52. C.F. Kettering, 'The Age of Opportunity', in *Popular Mechanics*, vol. 74, no. 4 (October 1940), p. 504.
53. 'Sculptor of a prehistoric world', in *Popular Mechanics*, vol. 95, no. 3 (March 1951), p. 97.
54. Herbert Lozier, 'Scenes in Miniature', op. cit., p. 199.
55. 'Miniature Colonial Kitchen. You'll find it easy to match this beautiful model by using the materials in our new diorama construction kit', in *Popular Science*, vol. 137, no. 5 (November 1940), p. 207.
56. As a boy the author assembled plastic models of World War II airplanes from Airfix and Revell kits, painting them and arranging them as 'dioramas' with tiny plastic soldier figurines. About do-it-yourself hobbyism, see John L. Wright (ed.), *Possible Dreams. Enthusiasm for Technology in America* (Dearborn, Michigan: Henry Ford Museum & Greenfield Village, 1992).
57. For an example, see 'How to Construct a Diorama', in *The Boys' Journal* (London: Henry Vickers, 1867), pp. 109–11.
58. Michael Barrier, *Animated Man: A Life of Walt Disney* (Berkeley and Los Angeles: University of California Press, 2007), pp. 230–31.
59. It is missing from Emily M. Mauger's *Modern Display Techniques* (New York: Fairchild Publications, Inc, 1964), although the author writes, perhaps echoing the memory of display dioramas: 'The conveyor belt kind of motion which presents a panorama of still life passing by a given spot is most intriguing to youngsters.' (p. 70). The word diorama is no longer used in Martin M. Pegler's *Visual Merchandising and Display*, second edition (New York: Fairchild Fashion & Merchandising Group, 1991).
60. Sheperd Paine, *How to Build Dioramas. Aircraft, armor, ship, and figure models* (Waukesha, WI: Kalmbach Publishing, 1999), p. 4.
61. Ibid.
62. Folk art dioramas are a blossoming part of the diorama phenomenon in many parts of the world, for example in Latin America. This topic needs to be addressed in another occasion.
63. Artists from Joseph Cornell to Jake and Dinos Chapman have also constructed miniature dioramas, creating an interesting parallel discourse, but this topic needs to be discussed elsewhere.
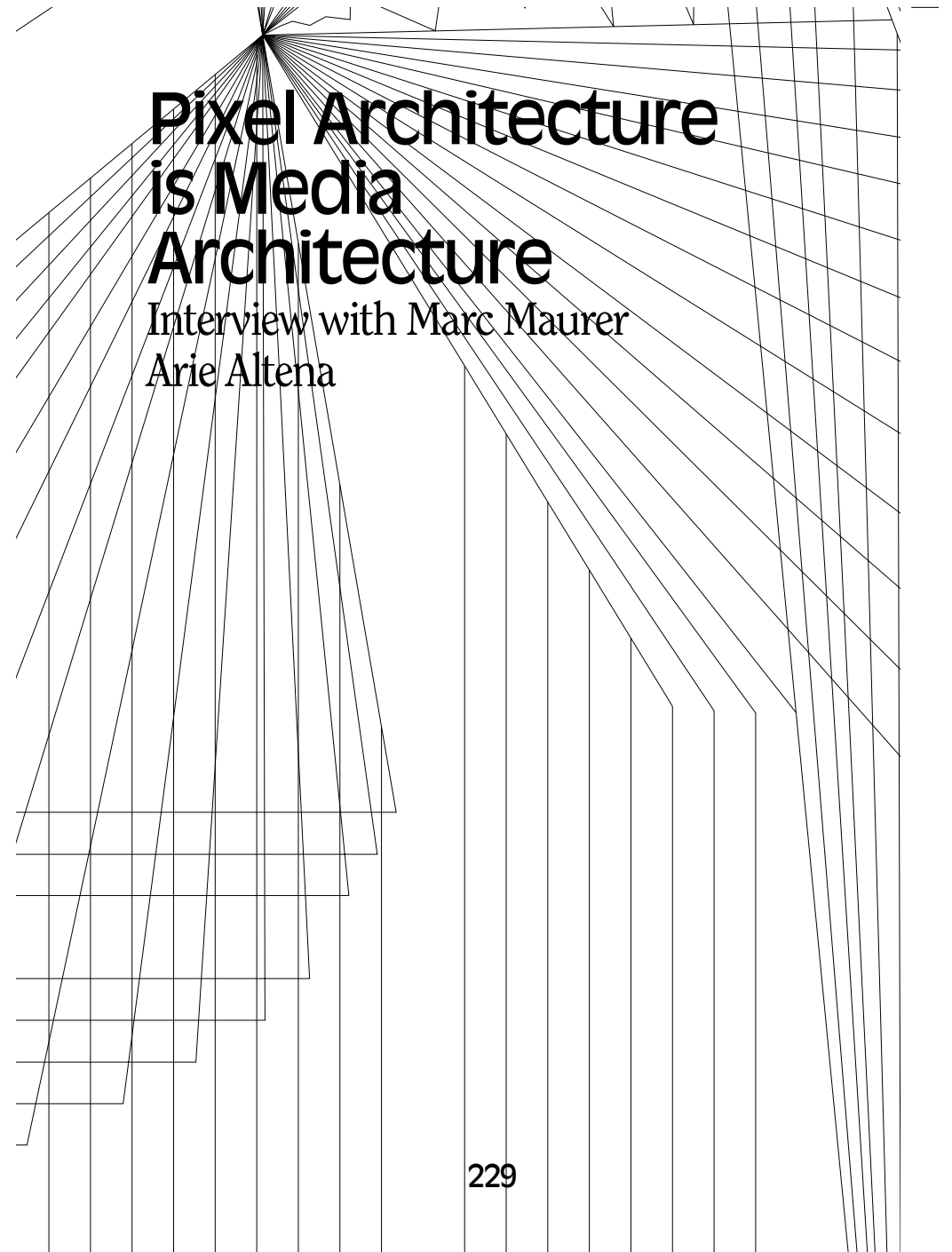
Pixel Architecture is Media Architecture

Interview with Marc Maurer
Arie Altena

Maurer United Architects is a Dutch architecture, design and media office run by Marc and Nicole Maurer. In the past ten years they have made a name for themselves with their own work and with their collaborative projects with both the graffiti artists Delta and ZEDZ, and the Dutch media artist Geert Mul. I spoke to Marc Maurer in Eindhoven at the Baltan Laboratories media lab where he is conducting a research project. At the time of our interview, *Indemann* – an observation tower with a media facade in the German town Inden – had just been realized.

Do you think of the Indemann as a media facade or as a building?

It really is a building. The *Indemann* is located in a region in Germany where lignite is quarried. Entire villages had to be relocated to do this. The Inden municipality wanted an object that represented the regional identity. The *Indemann* is an observation tower with a view over a quarry. Ten years ago we started rendering graffiti as architecture, with Delta and ZEDZ. The spaces we designed at that time were more than just architecture, the facade was also a message. It consisted of letters you could actually walk through. The *Indemann* has something similar: LEDs have been attached to the facade. Our point of departure was not to create a media facade, but an observation tower that marks the place and would be something the inhabitants could identify with. The observation tower is a hollow sculpture, based on a game character, in which people can project their own imagination or identity. It is a 36-metre-high building consisting of layers. All the floors are grilles, the outer walls are made from stainless steel fabric. You are surrounded by transparency and lines of perspective. The views from the inside are fascinating and they constantly change as you ascend the stairs to the top. In the arm you're floating in a cantilever, 18 metres above the ground. It creates a spatial interplay. These are not functional spaces; they are experiential spaces.

How did you incorporate the LEDs?

It's now possible to place the LEDs in the steel fabric – we didn't develop this technique but we are the first to apply it at this scale – and we use them to illuminate the steel fabric on the outer walls. This creates light reflections. The LEDs could be seen as independent pixels. There are 40,000 LEDs, so it's possible to display anything on the facade. You can simulate fire or show texts. We'd actually like people to be able to upload their own animations to the display. The design of the *Indemann* is derived from the large excavators that you can see there. For us the *Indemann* signifies the transition from an industrial age to a media age. This is only one of the narratives. Other people have said that it represents the beginning of the robot era. Everyone can project their own story onto it.

What do you think of the media facades that are currently being designed for buildings?

Media facades that you can mount on an outer wall are standard enormous flat screen televisions. These are actual very antisocial, you impose your message on many people who aren't in your target group. I think this is horrendous. The fusion of

Maurer United Architects [MUA], Marc Maurer & Nicole Maurer, **Indemann**, Watchtower/Landmark, Inden (Germany), 2009.

Maurer United Architects [MUA], Marc Maurer & Nicole Maurer, **Indemann**, Watchtower/Landmark, Inden (Germany), 2009.

the outer walls and the media facade is what is interesting. With the *Indemann* the pixels do not form a screen but an interface that belongs to the building. And you can do so much with LEDs that can also create an architectonic experience. Our office is also concerned with the meaning of things and not only the form.

The *Indemann* references street art and computer animations. To what degree is this still a central interest; after all, you have started working on projects in cooperation with graffiti artists?

Delta's spatial approach to typography greatly appealed to me, and as an architect you have to respect what he was doing. I asked myself at the time what type of architecture could be produced by working with graffiti artists – specifically Delta and ZEDZ. We also designed three skating rinks at that time with local skaters. The first skating rink was a double-curved surface. It was fluid architecture that was only just becoming possible to design with computers: it was so-called 'architecture for the media age'. The second skating rink only had one single-curved surface, and the third only had right angles. At the moment we are actually only working with right angles, and the case studies at Baltan Laboratories all deal with right angles. We are doing this to demonstrate that the double-curved surface is not the right type of expressive language for the media age. The flat screen television does not consist of double-curved surfaces either. All screens are flat and rectangular. It has been suggested that you would be freer in a landscape of double-curved surfaces, but this is not the case. If you drop a ballpoint pen it always rolls to the lowest point. Right angles direct you far less than flowing, curved shapes. You have far fewer predetermined perspectives if you work with right angles. We regard pixel architecture as media architecture.

One could also imagine that screens should be round and curved, and that we should also have half-domes at home for projecting films…

I enjoy working with right angles. Actually, both options are interesting. I want to show that the right angle is also interesting. I'm still greatly attracted to The International Style, Van der Rohe, Doesburg, Mondrian…. I think it is a more elegant tool. If you photograph a circular space with a fish eye lens nothing happens, but if you do the same with a cube you achieve beautiful effects. In the end, of course, it's all about the interplay between the two.

What about the *Oersprong* in Twente, then, where you intend to use globes?

With *Oersprong* we are trying to link the parks in Twente, and to tell the story of Twente using three themes as a basis: history, landscape and technology. Small pavilions will be erected in the parks, a complete globe, from which visitors can experience the location in a certain way, placed in a setting by, for example, the light falling through the cracks and holes in the globe, which also creates a perspective on the world outside. The globes are archetypal shapes and we use them to refer to the Panopticum and the Atomium in Brussels. We try to create objects that have simple shapes, but which are mediagenic, so that a narrative about the project can take place in the media. That is what gives meaning to the architecture.

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Maurer United Architects [MUA], Marc Maurer & Nicole Maurer, **Oersprong Twente**, Pavilion,
Twente, 2009/2010.

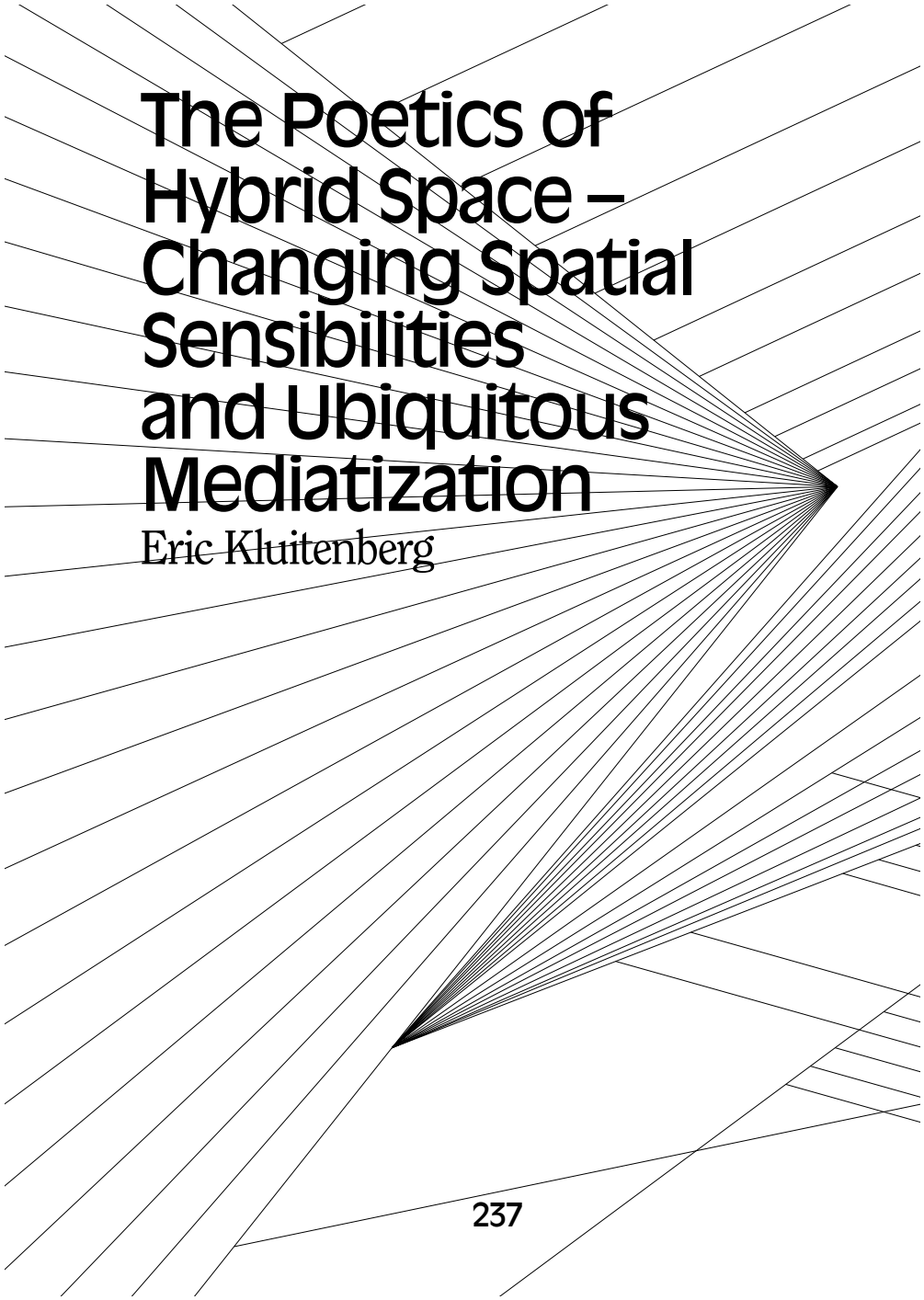In *Oersprong* you use architecture to make the location experiential?

The architecture is used to create a specific experience for the visitors, whereby the location is the input and the architecture is the medium used to transform the input or give it shape.

You have also made installations. How did they come about?

We made *Loading_Ready_Run* with Geert Mul, for example. Collaborations like this happen very naturally, in fact. You develop the project during discussions with each other. We made *Loading_Ready_Run* in Las Palmas in Rotterdam, in a small indoor gatehouse. We thought of the installation, the aesthetics of the images and how the screen could be reproduced using mirrors. We placed them so that they refer to the octagonal columns in the building. The mirrored image is then a repetition of the physical space. When the projects with ZEDZ and Delta were not constructed we realized them in computer games to demonstrate what the spatial experience would be like. After this we created a few more games. It's relatively easy to place structures into the editing programmes of games, but it was the game characters that were a real challenge. More interesting than asking yourself how you represent 3D on a 2D screen, is the question of how you navigate as a character. If you achieve that, the space will come by itself. Now we've made the *Indemann* and a couple of others – we call them 'space characters'. But I wouldn't want to make anything that would be meaningless if the electricity failed. I have worked with sensors but I only find interactive architecture interesting if it's worth the trouble even if there is no interaction.

What thoughts do you have about the future of architecture? Will more interactive experiential architecture be made?

Which buildings require experiential architecture? Houses, offices and industrial buildings are designed for functionality, and not an architectonic experience. The architecture in a museum or cinema or concert hall is relegated to the background because the building itself cannot detract from what happens inside it. On rare occasions you might get 'staged' experiences with media. In the past every village had a church – they're also buildings dedicated to a particular experience, there's the stained glass windows, for a start. What I find far more interesting is that the concept of the dwelling plan established under Dutch housing law dates from as early as 1901. This plan is concerned with the quantities of light and air, and with health. And it indicates minimum dimensions, and uses the family unit as a basis. It is still being used today. It never took television into account, and certainly not a computer with an Internet connection. It's not difficult to imagine designing a space or a house around an Ambilight television or an Internet computer. How do you design a house in interaction with the latest technology? That's an interesting question. One thing's for sure – you would have to work with people who are fully up-to-date with the latest technological developments.

The Poetics of Hybrid Space – Changing Spatial Sensibilities and Ubiquitous Mediatization
Eric Kluitenberg