

06: Guerrilla research

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This is going to be a truly chaotic presentation because as I was trying to put together the talk I realised that I actually had very few articulate things to say about research. It is quite difficult for a smallish office to structure its work in the form of research - ours is not a practice that is involved in mass production or manufacturing like aircraft-making. We do not have the scale to devote a particular part of the office to the activity of research, so for us research becomes almost an intrinsic part of production.

We were assigned 'research on geometry' by the Symposium but this was immediately superseded by more recent research we have been involved in. This research is pointing in many other directions, not only in terms of the domains in which we are trying to investigate knowledge and possibilities, but also in terms of the processes that we are following to do these investigations. We used to believe that we were generating form; that we were making forms emerge out of geometrical investigations, but later on we realised that for several projects it was absolutely necessary to have an almost *a priori* image or iconography of what we were going to try to do and the research had to be located in an entirely different position. In some ways, thinking about this issue of research and asking how we try to address the subject in the office, made us realise that first of all research in our office is always driven from the outside; we are basically opportunistic. We are engaged in a number of processes, and out of those processes we identify the opportunities that enable us to take things beyond the conventional - which is finally what research does - to be able to generate the knowledge that will produce the nuance, as Charles was saying. We then structure this knowledge in a way which develops the practice. Our engagement in certain processes of architecture and urban production has increased the scope of possible areas of research. The only thing that we can do in terms of producing research is to establish almost temporary camps or temporary areas of investigation that we literally stumble on and then identify as being of a certain interest.

So, we started with this interest in geometry, in the diagram as a tool that will enable us to develop more interesting forms and, through the intersection with other geometrical technologies, enable us to generate those forms. We used to say this is the way we sketch, this is what we are truly interested in researching in the office, and it produced some unexpected geometry. At a certain moment we started to realise that in order to be able to make the projects possible we needed to rely on images. We started from an image of dunes in order to win a competition and then the research went in exactly the opposite direction, i.e. how do we construct dunes with a certain rigour. Our practice then went into another important area of research; typological research. In the past, typological research was understood as old-fashioned, but in our view when researched properly, it gives us the tools and the relationships to project conventional types into the geometries that will generate for example, the dunes featured in our design for the Birmingham New Street Station shown in illustration 1.



Illustration 1: Birmingham New Street Station

When designing the South East Coastal Park in Barcelona (illustration 2) other constraints started to converge into the project. This is the other feature of research, which is that in an architectural practice it cannot be single-minded; it has to operate simultaneously on different levels. In this case the construction technologies were addressing certain local technologies which were mosaics as a way of, in this case, constructing a landscape. Here, therefore, things are moving in a different direction.

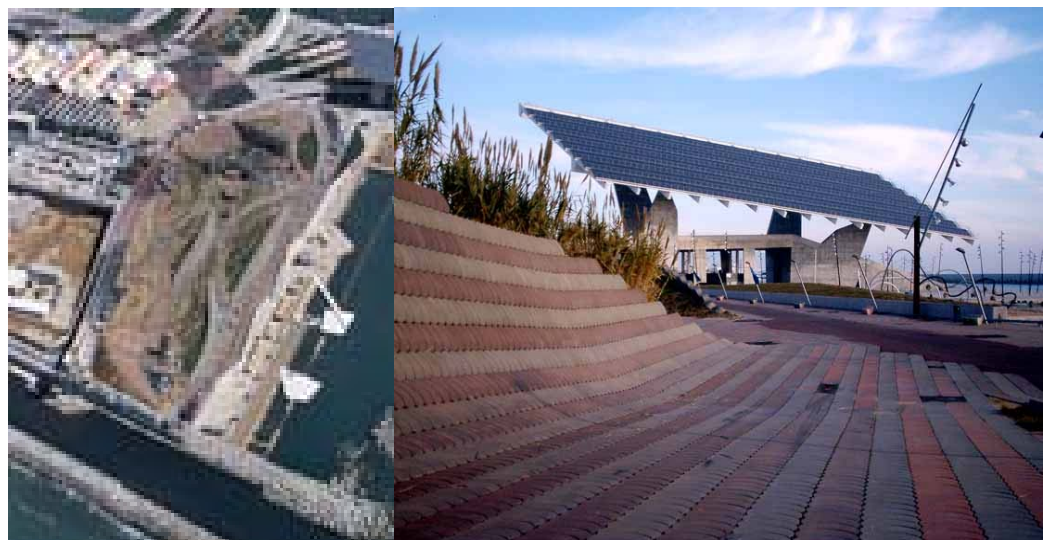


Illustration 2: South East Coastal Park Auditorium, Barcelona

Very few people would identify us with typological research into housing, but in fact this is another field of research that we are involved in. The research in this case was necessitated by the fact that we needed to pack an enormous amount of units into a very small location. We set it up that every unit would be double-fronted, producing the elongated typologies shown in illustration 3. In all these typologies inside of the space we try to produce walls that are always flush et cetera. This is basically a block that has very little to do with the geometries usually associated with our practice, but this is why we believe that this is more interesting research – we did not have an *a priori* idea of what kind of forms there would be, but you find opportunities in the problem to develop a particular type of knowledge.



Illustration 3: Social housing in Carabanchel, Spain

Illustration 4 shows more housing research and I just wanted to bring this forward because it is not a well-known area of our practice. In this case it is a triangular tower – this is the third time we have done it, we have discovered that triangular towers are particularly interesting for certain locations. This is again the type of investigation that comes out of trying to fit a variable system of units into this kind of tower and produce it by using this system of units related to the terraces and the geometry that produces the expression of the project.



Illustration 4: Triangular residential tower, Durango, Spain

We have a project currently under construction for the theatre and redevelopment of the square in Torreivieja in the south of Spain. There is a scarce amount of space on the plot – it is a site that has many kinds of queries. Limestone quarries are one of the most important industries in the area and we had a certain image of how the project had to be mediated. We wanted to extend the plaster inside or underneath the foyer of the building and use the curvature of the theatre as a big stone hovering over that foyer in continuation with the square. It is the kind of space where there is an intersection between typological research and that image of a rock hovering over the public space.



Illustration 5: Municipal Theatre and Auditorium, Torreivieja, Spain

Another project where we tried this idea is under construction in Rioja, Spain where we literally took a series of classrooms and turned them into a winery by cladding with this system of cables and ivy shown in illustration 6. In this case we are, perhaps as in some of these other projects, borrowing certain elements from the locality in order to incorporate them into the project – illustration 7 shows how this building inside the winery will look.

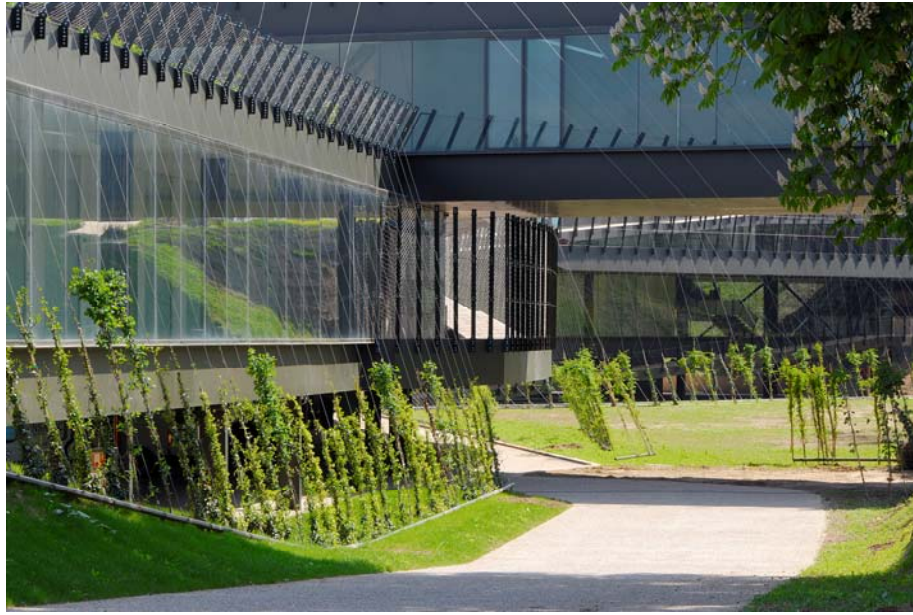


Illustration 6: La Rioja Technology Transfer Centre, Spain (photo by Sergio Padura)



Illustration 7: Inside La Rioja Technology Transfer Centre, Spain (photo by Sergio Padura)

We were involved in more typological research in the World Trade Centre project. We reflected on the discipline of high-rise buildings and tried to distil out of that reflection what we thought could be a new form of very tall, high-rise buildings simply by splitting this conventional structure of tubes for high-rise buildings into a series of tubes that are leaning into each other, producing structural redundancy and circulation redundancy. It is quite interesting how research which starts from a purely, let us say, disciplinary problem is able to suddenly converge with problems that have to do with the symbolic content of the project. Obviously those towers are standing together because they are attached to each other and they gain with this kind of image – it suddenly becomes a hybrid of geometry and typology. More specifically, the disciplinary questions and the symbolic content that was required from this project

meant our reflection on the skyline moved away from the more traditional systems of skyline, for the entry that we did with United Architects.



Illustration 8: The World Trade Centre Bundle Towers competition entry, New York

Another interesting case is what happened to us while doing the Olympic masterplan 2012 (illustration 9) with our partners, Edaw, Allies and Morrison, HOK and Bureau Happold where we carried out extensive research on how to grow the masterplan out of extending the neighbouring urban enclaves around the valley, and doing diagrams of how to stitch it back together.



Illustration 9: The Olympic Masterplan 2012

It is at that moment when we are forced to try to find images, to almost deploy a certain iconography that will enable us to explain the project to the public that the human body as a kind of metaphor appears as a possibility because of its formal similarities with some of the geometries that came out of the exercise of playing with the canals and the geometry of the valley. We started thinking in the masterplan of

the Olympic Park almost as a body, as something where there are muscles, where there are areas that are bulging out of the skin, and that association basically becomes an argument that enables us to address the venues with a particular formal approach. The type of venues that we have are open, closed, permanent, demountable and we start looking at all these typologies but trying to use systematically a structure that resembles something that bulges out, that resembles something that comes out of a scheme. It is that expected convergence between very different fields of knowledge where we are increasingly finding the most productive form of operation, the most productive way of inventing possibilities – for example new structures or new urban patterns. Once we have this idea of the muscles and the kind of striated structure, suddenly the masterplan becomes also formally organised, not as a series of elements dropped on the area but organised by a certain direction.



Illustration 10: Muscles

One of the last series of researches that we have embarked on is for the Spanish Pavilion at Expo 2005, Aichi, Japan shown in illustration 11. Here we took things from the past and from the history of architecture, but used them in a new way. The starting references were trying to merge Muslim and Christian architectural elements in a façade and in interior spaces as a way of theming the project. The project is considered by a series of chapels and a lattice that surrounds them – that was a given of the situation and we chose a hexagonal geometry shared by both cultures. We deform it and we make the system that is coded with colours – there are six different hexagons with a small deformation that produce a pattern that never repeats itself; every time that you assemble it you need to rotate the piece and that produces an ever-changing pattern around the building. This produces the expression of the project.



Illustration 11: Spanish Pavilion at Expo 2005, Aichi, Japan

These geometries are also translated into the chapels; it is a structure that is made out of hinged, deformed, hexagons that lock together once they are assembled, producing these sorts of spaces. We continued in the same spirit of playing with the patterning of the scheme as a fully fledged line of research with another experiment - this time for a building about to start construction in Leicester for John Lewis, the department store, shown in illustration 12. We are taking a series of patterns out of the John Lewis archive – John Lewis has some organisation that knows a lot about these kinds of patterns and how that becomes in itself a theme that we need to study in order to make those patterns repeatable within the construction system of the façade.



Illustration 12: John Lewis department store in Leicester (copyright Peter Jeffrey)