

- 1** How would you describe the typical situation leading to the elaboration of projects? Where does the action take place? How many people and what kind of people are present? Who speaks, who writes, who draws (or handles models, diagrams, etc.)?
- 2** What phases are more recurrent in the process of elaboration of a project? What is the starting point and what is produced in the various phases? Can you make a first-hand example?
- 3** How many sessions are necessary to define a specific configuration before this is passed on to the following phase? Is there a clear definition between the brainstorming phase and the technical development of the idea? Is there a clear distinction of roles between who oversees/participates in the former and the latter? How does the project evolve in the course of its elaboration? Do designers produce a number of alternatives that are later confronted or do you usually start from an original idea to be developed through successive deviations?
- 4** Does the layout of the office mirror the (hierarchical) organization of the work being carried out in it? Could you diagrammatically sketch the layout and its implications as you see them?
- 5** In what phase of the project elaboration are design narratives put in place (concepts, visions, notes and sequential drawings...)? Are these a preliminary tool to discuss and negotiate among designers a set of principles leading to a possible configuration, or are they a tool for communication purposefully constructed to explain the proposal to clients and external actors?
- 6** Which (organizational, processual, logistic) aspects from this experience did/would you apply in founding your own practice?

Exploring Bottega.

Four Architectural Firms Seen from the Inside

Edited by the Editorial Board of "Ardeth"

Note: these interviews have been collected between November and December 2017 from the Editorial Board of "Ardeth".

We would like to thank the workers who responded to our requests as well as the firms involved.

Lior Shlomo

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1 While I was in Eisenman's office, there were 11 people working there, and 4 associate architects. One of the 11 'workers' was the project leader, while the others had variously defined relationships with the office: some had been there for a year, others for less than that and others still only for the summer. It was a team that was made in part by long-term employees and in part by people just passing through, but this didn't necessarily reflect in the hierarchy of the office. The 11 people were all involved in all the working stages and in the collective meetings with Eisenman, key moments in the development of the work, which were intertwined with the more ordinary activity of the office in order to discuss and select the outcomes of a particular workload. The typical meeting would take place in the open space where the desks are. Eisenman would speak, sometimes draw and explain his reasons, while the others would show him their work. The object of the meetings is each person's work around a specific, common objective. Preferably there would be cardboard models, produced simultaneously and confronted, especially in the first stages of design elaboration. The possibility of handling a

DOI:
10.17454/ARDETH02.13

ARDETH#02

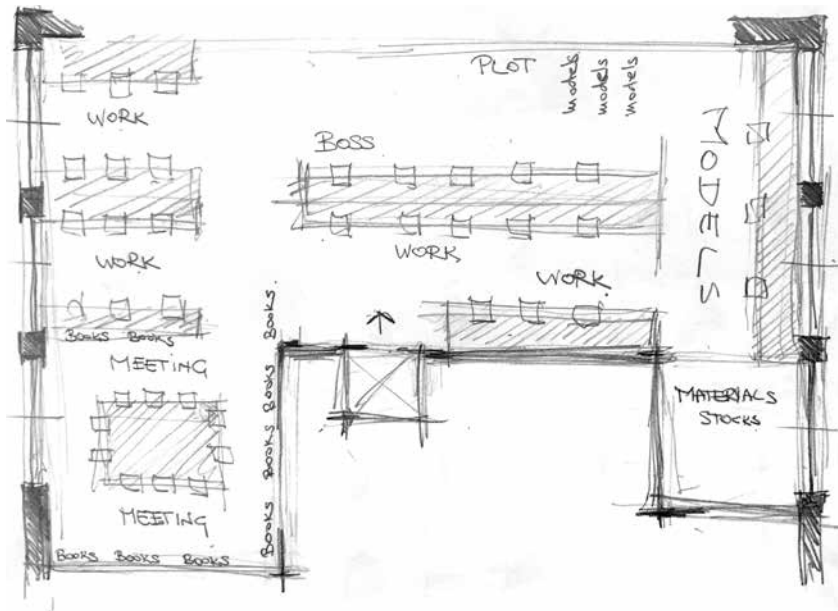
physical model, turning it, inserting it into a specific context, interacting with the other people present, is a fundamental practical condition for this kind of collective meeting.

2 The sequence of work, in my experience, had a clear and consolidated structure. In those cases where I witnessed the beginning of a project (for instance for the competition for a rugby stadium in Paris), we started from a first definition of the principles that would later orient the work, on the basis of cartographic material, mostly plans: historical and archaeological stratifications, urban textures, infrastructures. From the cartographic reading, identifying a number of relevant elements (such as historical walls, doors, the presence of a significant building) we moved on to the definition of a diagram. A sort of general planimetric condition with which the design would later interact. Eisenman's indications would mostly be open-ended, but very specific in some key concepts. From this first diagram we would elaborate a few plans, some layouts articulating the structure of the settlement. There would be 5 or 6 alternative layouts, drafted by the project leader, on which we would later construct cardboard models. In the meantime, we would build a general model of the context, leaving a space for the insertion of the alternatives. Each designer would develop one solution individually, under the supervision of the project leader. After two or three days everyone would have their own model to insert into the bigger model. Eisenman would examine the results, compare them, sometimes even give what resembled a short lecture. At the end, after a collective discussion, he would choose the model that best interpreted the direction that everyone would have to follow in the successive stage. After this, everybody went back to their desks and worked on the next step, merging into the design considerations that are of a more technical, normative nature. The cycle would repeat itself in more advanced stages of the work, obviously with tools other than just models.

3 The design work is horizontally structured and cyclically refers to the meetings with Eisenman. In this sense, the development of the project proceeds by alternating moments of individual production to collective meetings. These cycles work through all the stages of design, although the tools used to design vary throughout, depending on the autonomous decision of the 'workers' as coordinated by the project leader. Given the high turnover rate due to the number of interns, students and young graduates coming from all over the US (and beyond), it is necessary to give precise indications as to the work rules. As soon as you enter the office you receive a document containing all the instructions and basic rules: how to manage the material, your own desk, working hours (always from 9 a.m. to 7.30 p.m.). Everybody must be willing to cover all roles, demonstrate competency throughout, and be able to evaluate their own work with the upmost severity. Given these conditions, there are no

particular divisions of work among the team members, just as there is no specific division between the conceptual stage of design, and that of technical implementation. The continuity between the direction given by Eisenman and the work of the team is managed by the project leader. There are no update meetings, so that work hours are employed individually and in parallel with other team members. Information is passed by observing one another's work and through the project leader.

The development of projects is carried out through the continuous comparison of alternative models, developed on the basis of a few common criteria. It is important to stress that common criteria are simply outlines that each team member must develop personally: this means that resulting models contain a very intense individual work that cannot be easily dismembered and hybridized with others. Eisenman allows these individual efforts to grow and respects them. If someone proposes the right model, touching issues that particularly interest him (rhythms, space enclosures, etc.) he will employ that as a reference for everybody. When he chooses a 'winning' model, he is catching opportunities while possibly discarding others. Eisenman is open toward the language that every model displays, and is able to appropriate the ideas that are proposed to him (Fig. 1).



The office is one big open space, with an additional room for models and meeting room. The distribution of people corresponds to the distribution of work, and not to a specific hierarchy, except for the desks occupied by Eisenman and his associates. The meeting room is reserved for meetings with clients and interviews to Peter, while the work meetings take place in the open space.

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- 5** Since the project elaboration proceeds collectively, the tools for its representation are aimed at the socialized transformation of an initial concept. To this end, physical models, obtained through successive reworkings of initial layouts, are fundamental. The starting narrative, establishing the main criteria for the development of the idea, must be kept and made explicit: it is the element that keeps group work together and orients action. Generally, projects are never radically deviated away from these guidelines. Although Eisenman can be very practical with clients and personally attends even to technical and detail issues, his projects don't usually allow for fundamental transformations and new starts: if the basis blows, the project itself blows. Still, to ask Eisenman for a project is to accept this approach, which is the result of a strong conceptual position. Projects are very different from one another, and develop linguistic possibilities throughout. In some way, the narrative upholding projects is this diagrammatic prerequisite to which it is impossible to renounce.
- 6** Peter Eisenman was not simply a teacher or a father figure in terms of my architectural education. His generosity as human being, as mentor (in the office, too) and as architect- he truly believes the building to be a gift to the client – taught me that our work can be carried out by taking clear positions that involve sincere efforts. Those efforts aim to deliver a message to both the client and the future users of the building. The attention to an open and smart conversation, the patience and trust for the 'young architect' (that ultimately translates into delegating) showed me that, in the office, communication is fundamental. Furthermore, the opportunity to work with cardboard models, the formal investigation and the multiple layers of reading taught me that, in architecture, there are different possible languages to represent the same object. This is what allows the project to evolve, because we're forced to choose and enter into successive phases of critical dialogue. Finally, Peter is a man with many interests, from sports to cooking and politics, and with a great sense of humor. His office is proof that it is, indeed, possible to go home everyday at 7:30 p.m. and still deliver everything in time. I think this is a necessary condition for leaving enough space for other interests in the life of an architect. A very short lesson for a successful life and profession.

Antonio Torres

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- 1** Our studio is rather small-scale. There is neither a fixed configuration nor a very rigid hierarchical structure; perhaps because we are few in number. Although the scale of the projects is international, the workflow is similar to that of a small office.

Projects begin with a single person who gathers the primary information. Then they share this information with Rafael who decides whether the project will be carried further. From this point of view the workflow is unique to each project: everything is based on a dialogue between Rafael and his collaborators.

At this point, as the project begins, the structure gets defined; a decision is made about how many people will work on it, for how long, etc.: there is always someone who makes a proposal from which Rafael develops his own. It is, therefore, not something linear.

Also the work division reflects this light hierarchical structure: when we worked on big competitions in China, the size of the working group was almost equal to that of the whole office. In those cases, the division was very clear: there was someone on the model, someone else on the renderings, and so on. But in general, we are always the same few people and none of us has a defined role.

All those who are part of the group work at all the stages of each project: those who have proven better in a specific area, will have greater responsibilities in that field. If we have to visit the construction site, those with more experience will go; if there are competitions to be done, the younger staff will work on them, sometimes with someone else, sometimes alone. And if there are interns, they do the simplest job, but we're not an office that relies on people who come in and out of the studio.

The relationship with Rafael is very intensive. Especially in the initial phase of the project, whether it is a competition or an assignment, he is always there. We discuss a solution, he draws it on paper and then we translate it onto the computer. There are times when we meet him 4 or 5 times a day. From the concept phase to constructive detail, he is always there to offer his opinion.

One of the best things, then, is that we can all exchange ideas with him, not just the project leader. Obviously if we are discussing a work that is already under construction, he will talk more with those who are following the development, but when there comes the opportunity for a competition, or to discuss the idea for a new project, he will talk to everyone freely. The best thing about working in a small office is that everyone's opinion is heard: we look together at every drawing 2-3 times a day and everybody can speak their mind. This continuous discussion on the project makes the work rather handcrafted. It is not the result of a repetitive process.

As mentioned, the first phase is the conception of the idea. The character of the project is determined during this phase. Even if the program, or the cost, changes, this initial idea is what should not be lost: it is this strong concept that makes the project intelligible. In our work the main effort is to never lose this idea, which is not just a problem of form: in the master plan for the Politecnico di Torino, for example, Rafael's strong idea is to have a large open space in the Morandi area. After the feedback from the Politecnico, in order to bring the idea forward, we decided to put some of the classrooms underground, considerably modifying the plan.

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This fundamental idea almost always comes at the beginning, even if sometimes it is difficult to enunciate it. For instance, for the Politecnico di Torino, the idea had emerged immediately, and it was clear. In a project in Miami, however, despite the idea always being there throughout the work, its formalization appeared later with one of Rafael's sketches.

3 This depends on both the project and the times. But the thing that is immediately perceived when entering this office is that there is constantly a refinement of the idea and of the whole process, from the first sketch to the construction drawing: there is a continuous process of trial and error. This search sometimes leads us to formulating more than one alternative; there is a very eloquent image from a project in Malaga that explains this process, representing about forty different alternatives, all equally viable. Rafael's architecture is produced by an increasing development over time, constantly rethinking and refining the process. This approach is very different from the search for linearity of the contemporary design process.

This refinement process is produced internally by searching for an unanimous consensus among those who are working on the project; but the most significant changes are engendered by external interferences, such as when the budget changes or you are forced to move the building by 40 meters. When there is an external factor, an internal reaction is generated, and this makes the project stronger. In fact, if the original idea is maintained, it means that the project can respond well.

4 The office layout follows the plan of a house in a Madrid neighborhood of the 1930s: when you enter, on the right there is a room with four desks; on the left there is Rafael's space, which is open towards the garden; close to that, there is the secretary's desk. Upstairs, there are two other rooms, each with three people working there. Everyone has their own space, but without answering to a precise model of workspace; we always move according to our needs, but we have a desk as a reference for Rafael, so he knows where to find us. We are a very heterogeneous group and we organize ourselves according to what is required. But always under the guidance of Rafael, who is always there. He always knows when and who to give responsibility to. The studio is a small family. Even from the age point of view, there is a lot of variety: Rafael is 80 years old, but there are people in their 50s, others who are 40 or 30 years old and there is also someone just over 20. The same heterogeneity can be found with regard to nationalities. This allows us to know many things from many different points of view. I think this is our peculiar trait: with few people we can answer many questions.

5 The initial idea we talked about, often expressed in sketches, is a very important part of Rafael's work. His theoretical and practical thinking is condensed in his drawings. What I will bring with me from the expe-

rience I had in this office, is that architectural work must develop from an idea, and that drawings allow us to go from idea to the real world, from theory to practice. In a drawing there is always an intention that is not tangible; there's always at least a bit of theory in every drawing, and that's what makes it possible to narrate it. This is true when discussing the project within the office, but also when trying to explain the idea to the clients or to the stakeholders. In the latter case, of course, we need to explain it a bit more, but normally a rendering, a clean plan or a physical model will help them understand.

We often employ physical models, by the way, both for internal discussions and for presentations. I am always amazed at how we work with models. It requires a little more work, but it makes it easier to explain the space: if we have a meeting, we clean it up and we show it to explain our process.

If I were to set up a studio, I would like to recover this craftsmanship, this contact with the project. Rafael always manages to find the time to follow the work of the studio; despite the international scale of projects and commitments, he always manages to be there and follow every work; it always surprises me how the small scale of the studio manages to relate to the large scale we work on.

Of course, when the project is particularly big, we evaluate the possibility of leaning on local offices for individual contributions or for associations. Sometimes the office gets bigger in order to respond to these projects, but it is an office that always had a lot of flexibility to expand without losing the control of his limit, without losing the contact with the project.

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The review of ongoing works happens on a daily-based meeting with Sou Fujimoto San and the team leader of the project. The office is still approaching the work as a boutique, with a small number of members in the team in the first conceptual phases that will be joined by the rest of the studio for the final material production. The team leader develops the presentation, giving credits to every member for their specific job and production. I consider it a very successful structure, in terms of productivity and empowering each individual in a solid and proactive effort.

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The work builds up around a first deep understanding of the site and the program required. This happens through a series of conceptual proposals on paper sketches and an extensive, reiterated and elaborate production of maquettes on a physical site scale model. This perception of the space

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through vision and a sizing constrained proportion is the core of each development and here is where the majority of the time spent. Once the quest is completed, the work continues in different organizations according to the project's requirements.

- 3 Every project starts with an investigation of the aesthetic and qualitative properties of the project where the role of Sou Fujimoto San is fundamental. His vision and understanding of the space are necessary to maintain the distinct and characteristic approach of the firm. There are no distinct phases, the ideas grow and evolve naturally through the research. The time frame and deadlines are the main impositions coming from strict scheduling. Once again the boutique aspect of the firm is the one that allows each project to maintain its fundamental effect (Fig. 2).



- 4 The office is organized around a central open space with big wood tables where interns produce the physical maquettes; in the peripheral spaces seat the architects' desks. On one side is the balcony with an incredible view on the Tokyo skyline, a breath taking show at night to enjoy during dinner break; in the other side is the foam cutting space, the library, the meeting room and Sou Fujimoto San's office. The spatial organization of the space reverberates in the organization of the work: interns are a fundamental part of the work but still separate from the architect's tasks; the distinction in between architects and team leaders is not expressed on a regular basis. Similarly, the figure of Sou Fujimoto San is clearly recognizable both in the physical space and in the intellectual properties of the projects as it is in the floorplan. However, his office is used mostly for reviews since he follows the work directly in the main central space of the office.
- 5 Design narrative is one of the most important aspect in Sou Fujimoto Architects. Aesthetic qualities and phenomenological effects are at the core of the work and they are embedded in every phase as the main purpose of the conversation.

I personally deeply appreciated the work organization and the hierarchical structure of the studio. Every actor in the office is conscious of his role, tasks and precise expectations. Because of that, high quality work is produced and, even more importantly, high quality time is given to the architects to fully develop ideas and investigations. I will surely apply it in my personal office.

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Mario Coppola

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When I worked at ZHA (2008) the creative process was really fluid, non-linear and free. First, all the members of the team joined in a long and engaging brain-storming phase: everybody could propose concepts, ideas, and even modify or implement ideas and concepts of others. All the action took place in the office, but to be honest it was really impossible to stop when we got out for lunch or came back home. Very often you left the office but then you have an idea to sketch on a piece of paper. I worked in teams spanning from 3 to 12-15 people, and everybody could speak, tell their own thoughts, and sketch to start the creative process.

1

The starting point sometime was a sketch from Zaha or Patrik Schumacher, some other was an idea from one member of the team. The more recurrent thing in this creative moment is the hand-drawing: we used to do it on transparent paper put onto printed cad drawings or photos. For example, we used to print the urban context, maybe a 3D-view of one or more interesting perspectives, and then sketch guidelines, energy fluxes, lines of force, onto these. We produced a lot of these sketches, and, at a certain moment, from these papers a direction emerged, as if everybody caught up to the same idea. It is a very special and almost magical process, rich of fantasy, energy and memory. To me, for example, the memory of natural places where I grow up in Cilento has always been crucial. So, from all these interactions, a sort of scheme – a concept – took shape. For example, in this way, my mentor Fulvio Wirz and I imagined a mosque in Kuwait with a wonderful shape coming from the moving fluxes of pedestrians walking around the site. It was amazing, and it reminded us of both a prehistoric shell and a bulb dome deformed by the movement of people and of wind.

2

There was not a fixed number of sessions to define a configuration. Maybe it was found in few hours or, more frequently, it was found in some days of hard work. There was, of course, a definition between the concept and the development phases, even if, in the course of these, many

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things could change, even the overall shape. Yes, there was a distinction of roles in the team but, at that time, even the youngest could provide criticism and propose new ways and new perspectives.

Normally, a project started from sketches and a rough 3D scheme, a shape with no details, just a massing able to express the main spatial feature of the idea according to the program, the activities the space has to host. Then, when this concept became strong enough to be convincing, it was modeled so that the initial shape was informed by all the real necessities. Surfaces became volumes, white-mesh became materials, internal space was modeled according to natural light and so on. In a couple of weeks, a very simple mesh – that had, for example, a dozen of edges and control points – became a very intricate and complex geometry, something full of interconnections, like an Arab carpet. But nothing, in any phase, is definitive and fixed once and for all: in any moment you had to change something – maybe because the clients changed their idea, or because a better structural solution was found – and this was the most interesting thing of the process. Instead of a rigid body, a platonic geometry impossible to adapt without destroying the initial idea, working with soft bodies, with topologic geometries, allowed to change and to re-draw without losing unity and organicism.

Both processes happen: sometimes the concept started from a single sketch, maybe because a particular idea was already set up from the program, or there was an internal competition of ideas where everyone could propose his own vision. This was really stimulating.

- 4 I do not know if the current layout is the same as it was 10 years ago. At that time yes, the office layout reflected the organization of the work. There were Zaha Hadid and Patrik Schumacher as partners, then associate directors, directors, associates, leads, project architects, architects, architectural assistants and interns.
- 5 Both. We used renderings and 3d visualization between us, maybe to convince that a concept worked better, and of course we used them to convince clients or competition juries. Obviously the most accurate renderings were the last ones, because, between designers, screenshots and basic renderings are enough.
- 6 I applied almost everything to be honest. When I start a new project I go through a brainstorming phase full of hand-drawings, I use the smartphone to draw on photos of the context, I print them and I re-draw onto these prints. When I find a certain organizational balance, that is when I see something interesting and evocative in the relationships network emerging from the sketches, I start modeling in 3D using very simple meshes, exactly like I used to do in the office.