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Graduate Sessions 3: Juan Herreros

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graduate sessions

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Juan Herreros
Graduate Session 03
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Juan Herreros is the founder and principal of Àbalos and Herreros Architects in Madrid and teaches internationally as a Doctor of Architecture, Senior Professor and head of Teaching Unit Q at the Escuela Técnica Superior de Arquitectura de Madrid, as well as a Visiting Professor most recently at Princeton University and the Illinois Institute of Technology.

The work of Àbalos and Herreros ranges from published works including *Tower and Office: From Modernist Theory to Contemporary Practice* and *Recycling Madrid* to critically-acclaimed built work including apartment and office towers in Vitoria and the Woermann complex in Las Palmas de Gran Canaria. The firm was a finalist for the 2005 Mies Van der Rohe Award for the Coast Park Northeast in Barcelona and the 2003 Biennial of Spanish Architecture for the Public Library Usera in Madrid. They have also been featured in exhibitions such as *Light Construction, Ground-swell* and *On Site* at MoMA.

Graduate Sessions is a seminar series offering Syracuse Architecture graduate students the opportunity to engage leading scholars and practitioners in conversation and debate. The resulting pamphlets offer unique insights into the work of our guests as well as the ongoing concerns of our students and the graduate programs.

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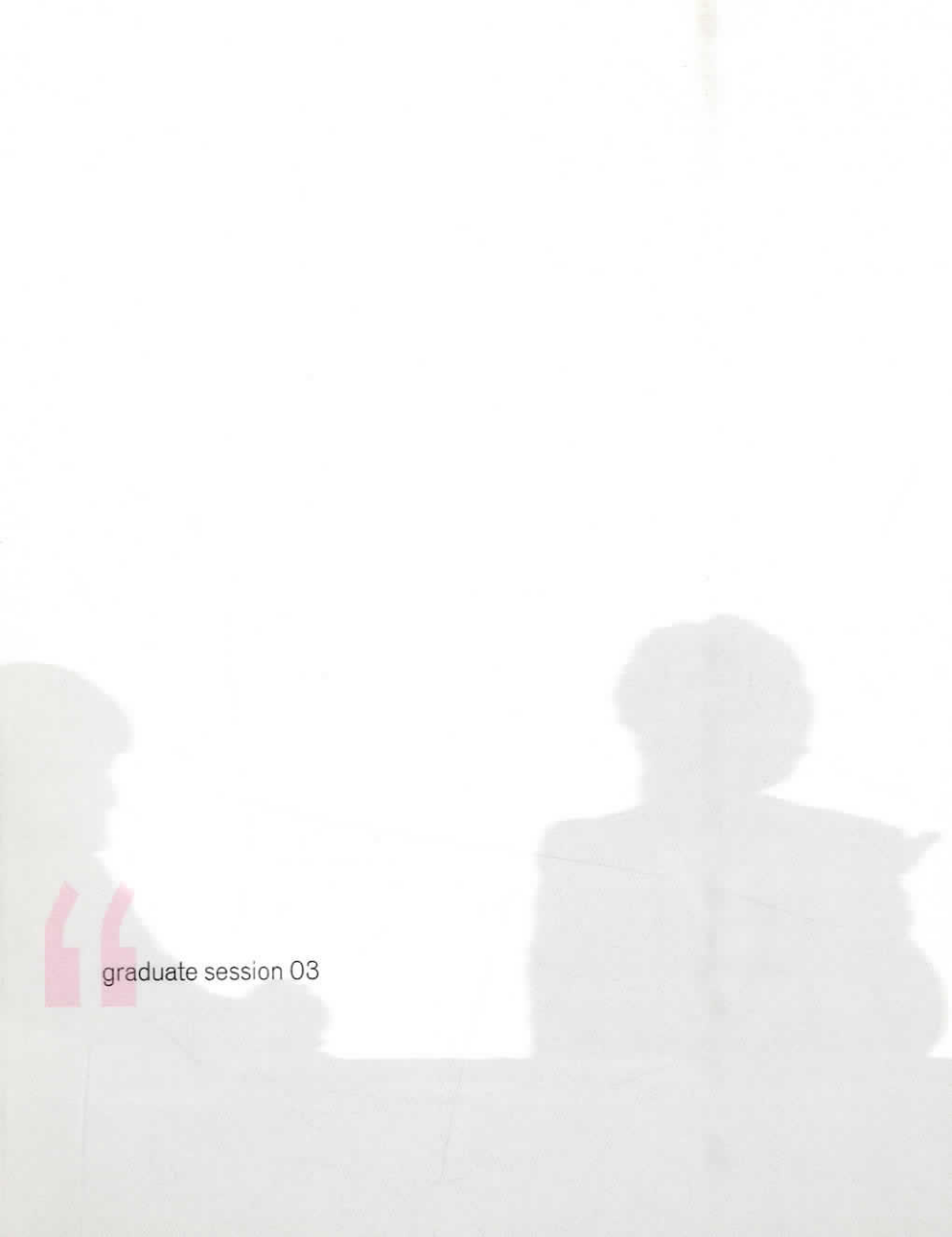


graduate session 03

BM: On behalf of the graduate students in Syracuse Architecture, we would like to welcome Juan Herreros, founder and principal of Àbalos and Herreros Architects in Madrid. Today Juan will participate in a seminar which is the third in an ongoing series we call Graduate Sessions. These events provide opportunities for students to engage leading intellectuals and practitioners in conversations not only about their work, but also about our preoccupations here at Syracuse Architecture. Today's discussion is one of several events involving our students and Àbalos and Herreros. Currently, a group of graduate students is designing an exhibition featuring their Northeast Coast Park in Barcelona. A digital version of that show will be included with the publication of this Graduate Session.

My colleagues and I have spent the last several weeks researching the work of Juan Herreros and Inaki Àbalos and preparing questions. I'm anticipating a lively exchange between a preeminent Spanish architect and what I think is a preeminent group of American architecture students. Now, to briefly introduce our guest, Juan is a doctor of architecture, senior professor, published author, and head of Teaching Unit Q at the Escuela Técnica Superior de Arquitectura de Madrid where he serves as a member of the expert committee of the Institute for Sustainability. He is preparing a critical edition of Cedric Price's manuscripts as well as an essay about energy and architecture in the light of new uncertainties. These "uncertainties" cross the present, referring to the recycling of the architect's role and its projecting techniques.

We've prepared questions on a range of topics, and Jamie Degenarro will start things off.

JD: Your polemics regarding "new naturalism," "areas of impunity," technique, recycling, and new notions of urbanism and beauty have been well stated, yet your built work continues to evolve. Would you attribute this evolution to a closer idealization of your theory, or a response to the changing built and cultural environment that you are working within?

JH: Wow! It's not easy, no!? First, it's most impressive to be

here. I hope to do it well. My English is a little tough, but that's okay; it makes things a bit "radical." I have to work with few words! So, in talking about natural and artificial categories, our position has been that we can't go on talking about architecture as the opposition between dualities, no? Each decade has its own dualities: center against periphery, city against country, building against context, and so on. You can easily identify the sixties, seventies, and the eighties. In that sense architecture is like pop music. So in the duality "natural against artificial," artificial could be one of the problems of the moment, when sustainable and ecological concerns appear in common culture, no? This is a moment in which we can't identify clearly the boundary between natural and artificial and this is a theoretical position that we take from other sciences. At the same time, this is a very pragmatic attitude because it means we have a project which sees the construction of a "new" nature (not the one based on the biological or organic parts or materials), but nature as a collection of systems, laws, and processes, which can create complex organizations that achieve equilibrium. That's the idea of the "natural." I think that the effects of architecture are so great that we have to be conscious of our contribution to the construction of the "new" natural--to the new geography of the world. This is the radical, "provocative" position we take each time we get a big or small commission. So it's theoretical, as in the Greek meaning of the

Each decade has its own dualities-- center against periphery, city against country, building against context, etc. You can easily identify the sixties, seventies, and the eighties. In that sense architecture is like pop music.

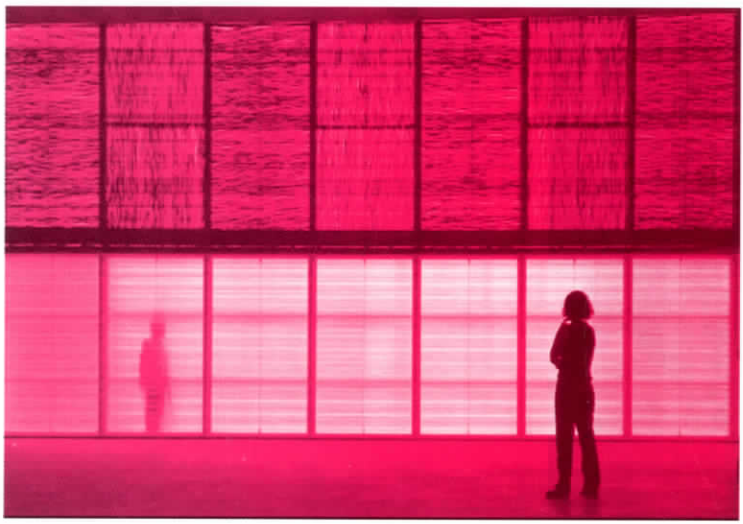
word: "to see from afar." That is a very literal translation, but the idea is that you need distance to understand reality from the outside. We consider this position theoretical as well as critical. We want to take the position of "observer," which allows our theoretical approach to implicate and affect our work, as well as our lives as citizens and members of a community. Okay?

I think that the effects of architecture are so great that we have to be conscious of our contribution to the construction of the "new" natural--to the new geography of the world!

JD: Yes, that's great. Now, let's talk a little more specifically about new naturalism, which you just mentioned. My question relates to the contextual relationship of the historical "picturesque." I'm paraphrasing, but you've said that the picturesque concept had to be something superimposed. Inaki has said that new naturalism should begin by integrating "dark zones" which are capable of articulating an immediate and unified sense of beauty. But isn't this notion of a unified sense of beauty a restatement of the universal and utopic naturalistic gaze that our generation's been taught to dismiss?

JH: Well, in looking outside our private and public architectural world, we find two kinds of environments. One is the beautiful environment of the natural, something unattached and pristine,

and that doesn't need architecture, except maybe to help it to be occupied and admired. The other is the dark parts: the hidden situations, comprised of abandoned peripheries, landfills, or "battlefields" where our society fights every day for its survival. So, the picturesque attitude is a provocative proposal to look at all these places as geographic parts that may incorporate all these elements and give them a new role. And that changes our understanding of how we can incorporate, rediscover, conquer, recycle all these places. Recycling is not a process without reason. New naturalism can only be understood as a process of constructing or building a new nature. Thus it is similar to recycling: when it is applied, design becomes a process based on the idea of a discovery that can be read and redescribed with other words until a poetic condition is revealed. That's very important, no? Perhaps there are other places



So, the process of design is itself something to be designed.

which can be understood as incredible, strong examples, such as New Orleans after Hurricane Katrina or Beirut after the last few months' bombings. Regardless, looking for the poetic sense and content of the city is very important. We are very critical of the city. The city is always the destination of our critical, harder words. We don't criticize nature, which is actually not very well designed... but I'm not talking about that!

JD: Could nature be better?

JH: Yes, nature could be better! Nature is very weak; we can't make our buildings as weak as nature! The relationships there are very flexible. But the point is that in looking at all the space surrounded by the garbage of our industrial or post-industrial society, it's clear our task is very important.

JW: How does your interpretation of nature inform this conception of beauty?

JH: Well, the interesting part of your question is that it implies that "beauty" is something that can be redefined. When you take enough distance from reality, you can redefine every concept. And architecture is a prisoner of the stability of certain concepts, no?? Of course, "picturesque" was a forbidden word for decades in our education, our practice. (Inaki is more focused on that than I and he could say wonderful things about it.) But beauty is also one of

these "forbidden" words, for two reasons. One is that, in architecture, you can't say "It's beautiful." You can say it about any other thing, but not a building! It could, at the very least, be "interesting." The other reason is that beauty is a constant we can't change. It's a stable concept like "truth"--and "true" is always "true!" Beauty is something we can't change. But we can manipulate the concept to suit our necessities. Our necessity now is to identify beauty where, if we accept the traditional concept, it would be impossible to see. Now, nothing is perfect. Nothing is clear. Nothing is limited. So, the traditional concept of beauty, which has always been associated with something specific, is impossible to apply because in architecture we have no specifics. We must make something out of nothing. So the reinvention of this concept is very important. I don't know if the conversation has really been started in architecture, but in contemporary art it's a huge thing. Documenta at Kassel this year had this title, "Beauty," which reminds us we have to celebrate our freedom in using forbidden words.

JW: You often use the word "fantasy" in describing your approach to design. How does the idea of fantasy play into this concept of "beauty"?

JH: Well, fantasy is related, but for us, more in terms of the instruments we work with. We talk all the time about attitudes or parts of our practice which have changed. We have had to change our way of looking at the city. In response, we have had to change the instruments to suit our methods. One of these instruments is

"fantasy," but I don't know if fantasy is an instrument of technique or technique is an instrument of fantasy. Perhaps contemporary techniques are the most important instruments of fantasy. So, for us, fantasy is the opportunity of thinking in terms of the future, the raw material of architects. This is something we don't do very often, right? Only certain utopian architects like Cedric Price have done this. Unfortunately, he isn't here to express his opposition to this idea of being utopian (he was always against the label "utopian architect") but to apply the "utopian" label to someone like Cedric Price really means he was thinking of and working on the construction of a better future. So fantasy is a projection into the future of our ideas for a better environment. Even though our capacity to transform the world is very small, we are not forbidden to think about that, no? I think fantasy is one of the new important ideas to be rediscovered by young architects, instead of copying old ones.

...structure is no longer what is "structuring" our buildings. Rather, circulation, air conditioning, or other programmatic questions can have a stronger role in structuring buildings.

BD: You mentioned "change" already today and I have a two part question about that: first, and more generally, how does the adoption of new technologies inform your projects in a formal sense, and second, how does your use of new, artificial materials affect the systems and processes you employ to achieve "naturalism?"

JH: Yes. Well, new technologies are currently a theme of discussion for us. We don't believe that the conversation about the role of new technologies has been exhausted by those architects who have taken into consideration new technologies of communication and digital design, and devised processes to produce architecture as the consequence of those technologies. I think this point of view demonstrates a weak understanding of new technologies which assumes they are only instruments capable of recreating complex geometries that you could do by hand. They do not challenge the fact that construction today is still mechanistic. Almost everything that is done with a computer must first, or last, be done by hand. Look at Frank Gehry's buildings, for example. By thinking this way, we are avoiding an important discussion about how we can change our way of thinking, of understanding processes, and the reality of the new technologies. From my point of view, 98% of the new technologies are used to draw, no? People who have been educated like me, in big offices with no computers (I'm very old, as you can imagine) have seen incredible copies of thousands of plans for buildings drawn by hand. I remember that and I think computers are mainly used to reduce the physical suffering of those processes, and do not challenge us to think in a different way. Perhaps this shift will occur in the next generation. There was a second part of the question, no? Artificial materials. Materiality is cultural, so when we talk about new materiality, we are talking about new culture. So yes, materiality has changed our culture and knowledge of fields, but not so much in architecture, where we simply become "fetishist architects": architects fascinated with new tactile qualities, or other

aspects of materials. What our practice has been working on is the invention and understanding of systems, such as creating a collection of rules which can help us to make decisions. So, the process of design is itself something to be designed. It can be thought of differently for each case. For each occasion a system is put on the table based on the kind of space, technical qualities, and materiality we want to achieve. For us, material decisions can occur very late in projects. One of the questions of working with new technologies is that, for example, you can change your working parameters or the order of your decisions. The traditional way of working from the general to the particular is still used today in most schools of architecture: you start the first day with a map of the city and on the last night, in the last moment, you design (without sleeping) the door handles! Perhaps through the employment of new technologies you can change this process. This applies to the question of materials: you can begin with a list of five qualities of a desired material and actually choose the material later.

Currently, the growing complexities of our society have demonstrated that the idea of a perfect world could only be achieved through a radical simplification of the parameters we have, no?

BD: I'd like to ask you about the 2% of technology that is used not to draw, but to pursue new directions. I'm thinking of attempts to unite structure and façade, or even ornament, into one unified

system. For example, in the work of Toyo Ito. This seems not to be the case in your library project in Usera [Spain] or the facade of the Woermann Tower, where you employ an appliqué: a wall covering at Usera and etching on the glass in the tower. Is it your intent to keep the decorative patterning or ornament separate from the structure of the building?

JH: Well, first, I don't think we can go on thinking of structure and installations as separate systems. From a technological standpoint, most times they are implicated so you can't define exactly where one starts and the other ends. They are also unified in terms of conceptual thinking, and not only in so-called high-tech buildings, no? This is the risky sentence, but; since about 20 years ago, structure is no longer what is "structuring" our buildings. Rather, circulation, air conditioning, or other programmatic questions can have a stronger role in structuring buildings. We could say the same about installations, no? Their roles in organizing a building are actually not so specialized. In the Usera Library we used a wall pattern designed by Peter Halley. And we have done projects with other artists such as Albert Oehlen and Christina Iglesias and what you quickly realize is you can't divorce the project from the work of the artist. If you want to do that, you destroy the building or their work. So, it's absolutely implicated. The case of Peter Halley is a good example: wallpaper is cheap. It's done in a plotter and glued to the wall directly and it's incorporated into the building. In this case

Then, in the middle of these four elements--the past, the future, the infrastructure and the nature, is the Woermann Tower.

and others, I think there's reflection on ornament, as you say, very clearly, understood as "ornato," an Italian word that means "impression" or "image." But it can also mean something you want to communicate, an idea. In the case of the library, the pattern is trying to dissolve the space, the corners, by blurring the limits and creating an atmosphere. The idea of ornament is similar to the idea of monument or picturesque; these are words we must recuperate not only in terms of fantasy or as a provocation, but to creating something, or offer an experience to the people using your spaces. We also want to break away from the contemporary trend in Europe towards minimalism: the methodical elimination of every emotion in order to concentrate only on the most dense and deep feelings of the human condition. Instead, we'd like to recuperate the sentiment, "Oh, it's beautiful this wallpaper." Nobody in the neighborhood of the Usera Library knows who Peter Halley is. Of course, nobody knows who Juan Herreros and Inaki Àbalos are, either, and they use the library every day!

DP: You have referred to the Woermann Tower as "the virtual wood from which to enjoy the utopia of living in a hybrid landscape." How would you define utopia and how does that relate to the former modernist ideal?

JH: Well, in early modernism, (as we realize eighty or ninety years after) utopia was the designing of a perfect, complete work, reflecting the complexity of the times. Currently, the growing complexities of our society have demonstrated that the idea of a perfect

world could only be achieved through a radical simplification of the parameters we have, no? So, it failed, and it's logical that it failed, because it was the same idea as the utopian cities of the Renaissance. We can't change the meaning of the word. Remember that "utopia" means a place that doesn't exist. That's a strong concept to apply to the Woermann project but we did try to build a utopia of a city. Realistically, perhaps we cannot build a whole utopian city, but why not try to create a utopia for a specific city? In the case of the Woermann Tower, the building is situated between the old city and the new city, the beach and the port. The port is full of heavy industry: dusty, noisy, plenty of crime in its past times. The beach is the luxury business of the islands: tourism, blonde people, you know, spending money. Then, in the middle of these four elements--the past, the future, the infrastructure and the nature--is the Woermann Tower. When you go up the building and walk around the tower, you discover these four parts. When you go up a little more, you discover mountains and ocean. We wanted to compress all of these elements into the tower. That's because we believe a tower can also serve as an observatory. Not the idea that you go there to look (which could be), but with the idea to condense the city's activities and its past and future. It's not quite as pretentious as my sentence suggests, but that's what it does. In the Woermann Tower, this is evident in the mosaic on the floor, done by Albert Oehlen. It's a silhouette of a woman, that you can't recognize when you are walking on the site but when you go up the tower you discover her--like an archeological treasure that suggests this anonymous place by the port has its own history that has played a strong role in

the construction of the city. It's one of these dark places to be, not discovered, but remembered or valued.

While globalization has perhaps been bad for Spanish architects (because we now are losing some work to others), at least 80% of the work of architects in Spain is for local, regional, or national administrative clients.

DP: Your public work raises issues that are perhaps less applicable to projects in the United States. You have completed several collaborative civic projects with local governments that have ranged in public exposure from the municipal hall to courthouses to recycling plants. Based on these experiences, what are your thoughts on the perception of civic projects in Spain and Europe, as well as in comparison to the United States?

JH: Well, it's an absolutely different world of professional practice because, not only in Spain, but in the Netherlands, France, Germany, Switzerland, (and I'm not telling you all the countries!) competitions are held for every public facility. This doesn't happen in England, not Italy, not the States! While globalization has perhaps been bad for Spanish architects (because we now are losing some work to others), at least 80% of the work of architects in Spain is for local, regional, or national administrative clients. Also, in Spain not only are all the facilities public, but also

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the universities, museums, and most of the theaters are public. It's funny, in a way, because we are simply not rich enough to have them be private. But having publicly commissioned competitions is great because it means young architects can win competitions early on in their career. If you look at when Spanish offices built their first building, all of my generation built during their time as a "young" office—before they were thirty! Most successful offices got their start during a moment when Spain was growing and optimism was very strong. Realistically, winning public competitions is the way to gain the confidence of private clients. Otherwise, it's impossible. Without public competitions, what happened in England might happen in Spain. If all clients are private clients, the private clients will only hire the experienced architects; they don't want to take the risk of hiring a young, unknown architect. Architecture is very expensive. It's not like buying a painting; it's a big investment. Let me try to answer what is actually a very practical question. On one hand, administration, government, local authorities and architects are related in Spain due to a historical condition which I think might help you understand many things. In the late seventies there was a big petroleum crisis around the world. As a result, many good, young architects couldn't find work, and the only options were to go to teach at the public university to get a government salary, or become an architect of the municipality. Historical context played

a huge part in my generation's career development. Franco died during the second month that I was studying architecture, so my generation began architecture contemporaneously with Spain's new freedom as a democratic country. When we finished school, democracy was stabilized, optimism was growing, and the first socialist government was beginning the construction of a new country. Oh, and when I say, "we," I'm talking about Rafael Moneo, Alejandro de la Sota, Oriol Bohigas, my partner Inaki Àbalos--many architects that perhaps you know. Inaki was only two or three years older than me and in the same moment. I could tell you all the names of our generation in Spain that were in that situation—we finished school at a time when the older generation of architects did not have private offices. The majority of good architects were teaching at schools, which gave us the opportunity to instead "build" our country. And in that moment it started a new tradition of Spanish architecture. Everybody had work. It continues now, but not so strong because there are more architects and competition.

JD: We're going to switch gears to specifically discuss your practice. You mentioned some of the larger forces such as the seventies oil crisis and the environmental awareness embedded in your professional practice. Along these lines, you've become the "go to" office for recycling plants. Is the recycling plant the ideal venue for you to implement some of your theoretical positions in practice?

JH: Well, it's maybe too simple to say the recycling plant is the ideal example of the relationship between the environment and the

architect. But, if for a moment you forget that it's an industry for garbage, I can tell you some characteristics that other facilities also have. First, it's not necessarily useful to have architects working on recycling facilities. It's a coincidence that we do those projects. We fell into that world after we collaborated on a competition with a company. They were not very interested in architecture; they had other reasons to collaborate with us. We had experience in industrial architecture; we had done a lot of water plants early in our career. So they thought we were good for that, but they were interested in other things. But our approach is like this: garbage plants are hidden from the eyes of the citizens. We don't want to know what happens after we separate our garbage into the yellow, blue, and green cans. We pay taxes to not know! Our competition proposal, which was very revolutionary in Spain at that moment, was to make the garbage treatment plant a public place open to the citizens, with the superimposition of a pedagogical program. We felt the garbage treatment plant was a secret to be discovered as well as a lesson to be learned. Students could view the recycled garbage and discover the result as well as the importance of sorting their garbage. For people that visit our recycling plants, the most important and powerful discovery is the scale of the city. When you go at nine in the morning to this place you find incredible swimming pools full of shit and see the 3,000 tons of domestic garbage produced by Madrid each night (which, by the way, is half of the garbage production of L.A., which is one of the most garbage-producing cities in the world

For people that visit our recycling plants, the most important and powerful discovery is the scale of the city.

per citizen), you really understand what the scale of the city is, no? It's like you understand the power of the nations when you see the Federal Reserve. The idea of the city is behind all of our interests in projects such as this, because it's through these hidden places you can better understand how (going with your earlier question) if you really think about what it means to build a city, the city is the only built utopia.

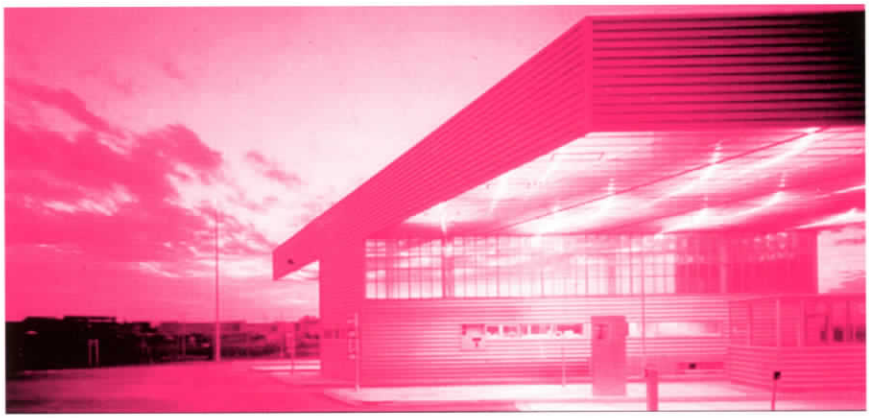
JD: I'd like to try and make a connection to this notion of "exposing" the mechanism. Where does this fall in line with your idea of ecomonumentalism? You claim that ecomonumentalism "calls for an environmental sensitivity with the formal complexity that responds to the values of society." What are these values?

JH: Well, ecomonumentality is a concept which mixes things that are impossible to mix! Ecomonumentality mixes one moralistic concept, the "eco," which is always good, with monumentality which could imply spending more money than you need strictly to do something. Monumentality incorporates part of a budget to create a spectacle to glorify the owner or client. Ecomonumentality mixes these two words to create certain kinds of buildings: for example, the first garbage recycling plant we did in Madrid had a green, sloped roof that could be understood as a topographical accident. Ecomonumentality relates to what I was talking about before: how hard we are on the city and how generous we are with nature. Ecomonumentality is something that we find permanently in nature, but we never say it is too expensive, no? [laughter] Perhaps we could

recreate this ecological idea by transforming the city into a collection of topographical accidents.

BD: Earlier you discussed the powerful reaction you hope the public has when it comes to a recycling plant and sees large pools of garbage. Do you feel that architecture should provoke society by creating new processes that offer alternative solutions, or do you think architecture should activate and raise awareness of current conditions?

JH: Well, perhaps the second is closer. Architects have enough instruments to redefine things or to discover new potentials. It's actually a typical pragmatic concept: byusing other lexicons you can obtain different aspects of a reality you previously thought you knew. For example, a doctor's description of the human body differs from a sociologist or the director of a medical company. So, the role of the architect is to discover and expose new potentialities



of things we receive as "dead" or "problems." The idea of architects solving problems is not very attractive, because most of the time the problems are defined by others. They are often the "wrong" problems: we say, "No, that is not the problem." Perhaps that's a stupid position also, because contingency is very important. Work comes to our table many different ways, which gives us the chance to transform what we receive as "problems" into opportunities. Usually when we're "solving problems" we don't grow. We don't do it better. It's like having a cough, no? Every winter you have a cough, and when you solve your cough you go back to how you were before. It's like going to the dentist. You think you are "better" because you've temporarily solved your problem, but you're actually not. One winter your cough may result in death. So, to really improve something, you must transform the problems; into opportunities for change.

BM: I'd like to ask a question that addresses practice in a more general sense that might relate to the Syracuse students' work. Over the past decade your work has ranged in scale and scope from the AH houses to your recent submission to the Orange County Great Park Competition, which we also worked on in our studios last semester. How do you approach working in various scales? Does this relate to the emerging concept of transdisciplinarity, in the sense that you're simultaneously working as a landscape architect, urban planner and architect?

JH: Okay. There are a few things. First is scale. Inaki and I aren't concerned about the scale of projects. I don't want to be misunderstood as saying that it's the same difficulty to do a chair as a city! To do a chair is easy compared to the city, no? The truth is, we use our small projects to research or experiment with new possibilities, especially in terms of construction. They are fast and give us very specific opportunities which can be used and applied in order to maintain open designing in our office. So, as I was saying before about the order of scales, it is small commissions that sometimes let us reflect on the bigger world. I'll tell a story about doing the AH houses.. We had in mind specific ideas that were very important. For example, what is the difference between houses when you don't know who is going to live there? How universal can the solution be? Or, what is the concept of luxury in a small house when perhaps it should be absolutely cheap and easy, but its value is still dependent on location: it could be in a wonderful place or an earthquake site. We also wanted to reconsider the role of industry and the capability of mass production: why is it that every time architects have used production lines for houses they have failed? For the AH houses, we proposed to build houses in a different city each year, like a fashion collection. For the first three years, we did different colors, and then in one moment we decided to produce a surprise edition. And the "surprise addition" was the "AH!" houses. Now, there was another part of your question.

BM: Yes: the question of different scales and transdiciplinarity in projects such as the Orange County Great Park Competition.

JH: Actually, we aren't concerned much with issues of specialization. BM: Do you always consider yourselves architects first, or do you simultaneously become a landscape architect and urban planner depending on the task at hand? Or is it all architecture?

JH: All the different practices you mentioned have their own knowledge, no? But it's not knowledge we need to have in order to participate. We collaborate with experts in each field: landscape architects, urban planners, and specialized engineers. Inaki and I consider the ongoing collaborative work of an architect as a permanent conversation with people that we know and that we don't know. The idea of the isolated architect creating against the world doesn't make sense. Instead, the role of the architect is to engage experts in other fields and incorporate their knowledge and experience in every project.

Conversation as a method of working is important in all the projects I have mentioned today. Even to do the small AH houses, you need an expert who can explain to you in half an hour

the maximum size of all the flat items you can buy in the market. This pretentious attitude of architects that they know everything, or can design everything, or learn anything, or talk about anything, or read books on any science or theoretical question is ludicrous. Of course, I'm not telling anybody, "Don't read," or "Don't continue to learn." But to do that in isolation is stupid because it reduces architecture to parasitic knowledge. From my point of view, that kind of architect, who is a very methodological architect and we know a lot of them, doesn't produce new knowledge for the intellectual community. But they take all the knowledge of others. I would assume that when we work with and receive input from various experts, they leave having learned something from us as well. The hope is that they learn, and they go, and they use.

BM: I'd like to talk more about the academic sphere, and the intellectual world of architecture. As successful practitioners you've also established a theoretical position, as we have discussed at length today. Therefore, in your teaching both in Madrid and in the U.S., most recently at Princeton and IIT, how do you generally convey your theoretical beliefs and practices to your students while nurturing their own perspectives as they begin to formulate individual positions in architecture?

JH: Well, it's a long answer. Inaki and I maintain different positions at the school, but basically, we think that there are methods. In Spain we are organized as "units" with specific methods. All subsidiary knowledge focuses around this model of units. But there is

The hope is that they learn, and they go, and they use.

something forgotten today in schools of architecture: it is one thing to teach architecture and another to teach how to do "projects" or "design." "Design" means making decisions, how to use the knowledge of others, and learning how to think. So in our [Inaki and my] case, the question of theoretical and practical activities in the teaching environment has become a permanent system of formulating questions. And the questions are "What are you doing? How are you going to do that? Which books are you going to look for? What resources are you going to refer to?" These are more important questions than, "What are your final results?" Sometimes, because the environment of the units is very active, like an atelier, we are blind to important theoretical issues and architectural discourse because we worry that we are losing time. So we spend the majority

of our time making stupid models--for days, no? So, in my 23 years of teaching (I don't want to admit it's been so long!), the introduction of pressure is the main energy, the fuel, for production! Pressure is really what can put you in the situation to look for something that you don't yet know or understand, so you have to invent a system of representation, you have to invent a computer program, you have to invent anything to see it, to realize it. Everyday I ask my students, "What are you going to do?" They say, "A model." "What is the model going to be?" "I want to do a model with plaster, I'm gonna..." And I say, "You know how the model is already? Don't do it! I'm not stupid. I don't need a model to understand your project!

Perhaps a stupid client in the future may need it [laughter], but you will have your slaves, well-paid or badly paid, to do that. But at this moment, you only need to do the model if you haven't any idea if your decisions about proportions are any good. When I receive "perfect" models, I always reject them! (I'm very kind with my students, no?) I accept them only if the model is broken, like when the student says, "It was like this, but I had to cut it to discover that it was... ." Then I can accept the model because it was useful. Time is the most expensive material in architecture, no? A night without sleeping is terrible. [laughter]

The role of the architect is to discover and expose new potentialities of things we receive as "dead" or "problems."