

# Who is afraid of the humanoid? Investigating cultural differences in the acceptation of robots.

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**Abstract.** It is often argued that Japanese people love robots and that Westerners seem to fear them. Is there some truth in such statements and if so where does such differences come from? This paper presents a preliminary exploration of several aspects of the Japanese society and a survey of the most important myths and novels in Western literature. Through this analysis, we try to explain the historical evolution that accounts for potential contemporary differences in our behavior towards humanoids.

## 1 Introduction

Are there significant cultural differences between the way Westerners and Japanese see robots? Where would these differences come from? Different explanations are generally put forward. A very common one views Japanese people as technology fans, who love technology for the sake of it, whereas Westerners would regard artefacts as less important. In this paper, we would like to suggest that it may be the other way round. We will argue that it is precisely because machines are so central in the way Westerners view themselves that they are sometimes seen as potentially harmful and that symmetrically, it is because they are not so important for Japanese people, that they are easily accepted.

## 2 "Technology taming" in Japanese popular culture

### 2.1 The robot with the atomic heart and the giant colossus

When you ask a Japanese robot engineer why he decided to work in this area, he almost always answers that being a kid, he watched the cartoons *Testuwan Atom* on TV. This character was invented in 1951 by the famous cartoonist Tezuka Osamu. It is a small infant-like robot equipped with an "atomic heart" that defends humanity against various threats often coming from outer space. This cartoon was adapted for television in 1963, and exported under the name *AstroBoy* (suppression of the reference to nuclear energy, negatively viewed in the West). It can be considered as the primary ancestor of most of the artificial

and friendly autonomous creatures, both imaginary and real, invented in Japan since then. What may seem odd for a Western audience is the use of the nuclear energy providing a heart for the robot. It plays the role of a vital force. At the end of the Second World War, one could have expected that nuclear energy would be irremediably associated by Japan with death and defeat. But instead of being diabolized, the destructive energy is reintegrated in fiction as a positive life principle.

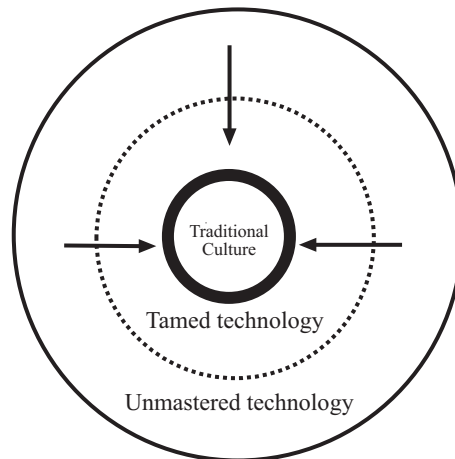
The other archetype of imaginary robots in Japan was also born in the 50s. The first character of this family is *Tetsujin 28 go*, a giant robot remotely controlled by a young boy. It is invented by another manga master in 1958: Mistuteru Yokoyama. It starts a long series of giant robots controlled by human operators, among which the most well-known are *Goldorak* (1975-1977), *Mazinger Z* and more recently *Giant Robo* (1992) or *Neon Genesis Evangelion* (1995-1996) [1]. These technological colosses are used as armor that transforms young kids into futuristic samurai. These robots are not autonomous, they are used as vehicles, a new body, a second skin. As pointed out by Alessandro Gomarasca, the kind of stories in which these robots are involved follow a rather fixed pattern [2]. An enemy is attacking Japan (or the Earth). These are typically monstrous extraterrestrial creatures coming from space. Their power comes from the mastery of frightening technology with which they have often fused becoming cyborg-like creatures, half-biological half-machine. To build the giant robot capable of saving the Earth, Japan scientists must master a new technology. Very often, this technology is not developed from scratch but in some way stolen to the aggressors. This explains why in a lot of stories the "good" robot looks nevertheless frightening. It is the sign of its foreign origin.

## 2.2 Taming technology

It seems that at least one particular point distinguishes such kind of stories from their equivalent in the West. In Japanese fictions, robots are systematically reintegrated in the human society. New kinds of bonds appear between men and these artificial creatures. Abandoned by its creator, Atom is soon reintegrated in a new welcoming family. Symmetrically, giant robots often play both the role of a father and a mother for their young pilots. Around robots a network of new links is built so that none of these creatures are left alone. Integrating such machines is a positive process.

Nevertheless, one kind of creature seems to be systemically excluded from these virtuous links. It is the set of hybrid monsters that often play the role of the evil forces in the giant robots sagas. The cyborg, a creature which has been fascinating Westerners since the end of the 20th century is seldom seen as a welcomed creature in Japanese fiction. Convergence between technology and biology seems to be always considered in negative terms. The young kid piloting the giant colossus symbolizes this well-defined frontier between the biological body and mechanical armor. In Japan, robots and humans may be living in harmony but side by side. Post-human perspectives are rarely considered as a positive future.

More generally, it seems that technology can be "tamed" without necessarily melting within it. This approach makes sense when you considered some elements of Japanese history. We may trace back this attitude to the ideological and political program of the Meiji period (1868-1912) [2]. Facing its first overseas threats, Japan had to defend itself. It was decided that part of the defense program would consist in learning how to master the threatening technologies of the foreigners. This seemed to be a necessary step towards defending the core of Japanese traditional culture. To a certain extent, this political program defined at the end of the 19th century is still present in the way Japanese consider technology. We can summarize this view with the following concentric circles (Figure 1). In the center exists a traditional core which is not affected by modernity. At the periphery we find foreign technologies potentially dangerous for Japanese integrity. In between, a set of "tamed" technologies that may have been one day "wild" but that are now well mastered and harmoniously integrated in society.



**Fig. 1.** Japanese approach of technology as depicted in popular culture: Foreign technologies, tamed technologies and traditional culture.

Beyond this political program, this principle of technology taming appears under diverse forms in popular culture. Besides the imaginary robots already mentioned, the world of the Pokemon, another successful exportation of Japanese popular culture, is entirely based on this principle[3]. In this imaginary universe, children must capture small creatures. Several kind of such creatures exist, each one possessing a particular power. Once a Pokemon is captured, it changes from a wild creature to a tamed ally, the child can now use it as a weapon. Having studied the characteristics of the creatures they have tamed, children engage in fights using their creatures as soldiers. It is not difficult to trace back in such a game a miniature version of the Meiji political program.

These different remarks invite us to draw subtler picture of the Japanese approach to technology. In Japanese fiction, technology does not appear as a fundamental quest, but more as a way of preserving what is essential in Japanese culture. There is no dream of fusion with the machines. On the contrary, it seems always important to keep a distance. This distance may be an important element to understand why robots seem less problematic in Japan than in the West.

Yet, we still have to explain what part of Japanese traditional culture makes machine building a positive activity. To answer this question we need to consider the importance of the natural and the artificial in Japanese society.

### **3 The natural and the artificial in the Japanese traditional culture**

One of the best well-known episode among Shinto myths is the tale of the vanishing of Amaterasu O-mi Kami, the sun goddess. The goddess offended by her brother's provocations decided to withdraw to a cave. As a result, the world was turned into darkness. To convince her to come back, the other deities decided to set up a spectacle with music, theatre and dances. The party was not a real one, but all the guests pretended to have fun, laughed and made a great amount of noise. Driven by curiosity Amaterasu O-mi Kami decided to take a look at what was going on and got out of her cave. As soon as she was out, the other gods blocked the entrance: the sun was back for good. What has saved the Creation of world is a simple masquerade, a faked party and forced laughters, set up to fool a goddess. In the Shinto tradition, artificiality is licit: it saved the world.

#### **3.1 The artificial reproduction of nature**

Augustin Berque [4] gives several examples showing how Japanese people do not oppose the natural and the artificial but on the contrary very often use the artificial to recreate nature. The difference between western fountains and Japanese small cascades illustrates well this point. In the west, fountains throw water high in the air. As it is a completely unnatural movement, the Western Man hopes to demonstrate his mastery over nature. On the contrary, small Japanese cascades mimic as closely as possible the way water naturally flows. They look much more modest than their western counterparts but often the hydraulic mechanisms underlying them reveal to be technically superior. The artist-engineer shows his art by transferring the elements that really count from the natural cascade to an artificial one. In this respect, to be able to copy means to understand and to pay homage to nature.

The same idea of artificially simulating nature is illustrated by the anecdote that has opposed two masters of Japanese esthetics Sen no Rikyu (1522-1591) and Furuta Oribe (1543-1615), his student [4]. The story goes as follows. Every day, a master of ceremony conscientiously ordered to remove all the fallen tree leaves off the path that lead to the roji (house of tea). Rikyu who did not like to see such a clean path explained to him that beauty comes from the

kind of disorder that nature spontaneously produces. He advised the master to stop cleaning the path several hours before the ceremony. In this lapse of time, some leaves could fall down and this should create an harmonious disorder. But Oribe disagreed with this piece of advice. His aesthetic view of the problem was going one step further. He recommended to clean the path very well and then to dispatch manually some leaves to recreate artificially a natural distribution. Indeed, sometimes nature creates very unnatural patterns. To reach a perfect aesthetic, it is better to understand the laws of nature and reproduce them artificially.

To build a robot that mimics a dog, a cat or a young artificial infant is a similar process. The more it resembles the real thing, the more gifted is the engineer. There is no need for another justification. The explanation provided by some companies about the utility of their robotic products often sound strange: robots for the elderly, robots as the remedy to solitude. Maybe it is just a way to try to have these objects fit in Western-style logic. For Japanese, robots are valuable because they reproduce an harmonious form. They can be considered as parts of a spiritual and aesthetic research [5]. In that sense, they have something to do with the notion of *kata* used in martial arts [4]. A *kata* is a sequence of gestures of maximal stability where the elements are following one another in natural manner. In the traditional conception of karate, to master each *kata*, one needs to repeat them over and over to rediscover the natural stability of the form. The *kata* has no finality in itself. In the international competitions of karate a rather different view prevails. It is permitted to hit the opponent. To export this martial art and turn it into an internationally practiced sport, it was necessary to remove the uselessness aspect of the *kata*. In the same way, it seems that an entertainment robot must be presented as a useful device to be accepted in the Western world.

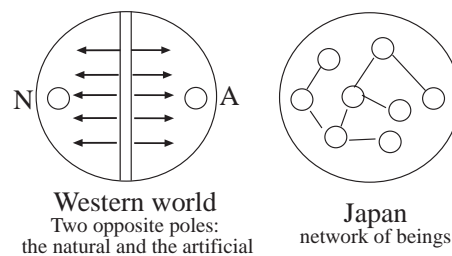
### 3.2 Linking beings instead of distinguishing them

More generally, from a Japanese point of view, it seems that the difference between the realization of nature and the production of Man tends to become blurred. Tokyo grows like a living organism without any real urbanistic control. Earthquakes regularly destroy parts of it. In that sense, it is not so different from emergent structures built collectively by insects. The city is self-organized like a natural process.

In the Western world, making the difference between nature and culture is a crucial issue. The idea is to organize the world in a systematic and precise way. Things should be on the natural side or the cultural one. There is no place for hybrids in such classifications [6]. In Japan, gods, men, animals, stones and all the possible intermediary beings seem to be part of a big picture. There is no pressure to make distinctions between them. On the contrary, Japanese create links between them to form a continuous network of beings (Figure 2).

This explains how Japanese people can be at the same time great lovers of natural things and not so good at developing ecological measures. From a western point of view, their behavior appears often paradoxical. Being so excited when

the cherry-blossom tree starts to be white in the beginning of May, worshipping every river and every mountain as if they were gods seem in perfect contradiction with whales hunting, the almost inexistence of recycling and other ecological inconsistencies. But given what we said, these paradoxes are only apparent. To protect nature efficiently, one must see it as something separated, that falls under human responsibility. A clear idea of the frontier between the natural and the artificial is necessary. Japanese people seem to have trouble with this Western view [7].



**Fig. 2.** In the western world, the distinction between the natural and the artificial is crucial. On the contrary, Japanese create links between them to form a continuous network of beings.

### 3.3 The apparent insouciance for authenticity

These two salient characteristics deeply rooted in Japanese tradition can give us already a clearer idea of why robots seem unproblematic in Japan compared to the Western world. We should probably add to this picture more contemporary features of the Japanese society. Westerners are often surprised when they walk in Tokyo, to see very nice places very close to dull ones, totally new buildings near old houses. It is as if Japanese people regard authenticity as an unimportant matter. Anachronism does not seem to matter in Tokyo where you can see traditionally dressed ladies buying hamburgers at MacDonal. The city looks like a big Disneyland where it is possible to encounter within a few meters houses of very different architectural-style and restaurants serving reinterpretation of most existing world cuisines. To describe an exuberant patchwork like Tokyo City only one English word seems appropriate: "kitsch". Japan is a place where "kitsch" is acceptable at a high scale. It is not surprising that in such a place, a strange life-like machine seems rather natural.

Behind the "kitsch" layer, one should read the special role played by the artificial for recreating the natural. It seems that Japanese are able to transcend external appearances of their surroundings to retrieve their own pieces of poetry. A good illustration of this can be found in these small pieces of color paper that are hanged in the streets during autumn to recall the colors of the tree leaves in an urban setting.

Other aspects could surely be mentioned in particular the Japanese taste for "Kawai" things (cute, infant-like objects)[8], but this rapid stroll through the very particular manner the Japanese view the natural and the artificial can already give us relevant insights to understand why robots can be well accepted there. On the way, we have collected some ideas about what makes them more problematic in the Western world. But we should dig somewhat more.

## 4 Artificial creatures in Western myths and novels: a quick historical survey

Where does the Western antipathy for robots come from? Has it always existed? Is it a recent phenomenon? To try to answer these questions, I will give a quick historical survey of artificial human-like creatures in myths and novels.

### 4.1 Pygmalion, the Golem and the homunculus

One of the oldest myths telling a story of artificial creation is Pygmalion's tale. Pygmalion was the king of Cyprus. He was also a gifted sculptor. Not attracted by the local girls of the island, that he found vulgar, the young king refused to marry and spent all his time in his workshop. This attitude was a threat for the kingdom, because Pygmalion had no son. One day he created an ivory statue representing an extremely beautiful young virgin. He fell desperately in love with his creation. Faced with this impossible love, he prayed Aphrodite to create for him a bride that would be as beautiful as his masterpiece. The goddess of love decided to make his wish come true and the statue became a real woman named Galatee. They married and eventually had a son. The royal dynasty was saved.

This story is probably the first instance of the theme of the artificial creature as a companion. It is important to notice that the myth does not present Galatee as an ersatz. She was not supposed to replace a real woman. On the contrary, for Pygmalion she was more beautiful and desirable than any of the women he ever knew. Nothing in the myth condemns the creation of this creature. The Greeks gave to the story a happy ending, which differs a lot with the tragic ends of others well-known myths like Oedipus.

In a very different context, the Golem is another interesting archetype of an artificial creature created by Man. The creation of golems was first mentioned in the commentary of the Sefer Jezira, the book of creation. This book probably written during the 3th century plays an important role in the Jewish Cabbala. To build a golem, a rabbi must imitate the way God made Adam in Genesis. He has to take some red clay and form a human shape out of it. Once the model is finished, the rabbi can animate the creature by writing the word meaning truth in Hebrew: "Emeth". The creature starts to breath, walk and can become a useful servant for the rabbi. If the creature is becoming too big or dangerous, the rabbi just has to suppress the first letter written on the Golem. The word "Meth" means death in Hebrew and the creature is turned back to a stack of inanimate clay.

The Golem illustrates how Man can imitate divine creation by research and science. In the Jewish tradition, such an imitation is not a bad thing in itself. God created the world by combining letters. Exploring the art of letter combination is an act of wisdom. It can be seen as act of devotion to God. This conception of artificial creation has some similarity with the Japanese tradition.

We find in alchemistic practices the equivalent of the Golem creature. The Swiss alchemist Paracelse describes in *De generationibus rerum naturalium* what one should do to create an artificial being. The recipe is different from the one of the Jewish tradition, but it has a similar structure. If one follows it consciously it creates an homonculus.

Thus, at the root of this genealogy of artificial creatures, we see two archetypes. The first one (Greek myths) introduces the idea of an artificially created companion creature. The second one (Jewish tradition and alchemy) views artificial creation as an exercise to understand God's know-how. In both cases, to create such creatures is not seen as a transgressive act.

#### 4.2 Rousseau, romantism and the turn of the 18th century

Artificial creation continued to be a noble thing till the 18th century. As the first automata appeared, in particular with the work of French and Swiss engineers like Vaucanson or Jacquet-Droz, the art of the artificial fascinated people. The machines shown in exhibitions were very popular. They were seen both as a way to understand human and as important devices for future industrial applications.

But the wind was changing. With the spreading of Rousseau's philosophy in particular, machine creation has started to be seen as an act of corruption. Rousseau tried to show how culture, science and even language corrupt man more each day[9]. To live in civilized societies drives Man far from the state of nature where he used to live happy. Rousseau pictured a primitive state where the first human beings did not know about good and evil, lived in perfect communion with nature, expressed their desire in a transparent way. But as they started to build tools and weapons, they began to master their environment. Man believed rapidly that he was superior to animals and felt pride and vanity. For Rousseau, this evolution was the original sin of our species. From this point, self-esteem had replaced the innocent love of the origins and the artificial had taken the lead on the natural.

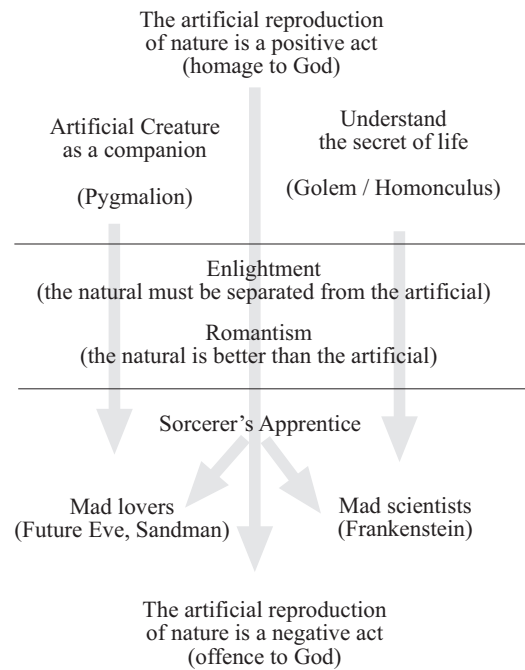
For Rousseau, we must try to return to this golden age. He tried to make his own life an example of abnegation. In his last books, he recalled with emphasis the nice walks in the mountains or in the forest. By rejecting the artifice of civilization, he tried to cultivate a kind of immediate feeling of life and hoped others would follow in such a quest against the artificial.

Initiated by Rousseau's thoughts, a new cultural stream emerged in England and Germany: Romantism. A growing number of authors started to share the idea that technical innovations and scientific progress conduct man away from its real nature. Greek myths and even the Jewish tradition of the Golem got reinterpreted in a very different way. Goethe revived an old Greek tale appropriate for this romantic view of the world: The Sorcerer's Apprentice.



Initially, this story by Lucien de Somasate (120- 180 BC) told how a young magician decided to use a magic spell he had seen his master use. When he was alone, he commanded a broom to fetch water to the well for cleaning the house. It worked and all went well until the apprentice found out that he did not know how to command the broom to stop. The basin began to overflow, soon filling the room with water. Morality: if you are not competent, just don't do it.

In *Der Zauberlehrlin*, Goethe gives a larger scope to this tale by assimilating the young apprentice with Man and the master with God [10]. This short story got a discrete but very important influence on the Western culture. Golem stories got reinterpreted in this perspective describing how the artificial servant becomes an uncontrollable creature that destroys everything on its way. Greeks myths, like Prometheus, were revived to support the romantic idea that Man goes too far in his ambition when he wants to play God. All is in place for the emergence of the Frankenstein syndrome.



**Fig. 3.** Evolution of the image of artificial creatures in Western myths and novels

### 4.3 The Frankenstein syndrome

In the summer 1816, during a stormy night, Lord Byron decided to challenge his guests to write an horror story. Among the participant, the young Mary

Shelley started to write the story of a doctor and his artificial creature. The manuscript she began that night became one of the world's most famous novels: Frankenstein.

Victor Frankenstein was a young Swiss doctor, initiated to the arcane of alchemy and to the new science of electricity. He pursued a holy Grail: understanding the secret of life. His project was to recreate from scratch a human being. He spent his nights in cemeteries to collect parts of dead bodies useful for his creation. It was a long work and Frankenstein was a bad surgeon. His lack of dexterity led him to build a tall and ugly creature. During a storm, he saw his artificial infant move for the first time. The doctor got scared and tried to flee. Because of its ugliness, the creature got rejected everywhere it went. It was not an evil being in itself but it was feeling alone. The monster turned back to the doctor to ask for a female counterpart. But after some hesitation, the doctor refused and the creature went mad at him.

Popular culture progressively filtered out all the complexity of this story to only recall the transgression of the scientist. A single rule was remembered and constituted the "Frankenstein syndrome": any artificially created humanoid will necessarily turn against his creator at some point.

During the 19th many novels explored the Sorcerer's Apprentice theme in particular by adapting the Pygmalion myth (Sandman in *Tales of Hoffman*, *Future Eve* by Villiers de L' Isle-Adam). Apart from the interesting exception of Carlo Collodi's *Pinocchio* (1883), the idea that to create a human-like machine is a transgressive act became common sense.

The word robot was coined in 1917 in a play by Karel Capek named *R.U.R.* (Rossum Universal Robots). In this play, humans started to build human-like machines, treating them as slaves. The Frankenstein syndrome was more than ever applicable. To create an artificial being was a transgressive act in itself, to put it in slavery worsened the case. In such a context, the robots' revolt was almost legitimized.

In the twenties, German expressionist films put these romantic fears in images with *Metropolis* (1921), *Der Golem* (1914, 1917, 1920) or *Faust* (1926). By the time of the second world war, the robot got tightly associated to fear.

When Isaac Asimov started his "Robots" short stories, he wanted to differ from the common Science-Fiction novels where robots systematically revolt against their master by suggesting that some security measures could be taken. He imagined the Three laws of robotics that should prevent robots from going rogue. But doing so, he legitimized even more the Frankenstein syndrome by viewing it as a fate that human try to avoid.

In contemporary fictions, the Frankenstein syndrome is still commonly present. It has been integrated as an aspect of technology that seems unavoidable. But by showing briefly how it arises, I hope to have pinpointed that it is a relatively recent evolution in the Western culture.

#### 4.4 The three steps of creation

Philippe Breton has studied the same corpus of texts about artificial creatures (including the scientific discourses about them) and discovered a similar structure that seemed to be followed by all the stories [11]. Behind the style diversity, it appears that all these texts are actually made using the same archetypical organization. The creation act is always a three steps routine.

First the creator chooses a raw material: ivory, clay, magic wood, parts of dead bodies, artificial neurons. In most cases it is a material with remarkable properties. Then this raw matter is modeled, sculpted, organized using the most advanced technologies of the time: hammer, mathematics, electricity, computer science, genetic algorithms. The creator aims at artificially reproducing what makes the essence of human beings: the fundamental difference with animals. This goal changes depending of time and places: beauty for the Greeks, movement and speech during the age of Enlightenment, intelligence for computer scientists during the cybernetics era, emotion or consciousness today. But despite all his efforts, the creator is unable to reach his goal. An external intervention is necessary to give a final and necessary touch to the creation: magic, divine intervention, lucky circumstances. Artificial creation is impossible without a *deus ex machina*.

With this three steps structure, each story gives a valuable account about the conception we had of ourselves at a given time in history. All these myths, tales and novels consider a human as the most advanced machinery of his time plus "something else", a mysterious *delta* that remains to be explained. The Western man puts all his pride in this *delta* which is supposed to be specifically human. To understand how this delta changes over time will give us an important insight on the causes underlying our fear of machines and robots.

### 5 Machines as models of the human self

Nowadays, mirrors take an important role in the Western world. But this has not always been the case. Till the 19th century mirrors were very rare in the houses. This seems difficult to believe. It was mostly during social exchanges that one could reconstruct some idea about oneself. It is in this context that we want to suggest a particular use of the machines that may seem surprising. We will argue that we have been using machines as mirrors for a long time and that we continue to view them as such. In the previous section, we showed that the Western Man defines himself as an advanced machine plus some mysterious human specificity. He does not want to consider himself as a machine but he has no other way to understand himself than building machines. We will illustrate this by looking at the history of paradigm revolution in medicine.

#### 5.1 The machines inside the body

What do westerners see when they look inside a human body? They see machines: the most advanced machines of your time. To understand how the heart beats

you must have invented the pump. Without this invention, the movement of this muscle remains totally mysterious. The pump was a wonderful metaphor. To explain how our body worked Descartes mainly used complex pneumatic mechanisms.

But the pump metaphor had its limits. Several researchers discovered a network of "tubes" that seemed to play a role for motor commands. It was the nervous system. Under the pneumatic model, these wires should have a liquid or a gas moving inside [12]. New optical devices were designed to see this internal cavity. Some researchers even pretended that they saw it. This quest could have continued a long time if a new idea coming from the first characterization of electrical phenomena by Volta and Galvani suggested another way of looking at muscle control. The nerves were supporting electrical messages. A new machine had arrived, our vision of ourselves changed.

The invention of the computer can be viewed as a third revolution. This machine introduced the crucial notions of software and hardware. The computer was a universal machine which could run an infinite number of possible programs. A few years later, Watson and Crick discovered that heredity is coded under the form of genetic program. The ADN supposedly contained information to drive the construction of a full living being. Once again, biology used directly an engineering metaphor. This latter one has been so successful that we almost forgotten that it is not the real thing, only a metaphor.

## 5.2 The upsetting machine

We see ourselves in the mirror of the machines that we can build. In such conditions, one could think that each new machine is happily welcomed because it enables us to have a clearer idea about ourselves. But this is far from being the case. Because new machines can potentially force us to redefine ourselves, challenging what was thought to be our specificity, we are afraid of them. Science-fiction novels describe an army of robots taking the power on earth but in fact what we really fear is that they make us change our view of ourselves.

We like the way we are and we do not want to change. Peter Sloterdijk has examined closely the mechanism that we use to prevent machines from upsetting us [13]. He explains how machines challenge our "narcissic shields" and how we painfully resist in this fight. But in the end, new metaphors of human introduced by new machines inevitably win, forcing the Western Man to redefine himself.

The same kind of process goes on with discovery in animal behavior. Human beings are thought to have specific features that animals lack. When biologists show that we are underestimating the complexity or the richness of some aspects of animal life, the specificity of human beings is again challenged and "narcissic shields" get activated. But in most of cases, we are not faced with these clever animals in our daily life. The situation is different with machines and in particular with mass-market robots. New humanoid robots currently under development may change in a great manner what we thought were features to be only human. This is maybe why some people from the Western world are not so happy to welcome them.

## 6 Conclusion

Making definitive statements about the West and the East is always a dangerous game. The investigations presented in this paper are only sketchy. They lead us to formulate the following tentative analysis.

In the Western world machines seems to be very important for understanding what we are. We think of ourselves by analogy with the way machines work. But at the same time, their progresses challenge our specificity. That's why we can be at the same time fascinated and afraid when confronted with new machines. In Japan, on the contrary, machines do not seem to affect the human specificity. The difference between the natural and the artificial is not so crucial and building machines is a positive activity in the search of the natural laws that governs the World.

However, these possible cultural differences do not mean that robots could not find a market in the West. Several recent examples have clearly shown how typical products of Japanese popular culture could be exported successfully. This tendency towards a "neo-orientalism" seems to amplify over time suggesting that the westerners find in Japanese culture some sources of continuous interest. Westerners may not start to think in the Japanese way, but they definitely may change their view of the world confronted with Japanese artefacts.

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