

ENGLISH

English translation by **David Cerny-Jones**

In praise of mature work

Miguel Angel Baldellou

Maturity is probably never reached.

Yet we plan our lives in its quest, using our experience as the main argument for its achievement. We tend to confuse maturity with experience. As this is obvious, and by its nature relative, so does the opposite hold.

Specifically, from the professional viewpoint, our work seems to be a journey in which knowledge, tied to personal, and not only professional, experience, allows us to resolve many issues that are therefore regarded as stock pieces.

We construe our equipment on an accumulative process of positive and negative verifications that allow us to focus our attention in each case on specific or basic aspects on which to carry out the main effort. This procedure is so frequent that it prevents us from perceiving the negative *déjà vu* aspects of acceptance of too many things. Thus our experience turns into an enemy, certainly no less for the comprehension of problems in their original phase. It interposes itself like a curtain between us and the outside world, preventing access to the true "originality".

So necessary re-thinking can arise as a great, general and new problem, only childish in appearance that entails, as far as is possible, oblivion of what is supposedly known. Knowing how to distinguish the useful (usable) among that which is known in each case, and that which should be known again, is never easy, among other reasons because it is not usually attempted. Secure in the comfort of "experience" we reject the risk that a reconsideration of principles in their origin implies.

Experience is generally sufficient for what we already know. For new situations that have no precedents we have to risk making errors and the possibility of failure. Or face sanction or its substitutes. Even by avoiding risks in general, on certain occasions they can be taken on voluntarily without appearing to be vital; risks that are at times reckless but nearly always exciting, often unnecessary.

Taking a look outside, removing, or at times tearing the curtain, "forgetting the known", implies a risk that once assumed calmly indicates, to my thinking, maturity. A state of mind in which, knowing the very resources, the opportunity of the moment, someone asks in all wise-innocence the essence of things in order to realise how to resolve a concrete problem. The basic idea, like the sculpture in Michaelangelo's block, is only awaiting the right question to reveal itself.

Maturity also implies "the way" of posing the question. Neither with the "impatience" that like a child does not wait for the answer, nor with the "sufficiency" of those who are only seeking what is "correct". Therefore, maturity seems to me to reside in a certain interior

"dynamic balance" that is only possible to achieve when "one is arriving" and still "is not returning". Not when one has arrived or has returned.

A mature work demonstrates the "tense-calm" of a mature author.

I believe it is appropriate to reflect on this aspect that expresses a situation and implies a universal goal. It is the basis of the classics, indicating a calm and contained view of the world from the edge of the abyss. This is different from classicism, "repetition" of the classical from experience. For this reason the classical cannot be repeated without falling into its conventional "ism" and should be presented instead as a moral attitude from which the practice of its development, maturity, is at least possible.

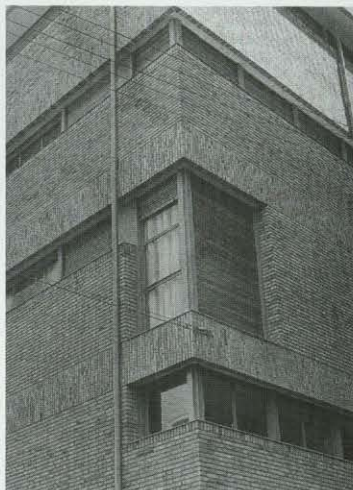
Thus we can see the mature work as opposed to the opera prima, and subsequent works approaching maturity, perhaps residing in them in an inadvertent form.

An opera prima is circumstantial and unique like youth, with only an indicative value, like a seed. Therefore it only interests me as a retrospective work on a coherent path, seen from maturity - like H.H.'s passion-intrigue for his nymphet, Lolita.

A society that consumes does not seek maturity. It promotes premature "values", the immature, the post-mature. It is interested in the circumstantial, because that is where it thrives. Because the variable, the changeable, perhaps "the modern" have their roots in these phases. As a value, an opera prima can only be exciting as far as prediction is concerned. A mature work, on the other hand, means a transcending of the debt to others and the beginning of an offer as a support for new ways. In this sense, a mature work is a nutrient for a new sap. The lesson that this gives is never pretentious. Nothing is intended beyond the legacy of an attitude that is implied. It can be programmatic, but never a pamphlet; and not usually even a manifest. It simply is.

Solvency, discipline, coherence, the calm assumption of contradictions, adjectives appropriate of mature work, distance it almost always from the masterpiece to which it does not aspire to be. In that risk is controlled by the knowledge of its own and others limitations. It does not generally intend to change what "is known", that cannot be done at certain levels, but "only" improve what should be improved, that can be done. Therefore, its responsibility is adjusted to the culturally established structure.

Its dialogue is free from hysterics because it is in no hurry. It knows that time plays in its favour. It does not intend to demonstrate practically anything, although it does not easily accept promiscuous confusion. A certain subtle elitism permeates it and gives it distinction, a certain intimate and calm satisfaction is



fixed with clarity in the memory, in reminiscences, because of its precise features. Anyway, we only remember its aroma. The "delicacy" with which it is inserted among other works does not mean so much the acceptance of surrounding conditions as its determination not to join futile and passing discussions.

Mature work is recognised by its intention of permanency, but is not obsessed with immortality, frequently so sterile. Finally, a mature work leaves the way open. It does not intend to have the last word, nor does it present itself as testament of prescriptions. It leaves evidence of a situation and indicates a path that is renewable for everyone. It does not exhaust it, but opens it up.

However, the "specialised press" highlights with compulsive delight the most tumultuous events; works that are just about to be published, in a desperate attempt to guess the best, the premature work, those that are supposedly the *rien va plus* as as though culture sought to resolve itself in spectacular circus feats, chasing wealth, drawing attention to supposed "masterpieces" in an unnecessary and gratuitous manner. Or those that could be introduced as post-mature, belonging to the most prestigious signatures, manufactured in the cellars of culture in a struggle for market control. Seen by these media, the panorama is at best confused; not even complex, as its structure is not appreciated.

It seems to me that a careful look at mature works that have been forgotten not by chance, would allow us to recover the right distance; to remove ourselves from the dispute, from the catwalk. Look around calmly and inwards. Work in peace. Perhaps that is how we may mature. ■

transferred from the author to readers. It gives us balanced emotion.

For all this, the author's apprehension usually requires a level of training and appropriate criteria, in the literal sense. He is hardly dependent and, perhaps, as independent as possible. By not wishing to draw attention at any cost, his "distinction" means a certain distancing from general opinion that notices "flashy" forms, evidently confused by appearances. Unfortunately, mature work wrought from "common" sense is, however, liked by few, and low key in value. Mature work reduces tension by prudence. Thus that which in the masterpiece distances the spectator, draws him closer, embraces him, in the mature work. It is so comprehensible that it does not become

City and University in Pamplona

AN INTERPRETATION OF ITS SPATIAL MODELS

Pablo Campos Calvo-Sotelo

Pamplona is a unique case in the relationship of a city to its university, whose interest amply justifies a theoretic discourse. At the time of reflecting on the inherent physical space of a urban-university configuration of this kind, certain methodological discipline must be applied to its interpretation. Starting out with the always illustrative historical review, the subjects to be dealt with are as follows:

- To recognise a universal model in the city, as an organisational structure in which the university's function performs a role of considerable specific weight.

- To assign partial models that can be identified in the two most important educational complexes with respect to their link with the town.

- To identify individual cases that apply to each of the academic precincts as unitary morphological entities.

A little history

Founded by Pompey in the first century BC on a Basque settlement, the city was briefly occupied by the Arabs during the eighth century before they were expelled by Charlemagne. In the 10th century the counts of Navarra converted their territory into a kingdom, and placed the capital in Pamplona. Local university roots trace back to the 13th century when the general studies institutions were born in Pamplona, Tudela and Estella. In 1265 this first cycle began its decline to be followed by unsuccessful attempts at a revival during the reigns of Carlos II and the last of local monarchs. Meanwhile, Navarre students continued to attend the French universities of Toulouse, founded in 1229 by the Treaty of Meaux, and Paris.

Urban life saw violent clashes between the inhabitants of the old quarter and the Franks who lived in the burghs of San Cernin and San Nicolás. Carlos III, the Noble, decided in 1423 to put an end to the dispute by proclaiming the Privilege of Union, a measure that forged the three municipalities into one. The construction of the citadel commenced about 1571 during the reign of Felipe II. Designed to defend and protect the old quarter, the raising of the walls and erection of the castle were later completed.

The 17th century witnessed the foundation of two religious universities: the Monastery of Irujo, in 1615, and the Dominican convent in Pamplona, in 1624. Throughout the previous and succeeding centuries, attempts were made to fulfil new university projects without any being finished.

A leap in time to the mid 20th century reveals Pamplona's recent and significant investiture of Pamplona as a town of a consistent university calling. In 1952 Navarra's General Studies Centre was opened, a

corporate work of the Opus Dei, whose original location was at the Camara de Comptos, a building of the 13th and 14th centuries in the old quarter. Later it was moved to the Museum of Navarra where it remained until 1964 when it was installed in the new Edificio Central of the recently opened exterior site. A decision on the final location of the grounds did not come immediately. A choice had to be made in cooperation with the townhall between the Aranguren valley and the Sadar area, the latter finally being considered the most suitable in the opinion of those responsible. At first, the idea was to locate the university in the buildings of the Plaza Conde de Rodezno, a possibility that did not turn out to be viable.

The Soto del Sadar site was inaugurated with the placing of the first stone in 1960, the year in which the Vatican granted it the rank of university through the *Erudundae* Decree. The University Clinic dates from 1961, the year it took over medical studies that until then and since its creation had been handled by the Hospital Provincial.

Over the past few decades, the growing desire to give Navarra its own public institution had been gaining weight and one of the consequences was the integration of existing academic centres that until then had been registered in different academic entities outside the province. In 1981 the final administrative step was taken, when the autonomous parliament approved a resolution on the requirements of higher education, that at the beginning of 1987 was to receive a favourable report from the Council of Universities. The process was completed with the definite creation of the Public University of Navarra, to which the University School of Business Studies, the Technical Agricultural Engineering, Social Works, Nursing and the Huarte de San Juan teaching staff were joined.

The urban site chosen in 1989 for the new institution was the Arrosadía ground, situated between La Milagrosa district and the Sadar River. The earlier decision to provide the city with an important university site led to an immediate discussion on the model to be selected. Francisco Javier Sáenz de Oiza was chosen to draw up the design, but his initial proposal of using existing buildings of certain distinction spread around the town was rejected. After dismissing this first suggestion, two more options were put forward: the Arrosadía and Mendillorri grounds. The latter, with a much greater surface area, was ruled out for being too far from the city. In spite of its dimensional limitations with regard to the extensive requirements, the Arrosadía site guaranteed a better connection with the town and the other existing academic ground, the reason why it was finally chosen.

Returning to the overall view of the city built on the Arga River, Pamplona's historic quarter is raised above its immediate geographic surroundings from which the urban fabric has gradually extended. The two university grounds are ideally placed in the Arrosadía and Azpilagaña zones, with exits to the Logroño and Zaragoza roads. Thus, this extensive peripheral strip, a mixture between a rural town and urbanised countryside, counts on superior cultural and educational facilities and an abundance of green zones on the banks of the Sadar River. Both educational sites consequently add considerable weight to the southern outline of Pamplona.

a. The model of city

Pamplona has two university institutions. One, the Public University of Navarra founded in 1987 is public; and the other, the University of Navarra founded in 1952 is private. Apart from their difference in status and the chronological gap, they share clearly distinctive head offices. In this sense, Pamplona can be described as an administrative model of a multiple and local university city.

Confining the analysis to the general urban structure, the city has evolved in a remarkably compartmentalised way as both educational areas had sufficient dimensional room and formal compactness to establish themselves in independent fragments on its southern border. The existence of a small number of academic buildings dispersed in the centre should not blur the dominance of zone planning that minimises what could have been an alternative model: the superimposition of a polycentric structure spread around the urban fabric.

Calling to mind comparisons with European history, the city doubted between fidelity to the university in city models whose most notable examples were Bologna and Paris from the 10th and 11th centuries, and the university-city sourced to the utopia of insularity and represented by Oxford and Cambridge, that would later surface in North America as the academic village.

Therefore, Pamplona emerged as a town of a high vocation as a City of Knowledge in which attention is drawn to the contrast between the firmness of its current urbanistic-university layout and the infancy of its academic tradition. This touches on the thesis of viability and the appeal of promoting modern transformations in already established cities by applying a university's driving force without the prerequisite of deep historical roots for the educational institutions located there.

b. Models in the City-University relationship

The two universities installed in Pamplona have markedly urban personalities.

Regarding the link between the general urban layout and that of the two academic establishments, the allocation of a model acknowledges a certain ambiguity: against an

initial segregated option, metropolitan development seems to have engulfed both, the reason why a progressive process of integration has been justified. Thus, there are two university cells with clear urban identities that seem to manifest, due to physical proximity, a certain predisposition to intermingle in the not too distant future, a prospect that appears to be insinuated by the course of the Sadar and the flow of traffic parallel to it.

From this first joint examination, each academic site should be considered separately, so that they can be allocated to the appropriate models and the similarity and differences between each be stated.

The Arrosadía site

Taking a look at the Public University of Navarra first of all, the Arrosadía site forms a peripheral complex with respect to the city. The morphological relation between the educational seat and the city is still today one of juxtaposition, a circumstance resulting from the location of the former within the margins of the latter. This does not appear to lessen the progressive consolidation of mutual bonds which promotes the strengthening of their mutual links.

Coming to the to the plan of generic urban functions, the situation responds to the type of zoning proposals, as has already been argued when describing the model of city as a university body, but it should be underlined that metropolitan development will progressively lead to alterations towards the consequent superimposition of uses.

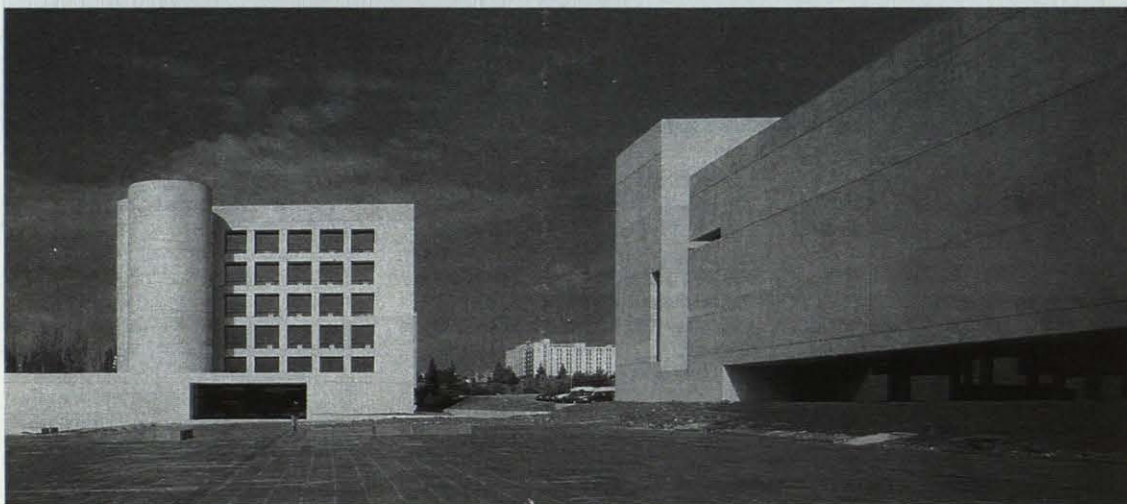
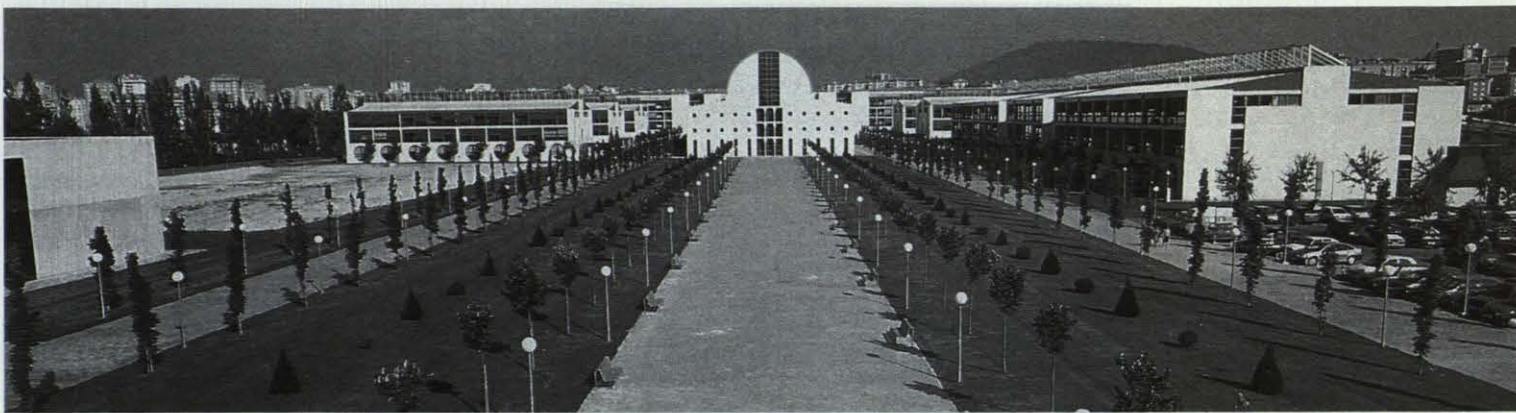
Socially, this academic establishment has introduced an element of change in the immediate surroundings, but it cannot be regarded as a pioneer in this part of Pamplona, where not far to the west, the private institution had initiated university courses more than three decades earlier.

The Soto del Sadar site

This privately owned university cell reflects a series of similarities with the previously described establishment when its urban features are categorised in comparison with pre-established models. Firstly, it is peripherally placed to Pamplona's urban fabric; secondly, because it is a juxtaposed fragment also subject to increasing expansion of reciprocal ties; and finally because of the functional zoning that for now seems to prevail in the correspondence between the city and university, even if in the short-term the possible move towards a more overlapping arrangement of shared uses is detected.

The main difference between the two complexes refers to evident matters of physical scale (110 hectares for the private institution against 24 for the public one).

The Soto del Sadar side includes a changing and vigorous social factor in the areas that form its environment. While it contains an important choice of facilities



(education, research, residence, university, sporting and religious services), it would be too artificial to defend its functional independence from the city with which it maintains a fluent interchange of activities.

c. Category of spaces in Pamplona's university sites.

Natural base and boundaries.

On conducting an appraisal of the physical form to these installations, a certain similarity in the surroundings of both can be noted, due to their proximity. To the north the degree of urban consolidation is greater, so the connection with the metropolitan network occurs in this direction; to the south the countryside aspect is much more pronounced, incorporating grounds of future educational expansion and research, Mutilva Alta and Mutilva Baja, the present location of the UNDE, and the sports area of the El Sadar Stadium, raised on the other side of the river of the same name.

The grounds on which the University of Navarra is built contain extensive watercourses, whose longest hillside descends from north to south, relatively parallel with the general trend of the urban base. It adjusts, therefore, to the topographical form without essentially altering it, a factor that differentiates it from the artificial horizontalness introduced with the buildings of the Arrosadía complex.

The University Clinic area consists of a tongue of horizontal land raised on a slope that absorbs the unevenness of the middle section of the main zone. An urban road, the Avenida Aróstegui, runs in between both, propped up

against the wall that takes up the change of heights, establishing a clear physical boundary between both sectors.

The Sadar River performs various tasks with respect to the two urban-university complexes: along the length of its course it serves as a link between each; it forms a natural barrier on the southern bank of Arrosadía; and it acts as hinge between the two slopes facing the Soto del Sadar watercourse. As borders to the sites, it runs along the urban roads of the eastern part of Pamplona: on one side, the rotunda, where the Sadar and Tajonar roads connect, is the joint from which the large urban spaces for educational, residential sports purposes extend in the grounds of the public institution; on the other, and in the private institution's case, the most important are the Avenida Aróstegui and la Avenida de Navarra (western by-pass).

From the not always appreciated point of view of the exterior of the university, both sites appear to express an acceptance of the city that translates as a first and definite act in the absence of artificial barriers that would have closed off the internal spaces in a functional way. And why not value this accordingly and symbolically? This undoubtedly contributes to make viable any interchange of activities with the metropolitan area. To sum up, these are permeable membranes that activate the osmotic processes of the educational cells with the city body in which they are set.

Internal morphology

Perhaps a review of the contrasts between the universities under study may be more profitable in the internal organisation field. Overall the

Sadar site is a formation of organic essence, in which the stamp of certain North American campuses are traceable, without adopting their full roots. In contrast, Olza's design for Arrosadía opts for a raised geometric control, meaning a reticulated composition of moderate dimensional development, including references to classic structures of the 19th century North American campus, one of whose foundations is embodied in Thomas Jefferson's sketch for the University of Virginia in 1817.

But it is desirable to go into further depth after this preliminary approach.

The University of Navarra has a ground of large dimensions, whose organisation presents a double fragmentation as a result of the divisionary action of the two roads that cut it most completely: the Avenida Aróstegui, to the west of which is located the Clinic and its associated buildings; and the University road whose heavy general traffic runs parallel to the river Sadar. In Arrosadía, the moderate physical scale combines with a compact arrangement, lacking interior divisions created by roads or factors not beneficial for its own use.

Focusing the analysis on the main part of the private site, a tenuous typological superimposition emerges. Against a background of an overall organicist stamp, the constructions remain subtly faithful to an orthogonal form - anchored to the backbone of the road system by the Central Building - that progressively blurs as it distances itself from the attraction this emits. The result is a hybrid between some creative ideas inherited from North American urban universities of the 19th and 20th centuries (whose model could be the campus as an

ecological metaphor that Thomas Church defined for California's University of Santa Cruz) and the formalist designs of the majority of the first Colonial Colleges of that country, or the architectural tradition of the university cities at the start of the 20th century in Europe (Madrid, Rome and Lisbon, among others).

With the object of understanding better the origins and evolution of this educational cell, it would be advisable to remember that the urban statute was regulated in 1990 by the Sectorial Plan of Supramunicipal Incidence. Since its beginnings in the 1960s the cell was already overloaded with conditions imposed with respect to the distribution and density of the buildings on its ground. The plan marked out areas of construction, the consequences of which remain visible today regarding the imbalance in the arrangement of buildings and open spaces. Evidence is provided by the motley constructed group in which the fascinating new Library was recently inaugurated, the work of Javier Carvajal. Raised on a site of complicated and rigid restrictions, he sought from the start a spatial dialogue with Ignacio Vicens's science building, undoubtedly the greatest attraction of the setting.

To extend the interpretation of this unique educational installation, it can be said that it would fit the model of disintegrated university defined by Alberto di Bitonto and Franco Giordano, and which they illustrate with examples such as the Chicago Circle Campus, designed in 1960 by Skidmore, Owings & Merrill, or the University of Aarhus, planned in 1931 by K. Fischer. If we accept the classification established by Michael Brawne as a result of the creation of the new English universities boosted by the 1963 Robbins Report, the Pamplona case could lie between the model of connected nodes and that of the linear plan.

Vehicle communication is compounded by the backbone in which the river and road network converge. Apart from channelling traffic of very negative interference in the complex, its function as an axis of a phenomenon of symmetry between the two slopes that it separates could be absorbed. Both topographical plans are joined with respect to this common hinge, although they differ in content - both qualitatively and quantitatively - providing considerable divergences in what concerns the way in which the architectural pieces are assembled on them.

The buildings are mounted on this axis in an hierarchical arrangement, in such a way that their greater or lesser prominence is related to the proximity or distance from it. So the pioneering Central Building occupies the most privileged situation, performing the part of link

with the road. Starting from the Rector's Office, this subzone reflects in its organisation a semi-diagonal tree-lined plan, of fragile morphological consistence. Attempting to merge with it, constructions that approach the northern boundary gather in their layout the bi-axial directional impression defined in the original nucleus. The south sector shares the same informal structural concept.

The Public University of Navarra differs considerably from its private counterpart in morphological matter. Apart from the already mentioned disparity of scale, perhaps the most glaring difference centres on the supremacy of orthogonal geometry as a grid to which the whole construction is subordinate, and the compact arrangement around the central open space that is the heart of the university.

The project upholds an organizational approach that gives privilege to a constructed and pedestrian interior that relegates the road network and parking lots to the periphery. This decentralisation of certain functions provides the operative independence of specifically university activities with respect to those of the city that occur tangentially without actually making an incursion.

The geometric layout is polarised about the central northwest-southeast central axis that covers the length of the ground in its greatest dimension and on which a series of oblique axis are constructed of lesser size. The arrangement of the built blocks assigns to two of them the task of marking out the important linear central square: the Rector's Office and the large Library around which are placed the remainder of building blocks, laterally and concentrically. Complementing the interpretation with a metaphorical label, the essence and main arrangement of the Rector's Office, together with the definition of the privileged free environment through which it dialogues with the Library, implies an anthropomorphic perception of the enclosure, the extremities of the complex being able to identify themselves in the succession of blocks that move away from the centre until they come to rest on the perimeter. It is worth while to investigate the reference to the design of Thomas Jefferson for the University of Virginia in Charlottesville. Basically, this consists of a geometric outline of parallel pavilions arranged in two linear groupings that enclose a central open area called the lawn, crowned at its extreme by a library of circular form. Oiza's proposal for Pamplona establishes two poles instead of one, that means a greater formal underpinning of the pedestrian square, or the main body of the urban layout.

The model in which this complex could be fitted, according to categories defined by Bitonto and Giordano, would be the integrated one that these authors apply to the case of the University of Bielefeld, the work of K. Kopke and P. Kulka in 1971. If Michael Brawne's processing systems are adopted, it would correspond to the precinct type, or central pedestrian nucleus.

The remarkable specific impact projected by the open spaces and green zones obtained should be underlined. Evidence of the interrelationship with the town, the nature and relative proportions



of a central form is very similar to the central Paseo de Sarasate, that indicates a will to twin, at least as far as the spatial configuration, city and university concept is regarded.

Architectural expression

The two universities under study share similar devices of links with the city in general, while they differ basically in their internal organization, physical size and functional idea. The consequence of these disparities is the diversity of architectural language, a key element in the form of the constructed space.

In Soto del Sadar, the chronological drive and stylistic heterogeneity emerge as the most outstanding features of architectural expression, while at Arrosadia these are temporal statism and homogeneity.

In the case of the private institution, variety forms part of a different structural concept that opts for the disintegration of boundaries without the existence of a convincing common connection to impose organisational guidelines and to which the different components are attributed. It is the sum of open spaces and of blocks built relatively independently of each other, instead of adopting a unitary urban formation to whose image each of the components would have contributed, thus sacrificing part of its individual personality.

The underlined predominance of green zones and open spaces would classify this layout as a "university-park", an idea matched by the approaches of William L. Pereira for the University of Irvine in California and other contemporaries, heirs of the city-garden idea outlined in 1890 by Ebenezer Howard. In Irvine, the schematic concept went for the combination of great land areas with the creation of residential environs on a more human scale. In the Spanish case, a creative formula that seems to emerge from this same notion can be read between the lines. Each of the architectural sets tends to originate its own local urban scene, providing in many cases the configuration of regular small open spaces; perhaps the most outstanding of these being the rectangular form by which the Central Building lines up, full of formality, to the tangential road network.

Overall, the layout goes for architectural disintegration over natural assembly (the most characteristic exponents being perhaps the

residential colleges) that diminishes the unity of the complex, in contrast to the organisation noticeable in its public counterpart.

Focusing the study on the latter, uniformity and discipline in draughtsmanship and in the spatial dimensions are the most remarkable aspects of its architecture which is projected outdoors.

As to its location on a small physical base, this can be described as a paradigmatic layout with respect to the balanced dispersion of the constructed blocks, a result of the markedly two-dimensional and extended development of these. The link-piece connecting the communications system between the different buildings is the Library, requiring several entries from all sides for this purpose. The symbolic importance of this transcendental element, whose size and position show its deliberate prominence should be emphasised. With real energy, it has vindicated the outstanding part it has performed throughout the history of the university as a depository of theoretic knowledge. Referring to a metaphorical argument, it can be viewed as two bodies pulling away from Library and heading to the edge of the enclosure, transforming its contents into practical knowledge (laboratories, workshops and so on).

In comparison with the Soto del Sadar site, the density of building occupation is substantially much higher at Arrosadia because the reduced land extension confronts the ambitious programme it has to fulfil.

Development and transformations

Once the main similarities and differences between the two layouts that hold the links between city and university in Pamplona have been diagnosed, the consequent alteration marks they have left can be seen on analysing the evolutionary outline.

At the Public University of Navarra, the speed with which the complex was raised, led to an explosion of growth. Going into greater detail, it is also valid to say that the evolution of this educational cell had taken on two superposed criteria: on the one hand, that of bipolarisation around the two centres of the Library and the Rector's Office; on the other, and articulated on the orthogonal grid that structures the operation, the density of this mesh in the interior area of its perimeter.

The Soto del Sadar complex has adopted in its expansion several criteria that have transformed it with the passage of time. Initially, the almost simultaneous construction of the Clinic (1961) and the Central Building (1964) kicked off sustained activity in two widely separated poles that were established in the centres of gravity of the two zones in which the layout was sub-divided. In the main one, the Belagua and Goimendi halls of residence were rapidly incorporated and in the original building the Library. The spatial vigour that both sub-zones experienced with time acquired a linear, but varied, appearance; the ground around the Clinic was basically unilateral, taking as an axis of reference the Avenida Aróstegui, while in the main sector an anti-metric bilateral form emerged, articulated on the twisting axis that crossed the watercourse.

In this enclosure of the University of Navarra, the future metamorphosis that its open space could suffer remains unknown, as far as its prominence in the whole structure is concerned. Currently, and due to conditions inherited from previous planning, it ails from the lack of orientation that led to its construction, playing a more residual role than an organising one and depriving the overall design from the beneficial establishment of dialogue between constructed elements and spaces. This is where its greatest divergency lies with the cardinal function that can be seen in these two elements in the plan of the public institution, where the open space becomes a tool of order for the assembly of the general frame.

Extending the outlook in time and space, the areas reserved for the future extension of Arrosadia are located in Mutilva Alta and Mutilva Baja, consisting of great areas of land placed to the southeast of the present site. They already contain a series of sporting installations and the Agraria Biotechnological centre. One can venture to say that the development of this ample zone will constitute a line of continuity with the unifying philosophy of the educational centres today proclaimed by the functioning universities that create for Pamplona a major university rim to the south of the city. This southern periphery will have to alter its marginal condition to assert its new centrality, backed by the urban and social weight that the university complexes have obtained and should continue to maintain in Pamplona. ■

Conversations with Javier Carvajal Ferrer

Eduardo Delgado Orusco

In the next few pages we reintroduce a section dedicated to conversations with masters of national and international architecture that has already enjoyed the presence of Miguel Fisac, Charles Jencks and, in the previous issue, Elissa Aalto who discussed her husband Alvar. Following is an extract of the conversation between Francisco Javier Carvajal Ferrer and Eduardo Delgado Orusco in which the master reflects on historic events, and the past, present and future of architecture in a calm, but passionate mood.

-Javier: to start off I would like you to comment on whether your unavoidable move to Madrid at an early age reaffirmed your heritage or made you forget your origins and adopt a special link with the city that has been your home ever since.

-No ... or yes - whatever you prefer, because my answer has to be ambiguous since I was born in Barcelona of a mixed family, like so many other Catalan families - Castilian on my father's side and Catalan and my mother's. My two surnames make this: Carvajal and Ferrer.

I was born and lived there for many years, among the bitterness and drama of revolutionary persecution and war which many don't remember or do not wish to remember. There I studied for my baccalaureate and for the university entrance exams when they used to exist.

Then my heart ailed, fortunately not too severely, and I went to Madrid. And in Madrid I studied architecture, I graduated, I opened my studio and I began to work. And I am still here without such circumstances having obliged me to renounce the full blood and cultural legacy of my parents.

- Before we get into heart of the interview I would like you to give me an overall view of the possibilities of access to architectural culture that was available to you in your first period of training. For example, did you have a chance of knowing what had been built in Spain prior to 1939?

- You mean to say before 1936. And it is true that some of us knew, but it should also be said that we were very few, and that very little had been built in those ten years - 1935 to 1945 - along the lines of what interested us, just as not so much had been built in Europe before these dates.

In any case, it cannot be said that this controversial architecture was a fixed and socially acknowledged reality, nor therefore was it widely spread. You must keep in mind that well into the European post-war period, that prolonged ours to the 1950s, it was impossible, for obvious reasons, to travel or to obtain graphic information that we could have taken as an example.

Perhaps this awareness of the controversial architecture of the 1930s was the limited heritage of the sons of contemporary architects who were committed to the modern movement, or the few who, like myself, became aware of it extraprofessionally which made us uneasy and interested in the architecture of our families -

who were obviously not very numerous. For this reason, and many others, I have this debt of gratitude with my parents.

You must realise our difficulties. I remember with total clarity the unbearable image of the ruins of Europe that even in those years made Berlin, Warsaw, Dresden, Frankfurt or Naples a desolate sight.

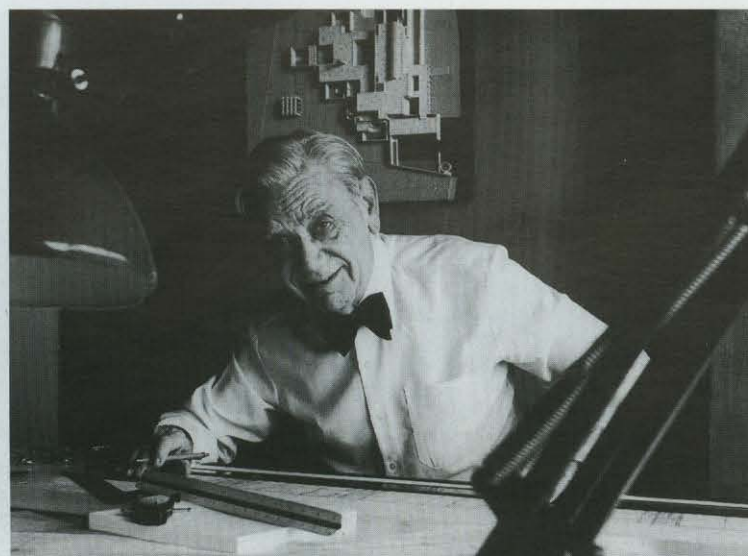
Le Corbusier himself said to me the last time I spoke with him shortly before his death: "Don't be mistaken. In those years before the war, very few of my projects were constructed. Neither the Palace of the League of Nations in Geneva that won the contest I entered, nor Moscow's Palace of the Soviets, nor the Ville Radieuse nor the Voisin Plan, nor my suggestions for the reconstruction of Europe became a reality; even Saint Dié was not a complete reality".

And his great constructions did not get to see the light until after the war: the Unité d'Habitation, La Tourette, Ronchamp, the United Nations building in New York, just as the Hospital of Venice also never saw light as it was never built, as he forecast. The same occurred in Germany and in Czechoslovakia; and Mies himself didn't finish many works apart from his Barcelona Pavilion or Houses of Brno until he went to North America. Not even the Bauhaus School left any other mark in Europe other than its own Building.

One day Blanco Soler told me that he wanted to enrol in the Bauhaus to study architecture and he couldn't do so because it didn't give courses in career architecture for the simple reason that it didn't have the technical teaching staff required to provide it.

In Spain, the modern movement gave Barcelona the Casa Bloc, the Casa de Sert in Muntaner street, its Antituberculosis Hospital and little else. In Madrid, the Casa de Barco de Bergamín, El Viso district, the Isla de Gutiérrez Soto swimming pool - destroyed by the war - the Gaylor's Apartment Block and the Women Student's Residence, the latter two by Blanco Soler. In San Sebastián you have the Aizpurúa Yacht Club; in Tenerife, the Cabildo de Tenerife; and in Madrid, the Coliseum Cinema, and not much more. Some of the buildings of the University City under construction in 1936 were ruined by the fighting in the Casa de Campo.

No; you cannot really say that the modern movement was consecrated in Spain nor in



Europe before 1939 has so often been claimed.

Anyway, it was a minority movement around the world, full of hope that needed the circumstantial meeting of the great European architects who emigrated to the United States with their techniques and markets to produce a constructed reality and become one of the emblems of the 20th century and which entered into crisis when all the myths nourished by Europe over three centuries of rationalist culture, which are now ending before our very eyes, reached a crisis in the 1960s.

- What were the attitudes of the architects of the 1950s and the Spanish context that you found after your experience at the Spanish Academy in Rome?

- Projects that I completed in Rome and my first contemporary ones in Spain are connected with the interest that encouraged many architects - those who graduated at the end of the 1940s and beginning of the 1950s - to reflect on the need of a deep renewal of architecture based on the pre-war modern movement, linked with a revival attitude to the entire field of arts and industrial design as well, an interest that would indicate our vocation as architects.

The names of our predecessors will not be forgotten, those of the masters Blanco Soler, Cordech, Alejandro de la Sota, Asís Cabrero, Aburto, Fisac and Sáenz de Oiza, some almost our age. And the new generation of Molezún, Corrales, Paredes, myself and so many more; with Bohigas, Correa, Milá and Moragas, all accompanied by promising men from Barcelona and other parts of Spain that would make this list endless.

It was in those years, lied about in history and by more recent political interests, that so many possibilities, realities and hopes sustained by effort were raised, silenced and so often dashed.

It was in those years that all of us and many more beyond the field of architecture felt a need for deep architectural and artistic renewal as part of ourselves.

- How was it possible to acquire this vision of renewal from academic schools?

- It may be difficult to understand, but the fact is that all of us who had not experienced the 1930s when all kinds of avant garde movements had emerged, nor shared the enthusiasms of a Aizpurúa or a Sert - two

coinciding and extreme points of a same galaxy - essentially felt distant from the historic and academic "isms" that in Europe and America continued to be the most accepted expressions by the majority of opinion of the society that surrounded us. Basically, we had sensed or learned everything we knew about modernity from books or magazines that often reached our hands years out of date. The revolution and war of our 1930s and later World War Two - from which we had happily escaped - did not give us many possibilities to travel and learn about the little modern architecture that outside Spain had started to be built in a minor and precise way. For the same reason nor could we learn about it from the few magazines or publications that we did not get to see until almost ten years after the buildings had been completed or the publications issued.

- The part played by Carlos de Miguel in this story is often forgotten . . .

- For many years Carlos de Miguel was the editor of the Revista Nacional de Arquitectura, and he placed it at the service of all young, and not so young, architects no matter what their background who were doing something or trying to do something involving renewal and architectural effort in the face of the social disinterest that has always surrounded architecture. All renewal architects of those years are indebted to Carlos de Miguel, who gave his support to all without geographical or ideological limitations.

I will say in passing that De Miguel, Luis Feduchi and myself created the first Sociedad de Diseño Madrileña (Madrid's Design Company) after helping open Barcelona's Grupo R, although both events are often forgotten.

- Getting back to your personal story, I would like you to talk about some of your works which, I am convinced, have had a special meaning in your life and have formed an important part of your professional achievement. I am referring to your experiences in Saudi Arabia.

- Yes, of course. My works in Arabia began with the Jeddah Zoo order, a result of my Zoo in Madrid. Some Arab sheiks had received an assignment to find an architect to build their version. They had visited the main zoos in Europe, and the one they liked most was mine. They asked me if I wanted to do it, and I answered yes, and this is how three years of

work in Arabia and Bahrain started.

A mosque is nothing more than a space for common prayer, with very few requirements and without containing any mystery within its precincts that cannot be found in our own faith. I was requested to design an efficient dimension so that they could develop their own rites. I repeated to them the words of Le Corbusier (1), adapted to my own reality: I am a Christian and not a Muslim, but you are, and I will attempt to make a fine and efficient place so that you can say your prayers in all peace. This is how the two mosques in Tabuk and Gassim were born. From their faith and my respect.

- To conclude, we return to the beginning, to the basics of architecture. How can the world of ideas be expressed in architectural forms?

Yes, that is the beginning of our performance as architects: to understand architecture as the creation of necessary and meaningful spaces, and not as sculptures that are only displayed for the image they present in the exterior space that surrounds them. Which means nothing less than viewing Ignacio Vicens's Faculty of Sciences - probably the most interesting building of the campus in which it is raised - as a "bunker". Or the Kio Towers in Plaza Castilla as "very original"; regrettably superficial judgements. Describing the whole concrete work as a "bunker" shows remarkable cultural poverty and as much can be said of the "deep" analysis that would judge the unfortunate leaning Kio Towers as a prodigy of originality.

How removed has educated architectural judgement become from these extremely poor critical profundities!

- Often "architects' architecture" is dismissed as being cold. Do you think it is possible to justify modern architecture in terms of elegance or sobriety?

- It is possible that the problem of coldness could be a determining factor that, rather than cultural attitude, has to do with the lack of culture. Elegance has more to do with simplicity and sobriety than with something that is overdone and too ornamental. Savages adorned themselves before they wore clothes. Carnival fancy dresses have more to do with coarseness and uncouthness than with elegance.

Mies said to me one day in New York, pointing to the spectacle of the ungainly repetition of its elegant skyscrapers: "I was the inventor of all this and look what they have done with my invention". And he continued: "I said that less is more, but one has to admit that frequently less is less".

- In the context of the difficult revival of architecture in the 1950s it is appropriate that I should ask you about Luis Moya. For some Moya represents an alternative modern that the passage of time has clearly shown to have failed.

- Luis Moya was a professor and friend of mine. I admire him greatly as a man and as an erudite intellectual. He was a model of kindness and prudence, he knew a great deal about building, he knew a tremendous amount of history and not only about architecture. His error - and I don't want my opinion to be a



judgement - lay perhaps in that he knew a great deal of history and he projected his erudition on to his work, without being able to overcome the weight of a history that responded to past times, deforming the architecture of the very age with which one has to be committed to construct the future. Madrid's San Agustín Church and the University Church in Gijón are very different and clear examples of what I mean. Technically, they are very interesting; but, in my view, they don't reflect the age in which they were built. However, the new church of the Colegio del Pilar - entirely relying on the constructive technique of its space - is very beautiful. And perhaps, together with the only church built by Félix Candela in Spain, one of the most committed to the new architecture.

I think that the contradictions of his work have their origin precisely in his sensitivity that captured and translated to constructed architecture the confusion of our age which has led to a post-modernity that proclaims, as the only possible way, the acceptance of chaos. And that possibly gave him in his final years a deep disenchantment before the historicist positions that originated them, and in a rejection of many of the things that he had defended in his work.

Undoubtedly the best thing that he planned and which was never built was The Architectural Dream for National Exaltation (1973), with Manuel Laviada and the Viscount of Uzqueta.

- Up till now we have talked about architects, but we have barely mentioned painters, sculptors nor artists whom I believe had an extraordinary relevance in this period.

- It's true. And without them our architecture, that of my time, would not have been understood.

We worked, as I have already said before, with great expectations and very passionately. And in our hopes and passion, we were not alone. We were joined by many others, especially painters and sculptors who wanted to express with their own art a world that was changing, a world that we did not wish to be only adulation and memory, but also creation and risk, suggestion and encounter.

They were years, despite what they say about the influence of political garbage, full of hope and passion.

We architects made architecture, but also furniture, design and decoration. We argued about painting and sculpture, we defended once more the words of those who had declared that reality did not have to look like reality.

We declared, and I still declare, that God does not copy, but reveals, that in the adventure of historic and creative man the only thing banned is to copy.

In this adventure we were accompanied by many plastic artists: Oteiza, Pablo Serrano, José Luis Sánchez, Amadeo Gabino, Cumellas, Paco Farreras, Joaquín Vaquero, José Luis Molezún,

José María Labra, Villaseñor, Feito, Vela and so many others with whom we joined forces in a collective effort.

I will never be able to give all the names and express my gratitude for how much they taught and helped us.

- Still, and from the commitment of your own experience, you will agree that society has shown a certain resistance towards the contents defended by architects. Do you think that this is generally connected with a lack of understanding of modern art?

- Yes, of course it is connected. Because I don't believe that understanding of art in any age, that the acceptance of the value of beauty and of art, is something that can be decided by imposing a numbers law or through more or less democratic elections or by decisions reached through consensus. Likewise, neither is truth governed by these canons, even if it is said to be.

Truth - involvement with truth - as in the admiration of beauty, is achieved through the exemplariness of the judgement of the best trained; of those who have greater responsibility in the forming of opinion; and by their exemplariness, are respected by the best educated minorities, and also through their own experience, are supported by operative opinion of those who lead (through many different channels) the society in which they live.

A Middle Age proverb says that when the king gambles, everyone cheats; when the king drinks, everyone is drunk.

Today we could say something very similar about the exemplifying minorities - and this is one of their greatest responsibilities - that they should free themselves from this new censorship of the "politically correct", ignoring the coercive manipulations of media propaganda. And in all past, present and future time by the minorities who feel responsible, loyal only to that demanding motto: "I serve", shaping an aristocracy that seldom has anything to do with blood.

Apart from there being too much mental laziness at all levels of society, and too much acceptance of the routine, of the "what has always been said and done". Or for convenience that rejects effort, or for the advantage that is gained from not taking the risk of going against majority opinion that may lead to rejections and isolation. It is more convenient and profitable to say that the majorities are always right, even if they clamour for the release of Barrabas and condemn the innocent.

The great legends of the Reformation, the encyclopedia, illustrations or the utopias of the new paradises are no longer any use. And people need answers to fill the void left by false freedom, false equality, and false fraternity, that are impossible since the denial or the common paternity of Christ the Creator, lack of love that Christ gave us as a legacy, of the illumination of the promised Spirit of God. And those who seek will find from their abandonment and from hope and promise. I hope that the next millenium will enlighten the complete man who Saint Augustin and Saint Thomas had proclaimed, the complete man that the

Renaissance aspired for who thwarted the Protestant Reformation; the complete man who assumed the only compatibility possible between science and mystery. In front of whom Einstein did not know how to continue; the mystery that today is adopted by modern science as an unavoidable reality. The complete man who adopts our double Greek and Christian inheritance, without any conflict between science and faith in the Creator of that which science strives to know.

- From all you say it would appear that Modernity had been surmounted, without having become social or fully absorbed.

- That is so to some extent, although perhaps what has happened is that so-called modernity, an immediate consequence of the crisis that convulsed all historic Christianity, the constructor of Western culture after the fall of Rome, replaced divine truth with verifiable truth, that is with reason. And after three centuries of prevalence this truth in turn has entered into crisis because of its inability to give man the certainties and happiness that reason offered.

Atomic terror; uncountable genocides in the East and West never known to mankind before; universal pollution; man's replacement by machines, with the acknowledgement of the economy as the reference of universal behaviour, have ended for ever the myths of reason that by calling man God, they have reduced him to the condition of a slave to appetites that overwhelm him; that by declaring him free have made him a slave of other men, converting the world into a field of pillage for the strongest.

In the face of this deep crisis into which he has been hurled by the collapse of the myths of modernity, man finds himself destitute and alone, a voluntary orphan of God, insecure in the face of the uncertainties and the lack of a way that the acceptance of chaos as a constant and only rule has taken him. Now an unsafe but liberating way that the search for certainties offer is opening up before him. We live in a problematic world in which the certainties presented by reason and science have died before the rejected eternal certainties once again enlighten the world. Our dignity as men is set in this responsibility and risk, and it strengthens us to face chaos, as an escape from the crisis of modernity, offered by vacant post-modernity.

- Clearly in this critical analysis of the present time we confront a vast problem of training and a cultural void.

- What doubt can there be that in this superficial acceptance or rejection of modernity there is an underlying cultural problem, a problem about the assimilation of the age with its extensive social, economic, technological and service connotations, and one of sensitivity. And for us architects, apart from culture and sensitivity, there is also the matter of training. ■

(1 - Carvajal is referring to the exchange between the Dominican Father Couturier and Le Corbusier - a declared agnostic - to whom he assigned the construction of the Notre Dame de Haut Chapel in Ronchamp.)

Humanities and Social Sciences Library

UNIVERSITY OF NAVARRA

Architect: Javier Carvajal Ferrer

Assistants: Ignacio Araujo (architect)
Juan Angel Akebe (master builder)
Idom (engineering)

Photographs: José Manuel Cutillas

Date of project: 1996

Date of construction: 1998

The library that we have designed is practical and feasible. It is an efficient traditional library that at the same time has its own computer systems, adapted to the needs of what is possible today, but in such a way that full information is accessible when required by technology without lessening the value of the library now being planned nor invalidating the building now being proposed.

It was not conceived as an ex novo construction, but as an extension of the existing building, retaining the completely reformed actual premises for direct use by all the university's students, with the main bulk of the area dedicated to research, and the five large lecture rooms of the upper five floors of the new building have been assigned for this purpose.

A mixed criteria of "working within the very foundations" in diverse and specified areas of the library (the researchers, reference,

newspaper archive and videotape rooms) has been applied, protected by control and security zones on the access floor. The historic services depository area is restricted and mixed in the reference room.



Social Sciences Department

UNIVERSITY OF ALICANTE

The University of Alicante's governing body has ordered the construction of two buildings within the Campus precincts to house Social Sciences Faculty offices and departments connected with the Sociology, the Social Work School, the Labour Relations School, general services and social contribution areas for all the university.

As it was impossible to find an adequate site for the entire project that complied with Campus regulations, it was decided to divide the project into two buildings, one destined for the area of Sociology (covering an estimated 4,500 sq. metres) and another of 7,000 sq. metres for the Social Work and Labour Relations Schools, and the Social Contribution areas. The general services dependencies will be divided between both buildings.

The two sites are symmetrically placed with respect to the Campus's main axis which ends in the semi-circular building of the aulerian, and its immediate proximity to the two sites assigned for the Rector's Office and Library. Both have completely flat surfaces and are

arranged so that the alignment of their two sides are of irregular dimensions. The two buildings are of four floors (three above the building line and one below it). The access floor is surrounded by a windowless, concrete wall to conceal the wings of the building from pedestrian view and the ground floor offices will

From the beginning, I intended to plan my building in such a way that it would provide support for the Social Sciences department, reinforcing and strengthening my architecture and creating a common ground in the entrance square, using not only concrete as a common reference, but also the form of the square as a valid support for both styles of architecture. That is, I not only took on its language of concrete, but also its strong horizontal composition to combine it with my vertical and glazed creation, seeking an interchange that converged and contrasted. ■

also permit the lowering of the level of gardens inside the wall so that the interiors of the floor below the building line will enjoy the same quality of views and light as those above line.

This solution ensures that maximum height above the building line is maintained as established by the Campus's planning regulations, but in fact there are four floors.

The two buildings are laid out with a very strong composition of external unity in mind, backed by the idea of the described interior courtyards that manifest themselves in the image of the blank spaces of the perimeter's





concrete walls, one circular and the other rectangular, from which emerge the simple and neat forms of white aluminium and crystal designs in clear contrast to the texture of the entrance floor.

Fronts perpendicular to the axis of the Campus's central space, exposed to the midday sun, are protected by white aluminium blinds that emphasise the roundness of its unitary expression in contrast with the pure forms of the cylindrical containers of the lifts and of those holding the conference hall and the bathroom block of the Sociology department area.

The collection of classrooms, seminar halls and offices of the three educational bodies of the project present their internal makeup in three forms that are identifiable from outside, just as was required in the basic programme ordered by the university's technical department. The three are arranged in three clearly geometric parallel forms which are reached from the linear foyers situated in the southward façade that are developed to develop in a single space of three heights.

The general external composition of the two buildings is based on the desire to achieve elegant and sober harmony supported by the contrast between the strong texture of the concrete at the entrance floor, and the taught texture of the aluminium lacquered in white of the emerging forms of this base, employing panels of a strong horizontal nature that reflect the structural lines of the floors and glazed cavities. It can be said that the whole creative value of the buildings is basically centred in the contrasts and the quality of the enclosures' textures: the great mass of blinds on the southward front wall are included for the environmental protection of the foyers without diminishing interior light and thus reducing these areas' exposure to the sun. ■

Timber Technological Centre

POLIGONO INDUSTRIAL DE TOLEDO

Architect: José Antonio Corrales Gutiérrez
Assistant: Marcos Corrales Lantero
Completion of work date: November 1996

The site consists of a rectangular plot (132 x 50 metres) situated in Toledo's industrial estate at the meeting point of Estellina street, perpendicular with Toledo's access road, and Boladiez street, the estate's main thoroughfare that is parallel with the access road.

The design is divided into several parts: timber laboratories (furniture, mechanical physics, doors, windows and carpentry) with a warehouse and access from the truck yard, furniture exhibition hall, staff training (library, wood collection store and classroom) and administrative section with a series of offices, conference rooms and finally independent fire laboratories.

The criteria adopted are:

- The 50-metre wide construction forming façades to the north and south, and courtyards to the west and east.
- Prefabricated structure and maximum modulated construction for simplification, economy and easy use, and to allow for possible future expansion.
- Special flat roof with crossed ventilation from north-south air chamber to avoid heat in the summer and save energy.
- Solar protection in southern façade cavities.
- Use of homogeneous material in exterior enclosures and walls (cement block) giving unity to the complex with a coat of a clear ochre colour, the class colour of Toledo castings.
- Silver-coloured galvanised locksmith work.
- Maximum use of wood and carpentry work in interiors.

In line with the previous criteria, it has been decided to proceed as follows:

Staff access yard and views to the east.

A parallel yard on the eastern boundary is planned, with a double parking line for management and visitors. The 50 metres width of the site are to be divided into four 12.25-metre light corridors (12 metres of light, width of the furnace laboratory's bay). These corridors are parallel with the estate's main street.

The first corridor, entering the main street to the south of the complex, is formed by the furnace laboratory that has access through a covered yard to the rear of the western yard: the main supplies and staff yard.

There is an intermediate level in this corridor for laboratories and furnace control.

The second corridor contains timber laboratories and an interior passage for vehicles and supplies that connects the main eastern access with the western truck yard. Warehouse materials are delivered to the timber laboratories through this gallery.

The third corridor contains the training

section with a classroom, wood collection store and library, an intermediate yard with olive trees as interior landscape, the advertising section and warehouse.

Finally, the fourth corridor also of 12.25 metres has an exhibition hall, forming the northern part of the building and site.

These corridors are constructed with prefabricated reinforced concrete beams of 12.25-metres distance between supports, border beams (1.20 metres) five metres apart, also resting on prefabricated supports.

The second corridor has an upper floor housing all publicity and management offices at one side of the passageway so that they can look down at the timber laboratories. The fourth corridor also has a second upper floor and intermediate floor in a section of the bay for multi-use sections and exhibitions.

All the corridors can be expanded by constructing 12.25 x 5 metre platforms in the western yard. To the east, the four corridors have a perpendicular gallery-foyer which serves as an access. This tower contains the dining room-canteen on the ground floor with double height leading into a small yard for exhibitions.

On the floor above is the conference room

at the same level as the offices, and finally there are two upper floors to store the 'installations' machinery.

There are two stairways at the ends of the upper level and a lift with capacity for eight people in the tower. The modular 6.3 x 5 metre structure is built in situ with reinforced concrete.

The roof has prefabricated laid down beams supported on the wings; the floor of prefabricated, pre-stressed plates with a medium-sized partition gives support to the ribbed steel sheet, insulation and waterproofing, creating ventilation chambers in summer.

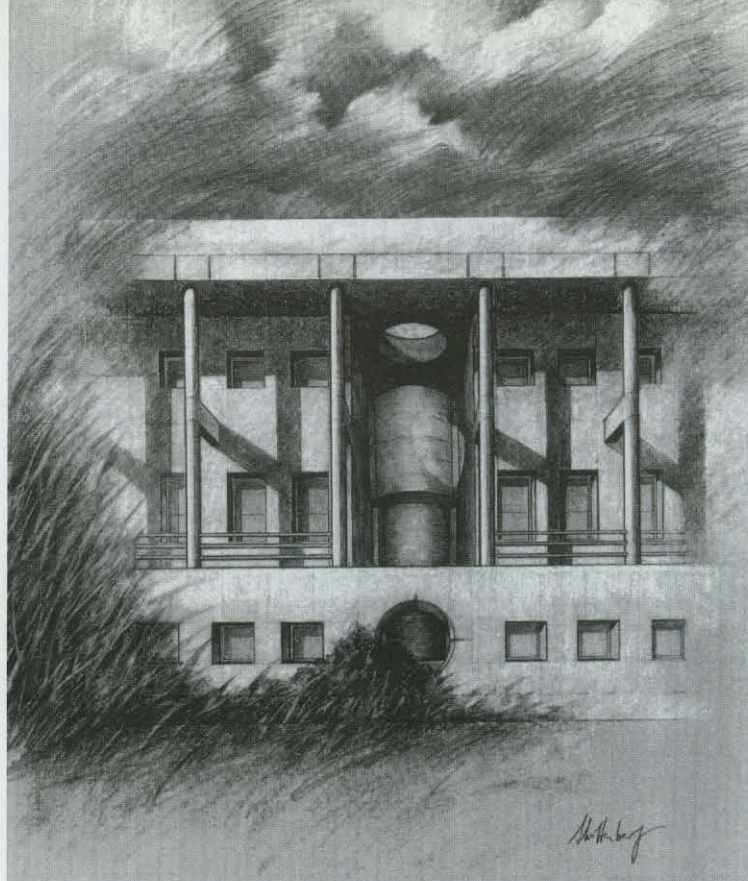
Lighting and ventilation of this compact system is achieved through intermediate yards on the second floor with large vertical windows in the offices and double height in the workshops and hall.

The NBE-CPI-91 regulation has been complied with in calculating structural elements, the sizes of stairways, escape routes, fire sections, installations, emergency exits, foyers, and so on.

The possibly excessive industrial appearance of this complex is lessened by a very careful use of lines and attention to details; the use of materials, clear ochre cement block and the display tower with its bright sign.

We believe, and repeat, that the general image conveyed is very different from that of a normal industrial plant, because a rational construction that is at the same time new and linked with the general general tone of a Toledo farmhouse has been produced. ■





Two buildings in the Castilla-La Mancha University Campus

CIUDAD REAL

Architectural study: Antonio F. Alba
Assistant architect: J.L. Castillo Puche
 1989-1997.

The new plan for the Castilla-La Mancha University Campus in Ciudad Real has been drawn up with the idea of controlling the expansion of the university that is spread throughout the city. Four of the different faculties that provide the various university courses assigned to this campus are located in an urban area of low population density.

Summarised documentation accompanying these pages of *Arquitectura* are intended to give a systematic outline of the original university complex constructed in the 1980s.

The Campus was designed as a closed urban area, limited by a public ring road with accesses at regular intervals for security and maintenance purposes. Clearly rectangular in shape, its most prominent side extends in a north-south direction, parallel with the La Granja road and the railway network. It has an agreeable environmental effect that is complemented with connecting paths in the east-west direction.

Open spaces are created by the intersection of these paths that let students gather in the leafy, market-square style outdoor enclosures.

The four buildings under consideration for the initial plan - the multi-purpose Main Hall, the Interdepartmental Experimental Building, the Interdepartmental Humanities Building and the Library and Documentation Centre - are arranged around a basic structure of pedestrian pathways, flanked by a series of fountains and covered with foliage at the centre of which arises a small portico in the "impluvium" style.

The construction of the Higher Polytechnic School is expected shortly and it will give courses in industrial engineering, advanced computer and road engineering and containing teaching and research laboratories, departments, an assembly hall and general services sections.

In all the constructions of the campus planned in Antonio F. Alba's study, care has been taken with the materials (reinforced concrete) and colour schemes to avoid altering the neutral and unifying character of the complex; that is in their formal appearance and unifying factors as regards to colour. ■



The Parish Church of Santa María de Caná

POZUELO DE ALARCON

Architect: Fernando Higuera Díaz
Assistants: Jesús Higuera Díaz (master builder),
 Valentín Bober (draughtsman),
 Angel Sánchez (draughtsman and
 scale models), and
 Arturo Revenga (structure calculations)

Date of project: 1997

Start of works: July 1997

My client, a young parish priest in Pozuelo, asked me before starting on this building: "Uncle, I want you to build me a church that isn't modern. I want it to have a cross-shaped ground plan. I want it made of bricks, and I want plenty of little arches."

As I have never been a dummy or a conformist I agreed to what the priest asked just to be unfashionable and answered practically everything with a "yes, bwana".

With his ideas I tried to make something old, timeless and irreplaceable, that could grow old with dignity and the minimum of deterioration.

Andrés Segovia said: "art is not a question only of inspiration but of perspiration." Therefore, after a good deal of elimination work, I came to the point of what is being built now thanks to the generous contribution of parishioners who responded to their priest's appeal, the construction company Cabbsa and the town hall of Pozuelo and its mayor, our friend and great town planner, José Martín Crespo.

The site, located at number 8 of the Avenida de Europa, is part of the new urban expansion that has been very well planned, thanks to the town hall's willingness to continuously improve.

The programme and outline was carried according to the priest's requests and can be checked in the ground, side and section plans.

Work has been carried out with the same timeless symmetry that I have nearly always used, without sharp interior or exterior angles that has been the trend even in perfectly rectangular sites. The walls parallel to the boundaries have been replaced with orthogonal offsets on terraces and eaves on which the church is situated, creating the same staggered effect when viewed from below that we achieved in our single-family houses in Torrelodones, Somosaguas, and elsewhere.

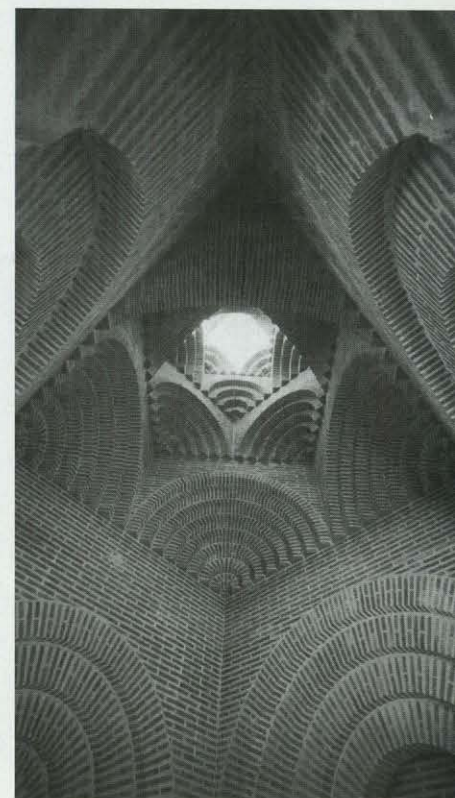
Projected terraces with protective eaves was another constant feature that we did not want to give up to passing fancies that have removed them, producing an architecture that is neither rational nor functional although it is so labelled. Nor is there excessive interior light, again a departure from trends; and with simple bricks of 20 pesetas per unit a simple set of lights has been created through vertical offsets or arched curves, forming tubes at the entrance

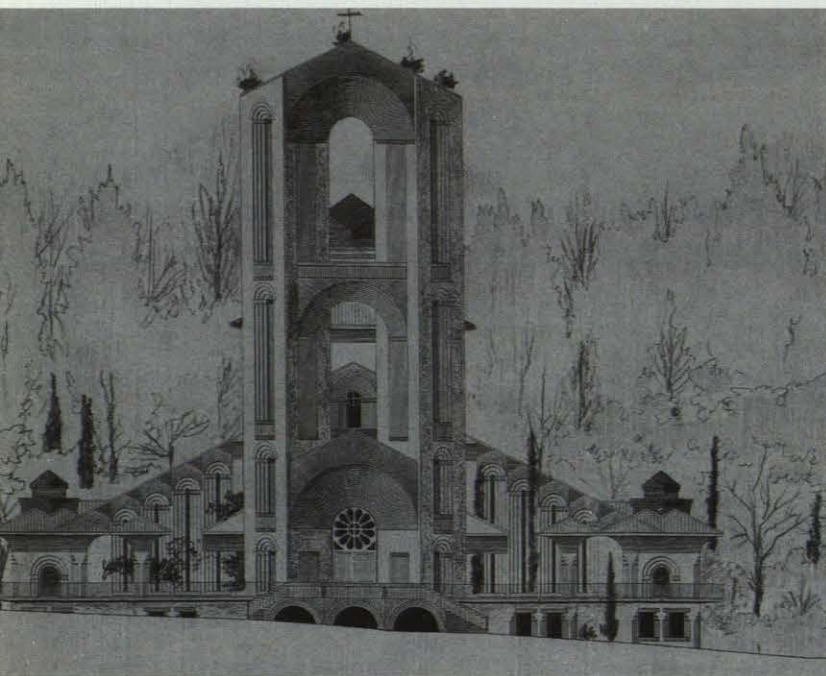
portico, in the chapels and the transept, using the same centring for everything.

These tubes, almost squinches, apart from the spiritual quality sought by the priest have been produced for thousands of years in the East, moving from Arab architecture to the Romanesque until they reached our time in Mexico where, for example, they were also constructed by Carlos Mijares. These same offset forms inside the building favour internal acoustics and exploit the plastic qualities of the brick.

From current technology circular concrete pillars (in an economic screen of 4 x 4 metres on the ground floor) have been constructed with flat flat floors and metallic trusses for the 12-metre projecting gaps that support the domes that form the interior acoustic roof.

Forms shaped with the brick resulted from an attempt to give symmetry to the construction with prefabricated pieces of light and thin, but resistant and rigid concrete for its folds and forms. Construction work would have been much quicker this way, as occurred in Serrano 69, but it was not to the priest's taste and additionally would have been more expensive. Against expectations, the easiness, speed and enthusiasm with which the eight teams of





builders are using brick, the best and oldest of prefabricated material, has come as a surprise.

At first, work essentially followed the plans, now the construction demands have changed and the plans follow the work in which I intervene directly with numerous visits to the site, always trying to simplify, speed up, improve and reduce costs whenever possible in details of brickwork.

When finished the building will have its exterior walls dressed in a suit of virgin grapevine that will change colour, texture and form several times a year, preventing the heating of walls in the hot months and the opposite winter. This is another permanent feature that improves our buildings.

The design included two floors with generous protective eaves in all its exterior and interior perimeters. For reasons of the site, parish service areas were placed under the church. These include a large room for diverse acts in the shape of a cross, with natural lighting and ventilation in the four exterior corners through square court yards of 8 x 8

metres with circular apertures of four metres in diameter. They contain gardens, benches, fountains, plants and cypresses that rise up to the higher cloisters that surround the church. These cloisters have covered porches through which a peripheral and elevated walk may be taken above the gardens of the church's grounds and it may be entered through the three-dimensional doors of the precept and the wall of the main nave. There are also hanging gardens from the cloisters, whose containment walls serve as benches. There are also two covered forecourts at the entrance, one facing south for the winter and the other to the north for summer.

Anyway, the final result, plus the opinion of the congregation, is more important than what I attempt to justify here. Protective areas have been installed for the town's birds that are already seeking shelter in the eaves although the house has not yet been completed. God willing, may the towers be finished quickly so that the storks may return to Pozuelo. ■

The Public University of Navarra

PAMPLONA

Architect: Francisco Javier Sáenz de Oiza

Date of construction: 1990-1998

Photo: supplied by the Public University of Navarra's Publications service.

This architect from Navarra wanted to give the new university a convincing image. So he chose the Library as the emblematic building. From this notion he created a campus around the building, starting with the Lecture Room Building and ending with the Rector's Office. These three buildings were to connect with a green space and a student's promenade that would permit all the educational groups to gather. The architect took the Paseo de Saraste as a model and a ground plan.

The main material used is concrete that makes up the unifying element of the university complex. Its choice breaks with traditional building substance and projects the whole complex with an image of strength and innovation. Furthermore, this treatment is one of the major achievements of the project. Another innovation characterising this university is the diversity of colours that decorate the walling and the tubing that runs along the corridors of the departmental and lecture buildings. Blues, lilacs, reds and yellows mix in the assembly spots. This original colouring was not included in the project plans and reflects the personal tastes of Sáenz de Oiza.

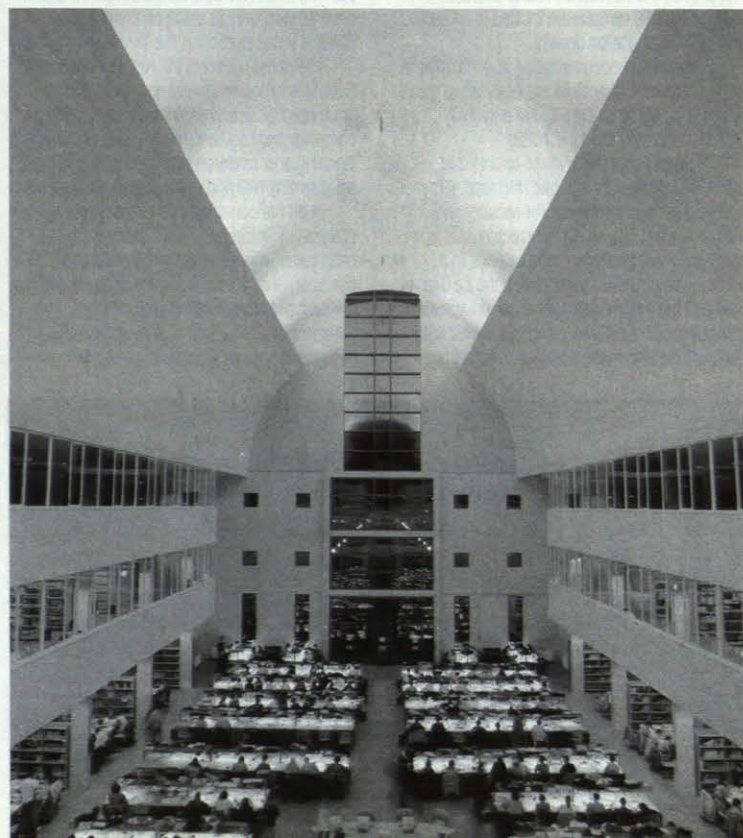
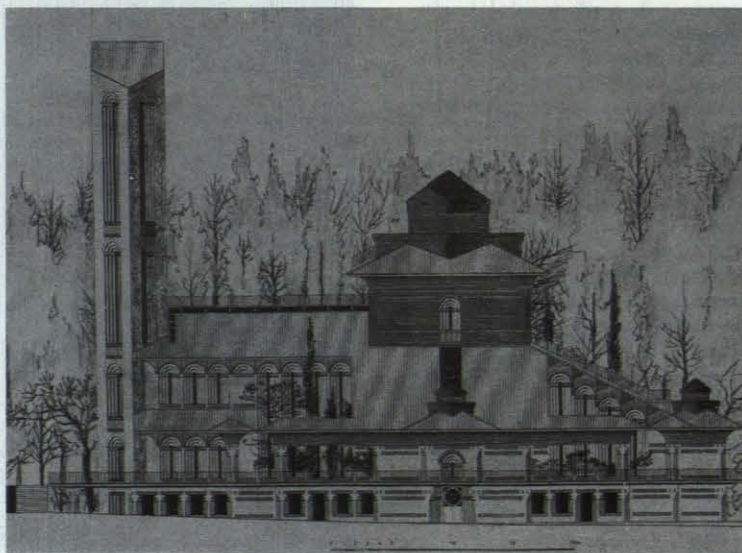
Illumination is another of the constructive

resorts that are characteristic of the complex and give it personality. The buildings have large porthole-type windows on the lower floors and skylights running along the top providing interior light.

The main façade of the Lecture Room Building, the gateway to the University, faces towards Pamplona. The 124 lecture rooms have been envisaged as places of first contact with university life. One aspect of this building that attracts attention is the type of supports that have been chosen, more than 100 circular and trunco-conical capital columns that stretch along the corridors.

The Library is a large construction of rectangular form converted by a spectacular barrel-arched dome of 20 metres in diameter. Its lower fronts present a profile that evoke an open book giving out light and wisdom. Sáenz de Oiza interprets it as a book, the centre of which transmits information to the exterior, and particularly, to the buildings flanking it. It has been compared to the working of a microchip that distributes general information to points where the most specialised and technical data are created.

The Rector's Office has the same technical attributes as the rest of the University, with a bare concrete structure and two big porthole windows on the ground floor. However, new elements are used on the façade, as well as an original central lantern that illuminates the large entrance lobby. ■



Ten years of architecture in Navarra

In the following pages we will provide a view of Navarra's architecture over the past ten years. All projects, presented here on small register cards, were published fully in the 10th anniversary issue of the magazine *Proyector Navarra*, to whose editors we extend our gratitude for their general collaboration without which it would have been impossible to publish this summary. It is sufficient to recall that the texts, cards and photographs reprinted here belong to *Proyector Navarra*, a magazine born in 1988 "with the aim of explaining the current situation of the construction industry" in Navarra.

It must be emphasised that we have never intended to publish a competitive selection or classification and only wish to provide a broad picture to give our readers an idea of what some have come to call the "Pamplona School". This school is as much tied to the School of Architecture as it is to the political and social realities of Navarra, an autonomous region that has acquired an interesting central position in the architectural culture in recent years despite its location and geographic size.

Headquarters of the Navarra Industry Association (AIN) CORDOVILLA

Architects: Jaime de Gaztelu Quijano and Amalia Nagore
Assistants: José Luis Sola Labarí (master builder), AIN (engineering)
Date of project: August 1987
Completion of work: 1989
Photo: José Manuel Cutillas

Given the complexity of the programme and due to the diverse activities that had to be developed in the interior of this building, a solution giving priority to the functional aspect and clarity in the interior was opted for. So the property was developed in the shape of an H, placing access in the

central zone and distributing the various spaces in two longitudinal areas that are joined by it and perpendicular to it. It consists of two floors: the ground floor, occupied by the training and engineering departments which receive the greatest number of visitors; and the first floor where the remainder of the offices are located, somewhat independent from the rest of the complex. The management section is placed over the hall and occupies the entire central part with the purpose of facilitating communication with the other departments. Moreover, there are three unique areas that require special treatment for the activity carried out there. These are the experimentation bay, the conference hall and engineers' working area.

Guidelines that helped in the elaboration of this project were clarity

and significance, versatility, easy maintenance and rapid execution, guidelines that decided the construction process and the materials that were used in this building. ■

The Iturrama Health Centre PAMPLONA

Architects: Francisco José Mangado Beloqui, Alfonso Alzugaray Los Arcos and María Teresa Apezteguía Elso



Assistants: Iturralde y Sagüés (installations), Jesús Goñi (structure)
Date of project: 1987-1988
Completion of construction: 1989-1990
Photo: supplied by Patxi Mangado

The purpose of the project was to develop a medical care centre. Problems centred on observing functions required in the plan by very restrictive urban planning regulations and a very limited surface area. Likewise, the main object was to give the building an architectural value, despite its reduced dimension, and thus add quality to surroundings in an area where large residential buildings had little interest. ■

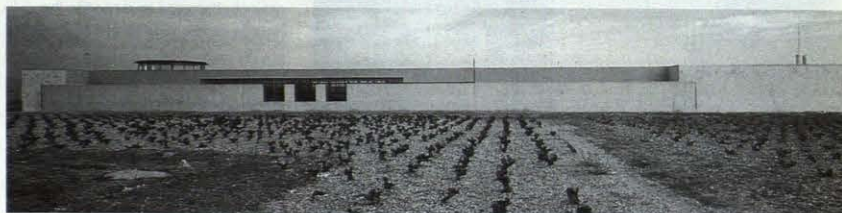


The Marco Real Wine Cellars OLITE

Architect: Francisco José Mangado Beloqui
Assistant: Jesús Goñi Esparza (structure engineer)
Date of project: 1989
Dates of construction: 1990-1991
Photo: supplied by Patxi Mangado

The project intended to investigate how typical types of traditional wine cellars, new wine-making processes and architectural processes that allow the rearrangement of spaces in this tradition could possibly be combined. At the same time, the new project set out to link the existing landscape with architectural manipulations to create a new scenery where nature and architecture would enjoy a beneficial relationship.

This project was later altered without the permission of the author. ■



The Mitxaseneia Culture Centre

LEKUBERRI

Architects: Miguel A. Alonso del Val, Mariano González Presencio and Rufino J. Hernández Minguillón

Assistants: Miguel Aldaz García Mina (master builder), G.M. Ingenieros Industriales (engineering)

Date of project: May 1989

Completion of work: May 1991

Photos: José Manuel Cutillas and supplied by AH & Asociados



The dilapidated state of the original building, with its intermediary floors gone, concealed a fine interior section as a continuous space between floor and ceiling. This view was retained as the main architectural and cultural value when the section of the building was shaped through a interior space of triple height, which forms the hall and the internal connecting areas of the property. And this is where craftsmanship came into its element for a wooden structure contained within the hub of thick stone walls.

As an example of a present day country house, it was decided that the ground floor should serve as a place of multiple-use, such as a ceremonial and exhibition hall; the first meeting the specifications of a music school with halls and offices to be constructed as a section within another to highlight the most unique features of the building, such as the sabayao which was converted into the library; and the assembly hall on the second floor. ■

The Etxarri-Aranatz Health Centre

Architects: Juan Miguel Otxotorena Elizegi and Mariano González Presencio

Assistants: Miguel Aldaz García-Mina (master builder) Rafael Fernández Núñez (industrial engineer) Francisco Víguira and Angel Imízcoz (technical engineer)

Date of project: August 1989

Completion of construction: January 1992

Photo: José Manuel Cutillas



The formal and functional definition of the building was conditioned by the very limited possibilities of the site, backed by the wall of a pelota court, and by a number of town planning regulations that made the use of an slanted tiled roof obligatory and required strict observations of the limits of the plot in terms of space. Within these strict conditions, the project attempted to reconcile the building's desire to fit into the environment from an image point of view, while seeking the best practical efficiency and the best quality of materials and design, within the parameters of a discrete, but ambitious, attention to detail and figurative sobriety.

An outstanding feature is the inclusion of a double-height, large central space, fitted with a skylight, that serves as a waiting area and point of circulation. It gives environmental unity to the building in relation with its two floors, it settles the problem of interior natural light - a key issue in a plan of such proportions - and contributes to space acquiring the right scale for an educational centre. ■

Special Educational Centre

PAMPLONA

Architects: Miguel A. Alonso del Val and Rufino J. Hernández Minguillón

Assistants: José Luis Resano Lizalde, Javier Osés

Pérez de Mumialn and Juan Antonio Benito Valle (collaborators)

Miguel Aldaz García-Mina y Ramón Vital (master builders)

F.J. Viguria y Rafael Fernández (industrial engineers)

Date of project: March 1991

Completion: December 1992

Photo: supplied by AH & Asociados



A broad watercourses connects the dense fabric of the city with the wooded landscape. The building on its edge retains the free sense of the place as a meeting point of two parts: one of constructed units that dissolves into the other, terraced spaces. The expanse of the space involves a complex plan for common and specific areas that appear as a succession of bays and yards with a profile has become an identity card.

Internal flexibility has been guaranteed by the construction of large lights and a glossy flat roof whose simple resources are valued and structured by the linear corridors that form constant references between the interior and exterior. The complex is seen as a topographical operation following a strategy of confrontation between fullness and emptiness, between bulk and platforms whose forms of simple geometry profit from the direct relation with a surrounding defined as an urban plot being transformed into a university park. ■

184 houses in Mendillorri

PAMPLONA

Architects: Francisco José Mangado Beloqui and Alfonso Alzugaray Los Arcos

Assistants: MRA Servicios Técnicos, Jesús Ramírez de Ganza Diez (master builders)

Date of project: 1991

Date of construction: 1992-1993

Photo: supplied by Patxi Mangado



The project intended to develop a housing unit in the new Mendillorri housing estate. Its aims were to achieve maximum functional, spatial and architectural quality from a careful study of the public and private land situation. Likewise, it sought to fulfil in an architectural style many of the principles contained in the new housing estate's Town Plan, especially those relating to landscape and urbanisation estates. Finally, the project has developed constructive systems aimed at obtaining maximum material quality with reasonable budgets. ■

The Azpilagaña Health Centre

PAMPLONA

Architects: Eduardo de Miguel Arbones and Jesús Leache Resano

Assistants: Jesús Ederri (master builder) Miguel Angel Zozoya (structure) Iturralde and Sagués (fitters)

Date of project: July 1989

Completion of work: May 1993

Photo: Luis Prieto

Flanked by housing blocks of over ten metres in height, the building is located between Luis Morondo street and a parallel pedestrian road. A lateral flight of steps connects the levels separating them.

The development programme required four levels: two at street access level - the maximum permitted by urban regulations - and two below the building line. Despite the necessary stratification, access to the intermediary floor means that patients only have to go up or down one level to reach the appropriate consulting room. Consulting rooms and offices are lined up perpendicularly to the façades, with their large windows opening on to a garden courtyard. The single stairway separates waiting, access and service areas.

The harshness of the surroundings was why an inward orientation was recommended. Great panels of lattices through which the building is supplied with air shut off the courtyard from the street. Moreover, this device removes the problems of wall cavities in the face of difficult scale adjustment. ■



with individual balconies face, and the other, in a more public-minded spirit overlooking the old-aged pensioners club and the chapel, provides a more integrated atmosphere for residents. ■

Sporting Installations for the University of Navarra

PAMPLONA

Architects: Miguel A. Alonso del Val and Rufino J. Hernández Minguillón

Assistants: Javier Quintana de Uña, José Luis Resano Lizaldre, Javier Barcos, Manuel Enríquez, Javier Osés, José Antonio Sacristán, Juan Antonio Benito, Alfredo Bengoa and Juan Carlos Coll (assistants) Miguel Aldaz García-Mina (master builder)

Date of projects: April 1993

Completion of work: September 1994

Photo: supplied by AH& Asociados



The University of Navarra's Campus enjoys an enviable balance between open spaces and buildings, where all the pieces appear to be isolated in an urban park. The land reserved for sporting facilities already has a sports complex next to which are planned a series of open air and indoor facilities on the southern bank of the Campus's watercourse.

The set targets, coinciding with the new urban planning act, can be summarised as the stated intention to control the introduction of new activities to preserve the specific and unique character of the Campus as an extensive and continuous green zone, in which isolated constructions are being inserted that avoid any impression of disturbing the image of a great urban educational park in which an attempt is made to uphold the existing scenic values. ■

The Cintruénigo Geriatric Centre

Architect: J.F. Glaría Yetano

Assistants: Joaquín Aliaga Montes (technical architect) Angel García Alvero and Justo Peralta (technical engineers)

Date of project: January 1991

Completion of work: September 1993

Photo: José Manuel Cutillas

The building was conceived in the spirit of a public service and the scale of an institutional building given the central location and the need to provide more than geriatric care for citizens.

Between the two buildings in need of restoration, the new one is supported by a glazed, ceramic access extended to the new programme. This can be developed by creating two large landscaped spaces of 200 square metres each. One receives the sun from the east to which the terraced rooms



Seat of the Department of Education and Culture

PAMPLONA

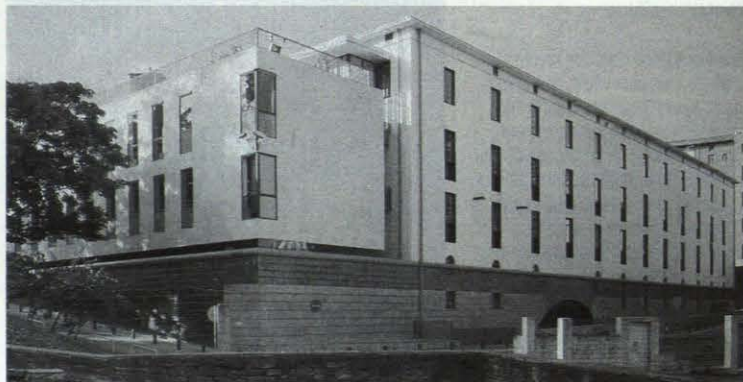
Architects: Luis Alberdi, Miguel Laurenz, Sigfredo Martín, Ana Saldaña and Javier Torrens

Assistants: Antel Abal, Luis Turrillas and Sebastián Zalguizuri (master builders) J.M. Sánchez and M.A. Zozaya (structure) GM Ingenieros Industriales (fittings)

Start of work: February 1992

Completion: November 1994

Photo: José Manuel Cutillas



A large, half-ruined construction in Pamplona's old quarter had the right conditions to be converted into offices for administrative functions. The restoration of certain parts, such as the cloister and the new construction of the adjacent site, defined a very complete and diverse programme.

Developing all into a unit, with a modern and distinguished appearance, were the most outstanding aims.

The architectural value of the building was negligible, except for its great Tuscan cloister and some well founded, powerful walls.

None of its three front walls had any use, so action was based on three fundamental concepts: to separate the building into a church through a passageway that would give access to the courtyard and converting the cloister into a public square within the congested urban surroundings; to transfer main access to the north façade, opening up the esplanade of the wall at courtyard level, at the building's centre of gravity; and to provide the whole with a new architectural image through the form of its different parts on a strong common base, placing it in perspective with the different urban situations of a complex setting. Thus the property appears to be shut off from the exterior, adopting the natural form of the main wall's cavity, while the bright and luminous interior overlooks the courtyard. Fine views of the church and the towers that rise above the building are much appreciated ■



31 houses in Tafalla

Architect: Francisco José Mangado Beloqui

Assistants: José Luis Sola Labari and Arturo Pérez Espinosa (master builders) Javier Errea (engineer) Iturralde and Sagüés (engineering)

Date of project: 1993-1994

Date of construction: 1994-1995

Photo: supplied by Patxi Mangado

The project attempts to research case developments from certain geometric land conditions established by the regulations for a historic site. Likewise, it intends to explore the role of "new"

architecture in settling the problem of limits between historic cities and new urban developments in the European context, a specific and important issue in medium-sized towns like Tafalla. ■

G 39 Premises

PAMPLONA

Architect: Fernando Tabuenca

González and Jesús Leache Resano

Location: C/ Gorriti, 39 (Pamplona)

Date of project: November 1994

Completion of work: March 1995

Photo: Luis Prieto

It is like a large chest for keeping clothes, a wooden chest, or a ship's cabin. Walls, floor and ceiling are made with wooden panels packed together (Triply). A further use of this material, found in the construction of houses in the United States, is as a support for exterior enclosures and it is also used in dam systems. Here it is used out of context, to benefit from the mechanical possibilities and the texture of the material, as well as providing a very economic solution ■



The Mendillorri Kindergaten and Primary School

PAMPLONA

Architects: Francisco José Mangado Beloqui and Alfonso Alzugaray Los Arcos

Assistants: José Luis Sola Labari and Arturo Pérez Espinosa (master builders) Iturralde and Sagüés (engineering) Jesús Goñi Esparza (structure)

Date of project: 1993-1995

Date of construction: 1994-1996

Photo: supplied by Patxi Mangado

The project, the result of an architecture contest contract, set out to develop a large school complex for children living in the new residential district of Mendillorri (also designed by this office). The plan intended to create stimulating and attractive spaces for children through the layout of pathways, lighting and integration with the Mendillorri park. ■



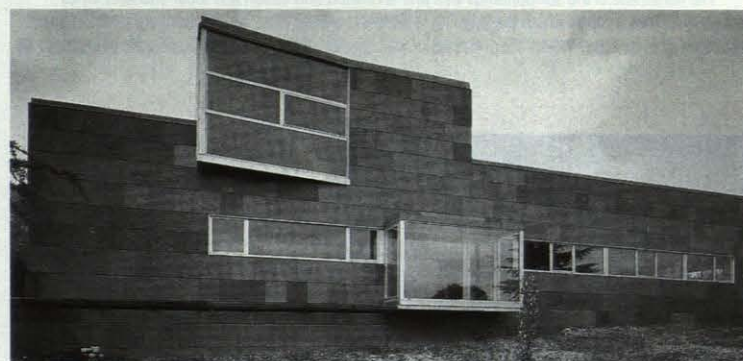
Home in Irache

Architect: Francisco José Mangado Beloqui

Date of project: 1993

Completion of construction: 1996

Photo: supplied by Patxi Mangado



The proposal examined a simple architectural construction and its distant physical surroundings. In a peculiar way, like the abstract appreciation of that distant setting - defined by fine skylines to the south and north and the Irache Monastery to the east - the construction described a project whose starting point, a site right next to an allotment of ugly buildings in a luxury housing estate, and a relatively simple programme alone would not have provided sufficient guidelines for action. Material considerations have been kept particularly in mind. ■

Two homes in Cizur Menor

Architects: Jesús Bazal Corrales, Rubén Labiano Novoa and Patxi Pernault Salinas

Assistant: Ignacio Visiers Guixot (master builder)

Date of project: September 1995

Completion of work: December 1996

Photo: José Manuel Cutillas



Two semi-detached houses in the Cizur Menor residential neighbourhood. Communal garden.

This architecture is intended as an up-to-date response to a regulation favouring the definitions of traditional rural architecture that are too frequently more figurative than real. The topical response is both for image and planning. The corridor-gallery has been introduced as a linking element on the bedroom floors, a departure from a passageway. It takes advantages of building limits of 12-metres width set by previous regulation that tends to make spaces and distributions disproportionate.

There is direct lighting and ventilation in all the rooms, including bathrooms.

The front faces a simple, quiet street and the other a plot with controlled lighting. Slats. Relation of the house to the plot: the plot is also a living area.

A lateral porch hides the view and noises from an adjoining grill-restaurant. ■

The Grounds of Villa de San Adrián



Architects: Miguel A. Alonso del Val and Rufino J. Hernández Minguillón

Assistants: José Luis Resano Lizalde, Luis García Guillem, Susana Iturralde Mendive and Luis González Lorente (assistants)
Miguel Aldaz García-Mina (master builder)

Date of project: May 1997

Completion of work: March 1998

Photo: José Manuel Cutillas

This ground is a cross between a monumental site and a dense urban centre, a public and recreational place that should be converted into an avenue with materials that can be easily conserved. The type of treatment employed, strictly adhering to a formal and constructive scheme, is based on materials that when fully used allow for a variety of design that is not formal but also textural in line with its internal qualities. The walls are made of reinforced, reddish coloured concrete in order to blend with

the extensive stretch of bricks of the historic buildings. These walls and the kerbs determine the limits of the pavement, in such a way that it is joined to their design. The outline created by the succession of walls, kerbs and ramps attempts to give visual variety, to give access to different levels and create places in which the view for passers-by from above is enriched by new planes and paved surfaces superimposed on San Adrián's natural and urban landscape. ■

Lecture halls and laboratory building of the University of Navarra

PAMPLONA

Architects: Jesús Bazal Corrales and Angel Fuentes Martínez

Assistants: Miguel Martínez Larrayoz, Rubén Labiano Novoa, J.R. Garitaonandía, F.J. Pernaut Salinas and Julia Carrero Espinosa (assistant architects) Jon Gabica-Aldecoa y Martín Lazcano (master builders)

IDOM (engineering)

Date of project: April 1996

Completion of work: October 1997

Photo: José Manuel Cutillas

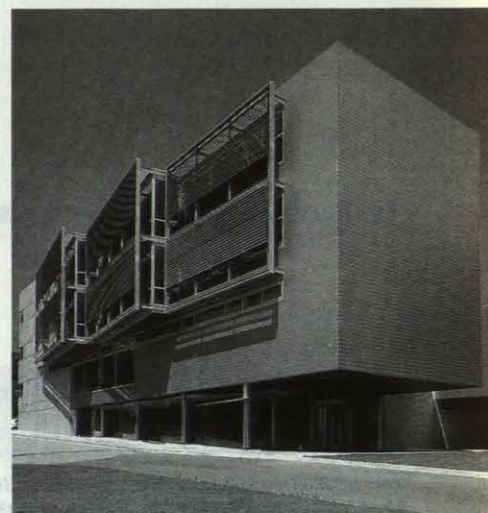
The building is located at the end sciences area of the University of Navarra campus between a lecture halls building and the CIFA (Applied Pharmabiological Research Centre). It is an extension of the

lecture halls building to which it is attached.

It is designed to serve as a multi-purpose receptacle for all the other space needs of the rest of the building that forms the science area. It contains lecture halls for general subjects, nursing, and research, laboratories, an extension of the library's reading room, a language school, a cafeteria and an area used preferably for congresses and conferences, formed by a new assembly hall and a large lobby with independent access from outside.

It has a ground floor and three upper floors. As to its design, it has the same cubic form as the building to which it is attached, adapting to its roundness and retaining the same façade height on the street side. It has a U-shape and a central courtyard which is occupied on the ground floor by the space for the assembly hall. A volume constructed in a wall of concrete and twisted with respect to the general orthogonal scheme of the rest of the enlarged building, that is the entrance lobby, and being separated from the rest by a skylight that provides crossed light for the lobby and the ground floor corridors.

To the south, the cafeteria unit becomes a mirador overlooking the campus. To the west, the central arm of the U separates itself and grows in height. Here the bulk of the Language School rises, independent from the general complex, and of great visual power. The concrete wall changes into an aluminium one and flies over the entrance to the congress halls. The property is completed with prefabricated concrete panels, sheets of aluminium and large areas of curtain walls. Fixed slats for sun protection and tramex walkways for window cleaning. ■



The Señorío de Otazu Wine Cellar

Architects: Jaime de Gaztelu Quijano, Paloma Baranguán Bello, Ana Fernández de Mendía and Juan José Arenas

Assistants: José Luis Sola Labari (master builder), Jesús Goñi (structural engineer), Adi (fittings engineer)

Date of project: 1995

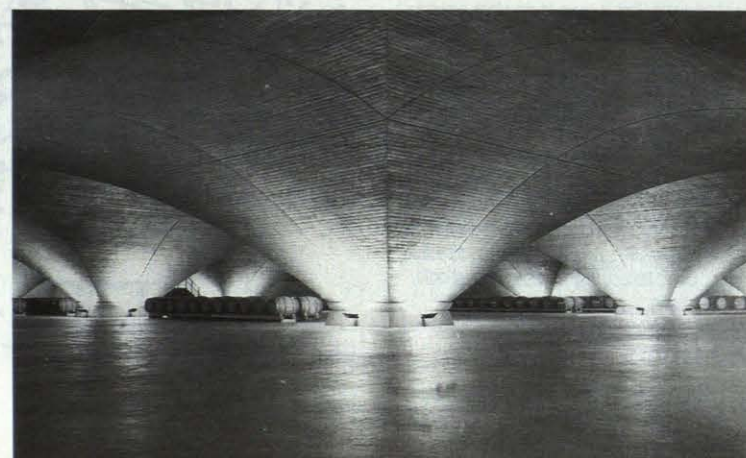
Completion of work: June 1998

Photo: José Manuel Cutillas

With full respect for the undisputed rules protecting the setting of these cellars, the construction of three new wine processing plants has been undertaken, as well as the restoration of a 19th century building. The design is very clear: everything is built in the basement, except for two points that emerge just one floor above the building line of the ground. These bays contain the tanks at double height on the first floor, and a wine rack on the second, as well as a bottling and storing area, both located for the rapid handling of grape delivery and elaboration of the fruit, and the aging and despatch of the wines.

This project was strongly marked by the old cellar that was built in Señorío more than 100 years ago. And it was essential to maintain its preeminence over the new constructions. So the latest buildings have a light and transparent design with the use of wood and glass being dominant. The configuration keeps the old part for offices and as a representational department, creating new and discrete dimensions, at the same time as forming an intermediary transition space.

The enormous underground space holding 3,000 French Allier oak barrels at double height, deserves special mention. Nine impressive reinforced concrete vaults, covered with pinewood give them the appearance and texture of wood and an image of tradition, modernity and beauty. ■



Is there life after photo realism?

Fernando Valderrama

There are some interesting alternatives to the most widely used digital architectural image producing systems.

The difference between a computer-made illustration and a perspective drawn by hand is like that of the banality of reality and the purpose of a project.

Augusto Cagnardi (Gregotti Associati)

Can anything be improved in architectural images that are obtained from the most advanced display programmes? It is difficult to fault them from a technical point of view. Irradiance algorithms and combined beam tracking simulate a physical lighting model of almost perfect form and texture. In some cases, the synthetic pictures of a building cannot be distinguished from photographs taken under the same light conditions and from the same angle.

Man's critical capacity is unlimited, however, and voices have been raised against the use and abuse of these type of allegedly perfect, so-called realistic photos. First of all, the poor use of techniques leads to obvious defects. Many illustrations have an unreal gloss, exaggerated textures and simplistic treatment of materials. For example, it is usual to find unbalanced levels when very simplified general forms are mixed with decorative elements or excessively detailed equipment. It is not unusual to find display systems and graphic resources combined improperly, as when flat colour schemes of a clearly symbolic and objective nature are used in perspective with the level of the inclined picture that allude to a subjective perception. All this contributes to the creation of pictures with an artificial, false and naive touch that provoke strong rejection in some areas, and especially from academics who are not prepared to accept pictures that show this type of effect or defect.

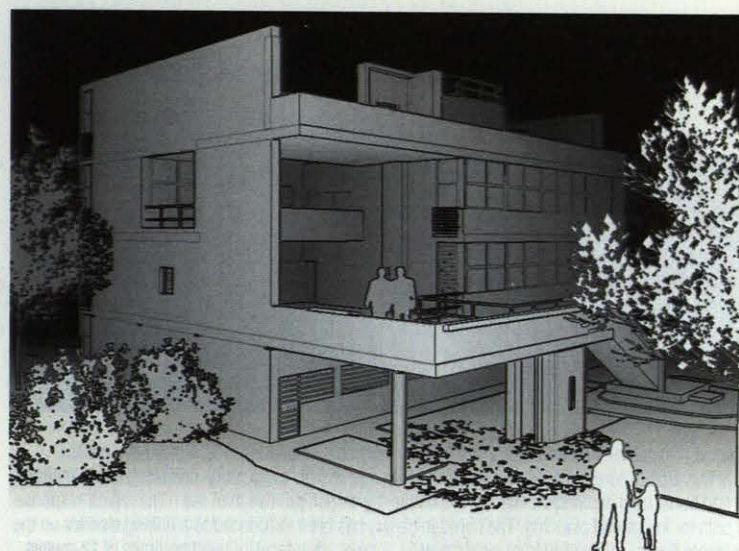
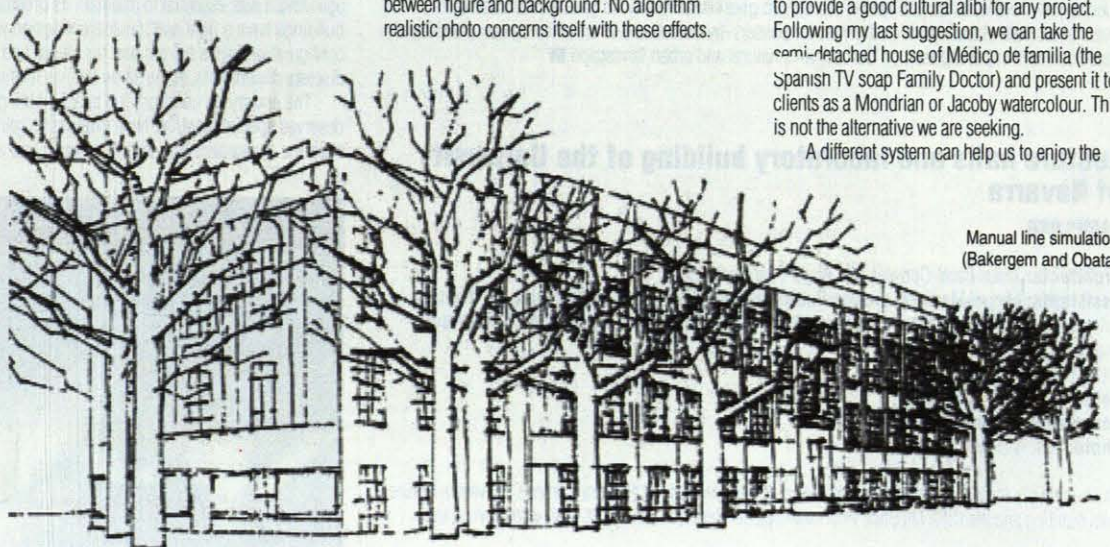
Other practical problems add new difficulties to the creation of these pictures, such as the need to have relatively powerful computer systems and the effort required to construct models with the necessary high level of detail and that can specify materials and lighting systems. The lack of immediacy between the work of the project and the verification of the result, as well as the too finished quality that is given to drawings prevents the systems being user-friendly design tools. Consequently, these systems are more often used as visualisation aids for a project by third parties, once it has been completely finished and defined.

Still, the biggest limitation to the use of these algorithms is their claim to present a true perception of reality. Reality is much more complex than a static image, no matter how perfect it is, and the nearest one can get to it by this method is to imitate photography, especially in its poor selective and subjective aspect. In a strict sense, we should consider the term "photo realism" itself as an impossible expression, one that Umberto Eco

denominates *impossibilia*, like an "Aztec horse" or "prehistoric handwriting". Photography is incompatible with reality. We can obtain illustrations of photographic quality with a computer, but they will never replace the experience of reality. In any case, we should simply refer to them as pseudo-photographic pictures.

But are there any alternatives architectural pictures that would be more suitable to the audiovisual industry and advertising? In 1981 professors Obata and Bakergem from the University of Delft observed that a tracer pen - one of those that existed before the development of the ink jet - with a slightly loose nib produced drawings with shaky lines as though they were made by hand. Anyone else would have had the tracer fixed, but they preferred to realise that they had discovered the first example of a non-photo realistic illustration. The result of such a simple technique is really surprising because it adds the attraction of the imperfect, the human, to the cold and efficient result of the computer.

This type of drawing, suggesting a raised hand, does not require the same degree of definitive finishing as the "ink coated" drawing and is excellent for presentations in the initial stages of a project. That provisional feeling stimulates changes from designers, prompts suggestions from those analysing the work and conceals the simplifications of the modeling.



The Stein Villa. (Informatrix Software).

Many students reluctant to hand in computer drawings opt for this method once they learn the system. The disappearance of pen tracers could have ruined this trick, but the Squiggle programme, at the reasonable price of 99 dollars, now makes imitation of this effect possible, applying it to any drawing produced with a conventional programme and applicable with any modern laser or ink printing methods.

Considering this line further, a very interesting angle is the simulation of graphic techniques frequently employed in manual drawing. Paul Haeberli, a Silicon Graphics researcher, has worked for many years on this matter, proposing algorithms that create concealed line drawings just as those produced by hand, meaning that lines very close to each other are eliminated and those furthest from the viewer are blurred and different thicknesses are used for the visible outlines and the internal edges. Recently he has perfected an algorithm that simulates the nib's technique, using strokes in different directions and of different thickness to represent lights and shadows, materials and textures. Many of the laws these programmes apply are obtained from the observation of artists' work and not from analysing the physical model of visualisation. For example, contours are generally reinforced with lines and contrasts and gloss is faked to improve visualisation in areas of contact between figure and background. No algorithm realistic photo concerns itself with these effects.

Starting with Haeberli's original research, many image edition programmes have been developed that apply effects in two and three dimensions simulating different artistic techniques, such as impressionism, pointillism, or drawing and painting tools, like aerial graphs or charcoal. Some of these programmes are really marvellous internally and require a deep study of dyes, dissolvents, paint-brushes and canvases. Cassidy Curtis's research on watercolours, his results and procedures, including partial by-products, are a very suggestive example.

Nevertheless, a difference must be made between systems that permit digital paintings or the application of effects to existing images that are widely distributed at present, as these are included in many illustration and image retouching programmes, from those that directly create illustrations from a three-dimensional model. Some commercial programmes, such as LiveArt, can create several dozen artistic styles. Some have been included in the ArchiCAD programme that can produce architectural designs in watercolour, charcoal or dotted point styles directly.

Once again we encounter a possibility that may make critics of photo realism jump out of their seats. Obtaining illustrations that belong to certain styles and artistic techniques outside the corresponding culture and context will lead probably to a new flood of banal images prepared to provide a good cultural alibi for any project. Following my last suggestion, we can take the semi-detached house of Médico de familia (the Spanish TV soap Family Doctor) and present it to clients as a Mondrian or Jacoby watercolour. This is not the alternative we are seeking.

A different system can help us to enjoy the

Manual line simulation.
(Bakergem and Obata).

possibilities of the computer without losing control of the architectural image. The Piranesi programme that is currently being marketed now that the prototype stage has been completed, has a very interesting approach. The architectural picture is created in a conventional way from the three-dimensional model, but it can later be retouched "by hand" with a wide range of graphic techniques. The picture produced, although two-dimensional, contains internal information with the spatial depth of each point, apart from its brightness, which allows the programme to detect the gradients and the changes of plan through the variations of depth between points, applying the right graphic effects to suit the geometry. For example, textures avoid adapting themselves correctly to the perspective, they vanish automatically in the distance or they modify themselves according to the curvature. If a wall is painted in one colour, for example, the paint will reach the very edge and jump over the cavities.

Each point also contains associated information on colour and material so that surfaces of the same material can be chosen to apply an effect that will avoid automatically anything of a different material.

The combined results of these techniques makes a very attractive tool, where the architect recovers control over the picture and interactivity that was lost in photo realism: there is no delay between the taking of a decision on colour or texture and its immediate visualisation in the final drawing. Unlike photo realism, very detailed modelling is not required as the simplifications of the model will be corrected along the way through selective retouching. There is no need to spend time providing detailed definitions of the lighting of the three-dimensional model and the previously assigned work of materials and textures is much more simple. As Richens and Schofield declare, and this is known by any working architect, part of the project's work consists in "massaging" the drawings, something that is completely recovered in a programme such as this that returns to the pure pleasure of drawing.

Once again we should ask ourselves if we have made any progress. Of course these tools can be used to achieve a greater level of abstraction, more independent from the enslavement of the physical model of visualisation. These systems also allow for the introduction of a certain level of noise in this clarity and objectivity, giving, according to Gombrich's idea, the observer a greater capacity to project his own imagination on the image.

On the other hand, we can achieve a greater artistic expressiveness. Spectators and clients can feel more attracted by one of these non-photo realistic images; it could be easier to excite their imagination if we managed to seduce them with a range of graphic resources that they find more agreeable. We can select a conservative style of broad brush strokes for an older client and a modern, clear-lined illustration for a younger client. Or vice versa; who knows? But the huge risk remains that the architectural object which in theory we wish to produce and describe ends up concealed behind the graphics, retouching and painting. Thus we have retreated again with respect

to the criticised and original photo realistic display.

Amy Gooch and other researchers have studied the classic techniques of graphic illustration to discover what display resources artists have traditionally used and for what purposes. As I have mentioned above, the systematic use and appraisal of contour lines is evident. But it is also interesting to note how the technical illustrator does not use the change of bright colours to dark ones to represent depth and brightness, but rather recurs to the change of warm to cold colours. Grades of blue to yellow are gently superimposed on the object's own colours, indicating distance and proximity, respectively. Curiously, a similar range is used in the works of Cezanne and John Nash, as John Willats has observed, and which are completely alien to the computer world. Furthermore, illustrators do not exhaust the complete range of each colour, cutting them off at the extremes and eliminating minimum and maximum saturation in what Tufte has called the "minimum effective difference". White is kept for brightness and black for the contour lines.

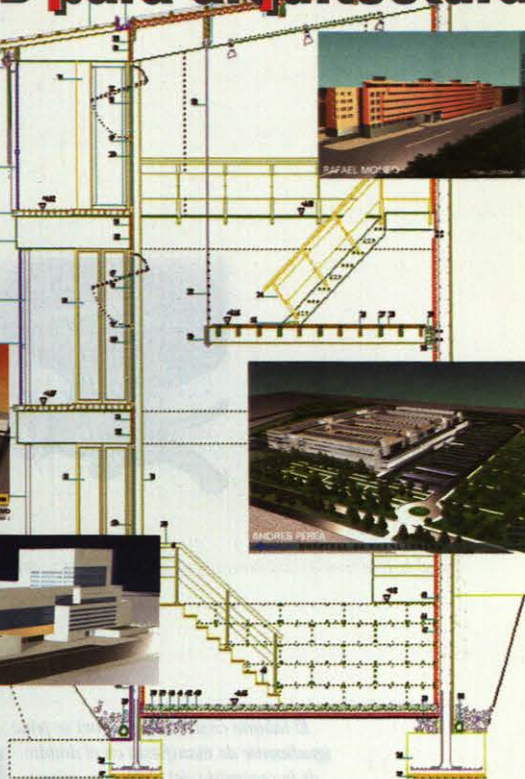
Illustrations created with these criteria present a smooth, shaded atmosphere in which the details of the object are clearly visible, especially in areas where the photo realistic image would be excessively dark or too brilliant. If we admit that they have greater artificiality - whatever their definition may be - their descriptive capacity is greater. Perception is less exact from the point of view of the physical model style, but it is more complete and allows for a better understanding of the object, in our case a building.

Undoubtedly, the range of techniques available for architectural displays is increasing every day. There is a great number of image generating systems that are suitable for different needs and types of architects and clients. Different systems pertaining to descriptive geometric displays are added to these and whose relationship with graphic techniques or resources employed would make another interesting subject for discussion. But an ability to simulate the perception of a model from a certain point of view is not always the only way of evaluating the quality or usefulness of the representation. Pure description, with its objective nature, is a basic aim of an architect's drawing, and it has been rejected to some extent by computer methods, dazzled by the availability of very advanced image generating models of a visual kind. And that capacity for expression, the ability to attract, seduce and excite spectators is another feature that architectural display has never abandoned.

Art and illusion: Gombrich's dilemma between controlled subjectivity and the scientific simulacrum of reality depends more than ever on us as architects. Designers must determine the most suitable use for techniques in accordance with their intentions and their needs to describe, perceive or excite emotions. Without forgetting that greater freedom of action necessarily implies greater chances to make mistakes, the new possibilities are therefore especially stimulating for those who enjoy criticism, not only for those who have a good time creating drawings and architectural illustrations. ■



CAD para arquitectura



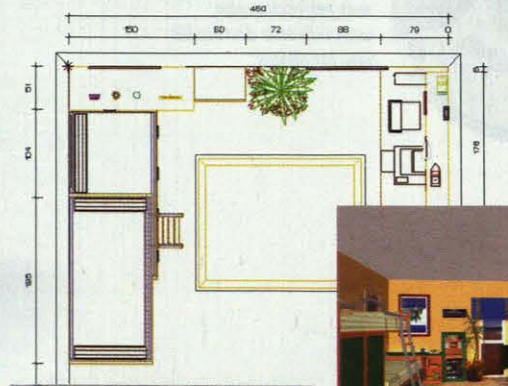
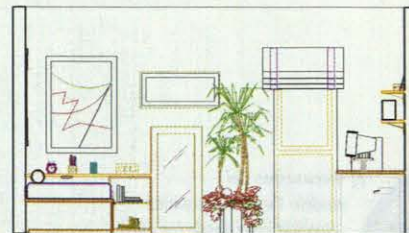
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