

phæno – A New Dimension in On-the-spot Learning

A theme park for the knowledge-based society – the "phæno" Science Centre designed by Zaha Hadid has opened its doors in Wolfsburg. An experiment in didactics and urban planning.

What happens when you produce a miniature giant-wave in a special tank that tilts? You will see how the water starts to roll and surge above the sand behind the Plexiglas walls of the tank – the birth of a tsunami. You can almost feel the tremendous physical power that water pressure can unleash. What happens when you create lightening at the press of a button in the "Hertz Resonator" – a glass tube containing two brass spheres? Sparks start to fly and the movement of electromagnetic waves takes on a visual form.

And what will happen now after the opening of the "phæno" science park with its ever so ambitious design and spectacular construction – a combination of concrete, steel and glass that seems to be the very embodiment of the question "What happens when...." ? A good question. Well, it turns out that phæno is the greatest enigma itself with its pure devotion to the mysteries and phenomena encountered in the fields of science, technology, optics, mechanics, kinematics and dynamics. Whether phæno is going to become something more than just a bouncy castle for the scientifically curious is equally as hard to say as whether phæno will be of benefit to the urban spatial structure of the city of Wolfsburg.

Costing almost 80 million euros and covering an exhibition and interaction area of about 9,000 square metres phæno does not immediately induce visitors to Wolfsburg to fly into fits of sensual wonder and understanding. For the time being they simply just gape in wonder. It is still uncertain however, whether this experiment with its, on the one hand, educational approach and, on the other, new angle on urban planning will in fact come off. Nevertheless it is an exciting undertaking.

As in every experiment there is always room for error – trial and error, so to speak. All the same, if this project, set up as a foundation and sponsored mainly by the city of Wolfsburg, is to survive, every year about 180,000 visitors will have to fall under the spell of this "interactive" museum. What is more, the city itself will have to come to terms with this bold project with its futuristic ambitions designed by the London architect, Zaha Hadid (in cooperation with the German office of Mayer-Bährle) and accept it not only as an aesthetic enhancement, but also as a vitalising addition to the city's urban space – and this is by no means going to be easy.

Hands-On Science

One might think that phæno – somewhere between a technology museum, science centre and theme park – is a new idea. No, there is in fact a long tradition of interactive museums in which the hands-on approach is the key to

"happy learning" and in which visitors of all ages can experience this "happy learning" by means of self-experimentation and observation. In Germany this idea was first tried out at the Urania in Berlin, where Berliners were able to press buttons and take part in some of the smaller experiments in a demonstration hall for experiments as long ago as 1889. Wernher von Braun later acknowledged that without the Urania experiments of his childhood, he would not have become a pioneer of rocket engineering. It was the other way round with the Oppenheimer family in America – it was Robert Oppenheimer who built the first atom bomb at Los Alamos, then his brother, Frank Oppenheimer, created the "Exploratorium", the American forerunner of the modern science centre, in San Francisco in 1968. These science centres are committed to the central idea of "Hands-on Science" – if you can touch it, you will understand it. phæno in Wolfsburg was never intended to be revolutionary – nevertheless the theory of "touchy-feely" learning by doing has never before been put into practice anywhere in Germany so decisively and so ambitiously.

The boss of phæno, Wolfgang Guthardt, is also Wolfsburg's counsellor for cultural affairs. He got the ball rolling six years ago when he first proposed a science centre. It was to be on the demarcation line between the northern outskirts of the inner city and the overpowering colossus of the Volkswagen Group's "Autostadt" (car-manufacturing complex) on the other side of the Mittelland canal. The idea was to add a further hub of activity to the city's urban space. He says quite rightly, "Curiosity and play instinct are the basis of all knowledge." Even Einstein could not have put it better, if he had had to write something for the German PISA Society. It was Einstein who said, "the joy of looking and comprehending is Nature's most beautiful gift."

Sentences like this and others are projected onto the cavernous, organically fluent design of the walls of this adventure playground for the knowledge-based society and between the 250 experiment stations that were designed by the curator, Joe Ansel. Ansel worked with Frank Oppenheimer for many years.

The stations are mostly brightly coloured, robust and somewhat clumsy-looking tables that are surrounded by little stools of the kind you had in your first science lessons as a child. Strangely enough they actually seem to fit in quite well with the typical Hadid ambience that is mainly dominated by the colour grey and in Wolfsburg, too, one building material in particular seems to be the order of the day – concrete.

A New Definition of Public Space

If you approach phæno's main facade from the inner city, you will immediately be struck by the dominant shape of the building giving you the impression it is one solid, sculptured piece. Several concrete cones form an undercroft at the pedestrian level that is reminiscent of a system of caves that has been eroded through the millennia; their function as a support structure for the rather fortress-like, secretive-looking exhibition area above seems to be purely incidental. The

building, which occupies a trapezoid area between the neighbouring central station, the inner city and the brazen brick buildings of the Volkswagen Group's "Autostadt", consists of two elements: an extroverted urban space and an introverted inner space. There is an obvious definition of outer and inner areas resulting from the progression of the concrete cones. (In terms of modern structural engineering and the use of reinforced concrete this represents a remarkable pioneer achievement.) The interior design - perfectly described by the term "Encounterscape" with all its inviting craters and caverns whose topography skilfully envelops the experiment stations and laboratories - is in fact in direct contrast to its rather questionable urban exterior design. Phæno responds to its surroundings that are full of functional post-war architecture with a demanding redefinition of public space. Here, too, the space is supposed to make people curious and be conquered. Nevertheless it remains to be seen whether the access areas in the conical concrete pillars will be able to attract any people in great numbers outside phæno's opening hours – after all this area is hardly noticeable from the city. The restaurant, bar, phæno shop and main entrance are really going to have to make a tremendous effort to dispel the feeling of gloom - when the weather is bad or on those dark winter days you feel as if you are trapped in a remote, draughty, concrete stalactite cave from the Pleistocene age of visionary urban planning.

Now however it can safely be said that Wolfsburg has finally managed to stand up to the dominance of Volkswagen – a dominance which for reasons of stupidity and marketing led to the city being nicknamed "Golfsburg". It was this successfully designed building from which we can learn a lot about self-reliance that enabled them to break away from this image. It remains to be seen however whether phæno will be accepted as a phenomenal achievement in didactics and urban planning.

Gerhard Matzig

This article was first published in the Süddeutschen Zeitung newspaper of 22. 11. 2005

© Süddeutsche Zeitung

Translation: Paul McCarthy

Copyright Translation: Goethe-Institut, Online-Redaktion

Any questions about this article? Please write!

online-redaktion@inter-nationes.de

December 2005

Goethe-Institut - Knowledge - Research and Technology

<http://www.goethe.de/wis/fut/en1081459.htm>

Related links

Phæno <http://www.phaeno.de/>