more object like'. This meant turning from an alchemy of speed to a relish in driving.

In both of the mythologies of cars that Barthes refers to, the car dominates over Nature. In the earlier mode, Nature succumbs to the roaring beast of a car engine. In the newer one, Nature is replaced by a better replica of itself (it becomes even better than the real thing). The former approach can still be found in some car adverts. According to Jim Conley (2009, p. 50-51), dominance over Nature appears frequently in SUV ads. In his sample of ads, cars as well as SUVs, are frequently depicted in 'wild, natural settings (35 cases, 26 percent), sometimes stationary, sometimes speeding along open roads, usually with no people or other vehicles in sight'. He also noted that Mercedes cars use rugged mountainous terrain as backgrounds for C-class sedans and GL-class SUVs (p. 52).

Like the DS and a gothic cathedral, the Tesla is now consumed in image and not necessarily in usage by the general public. Since its introduction in 2012, the Tesla Model S has become synonymous with environmentally-friendly driving and this, rather than the design of its body,

has grated it its iconic status. One of the reasons the car has become much more than its use-value, is that its creators have chosen to fill it with meanings, which is not an uncommon marketing strategy – it is now a common practice to add all sorts of narrations to products. '0 engines, 0 emissions, 100% electric' was an early advertising slogan. A current slogan on the company's website states: 'Tesla's mission is to accelerate the world's transition to sustainable energy'. We are also informed that '(t)oday, Tesla builds not only all-electric vehicles, but also infinitely scalable clean energy generation and storage products. Tesla believes the faster the world stops relying on fossil fuels and moves towards a zero-emission future, the better.'

Tesla introduces a completely new mythology of cars. Nature is neither to be defeated nor replaced by a better Nature (or a simulation thereof). It is now our goal to protect it and the electric car is supposed to help us achieve this aim. However, is not Tesla's sustainability just another popular culture myth?

5. Good and evil in the environmental debate

In the environmental debate, the dichotomy of good and evil is replaced with that of ecological versus unecological. On the side of unecological we have all sorts of individuals, groups of people, institutions and actions, be it producing energy from coal, traditional, fuel-burning cars or the organizers of the recent COP24 conference in Katowice. Two classic environmental movement texts also add to this list: the Catholic church and liberal democracy. In his classic article 'The Historical Roots of our Ecologic Crisis' (1967), Lynn White Jr saw the Catholic church as the root of all evil as he holds it primarily responsible for the crisis in question. Garrett Hardin's 'The Tragedy of the Commons' (1968) argued that property-in-common and democratic liberty were the chief villains.

On the side of ecological are wind turbines, solar panels, green roofs, bicycles and electric cars. However, it must be clearly stated that the contemporary debate, unlike the above-mentioned texts by White and Hardin, tends to be simplistic in its use of the eco-friendly and eco-unfriendly dichotomy. Marketing specialists, reporters and journalists will sometimes produce texts whose persuasive force is based on it. It may become a useful tool for investing power in the referent or exercise power over the referent (cf. Hawkins, 2001, p. 34, discussing Iconographic Frames of Reference). Two examples of discourse making use of this dichotomy are the following reports from COP24 conference in Katowice taken from environmentalist news website *Girst,* and the well-established British online newspaper *the Independent.* The Shannon Osaka-penned *Girst* article is entitled 'This year's UN climate talks brought to you by coal' (2018, December 4) and this is how it depicts one of the stalls at COP24:

> The booth for the town of Katowice, sitting right next to the official one for all of Poland, proudly touts coal. And not just a little coal — coal made into soap, coal made into earrings and other jewellery, coal under glass, coal in cages — lots and lots of coal.

The Independent correspondent, Josh Gabbatiss, is equally critical towards the event:

> Manned by locals steeped in mining history, it sold soap, earrings and other jewellery, all made from coal. There was even a "shrine" to coal, displaying lumps of the black mineral in all their glory behind sheets of glass and metal mesh.

Among the sponsors of COP24 – which has been lauded as the most important climate event since the Paris climate agreement was agreed three years ago – are three Polish state-owned coal companies.

Stepping outside the center, and taking a lungful of the city's smog-filled air, a visitor could spot coal power plants in the distance, and just a stone's throw away is a museum built on the site of a former mine shaft.

A cynical observer might suggest Poland was mocking the earnest environmental campaigners and scientists who had come hoping to achieve a fossil-free world. After leading climate researchers made it clear in October that coal must be virtually eliminated as a fuel source by the middle of the century, its presence in such abundance seems like some kind of unpleasant joke (Gabbatiss, 2018, December 8).

The reports, quite understandably, declare the Katowice summit to be an environmental scandal. It is out of the question that coal as a fuel source must be eliminated, but the inclusion of Sadza Soap in the litany of sins against clean air seems unjustified. The message is that the Poles even wash with coal. "Coal made into soap" is almost as bad as the city's smog-filled air or a state-owned coal-mining company sponsoring a climate event. The way Sadza Soap was profiled in these mass media reports proves that being classified as good or bad may sometimes be a result of a relatively superficial analysis or be based on the rules of magic. The law of contiguity rather than an in-depth analysis was used here. Sadza Soap is actually made with activated carbon, which may be obtained from coal or but also from bamboo, coconut husk, willow peat and wood. But even if it is actually made from coal, it should be seen as a chance for coal to redeem itself. According to Marsh & Rodríguez-Reinso (2006), activated carbons were already known to Hippocrates (p. 12) and the earliest known applications include their use as a medicine to relieve digestion problems. This practice continues today in treatment to mitigate ingested drug overdoses. During World War I, activated carbon was used in gas masks. Moreover, it is also used in removing pollutants from air or water, which includes spill cleanup, drinking water filtration and the remediation of groundwater. If regenerated properly, it could serve as a star example of a sustainable material.

6. Playing with the Hidden

As remarked earlier, the Tesla is marketed as 'sustainable', which would mean it is on the side of environmentally-friendly. However, there exist all sorts of doubts voiced by both experts and members of the general public as to its sustainability. Below is a comment published under a Facebook advert for a new electric car by a different car manufacturer, Volkswagen:

> Besides their actual use, electric cars have nothing in common with ecology. The cost of production and utilizing used battery packs has nothing to do with ecology, but nobody mentions it because people swallow eco-propaganda like pelicans (Kleczka, 2019; the author's translation).

Notwithstanding the logical inconsistencies the comment contains and the popular pelican simile, beloved by right-wing radicals, it shows how some electric cars may be conceptualized by some. They are considered ˈeco-propaganda' because the texts of ecological discourse emphasize certain qualities while ignoring others. The existence of the hidden is a vital problem in the context of what has already been said here. It is, for a number of reasons, convenient to base one's argument on the oversimplified categories of ecological and unecologial, so there will always be the hidden, which can be played by both the proponents and opponents of a given idea.

The problem of the dichotomy of transparent versus hidden corresponds to Baudrillard's discussion of the secret (2002). The author saw it as an alternative which is 'in no way of the order of morality, of good and evil'. There is 'what is secret and what is generally known, which is a different sort of distinction'. He claims that certain things will never be put on open view; they are shared in secrecy as part of a type of exchange that is different from the type that involves visibility. In our world, everything tends towards the visible and the things that were once kept secret become occult, clandestine, maleficent. It will lead to people coining all sorts of urban legends and conspiracy theories, which is also the case in the discourse about the environment. This is precisely why the secret and the sustainable should be seen as mutually exclusive. The less is generally known, the more conspiracy theories and urban legends are coined. For instance, there is an urban legend which holds that it is necessary to use more coal to produce a wind turbine than one would use to produce the equivalent of the energy it generates in its lifetime. The data concerning this ratio is not actually kept secret, but it may not be readily available in everybody's Facebook feed so it is to a certain degree hidden to the general public. The British *10:10 Climate Action* website, citing *the Science Daily*, is ready to explain (citing, among other sources) that:

> building any kind of energy infrastructure creates carbon emissions. But the emissions produced in building wind turbines is offset in a matter of months by the clean power the turbines produce.

All energy generation has some kind of carbon footprint as a result of production, maintenance and decommissioning, and onshore wind turbines is no exception. However, US researchers assessed the lifetime cycle of 2MW turbines in the US and found that, with a 20 year lifespan, a wind turbine should pay back its costs in just five months of coming online.

The example above shows that a lot of the information which could be use to argue in favor of sustainable energy sources is not so much secret, or at least it is not meant to be secret, but rather believed to be secret by some.

Producing a Tesla car, or any other electric automobile, is a much more complicated process and proving the vehicle sustainable or not appears too complex a task even for very specialist and in-depth technical and economic studies. For instance, a recent study by Christoph Buchal, Hans-Dieter Karl and Hans-Werner Sinn (2019) attempted at proving that the modern diesel engine is more ecological than the Tesla power train and claimed that "The CO2 emissions of the battery-electric car are only comparable to those of a diesel engine in the best-case scenario, given Germany's current energy mix and the energy required for battery production". Petra Wiesmayer (2019) published a fierce criticism of this study, claiming that Sinn and his co-authors use "NEDC laboratory values for both vehicles, which are known to be fantasy values…" and that "studies show (…) that the deviations from NEDC to reality are on average 40 per cent higher for diesel and gasoline cars, while the deviations for electric cars are only 8 per cent". She also remarked that Sinn simply added the energy needed to produce the battery to the car without offsetting for the parts of the Mercedes Diesel that are not necessary in the electric car, such as combustion engine, transmission, exhaust system, exhaust gas cleaning.

Another aspect that should not be ignored is that the Tesla economic power is based on its virtual, stock-market value. Jean Baudrillard's critique of 'virtual economy' suggested it was very much the opposite of sustainable development. He argued that:

> Another catastrophic prospect, of which none of the champions of the virtual of whatever stamp have any inclining (whether we are talking of the occult masters of world finance or the proponents of a universal democracy of information), is the phenomenon of critical mass. We know how it operates at the cosmological level: if the mass of the universe is below a certain threshold, the universe goes on expanding and the Big Bang goes on to infinity. If it is above this threshold, the universe implodes and contracts in a Big Crunch (Baudrillard, 2002, pp. 58-59).

A further issue to consider is the very way of life the Tesla promotes. Paterson (2007) offered a devastating critique of modern 'automobility', stating that it is both autonomy-enhancing and autonomy-limiting, and proposed support for car-free futures prescribing the bicycle as one clear strategy for a sustainable transport in the future and claiming that in the long run automobility 'must go'.

It has been already argued that we live in a world where simulations of reality replace reality and in which even the most obvious signifier-signified connections tend to be questioned.

A horrifying example thereof might be Holocaust deniers, who promote a view in which the Auschwitz gas chambers are a hoax and they are not related to the extermination of millions during World War 2, even though the relation between the two is immediate and motivated – the chambers are an index of the Nazi manslaughter. There are also those who believe the Earth is flat, ignoring too easily-verifiable facts. It is hardly surprising that Tesla marketing specialists keep using the 'sustainable' label even though it can be questioned on a number of levels. This might come from the realization that in this case, the hidden is so difficult to penetrate that they will always be able to get away with it.

7. The Tesla and the virtual

It has been argued that some aspects of the virtual make it oppose the sustainable. However, paradoxically, even if we are not able to untangle all the secrecy the Tesla is shrouded in, it could still contribute to the promotion of the idea of sustainable development as the car has already entered the virtual and become a pop star. Even though the Tesla does not produce traditional TV adverts, it has entered the virtual through its placement in films. An unusual example of this is its placement in the Netflix cartoon *Bojack Horseman*. In one of the episodes, the main character, Bojack, gets a Tesla as a gift just before being part of an Oscar ceremony. Even though he is not even nominated, he is allowed to keep the car and at one point tries to fill it up with petrol. The scene reminds the viewer besides being cool, the Tesla is a car that burns no petrol. It may be argued that this way the sustainable becomes just a marketing label appropriated by a marketing machine of large corporation. The Tesla also takes advantage of the fact that the act of choosing a product is generally understood as a sign of advocating a certain idea in the modern, capitalist society. In this case it means accepting a certain model of life. This way, it promotes sustainability, making the virtual work to promote good.

8. Conclusions

It was the aim of this article to show the semiotic complexities of the Tesla electric car – we were not interested in its instrumental value, but rather in the way it conveys meanings. In the work, we showed that the Tesla is advertised as a sustainable means of transport and, as such, it becomes part of the ecological discourse in which the dichotomy of good vs bad becomes that of ecological vs unecological. By occupying a position on the side of the ecological, the Tesla brings about a change in what Barthes called 'the mythology of cars'. Instead of defeating Nature or replacing it by a better, virtual Nature, it is supposed to help us

achieve the aim of protecting the environment. However, current research shows it will be extremely difficult for the Tesla to live up to its promise of actually being a sustainable means of transport. The use of ecological vs unecological dichotomy may lead to oversimplifications that are convenient for journalists trying to exercise power over a referent or for marketing specialists trying to create attractive narrations, but it creates a layer of hidden meanings. In the case of the Tesla and its relation to the sustainable, the hidden is so complex that it is barely possible to untangle it, despite the fact that there is a vast body of interdisciplinary research on it. This helps the Tesla retain its status as a sustainable automobile. The Tesla also found its way to actualize its status as the star of the sustainable by entering popular culture. Hence, it is sustainable as long as the general public believes it to be. This way it is capable of promoting the idea of sustainable development without necessarily being sustainable itself.

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