

DAT Minor
Theory and Philosophy



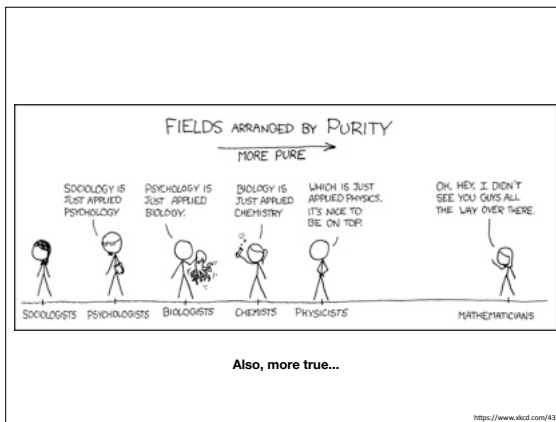
Part 3: A new method
The emergence of aesthetics as a
result of the Scientific Revolution

In this presentation we will talk about the Scientific Revolution and the role it played in the emergence of the notion of aesthetics as a separate category of knowledge.



introduction

By way of introduction, let's look at the contemporary relation between the arts and the not-arts; let's look at some objects that we might consider artworks and the role these object played in their respective worlds.



If one were to ask the general public, the common view would be that the sciences are ordered according to some kind of hierarchy. Allegedly, the more abstract a science pertains to be, the more pure this science is. We see this displayed in this nice cartoon by xkcd. On the extreme left we have sociology, which is viewed as 'applied biology', which, in its turn, is 'just applied chemistry', and so on until we come to the most pure science, namely mathematics on the extreme right.

Peoples of the world have recorded their most valuable inner visions and images in their works of art; for the understanding of wisdom and religion, fine art is often the key – and for some peoples this alone.

George Hegel 1989, p. 17 [trans. BB]

As we have seen, in our contemporary society science and technology reign as never before. We would likely state that only science and physics answer questions about the how and why of things. However, before the modern times we were also explaining and controlling natural phenomena. We did this in a perhaps more narrative manner, and the objects we would call *artworks* played a central role in this controlling and explaining.

This resonates a bit with Hegel's statement that art starts when the gods retreat from nature and take the form of man-made artefacts. For him, the material legacy (their *artworks*) of all cultures shows their explanation of the world and their wisdoms.



<https://archaeologynewsnetwork.blogspot.com/2015/07/worlds-oldest-pictograph-discovered-in.html>

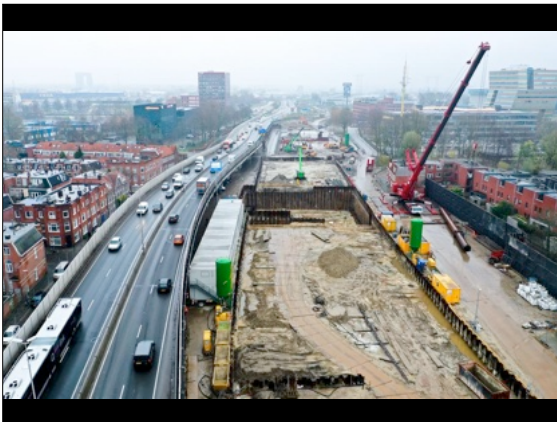
We have seen an example of this in the second session of this series, when we talked about the T-Shaped pillars of Göbekli Tepe. The changing metaphysics of the epipaleolithic altered the narrative explanation of the human condition, which in turn *necessitated* the erection of the T-shaped pillars.

You could look at these pillars as *tools*: objects that *needed* to be built in order to explain, control and predict the world their builders inhabited.



The same goes for the medieval times. Given the sparseness of pictorial imagery at the time, every picture (be it in a church, cathedral or public house) meant something within the specific iconography of the time. For us, this picture is beautiful and some people might know it is called *The Effects of Good Government*. But for the medieval people this picture was not only that, but also told them something about the way governments should operate.

These paintings, statues, buildings were used as a *tool*; not something nice and extra, but made of necessity. People went through a lot of effort in order to create these works, *because they were needed*.



You could relate this to our contemporary creation of highways. In a few hundred or thousands of years, people (should they still exist) will probably not understand why we went through so much trouble to create highways. We, however, feel a strong necessity to have these roads – we cannot imagine our world without them, our whole understanding of ourselves, our society and our metaphysics is tight to this worldwide complex of interconnected concrete stuff.



§1. the pre-modern concept of beauty

So, if these paintings, buildings and statues are tools, what do they need to be *good* tools? It turns out that the beauty of these objects coincides with their true-ness and the goodness. This is telling us something about the pre-modern concept of beauty.

pre-modern conception of beauty

independent existence

Objective category

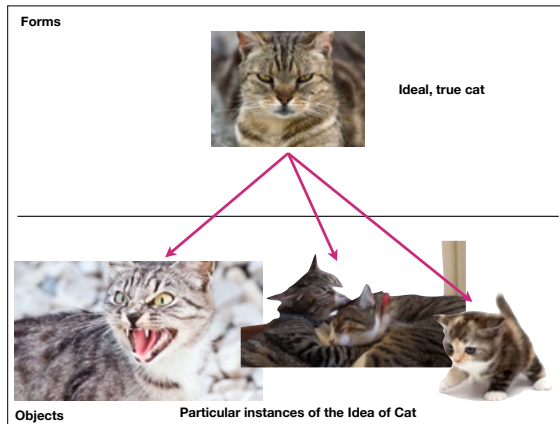
Unity with Good and Truth

There are three interesting facts to be noted with the pre-modern concept of beauty, all three of which would perhaps seem odd to people in the twenty-first century.

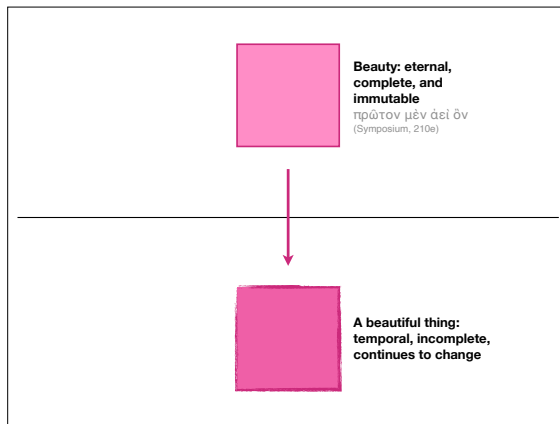
Beauty has an independent existence: beautiful things remain beautiful, even if there is no-one to observe their beauty.

It also is an objective category: the beauty of a beautiful thing is an inherent property of that thing; it is not just related to the effect the thing has on the observer.

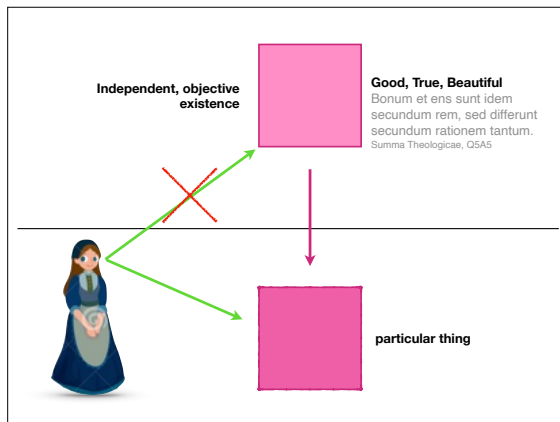
And beauty has a fundamental unity with goodness and truthfulness: a thing cannot be beautiful if it is not also true and good.



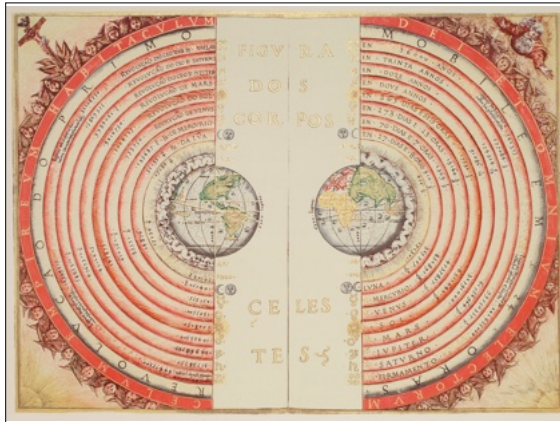
We can trace these properties back to the very beginning of Western thought. According to Plato, everyday phenomena are the way they are because they participate in the eternal and immutable *Idea* of this phenomenon. So for example every cat is the way it is because of its likeness to the *Idea* of cat. These Ideas have always existed and will always exist, even if there is no longer any particular phenomenon corresponding to this Idea.



He eventually develops a whole hierarchy of Ideas, with the Ideas of Good, Beauty and Truth being at the top of this hierarchy. These Ideas are immutable (they never change), they are eternal (they have always existed and will always continue to exist) and they are complete (they are not lacking anything).

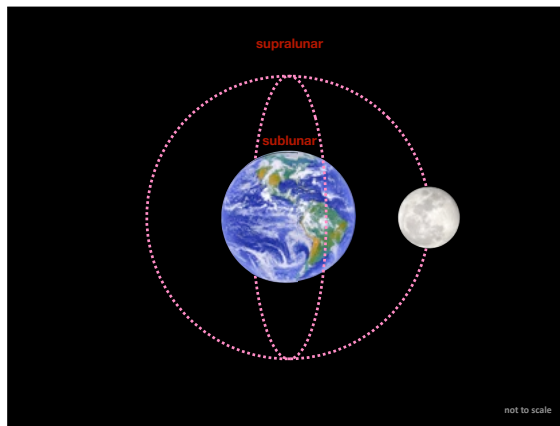


During the Middle Ages, Plato's philosophy was put into a Christian context. In this form, the monotheistic God played the role of the immutable and eternal Ideas. Because of His omnipotence and omnipresence, every Idea in the end needed to come together in Him. Everyday people were unable to perceive God directly, but could see Him through His workings in everyday phenomena. In this perception, however, this fundamental unity could become lost.

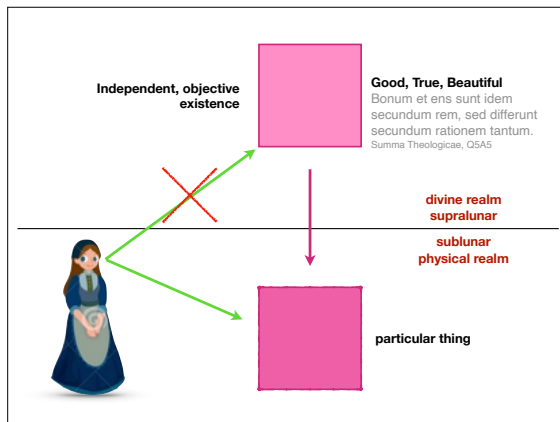


It is important to stress that in this Medieval metaphysics, religion, science and physics form one complete whole. At the time, most people were convinced that the Earth stood at the centre of the universe (though everybody knew it was a globe), with the Moon, the Sun, the planets and the stars orbiting around it.

The dichotomy of the eternal, complete and immutable Ideas on the one hand and the horrible, everyday life on the other screamed for a related dichotomy in the physical realm. What was the *location* where everything was eternal, complete and good?



If you put the earth in the middle of the universe, the rotating moon describes a sphere around the earth. Inside this sphere was coined 'sublunar' (*below* the Moon), while the outside was called 'supralunar' (*above* the Moon). The location where everything was eternal, good and complete turned out the supralunar realm, the place outside this sphere.



So before modern times, the universe was divided in two: the *sublunar realm*, where everything was temporal, incomplete and horrible, and the *supralunar realm*, where everything was eternal, complete and good. And the further away you went from the moon-sphere, the more eternal, more complete and more good everything was – with God, at an infinite distance from the earth, being the ultimate eternal, ultimate complete and ultimate good. However, things were about to change...



§2. the Scientific Revolution

The fundamentals of this metaphysics, that had held for almost two thousand years, were put into question as a result of the Dutch Revolt, which started in the second half of the sixteenth century.



During this eighty years war between The Seven Republics of the Netherlands and the Spanish Empire, the city of Antwerp was kind of a safe space for everybody who had different views and opinions. From all over Europe, people flocked to Antwerp because of her relative liberties. As a result of her geographical position and her big harbour, a lot of English wool arrived in Antwerp, which led most of the people to be occupied with the cloth industry.

In 1585, Antwerp was sieged and ransacked. This caused a lot of people (mostly jews and protestants) to flee north, mostly to Zeeland and from there to Leyden. As those people were mostly occupied with cloth industry, they took their knowledge and skill with them.

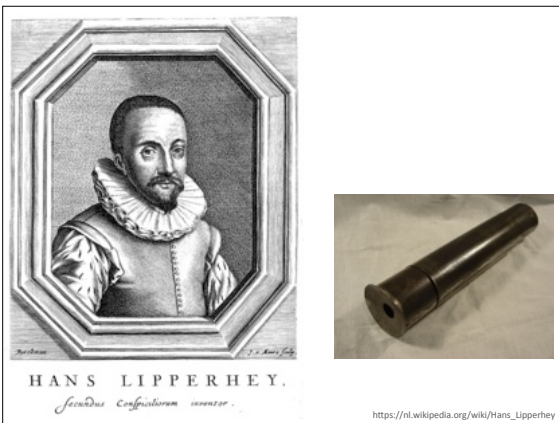


This led to a flourishing of these provinces and the building of (or repurposing of existing town-halls to) so-called 'Cloth Halls' (lakenhallen); for example here at Middelburg...



... and here at Leyden.

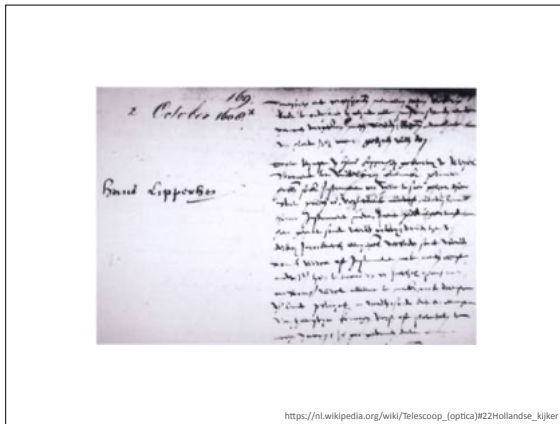
In order to check the quality of the cloths, people started to use cut glass, with which it was possible to zoom in on the warp and weft of the cloth in order to check it for irregularities. So in the wake of the cloth industry, a thriving glass industry evolved in Zeeland, especially in Middelburg.



It was Hans Lipperhey who came up with the idea to combine a concave and convex lens to create an instrument which enabled a user to see something far away.



He demonstrated his invention to the government of the Republic (the Staten Generaal) by telling the time of a clock on a far away tower, which no-one was able to do with the naked eye. The government immediately saw the military possibilities of this invention and gave him a patent to further develop this instrument in a commercial way.



Here we see the actual patent granted to Lippershey, issued at 2 October 1608.

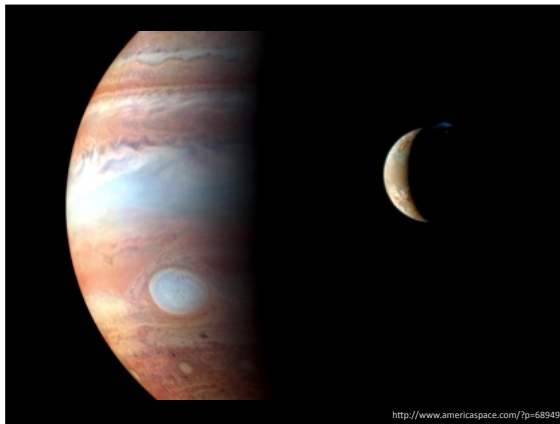


This invention was later repurposed by Galileo Galilei, who made a larger version of it. Not to look at cloth or tower clocks, but to instead to look at the heavens above. And what he saw there resulted shattered the metaphysics that had held sway for the better part of fifteen hundred years.



Because to the naked eye, the moon and the planets appear to be a perfect sphere – which they should be, according to the Aristotelian-Christian-Geocentric world view that we discussed. However, through his telescope, Gallilei was able to clearly see craters and other unevennesses on the moon.

This meant the the moon was *not a perfect sphere* and that *sometime in the past* it was hit by another heavenly body, changing its appearance. So it was a temporal object, complete with a history and historical changes.



When he looked at one of the planets, specifically Jupiter, he saw small moons orbiting that giant. This meant that not everything revolved around the Earth, but that other heavenly bodies functioned as their own central point.



All this inspired the philosopher René Descartes to think about knowledge. Apparently, he thought, the tradition in which I am raised and the knowledge that comes from that tradition is not trustworthy. Apparently, I am deceived by my elders and teachers, by my masters, even by my own senses.

Une méthode nouvelle

1. Ne recevoir jamais aucune chose pour vraie, que je ne la connusse évidemment être telle.
2. De diviser chacune des difficultés que j'examinerais, en autant de parcelles qu'il se pourrait, et qu'il serait requis pour les mieux résoudre.
3. De conduire par ordre mes pensées, en commençant par les objets les plus simples et les plus aisés à connaître, jusques à la connaissance des plus composés.
4. De faire partout des dénombrements si entiers, et des revues si générales, que je fusse assuré de ne rien omettre.

Discourse de la Méthode, pp.39f.

Being trained as a mathematician, he took the way mathematics works to create new knowledge and insights, and translated that method so that it could be used to explain all natural phenomena, to address the physical world around us.

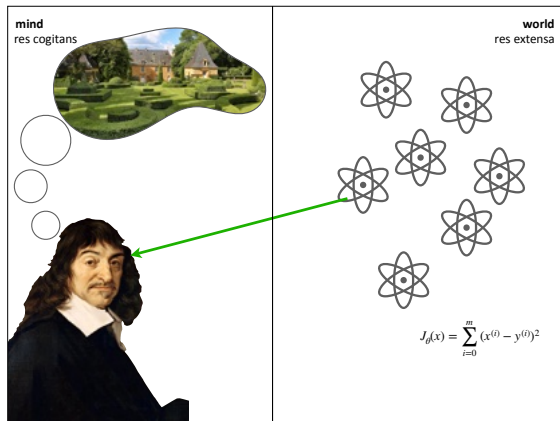
This new method appealed to the individual to *distrust the tradition* and come up with your own ideas, based on *your own observations*. The only *real knowledge* was *scientific, mathematical* knowledge.

A new method

1. never to accept anything as true that I did not know to be evidently so; to carefully avoid precipitancy and prejudice.
2. to divide each of the difficulties that I was examining into as many parts as might be possible and necessary in order to best solve it.
3. to conduct my thoughts in an orderly way, beginning with the simplest in order to climb gradually as far as the knowledge of the most complex.
4. everywhere to make such complete enumerations and such general reviews that I would be sure to have omitted nothing.

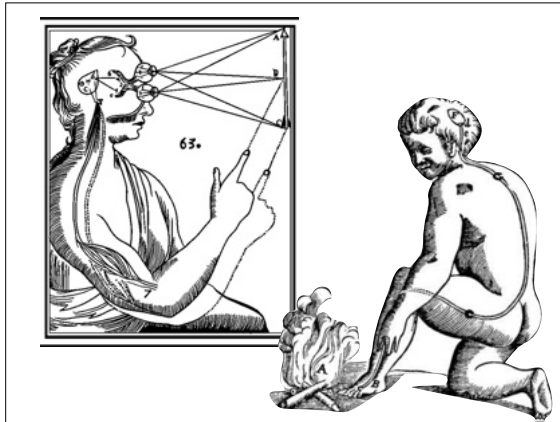
Discourse on Method, pp.41f.

Using this method, one could be sure that the knowledge that was attained was *real*, that is was something that could be (mathematically) proven to be correct.



So what did this method tell Descartes about reality? In reality, the only things that exist are atoms and (mathematical) relations between these atoms. So what I see and perceive only exists *in the mind*; what I see and perceive is a *subjective construction* based on the reality of atoms.

Colours, heat, pain, love, cold... these things only exist in the mind of the perceiving subject. In reality, there are no colours, there is no heat, no love, no cold... These are all *secondary qualities* that are constructed in the mind.



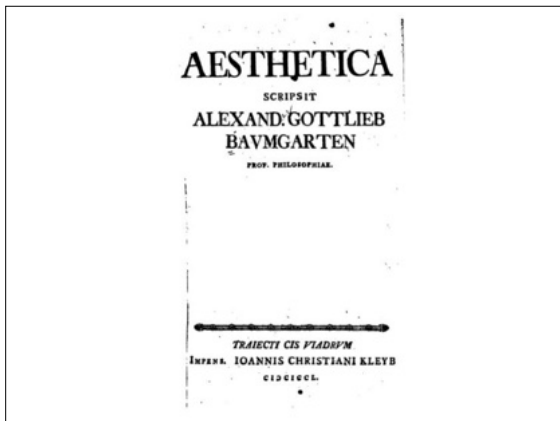
According to Descartes, the reality of atoms triggered a sequence of reactions inside the body that ended in the pineal gland, which was a bridge to the mind in which the construction of pain took place. He also argued that *only* humans, angels and God have such a mind (and therefore secondary qualities): all the other animals lack a mind and are therefore unable to perceive pain.

When you cut open a dog while it is alive, it will probably make a lot of noise. This, however, is comparable with the sound you hear when you blow an organ pipe: it's just a physical reaction of atoms and relation between them.

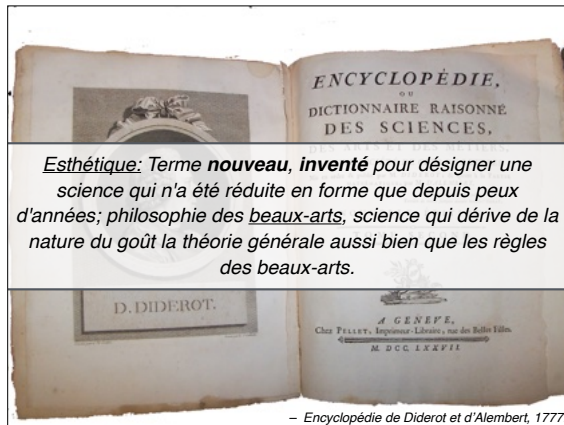
knowledge is science is knowledge
What about other domains of human endeavor?

In this world-view, only the knowledge that has been obtained through this scientific method (Descartes) is said to be *real knowledge*.

This raised the question what to do with the other kinds of 'knowledge'. As we saw, the 'artworks' were used as tools, to tell something about the world we inhabit, to explain certain phenomena and predict certain things. What to do with this?



This is why the philosopher Alexander Baumgarten in 1750 chose the word *aesthetic* (*Ästhetik*) to refer to *another kind* of knowledge; knowledge that was related to the senses, to the subjective construction of something. He described it as something other than the scientific knowledge that Descartes was all about, but knowledge as well.



This is how aesthetics as a separate domain of knowledge came to be; and from there the separation of beauty from goodness and truthfulness is only a small step. If there is a specific domain of knowledge responsible for the study of beauty, then the unity is no longer attainable.