THE BRAIN IS SQUARED

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There are still some set squares to be found in my studio. These are used not so much for drawing, which is done in Autocad, but for the many scale models that we do ourselves. When I was a child my mother used to bake the most magnificent home-made pies. And so it is in my studio today, that I make the pies, the scale-models, and, better still, so does my team. Our models are always home-made.

We use set squares to control the right angle, which is a basic ingredient of architecture: the angle at which the vertical of gravity and the horizontal of the earth plane always meet. It is not by chance that the right angle has been the most used geometrical mechanism in the history of architecture. In cross-section on account of gravity, and in the ground plan because of order.

But before I proceed to say anything further on the right angle, I feel I should at this stage confess that the reason I have decided to address this subject is not solely in honour of Heinrich Tessenow, whose Gold Medal I have received. Let me explain. I have read in the press that a team of American scientists based at Massachusetts General Hospital have discovered that the brain is made up of parallel and perpendicular neuronal fibers that cross paths at right angles. In other words, that the brain is square.

These latest findings from researchers using the most advanced MRI technology suggest that the physical connections of the human brain, rather than being a tangle of wires as previously believed, are arranged in an astonishingly simple criss-cross pattern. It would appear therefore that the wiring of the brain is geometrically arranged in a grid structure rather like the checkerboard streets of Manhattan, or the classic layout of a circuit board. It is also true to say that naturally enough the ancient tenet that the shortest distance between two points is the straight line, still remains true, and was not something discovered by our American scientists.

I have always been accused of obstinately insisting on and using right angles, both horizontal and vertical, while other architects are leaning, twisting, bending, curving and folding, so you can imagine how this amazing new discovery was like music to my ears. With architects everywhere rolling out acute and obtuse angles, having read the news I quietly smiled to myself in my own straight-lined, rectangular, square corner. And, you know, a corner is usually just that, a straight-lined rectangular trihedron. Nevertheless, many of today's self-styled theorists prescribe angles of varying types, in fact anything but right angles, as indispensable elements allegedly lending originality and modernity to the architecture of today.

You will perhaps comprehend therefore my sheer delight on learning that the brain, which is the seat, the cradle of reason, is equipped with such an orderly, grid structure of connections, arranged orthogonally like Ikea's Expedit shelving units, if I dare make such a comparison.

I still remember how, having commenced my studies at Madrid's School of Architecture, as an undergraduate under Alejandro de la Sota, an architect who followed in the footsteps of Tessenow and Mies, the draft designs I presented of my first project the following year were totally orthogonal. They were so imbibed with German orthogonality that my new tutors were not impressed: "you have to be more expressive, less bland", they told me. With remarkable docility I toiled diligently for the entire weekend and the following Monday I presented them with a new project full of curves and turns and expressive gestures, heavily stamped with influences of Gaudi and Wright. Delightful drawings that were warmly and publicly extolled by my teachers. Indeed so warm and enthusiastic was their praise that, whether out of loyalty to Sota and Tessenow, or simply following my own willful and contradictory nature, I decided on the spot to revert to my lost orthogonal designs and my set squares. As a result my work failed to receive the highest qualification from those formerly enthusiastic examiners. But, let me tell you something: that incident taught me a lot. I elected to swim against the tide for my own beliefs, as I have always done in every aspect of my life. And I continue to do so to this day, despite what others may think.

While attending the Aachen Congress on Mies van der Rohe that I spoke of earlier, apart from visiting Rudolf Schwarz's uncompromising stark church and Charlemagne's rich Palatine chapel, Eduardo Souto de Moura and I devoted much time to speaking about architecture. And Souto, as he sipped away at his Riesling, told me with a smile that I was one of the few who had remained faithful to the straight line and the right angle. And I nodded happily in agreement on hearing such a comment from an architect of his stature.

In my latest project, a house by the sea in Zahara, in the south of Spain, which we have just begun to build, the right angles are so straight and upright and the box is such a straightforward box that in the end it will be a large box built in Roman travertine integrated into the sand of the beach, the roof of which, a radical flat horizontal plane, is the main protagonist of the space. Like a Temenos where the gods will mingle with mortals. Like something Tessenow himself would have designed. More Tessenow than Mies.

Because on that exquisitely beautiful beach gravity is the same gravity that it always has been, that of Newton's apples, which still fall vertically, straight down, always perpendicular to the ground.

And there too in that little spot of paradise, the horizon is still horizontal. So horizontal and straight is the horizon defined by the Atlantic Ocean right in front of us.

That very same horizontal plane that Tessenow or Mies would build if they were to raise their heads not only in recognition of the work of the team of leading American scientists in discovering the physiological orthogonal arrangement of the brain, but also to corroborate something that is for them and for me so elementary as orthogonality in architecture. Because the shortest distance between two points is still the straight line. And because apples still fall vertically, orthogonally to the horizontal plane of the ground.