

Q.E.D. Quod Erat Demonstrandum.

*"I believe in intuition and inspiration. Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research."* – Albert Einstein – 1931

The work of Peter van der Heijden ('s Hertogenbosch, 1950) is difficult to encapsulate in a single word or definition and is characterized by a great diversity of materials, styles and applications. Van der Heijden is known for his experimental and multidisciplinary approach and makes, among other things, collages, mixed media, installations, projections and artworks for the public space. On show in the exhibition Q.E.D. in the gallery at Piet Hein Eek are 130 autonomous works.

Most of Van der Heijden's work is born of his fascination with natural and physical processes, geology and history, and he is particularly interested in the geological and evolutionary forces that slowly sculpt the earth, the landscape and its inhabitants. Behind this fascination is a profundity that manifests itself in the extensive collections he has amassed over more than 40 years. These collections are almost as diverse and varied as the objects he makes and the techniques he employs and extend beyond that which is perceptible to the human eye. In addition to stones, fossils, books and prints, Van der Heijden has, for example, an extensive collection of self-cultivated micro-organisms, algae, fungi and crystals – all elements that underlie the geological and evolutionary forces he seeks to describe and reorder in his art.

This search in the world of the small and insignificant, a search for everything that manifests itself 'beneath the surface', is intriguing. For an unfamiliar world is revealed and scale plays no part. Van der Heijden shows us the beauty of the detail and enlarges mosquito larvae to the size of spaceships or makes a scan of a puddle of water in which a tablet dissolves, so that a 'nuclear reaction' takes place, or he magnifies fungi and crystals so that their beauty is revealed – a beauty we are constantly oblivious to in our daily lives. The world he studies provides infinite possibilities for experimentation. He has at his disposal a well-nigh inexhaustible source of inspiration, with which he succeeds in integrating chemical reactions and biological growth processes in the form of cultures and micro-organisms into a single whole. In his studio Van der Heijden sets to work like an alchemist, constantly searching for new material, processes and interactions that give the viewer food for thought.

Fascinated by a world in micro format, it is really only natural that man is entirely absent in Van der Heijden's work. Although: for the attentive viewer, he can sometimes be discerned in archetypes or in highly abstract forms.

Following a long figurative tradition in which man occupied centre stage, during the Scientific Revolution and the Enlightenment attention progressively shifted to the precise documentation of the invisible world. Whereas in the Renaissance the human figure as object of study reached its maturity and with it a state of perfection, in the seventeenth, eighteenth and nineteenth centuries great strides were made in studying and recording the invisible world in meticulous detail. In addition, there was an increased understanding of the elements that have contributed to the formation of the earth. Here, Van der Heijden's fascination with Charles Darwin clearly comes to the fore. Darwin was one of the first to demonstrate successfully those slow

evolutionary processes and devoted his entire life to studying the slow forces that have contributed to today's world.

It is precisely the unpredictability, irregularity and imperfection of the invisible world that interests Van der Heijden, and through observation a new beauty can be discovered. For example, the beauty of a wet erratic boulder after a shower of rain, in which, with a magnifying glass, its provenance and the crystals can be identified. An erratic boulder is a tangible document that contains a vast history of geological forces.

This is also true of cathedrals. The first major cathedrals were erected in the eleventh century and were built of stone blocks – usually marl or limestone. These blocks came from large mines located throughout Europe. One of Europe's most imposing buildings was created as a result not above, but rather below ground. This is the extensive network of tunnels in South Limburg. Thus: by building with blocks of marl, space is doubled both above and below ground.

In order to visualize this idea, Van der Heijden explains it using his works with mine and cathedral fractals. A fractal is a geometric figure in which a motif repeats itself on an ever smaller scale. It is in effect nothing other than a simple formula, which through this repetition can acquire the most intriguing forms. From a distance it appears as if a new organism has come into being.

Anyone entering a cathedral does not usually realize that the individual blocks of stone of which it is built are themselves composed of billions of fossilized micro-organisms that existed millions of years ago on our subtropical shores. In *Kunstformen der Natur* (1899-1904), the German biologist Ernst Haeckel made a detailed study of these organisms, with some hundred lithographs in which the organisms – including radiolarians and diatoms - are depicted in minute detail. Magnified, according to Van der Heijden, they bear a close resemblance to minarets, mosques and the rib vaults of cathedrals. Van der Heijden once attempted to calculate the number of creatures that are incorporated in St. John's Cathedral in s'Hertogenbosch, but this proved an impossible task.

Another building that fascinates Van der Heijden is the Eiffel Tower. With its transparent ribbed structure, it rather resembles the organisms mentioned above. In Van der Heijden's view, the Eiffel Tower is one of the most intriguing buildings in the public space. Such structures are on the boundary between art and functionality. Whereas cathedrals played a clear role in society, the Eiffel Tower is only and primarily a symbol of technological progress – an avant-gardist icon for Western culture and a product of an age in which there was an unshaken belief in the future. The world was 'makeable': 'advantage through technological development'. Furthermore, the Eiffel Tower took only two years to build – an unprecedented logistical feat.

In Van der Heijden's montage 'En ordre de combat' (2012), the Eiffel Tower competes with the Ferris wheel that, together with the Eiffel Tower, dominated the Paris skyline for some length of time. The montage comprises a stacking of old picture postcards, which emphasizes not only the importance of both structures, but also the abundant attention they received following their construction. The various views of the framework – which corresponds to the Gothic cathedrals described above – make the structure legible. In addition, there is the competition between the forms of the two monumental objects that determined the cityscape: pointed versus round.

Van der Heijden's obsession with collecting also finds expression in this work. He has more than 300 pre-1945 postcards of the Eiffel Tower in which the tower is positioned precisely in the middle. These works based on collections are comprehensible because of the repetition. Everyone understands it. As a result, individual insignificant images acquire substance – a pattern comes into being.

Another example of these 'collection' works is the fourteen metre-long 'Rheinlauf' (2008-2016). A single leporello or folding map of the Rhine basin is merely an historical document, but by showing a chronological collection spanning a period of almost 200 years, a fascinating pattern of the development of cities along the Rhine, the construction of bridges over the river and the destructive consequences of two world wars comes into being. The composition of approximately 90 leporellos shows movement over time – the dynamic of developments as a result of human actions over a period of more than two centuries. The differences in and the development of printing technique and the graphic design of these folding tourist maps is a delightful second dimension in the work.

The temporal aspect recurs in 'The world's most tormented book' (2012), a McNally atlas of 1884 from North America, very much the worse for wear from decades of intensive use. It is a work that shows a history (of use). Van der Heijden did not wish to add anything and even the title is taken verbatim from the seller on eBay.

The developments described above are in effect all of relatively short duration: it takes at most a couple of centuries to build a cathedral, the Rhine leporellos provide a detailed insight into the history of Rhine tourism over two centuries, the dilapidated atlas bears the marks of decades of intensive use, the Eiffel Tower and the Ferris wheel took several years to build, the world below the surface is constantly changing and chemical processes can be completed in mere seconds.

Geological and evolutionary processes, by contrast, take many millions of years. These forces, too, are a central preoccupation of Van de Heijden. On his frequent travels he goes in search of evidence of this world, which is also largely hidden from human view, in the form of rock formations, minerals and fossils – documents of a tranquil eternity.

Van der Heijden has represented the earth's stratification in two artworks, 'i' Prehistoric version' (1981) and Geo-logical' (1982), in which he abstracts the human form to the letter 'i' and a stacking of three rectangles. The elementary forms of a man and a woman, composed of small planks of scrap wood that symbolize the earth's stratification, can be discerned. The work could refer to the earth's genesis, the continuous process of the impact of the elements on the earth's surface, as well as the creation of man from this material. Van der Heijden sees in the letter i a 'monumental symbol as the simplest human form, (...) a body with a head on top.' Man, too, evolved from these slow geological and evolutionary forces. The scrap wood that comprises the collage itself reveals a history. The wood has been gradually worn by human use – which further reinforces the image. After all, every stratum of the earth has a history all its own. The individual planks are thus themselves landscapes to which nothing really need be added.

The most damaged book, a collage of scrap wood or an enormous enlargement of micro-organisms or minerals, it's about the beauty and significance of things as they are. It is precisely the multi-layeredness and the surprising structures that arise from combining objects, forms or

materials and the resultant (chemical) reactions that motivates Van der Heijden to find new compositions and art forms. The word alchemist has already been mentioned – someone who seeks to make gold by endlessly combining different materials. In a certain sense this is what Van der Heijden does and in this respect he is virtually a materials artist who looks for patterns and irregularities in nature in order to arrive at unusual and fascinating compositions, both three-dimensional and on the flat surface. Beauty is primarily in the detail. And by combining details a new beauty comes into being.

Finally, at the end of this essay, which has become more of a search for the ideas that underlie the work of Peter van der Heijden, there is an essential aspect of this exhibition – the title – that has yet to be discussed. Q.E.D. – Quod Erat Demonstrandum – literally means: that which must be demonstrated. Q.E.D. is placed underneath a stereometric problem when the proof has been provided. Many of Van der Heijden's works bear this title or allude to it. In this he reveals worlds that touch each other. By using Q.E.D., he proves an unnamed theorem with his work.

Q.E.D. therefore also contains an uncertainty and, moreover, is thus connected to life in general, where unpredictability and the interaction of elements are a continuum. It leaves all options for interpretation open and invites the viewer to look for meaning in the work.

Nothing is fixed and the changeability and diversity of the worlds Van der Heijden captures in his works are given extra emphasis as a result. Titles from previous exhibitions also refer to this uncertainty. 'Hearsay', for example, expresses a high degree of subjectivity. After all, proof that what has been said is indeed true has yet to be provided.

In English-speaking countries, Q.E.D. is also jokingly said to mean Quite Easily Done. 'Once you understand the creative process, it really isn't as difficult as it seems', according to Van der Heijden. In the early 1980s he began to work with self-built repro-cameras in his dark room and so was able to record and incorporate processes and compositions. Many of his current works are made using a flatbed scanner or dia-scanner, often too as a microscope, in order to record various organisms and growth processes. He prints his works on a high-tech pigment printer and so has control over all his own work. Nonetheless this is preceded by decades of research and development - something which is clearly evident in the very diverse oeuvre of Peter van der Heijden, an oeuvre that spans more than 40 years.

The quotation by Albert Einstein, one of the most important scientists of the twentieth century, at the beginning of this essay bears strong similarities with Van der Heijden's method of approach. Imagination is often more important than knowledge. His work shows that the possibilities are endless and that by combining all manner of elements from the visible and the invisible world surprising results are achieved. Van der Heijden creates new worlds with new dimensions, whereby people no longer really know what they are looking at.

His working method is unique. Handicraft, science and creativity are interconnected and interwoven in a highly individual way. In Van der Heijden's work different worlds can coexist. It is up to the viewer to examine and interpret these worlds

Pim Hoff

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