

ENGLISH

Before the future plans

Twenty days after the publication (B.O.E. 5th february) of the Royal Decree 4/1994 of 14th january about the Architect Title and the general directives for the Architectural Educational Plans, the Universities Council had a meeting in Barcelona for its modification. Originally, it stated a minimum of four years and 335 credits and a maximum of five years and 450 credits. The Council approved, with the only opposition of the Rector of the Polytechnic University of Madrid, the modification of the general directives which, in the case of our degree, consisted in a substantial reduction of the maximum number of credits to just 375.

The events seem to prove that such an important degradation of the academic education required to become an architect, is the result of a two phases operation in which our national representatives were not able to defend the interests of Spanish architects. The C.O.A.M. (Official College of Madrid's Architects), of which I have the honor of being Dean, tried to use its power to prevent this abuse which is just one among many others endured by our profession.

It was not easy, though, for us to do much about it, as, according to our Constitutional Article No. 36, our voting weight is just a part of that of the Superior Council of Spanish Architects' Colleges, whose representative system is definitely non-democratic as it does not take in account the number of members of each college for which its decision are so important.

Luis del Rey(*)

Lately, it seems as though it could be possible to get an agreement with the Universities Council that would permit the maximum number of credits to be raised over 375; but just in exceptional cases, according to the document specifications. This possible slight modification does not seem to be very effective as the most probable result would be that very few or even none schools would be able to have longer programmes. It is not possible now to regret this result and try to go back to the Royal Decree 4/1994 of 14th january, though this desperate attitude finally intends to get a fair conclusion.

Thus, the uncertain future of Architecture, Urban Planning and Environment as established by the Royal Decree 4/1994 of 14th january, seems to be even in a more desperate situation after the modification. It reduces the possibilities of a higher education and, moreover, make us move away from the European model as described by the "Valencia Declaration" of the 11th and 12th december, 1986, and the "Recommendations for the modification of the 4th Article of the CEE Directive 85/384", approved by the Consultative Committee for Architectural Education during the 5th and 6th of october, 1992. This Committee has suggested a five year full-time degree, plus a final project and a minimum of two years of professional practice completed by a final exam.

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University degrees began to be established. The decisions then made determined the frame in which the present plans have been developed. As I played a direct role in those discussions, I have thought useful to reproduce what I told about them in my Memoirs book "From those uncertain years." The text bears the date of 12th may 1987. The reader will excuse one perhaps too personal tone, bearing in mind the advantages of the direct impression and spontaneous comment.

It is not april anymore, but today Madrid has enjoyed one of those days that define it as a splendid city. Eugeni d'Ors, quoting himself, wrote at the beginning of "Tres horas en el Museo del Prado": "Octavi de Romeu asserted that Madrid was a city many hundreds of aprils old". A quieting temperature but, at the same time, fancies about signs of good hope. A limpid and clear light, but yet vibrant. A transparent sky, blue, with just enough clouds to make it clearly defined as a space: "a furnished sky", as Darío Regoyos put it.

I have been two days in Madrid now, not to admire its sky, unfortunately, but to discuss the future of the architectural education and related subjects and to develop some kind of proposal about the new academic degrees in this field. It has been more than a year now since the Universities Committee, presided by Emilio Lamo de Espinosa, appointed me as president of one of the commissions working in these matters.

From the first day I have been the supporter of a change in the teaching method and a new academic degree more suitable to match the complex reality of building and related fields as industrial design and urban planning. That means, I wanted to make acceptable the real fact that we have some specialties now that presently show enough consistency and difficulties as to obtain an autonomous university degree. These specialties, though, should not be exclusively paired with specific degrees nor precise legal responsibilities or assignments. It seems clearer each day that Universities should circumscribe themselves to the teaching of subjects and programmes that would be self coherent, that would attempt to reach their own, autonomous, intellectual aims. Professional responsibilities would be bestowed (as in many other countries) by state or guild concessions after finishing studies and according to the personal circumstances specified as indispensable. In short, I consider a senseless (and discouragingly unreal)

method to accord the responsibility of a concrete structure, of an air conditioning system, of the decision about the location of an industrial plant, of the aesthetic coherence of a urban space, of the use of some mechanical feature of an specific soil, of the quality control of systems and materials, of the determination and control of the budget of a whole process of building to a unique and singular professional (called an architect) and just because he has been six or seven years taking exams over a bunch of subjects, all of them lessened and necessarily uncoordinated, and all of them worthy of an exclusive academic field.

Now, when most degrees are to be reduced to just five years (far away now from those eight years, plus those of admission, of my own degree), when, besides, the different aspects of architecture, urban planning and design are some much entangled with different techniques and social or cultural attitudes, it is vital to subdivide the traditional Architecture Degree into several specialties. And, if it is not done thus, something will happen that has already began to happen: a number of diverse technological subjects are overcrowding most of the lecturing schedule, just because their programmes seem to be more explicit and valuable, while other matters, as that of architectural design skills, that have always been the essential basis of the architects' profession, and consistently, of their education are being left aside. We will finally just get architects that might be experts in different techniques and will leave the specific field of architecture empty.

According to these criteria, a group of members within the commission (the architects Ricardo Aroca, Antonio Vázquez de Castro, Amparo Precioso, and myself, the architectural technician Jaime Roseell and the draughtsman Jesús Blas) have stated our position in favor of a radical proposal: that of creating five autonomous (though related through shared departments) degrees with a common first cycle of two years and a second cycle of three. This five programmes (or university degrees) would be: B.A. degree in Architecture, in Building Stability, in Building Facilities, in Industrial Design and in Building Management and Control.

This last degree in Building Management and Control would be slightly different from the other four. The first course in the second cycle would include essentially a practical programme and, once finished, the

New plans

Oriol Bohigas

I have been asked a little commentary on the new educational plans for architecture and I must confess I consider myself rather unfit for the job. I have been a long time now more or less detached from the educational

problems in the Schools of Architecture. I consider, though, that it is a good opportunity to review an old discussion, previous to that of the detailed programmes, that took place when the new structure of the

student would have the academic level of architecture technician or assistant. Thus, this degree now detached from the school of architecture, would be inserted within a cycle process, with fundamental advantages both economic and social. If this is to be done, though, and we expect it to work well, it is essential that the whole process of education would take place in Faculties (or Higher Schools) of Architecture and Building Sciences. That means that the present lower Schools of Architectural Technicians should disappear as, due to the very low educational level and segregative origin of the students, this schools have become a source of polemics.

On the other hand, this "cycling" proposal is also a polemic theme that has been discussed for some years now. I am not an optimist regarding these matters of compulsory successive cycles and degrees and legal responsibilities, because I think there is always an unsolvable contradiction. If the first cycle is to be considered the basis of a two cycle university degree, it must offer an essential training in the subjects that would provide the student an organized knowledge and induce an attitude bent to higher intellectual speculation. But, if it should include the programme of a lower level degree, it must comprehend the professional practice, that is, specific practical knowledge. And I think that the combination of both aims is rather impossible. In the case of the architect and architectural technician, the character of this first cycle is difficult to define: either it must include building practice, or mathematics, physics, history, aesthetics and other basic subjects. To learn everything at the same time seems to be rather difficult and unclear within a methodic educational programme and intellectual structure of the profession.

Our proposal offers a kind of solution to this problem, as the abbreviation of the first cycle (two years instead of the usual three), the creation of an intermediate or "bridge" course that would include the professional basis for the lower degree before the true second cycle of the Building Management and Control degree (along with some flexibility in the credit system and a free tendency choice for each University) will permit to overcome the basic contradiction between academic conditions and professional requirements.

This proposal has, inevitably, had two adversary groups. One of them is that of the people most engaged with guild associations or involved in a contradictory academic system: the representative from the Official Architects' College (Josep Maria Fargas) and the three Headmasters of the Schools (Fernando Ramos, from Barcelona; Pablo Arias, from Sevilla; Luis de León (mechanical engineer and math professor), from San Sebastián). All of them have just followed the guild instructions dictated by their own institutions. But in addition to these ones, we have also met the opposition

of Luis Peña Ganchegui and Antonio Font, of whom one might have thought, according to their professional autonomy and progressive vision of these problems, that they would be on our side. Unfortunately, what they have done, thanks to their acknowledged capacity, is to provide a theoretical basis for the others' obsessions that, without this support, would have seemed absolutely rejectable as regressive.

To sum up, their proposal is to leave everything as it is now: just one almighty academic degree of B.A. in Architecture after a unique cycle of five years and another, completely detached, lower degree of three years with the usual and confuse designation of Architectural Technician or Building Assistant. Higher specialties would be delayed into a third cycle, which means that there is no possibility of choice between different subjects within the basic curriculum. And although they have clearly stated the dominant role of the architecture design matters, we will, unavoidably, have a programme which will include many hours of high technology sciences, as every student will have a degree that certifies his training for everything. We will just get to the point where specialized studies will, at best, last for seven years, while losing our chance to make the third cycle a first step in investigation as it will just become (if real circumstances in Spanish University permit it) an extension of the basic education.

During these meetings, though, I have always felt we were talking about minor and superficial problems. The primary ones are others. One of them is the lack of that Building Law they have been talking about for so long and which we hope will define the specific obligations and the professional and managerial structure of the building business along with the precise responsibilities of each part. Without this law, changes in the University will not have any real basis nor be more than momentary choices. The other main problem is that of the very University and specially, that of the Higher Technical Schools. The new University Reform Law bears the best intentions and, at the same time, the most serious mistakes. It might just precipitate the transformation of our Spanish university (which, in fact, cannot wake in us any nostalgic remembrance as it has always been a real filth) in a bureaucratic and non educational episode. That old flexible character of the different employments and tasks is going to be replaced by a strict public official system and, I am sure, in its most unproductive variant. I can almost ratify that it is assuming a military structure in which one cannot become commandant without being captain.

If just all this affair were to bring enormous budgets into the University to build new facilities, laboratories and libraries, to institute more grants and employments, it might be that we

finally would find a solution. But, so far, the Ministry is just liberal in laws and decrees. Not a word about money.

Here finishes the text from May 1987. Today I surly would reconsider some points, but I think I would keep the same general statements. Mainly those regarding the role of every day reality: the intricacy of the architectural design and building process, a process in which different techniques and specialties are involved but always included within the basic concepts of a unique discipline. Today, in Spain, technicians specialized in architecture have not all the same origin in an specific university degree. Either they are architects that have, on their own, studied these techniques, or

technicians with a poor education in architecture. I do not know if the structure of our proposal in the Madrid's meetings would have solved these problems. Neither do I know if the new educational plans have the serious design to solve it. I think that the final result is just that some engineering curricula are leaning towards architecture but I do not see proposals of specialized techniques studies from the very architecture.

So, is it possible that the architects will continue, thus, detached from an inescapable professional reality? And is it possible that we will continue without having a true dialogue with technicians that should also be experts in the architectural language?

A farewell to ambition

Jose María Fernández Isla

Some months ago, I wrote some lines about the new opportune edition of such interesting books as were "The architecture of our Age", by Otto Wagner and "Adolf Loos' Complete Texts", accomplished by the "Biblioteca de Arquitectura. El Croquis". I did then recommend both, not just because they are paradigms of the origins of what is called "modern architecture", but also because it is a real pleasure to be able to meditate on such kind of texts (classical but yet so valid today), which are real personal accounts. Wagner, as well as Loos, tries to make of his book an initiation guide for young architects. Both talk about the quality of education and the necessity of a responsible professional answer to problems within a changing society. The prevailing character of the architect is something that both mythical avant-garde authors want to keep. Thus, Otto Wagner, at the beginning of his book, even says that: "the architect has been widely praised as the most perfect modern man, as he brings together idealism and realism within a unique individual".

The date of this two works is, nevertheless, not very recent. "The architecture of our Age" was firstly published in 1896 and the original compilation of Adolf Loos' Text was made between 1897 and 1909. After a hundred years, relations between art and technique have, obviously, changed and, presently, there is no ideal category which would define what is "being modern", as there was a century ago. But this fact does not exculpate the lamentable attitude,

contingent pragmatism and debased idea of the architect's personality, visible in the new General Directive for the Architectural Education Plans. This new Plan, as most things in this country, tries to be acceptable as "European" standardization and, at the same time (though this is not clearly stated), cut down educational costs. Market rules and competitiveness have marked their price and this is just a "recession time" policy (a confusion between public cost and investment) that will just obtain "lower degree" provincial individuals (the global peasant?). Perhaps the intention is to save future generations from dismissal by making them unable to find any job at all. We witness the birth of the new "spare professional" whose "expiry date" is even previous to that of its possible consumption.

Just a century ago, in Vienna, Sezession architects stated their motto: "For every time, its own art; for every art, its own freedom". If it is true that education provides us with freedom and freedom with confidence, this is not a time to be specially confident. Education and research have been defeated by refusing them the opportunity to have a meditated, modern, progressive and effective development. Lower degrees with less lecture hours are not, apparently, the best way to educate our youth for the new hard and open concurrence circumstances where strong currency will be the paying mode.

As it seems the rule in this hard times, today it is again the apathy and its supporters that win. The rest of us that lose.

Chilled winds over architecture

José Manuel Sanz

The final approval of the General Directive that will reduce the Educational Programmes for our Schools of Architecture seems to be imminent.

The result of a recent International Architectural Contest about several projects for the city Copenhagen has revealed a dramatic situation that could be the future of our Old Europe after the opening of our borders for the free-circulation of professionals.

It could have been just a coincidence, but the fact is that, with an important participation of prestigious foreign architects, ten out of twelve major prizes went to Danish projects, and the other two to Swedish colleagues.

We must remember, though, that in recent years and similar contests, Spanish architects have had an important success and even our students, that won major prizes in the late Contest about the Bauhaus in the German city of Dessau.

But the chilled and harsh wind of concurrence has gained the European professional structures and provoked the logical reaction in the different countries that try now to adapt their organization to excel themselves, improving their academic and professional education. The present crisis, moreover, has fostered protectionism.

Because, against this cold wind of a harsh and inescapable competition, the only solution is a more complete and efficient education.

If we do not work in that sense, the next winter storm will bring us just pneumonia... or something even worse.

Our particular General Directives, with which the new programmes will have to comply, allow the Universities Council to accept 3,500 lecture-hours Plans (with 2,000 hours less than the present ones).

According to the Decree 1.497/1987, specific Schools which would comply with strict requisites will be allowed to have a "minor" reduction of "just" 900 hours.

What could possibly be the reason for such an educational "disarmament" at such a critical point?

Why is our Government so interested in placing our University students (future architects in our case) in the lowest rank of the whole Europe? I cannot find any answer.

The most common argumentation is that, thus, we will come closer to a European

standardization.

But this is surely false. There is no European Directive that establishes upper limits for degree homologation and, even less, one that forces anyone to reduce the duration and contents of its University programmes. On the contrary, the CEE Directive 85/384, in its 4th Article, just establishes minimum conditions for the degrees in order to permit a professional to work within the Community. The 19th of November 1992, the CEE informed our Government that this, not really adequate, minimum would be 3,500 lecture-hours, but our threatening Decree admits lower degrees therefore not suitable for homologation.

This 4th Article of the Directive, (even an awkward compromise, just not to leave aside the German Fachhochschulen), is now being revised and, the 6th of October 1992, the CEE Consultative Council in charge, recommended a modification in the sense of establishing a five year full-time degree, plus two years of professional practice or a six year degree plus another year of practice (this recommendation was approved with 20 pro and just 2 votes against).

Naturally, the other reason suggested is the deficit of the budget.

But, as Tierno Galván used to say, "youth is generosity, donation", and the State should treat young people with that same generosity. The University is not the best sector to save money.

On the other hand, it seems that the new private and small Universities agree with this kind of reduction as it will permit them to expand their programmes with little effort.

We would have, then, first rate and second rate schools, with very different education for professionals of the same responsibility and, in this way, the whole profession would, logically, be degraded.

I am not asking for a different treatment for architects. Any reduction in the educational programmes seem to be just bad news. And Architecture as a cultural and social value will be very affected by it.

What we behold is just a terrible mistake. But, as Tierno Galván also said "Intuitive Knowledge might allow the intellect the possibility of rectifying the many errors of Mechanical Reason". I, even now, have confidence in that intuition that, as the grass, grows by night (Shakespeare).

Drawing, desing, history and their curious connection within american schools of architecture

Helena Iglesias

Before the illustration of such an intricate topic (which, inevitably, will seem superficial), I would like to make a brief account of the general conditions of the environment.

First of all, a basic idea about the American Schools of Architecture: in spite of their incredible number, each one keeps its own characteristics; it is possible, though, to state three general features, more or less common to all of them.

Architectural Studies are always included in Second Cycle Degrees (1); that means, Schools of Architecture or other institutions where this matters are taught together with Art, Landscape, Urban Planning or Environmental Analysis, are usually "Graduate Schools". American students of architecture are not University Freshmen. All of them have already obtained either the "Bach" degree or other similar title, or have satisfied the admission tests and norms.

On the other hand, these schools are Design Schools; that means, they are not intended to train "general architects", but specifically designers of architecture. This condition is a consequence of the curious concept of the professional architect in North America. He can, after a Professional Examination, obtain a "personal seal" to be able to work within a specific State; but, with or without seal, he is always just a "piece", more or less essential, in the whole architectural process (2). This particularity is, no doubt, the origin of the American Way of Building where the general pattern for professional practice is the architects' association. Some of these firms have come to employ up to two or three thousand architects (3). In this way, the size of architectural offices in America (even of those conceived as much more personal bureaus) is always surprising for a Spaniard. The evaluation of this size in each case is, obviously, different for American and Spanish observers. An example: Louis I. Kahn office has always been described, by authors of monographs or students at Penn. University, as a "very small studio", when they are talking about a two floor extension in Walnut St. where there were usually thirty people working (4).

The third general condition, a basic one, is that, regardless the particular history of each school, all of them are the offspring of the first Schools of Architecture in America and, therefore, of the French Beaux-Arts School in Paris. And this is thus notwithstanding the present or past specific orientation of a particular school, of its Councils, Presidents, Chancellors, Deans or Chairmen (5). This model was, obviously, strictly followed just by the first schools, but posterior episodes and developments have, usually, been

either refutations of the model in the old schools, or the claim of a lack of reference within the new ones. But, in any case, changes, refutations or replies have been based on the very model and even the creation of new schools has been determined by the presence of the old ones.

This three general features are, to a great extent, responsible for the particular characteristics of American Schools. The Beaux-Arts model, among other features, promotes the type of the architect-designer, linked, during the XIXth century, to the incipient "general architect", but yet very close to the concept of architect-draughtsman, a paradigm that has been constantly fostered by the schools of architecture (6).

We can recall now the French XVIIIth century, the time previous to l'Ecole, when the "architect" rank was obtained by means of a "Composition" examination, and the fact that all subsequent political and academic (even stylistic (7)) debates did finally produce written polemics where Drawing and Formal Analysis were the main topics (8). This might help us to understand why, up to the twenties, the American Schools were the site for continuous transformations where the main discussion was the relation between drawing, composition and history.

It is, in fact, a discussion about History of Architecture and its role in architectural design what took place in the last third of the XIXth century. During this time, historical buildings were, individually or collectively, observed as models or motifs for architectural projection. The knowledge of these models, the contents of history, became essential, as it was the source for examples and materials for the new architectural design. This knowledge was, obviously, acquired by conscious study, and thus, the diverse Histories of Architecture played an important role in the conception of the new architecture. It is also important to remember that these Histories were, to a great extent, "drawn" or illustrated Histories (9). But, in addition to this books and manuals, the student had to face an individual confrontation with the "motifs", and that was the role of the Drawing Courses and of the subsequent and more rigorous formalization of historic-archaeologic "envois".

There are American examples of ideal reconstructions of Pompeian Villas (10), not very different from those well known to us as l'Ecole products. And this conscious study of History is, precisely, the origin of the first compilations of educational material, as the Samuel P. Avery endowment to Columbia University or the different items reported in the M.I.T.

around the last century's seventies (11).

This same conception was the idea behind the initiatives promoted at the end of the century by the Society of Beaux Arts Architects and the American Academy: the approximation of all the schools curricula to the model of l'Ecole de Paris and the institution of the Paris Prize that became the most desired award for any American student of architecture. This Paris Prize was probably the origin of the, even present, close relationship between French architects and institutions and American Schools which promote summer courses in Paris and, thus, maintain subtle ties with their ancestors (13).

During the twenties, though, the refutation of the traditional model took place by means of either a new interest in different types of architecture (indian, neo-hispanic, colonial or neo-classic) or the discovery of the local architectural potentiality (School of Chicago, Richardson or F.L.L. Wright) (14). But I must state that this refutation, though it changed the educational motif, was more apparent than real, as the attitude towards "motifs" was essentially the same. Architectural education maintained the method of analyzing models that would act as patterns to prompt architectural design. The change was just in the model chosen.

But, obviously, different attitudes began to penetrate, gradually, the educational realm. Those connected with the study of geometric forms, those linked to European avant-garde and, of course, those in favor of a better understanding and collaboration with liberal arts (15). In some cases, the very students demanded a new "modern" approach and, consistently, obtained a reduction in the weight of "historical" matters within the different "curricula" (16).

The most radical and intricate transformations in this field of subjects relationship, though, took place after the World War, with the arrival of the "European emigrants". The most famous and important European architects came to settle in the U.S.A., some directly from their own countries, some after a brief period as refugees in other nations. This general "migration", or group of migrations (17), was essential in the new organization of the architectural studies which was performed, in some cases, with such determination that it has maintained its legitimacy up to now though, perhaps, in some way degraded from its original conditions (18).

This migrations were also crucial to provide the schools with a new way of thinking about themselves, their buildings and environmental conceptions, methods and image. It was necessary to prove the new knowledge in real constructions, in the very urban and architectonic environment of the schools. And this kind of activity became very important in American Schools, specially in those considered "elite" schools, and it is so today.

In this last paragraph, we have pointed up the idea that this enormous

building effort made by the American schools to create their own environment, this architectural examples of the own conceptions of the schools built in the campi or in the cities where the campi were that transformed them in real "museums of architecture", was the result of a foreign influence. And it is so because what also emigrated was the "Bauhaus idea", with all the alterations one may want. That "Bauhaus idea" that, during all its history, with changes in orientation, style, methods etc., maintained the basic concept of an education, at the same time, theoretical (even idealistic) and practical, with the real and concrete production of little design objects and also of architectural examples. A combination of theory (lectures in class) and practice or, even better, of utopia (recent exhibitions and publications have chosen the title "Bauhaus Utopia") and social and economic reality.

The shutdown of the Bauhaus by the government was probably the necessary action against an institution whose utopian compromise made it work outside the strict realm of academic world and operate upon its very physical and economical environment.

This building activity on the physical surroundings, typical of the European Bauhaus, was transferred to the American campi by emigrant architects, as they found there the opportunity to design important buildings, put their theories into practice and begin their educational approach with the very buildings in which they were to lecture. This new constructions, though, began to play the role of the "old" ones used for educational purposes, that means, they became "motifs" or models for the analysis of functional or formal organizations and composition structures.

Both the first and the last one of the Bauhaus directors, Walter Gropius and Mies van der Rohe, precisely, came to the U.S.A. and worked within two important Universities, Harvard and the I.I.T., that would become the nuclei of the North American (and, therefore, worldly) architectural evolution. Both designed buildings for the schools and worked in other projects within them, and both tried, with different results, to realize their theories and concepts by building their own environment.

Thanks to Gropius and his supporter Joseph Hudnut, Dean of the Graduate School of Design in Harvard, and to other ex-pupils of the Bauhaus, Harvard became the site for new educational experiments that had, nevertheless, the character of "continuity" or simple "evolution" of the orthodox ideals of the Bauhaus tradition.

Harvard inherited the "modern international movement" and put into practice its designing and educational methods: realism, depersonalization, working teams, functionalism, compositive use of the environment and inclusion of works of art within the

buildings.

But their rejection of History (19) was not as complete as it could seem and the attitude towards models remained the same. Vernacular building techniques were studied and analyzed in the New England constructions. The model had changed and it was not anymore the history of architecture but the history of construction (traditional and vernacular or "technological") what was important. Gropius even tried to discover and point up the "eternal structures", building organizations not related with the age of the design. This was his method of using historical knowledge in architectural thinking and education.

The first "modern building" in Harvard, the "Graduate Center" (1949) was also the first American work by Gropius (in fact, by the TAC group). It was a kind of "softer" or "decaffeinated" Bauhaus, a paradigm of the fifties architecture (the post-war architecture).

Did it belong to the "orthodox" modern style that was to be so rejected afterwards? Maybe. The plan of the "Graduate Center", as that of the Bauhaus building in Dessau, is, in some way, helicoidal, keeps the same concept of urban design and the idea of covered pathways linking the different pavilions, pergolas or pieces over columns so similar to the famous "bridge" of its model.

In 1953, José Luis Sert was designated as Gropius' successor. He was a cosmopolitan Spanish, a disciple of Le Corbusier and one of the most prominent members of the C.I.A.M. and, precisely because of these facts, rather criticized in Harvard. He, nevertheless, continued with the orthodoxy and tried to be, in some way, its most courageous supporter. The presence of Sert's works within the University and the whole city of Boston is rather significant. Good examples are the Peabody Terrace, later buildings for the Boston University or the Science Center, together with an important number of familiar residences.

With this new activity whose result was the construction of real and material models, the role of drawing, as a means of representing and studying lost or distant buildings, became less and less prominent. Representation Techniques would be substituted as a subject by propaedeutic or basic courses on designing topics. On the other hand, the analysis of the new models, though yet a drawn analysis, was much more based on the study of mass relationship, textures and materials than on a strict representation of ornament. The new buildings would be examples and models for the students, but also the emblem of the school, as the different institutions tried to rival each other. The school "image", would be seen, commented, published by specialized issues, analyzed and studied and would define the rank of the specific school within a measurable scale in which it could be compared with other national and then international schools, as the expert eyes of the whole world architects were

looking at the American architectural production.

This rivalry between American schools is, probably, the origin of the early importation of Alvar Aalto work by the M.I.T., who left there one of the most significant buildings within the "orthodox" atmosphere of Harvard, the Baker House (1947). This building, with its symbolic and poetic adjustment to environment and site (20), represents the aspirations of the M.I.T. as opposed to Harvard University. The same might be said of the incipient experiences of Saarinen, afterwards transferred to other sites. The Kresge Auditorium and adjacent Church (53/54) are examples of the search for a definite identity and the prelude to the subsequent works by Saarinen in another campus, a campus more in favor of formalism, open to the heterodox, the Yale campus...

In this struggle and concurrence of architectural images, urban planning conceptions and school methodologies, Harvard will take another step and make an international and European contribution in the form of the Carpenter Center for Visual Arts by Le Corbusier (1961). The new building represented the original "corbusian" thinking of the Sert's Harvard.

A rather different experience, though originated by the same migration, was that of Chicago, another nucleus of university architecture. With a global conception, more radical and pure, erroneously interpreted as personal, Mies made of his I.I.T. campus in Chicago the emblem of the modern and the paradigm of his own architecture.

In 1938, after his defeat in Harvard, where Gropius was the chosen one, Mies van der Rohe, the most refined, purist and philosophical of the European modern masters, was designated Architecture Director in the Armour Institute of Chicago which soon became the I.I.T.

His labor at the head of the Architecture Department up to 1958, with the assistance of his European friend, the radical theoretician Ludwig Hilberseimer, was the origin of the most definite and prominent style in the architecture of the fifties. The I.I.T. maintained courses on History of Architecture and Art organized by Walter Peterhans, Mies' friend and colleague. Mies thought that the study of history was important to understand the complex relations between the particular elements of each age. Under the supervision of Peterhans, the students made exercises to solve abstract problems of space and proportion and concrete problems of materials use.

The analysis of certain problems and relationships was performed using particular historical buildings as examples: the Piazza of Saint Marcos in Venezia, some doric greek temples, early christian shrines, the city of Siena or the Gothic cathedrals (analysis of additive structures).

This use of historical buildings as

examples for the study of certain notions or concepts, an analytical use as denoted by the name of the course "History and Analysis of Architecture and Art", will be the major contribution to architectural education by the I.I.T. A non-historical use of historical examples, the study of old architecture with no reference to age, environment or author. It is even possible to find this influence in subsequent educational episodes in the different schools and in the particular "dialogues with History" of each of them.

The first systematic studies on plans and spatial organization of historical buildings will be realized in the I.I.T. The Courses on "formal analysis" would be the origins of new techniques for the study of spaces, as the "collages" and models. These techniques, though, were so much diffused that they became the emblem of the American Schools and their conventional image even resulted in difficulties of interpretation.

We cannot forget that one of the most important reasons why Mies accepted the post was that it gave him the opportunity of designing and building the whole I.I.T. Campus. The magnificent and quiet harmony of pure building austerity, the subtle spatial strain between pavilions, the modern image of the I.I.T., made of it the most coherent and radical performance within the Utopian modern architecture and urban design. Mies poetry is visible in this campus and even in the whole city of Chicago where he and his disciples designed important paradigms of the fifties architecture intermingled with the works by the old School of Chicago.

One of the first reactions against the orthodox image of architecture, described as monotone, austere, dehumanized, inexpressive, and poor (the very nucleus of the debate modern-postmodern) came from the University realm and its center was Yale. "Perspecta" (Yale Architectural Journal), whose first issue was published in 1950, began a theoretical polemic in favor of new conceptions, some of them hardly feasible.

During the first years of the fifties decade, it was Louis I. Kahn, together with "Perspecta" magazine, that most collaborated within the heterodox experiences of Yale. He was an old architect of late success whose academic and building activity was a kind of provocation during the fifties, an exploration that would become a new conception within the modern movement (Third generation?) (21). His work and subsequent debate made of the Yale campus and of the whole city of New Haven a field for a kind of experimental architecture, apparently a break with the past but whose international influence was extraordinary.

Kahn came to Yale after an invitation by Howe, who was the Dean then, and, thanks to him, he obtained one of his first important commissions, the enlargement of the Yale Art Gallery (1950-54). Round this same time, Kahn

visited Rome, with a grant given by the American Academy, and studied the Hadrian Villa and the Pantheon. After his first architectural works, the influence of certain historical models became significant. The publication of Kaufman's book in 1952 was surely one of the reasons (22).

Kahn taught in Yale while the new building for the School of Art and Architecture, by Paul Rudolph, was constructed. He lectured on the highest floor of his recently finished Gallery enlargement. The strength and potency of his innovative conception of architecture was so evident that its influence was very significant. In the cover of a 1965 issue of "Perspecta" magazine, half plan of the Rochester Church was combined (and, therefore compared) with half plan of the Palace of Carlos V in the Alhambra by Machuca. The power of the image was not so much in the evident similarity between both buildings but in the boldness of comparing them and, therefore, insinuating the possibility of such an inspiration.

The real experiments performed in Yale during those years made of the campus and the city of New Haven an attractive architectural repertoire. The city, the urban environment of the University, became a real museum of architecture, not an accidental or cumulative one, but an authentic "architecture laboratory". It was Yale's Golden Age. The most important paradigms of the fifties and first sixties architecture are there together, in a rather small piece of land.

"Ornamentalism", "Brutalism", "New dynamism", "Neo-classicism" etc., shared the same civil space. The ornamentalist wall of the Beinecke Rare Books Library by S.O.M., the vernacular G. Bunschaft, the popular or "italianized" Morse & Stiles Residential College by Saarinen, the technological David Ingells Rink, also by Saarinen, even a remembrance of the other building, the first "monumental-classicist" of modern movement history, the Yale Kline Biology Laboratory by P. Johnson and the particular brutalism of the A. & A. School by Paul Rudolph, or the same author's Temple Street Parking... An eclectic image of architectural museum. A city full of paradigms of the most diverse styles. This tradition has continued during later years. The open atmosphere of Yale, with continuous changes of Deans, its effort on architectural research has been the main characteristic of this Center (23).

In more recent years, new buildings have been added to this "collection" according to the different influential personalities. One of the first buildings by Venturi, the Dixwell Fire Station, one by Moore, Church Street South Housing, one by Kevin Roche (1967), the Knights of Columbus, and the Louis I. Kahn's Mellon Center. Everything has contributed to create in Yale the atmosphere of a living museum of architecture. Meanwhile, Perspecta magazine published G. Kubler's famous essay, "What can Historians do

for Architects?" (24).

From this moment on, the American Schools of architecture would become, more or less, stabilized. Kahn moved to the Graduate School of Fine Arts of Philadelphia in 1957 and his educational methods, up to the moment of his death in 1973, remained the same: the assimilation of history as an "eternal present" which can provide us with real lessons of organization and structure.

This ideas were also assumed by Donald Drew Egbert in Princeton, who promoted a kind of historical building representation by means of drawing courses. Ch. Moore and D. Lyndon, educated there, brought the same proposals to Berkeley. In 1966, moreover, Venturi's "Complexity and Contradiction in Architecture", was published thanks to the economic aid of the American Academy.

Students' drawings, though, always intended to be the means for the acquisition of architectural knowledge, did change substantially. Expressive strokes tried to illustrate the emotional and dramatic essence of the buildings studied or its urban surroundings. Gordon Cullen's theories about the visual impact of urban routes or Rossi's differentiation between type and form, so fashionable in the seventies, had an important role in these changes (25).

From this moment the Schools began to come apart. Technology, construction and real problems were included in the curricula but, at the same time, the Projects courses detached themselves more and more from reality.

"Cultivated" or "School" architecture had a different way than real built architecture. The Schools are continuously making new proposals for architecture but the models are not anymore, as in the last century, the old buildings studied through drawing, nor, as in the fifties and sixties, the modern real buildings of the tangible environment, but just invented artifacts whose composition is reconstructed following the rules of certain theories: "minimal", "postmodern", "deconstruction", "neo-baroque", "vernacular", or others.

As the built models are not anymore noticed (though in many campi, specially Princeton and Yale, the building activity as institutional propaganda is still very important) (26), the use of drawings to represent the artifacts is again significant.

The Architectural Exhibition organized for the centennial of the Beaux Arts had an important role in this process. In fact, what was noticed in the Exhibition was not the architecture but the drawing techniques that even became fashionable in Art Galleries. First of all, of course, the old architectural drawings, and then even the modern ones. From that moment, the exhibitions of architectural drawings, though a phenomenon detached from the schools, have had a significant role in the attention given to drawing expression.

These drawings are more a kind of

investigation than a means of representation and just have the style and character in common with the artifacts. There is not anymore a historical reference or it just appears in the form of a complicated written theory.

The students spend most of their hours in school (the whole day during three years of studies) making these drawings or building models. This complex production is just interrupted by slight notions of real construction or brief references to history of architecture, generally confined to certain, usually vernacular, periods.

We just can hope that the end of the century would bring other kinds of interruption.

NOTES

- (1) These architectural Second Cycle Studies are usually a three year degree. Its not the same with urban planning, design, landscape, visual arts or the infinite quantity of degrees in the American Universities. In some places, architectural studies take up to five years, as in Penn State (not the University of Pennsylvania or Kahn School, where the degree is still three years). But the norm is three years, even two in some cases, when the first cycle studies are sufficiently important. The reason usually given for this reduced duration is the high cost of the fees. It must be noticed, though, that these three years curriculum do not include any mathematics or calculus.
- (2) Accordingly to this process, structural calculations and facilities design are not realized in architectural studios but in big Associated Consultings.
- (3) S.O.M. is the usual example given for that kind of "big firm". But there are many big firms throughout the country under the name of a single person, Helmut Jahn, or several people, K.P.S. The crisis, though, is also visible in these firms (even Ph. Johnson had to dis-mantle his) and this process has brought people again to the University realm.
- (4) Among 20 and 30 depending on the time considered, not counting the students and the temporary employees hired for an specific project as the Venezia one, when a model was built of whole Venetian districts in which a complete Penn. generation worked together.
- (5) The usual University hierarchy includes a President (Rector), a Chancellor, a kind of local Rector when the campi are disperse, Dean of the School and Chairman or Department Director. All of them make economic and political decisions, but, in fact, most of the orientations come from the "Board of Trustees", the Council that decides about the style and character of the University.
- (6) In many places the architect's expertise is identified with the draughtsman's. The necessary condition to make a project is to draw it, as Legeay puts it: "no project would be considered as finished until the perspective is not drawn with all its shades". Or, in the lamenting words of Roland Levirloy: "today, any man who knows how to draw is considered an architect" (1770-71).

- (7) I am talking about the structural revolution performed in l'Ecole during the reign of Napoleon III, when it became an institution depending on government and not on the Academy. It was a deep political wound that had its consequences in the designation of certain teachers.
- (8) It must be remembered that the debate Vitet-Viollet le Duc, whose origins were in the changes endured by l'Ecole, was reduced to the confrontation of two concepts: "drawing" and "analysis of forms".
- (9) Banister Fletcher's "A History of Architecture on the Comparative Method" (1896) and Auguste Choisy's "Histoire de l'Architecture" (1899), were illustrated histories.
- (10) Made in the M.I.T. in 1879.
- (11) In 1875, the M.I.T. had 1400 stereoscopic images, 1000 photographs, 400 books, 750 casts and 27 original drawings, according to Arthur C. Weatherhead's "The History of Collegiate Education in Architecture in the United States" (1942). The Columbia library was founded with 600 volumes and 50000 dollars from the Avery endowment.
- (12) Both societies tried together to promote the standardization in 1893.
- (13) It is rather significant to point up the English translations of Viollet-le-duc (Nathan Ricker, 1919, four volumes) or Julian Guadet (Nathan Ricker, 1918, four volumes).
- (14) F.L.Wright read conferences in Princeton and Michigan in the late twenties. The books by Lewis Mumford, "Sticks and Stones" and "The Brown Decades", were published in 1924 and 1931 respectively. H. R. Hitchcock began his American production.
- (15) In Michigan, Lönnberg-Holm founded an Stijl influenced studio. Joseph Hudnut, that would become Dean at Harvard and the main supporter of Gropius, published a book called "Modern Sculpture"...
- (16) Students' protests obtained a substantial reduction of the History subjects in the M.I.T., Penn. and the Armour Institute of Illinois.
- (17) I make a distinction between "migra-

- tion" of an ethnic group or nation (which would include the migration of most of the Central Europe architects) and "emigration" or individual decision to move.
- (18) A good example is the subsistence of a "miesian" style in the I.I.T., with completely similar projects and use of Mies furniture and even drawing style. This could be the reason for the quitting of the I.I.T. by Stanley Tigerman.
- (19) In Harvard, the History courses became optional with the arrival of Gropius. History of Urban Planning and History of Technology were, nevertheless, promoted.
- (20) Alvar Aalto's visit to America is full of little tales, I do not know how true, about his complete lack of affinity with American way of life and education. Anyway, it was, indeed, very brief.
- (21) I am talking about the term as defined by Gideon which is just a reference to understand the diverse waves and movements within such a complicated epoch. It is, in any case, a good term to be opposed to that of "International Style". A term with no real implication, just an advertisement for an specific affair, the MOMA Exhibition organized by Philip Johnson and H. R. Hitchcock.
- (22) I am, of course, talking about "Three Revolutionary Architects: Boullée, Ledoux and Lequeu", published in Philadelphia in 1952.
- (23) As tradition commands, Deans cannot be reelected in Yale, and their contracts never go beyond four years. This is intended to maintain an atmosphere of novelty and innovation in the School, and open it to all tendencies.
- (24) In Perspecta 9/10 (1965), precisely the issue of the half plans composition above mentioned.
- (25) Gordon Cullet, Townscape, 1961.
- (26) We have already mentioned the Yale building activity. On the other hand, Princeton will be the site for the first experiments by M. Graves (the enlargement of familiar residences, as the Benacerraf) and P. Eisenman (House I). Later on, Venturi has built some pieces as the Gordon Wu Hall and the Molecular Biology Laboratory.

essential in the conception and materialization of the projects.

From then on, the "How" question was as important as the "What" one. And, of course, as important as the "How much" one.

All this might seem rather obvious to all of us but it does not seem to be so to those that, lately, have been dealing with architectural education and the new programmes that will organize it.

The long process for the development of the new educational plans for Spanish architectural studies has revealed a worrying lack of public debate not only over the contents of those plans but even over the basic conception of the intended change that, finally, just seem to be a "change for change's sake".

THE ACCOUNTANT'S STRATEGY

I think, of course, that educational plans should change and progress according to social, technical or theoretical conditions. Within the very discipline, in its own continuous effort to define itself, we will find the coherent basis for any change.

But this has not been the case. On the contrary, the apparent motivations for such an unlooked for (and rather undesired) change have come from outside. And this is the reason why it has been so difficult to obtain any agreement between those that were forced to dispute over matters not at all conflictive before.

And this is the real key to understand the situation. There is no real continuous debate over educational matters in the University centers. It is not a common topic in students' or teachers' conversations. Our present educational system, as the society in which it is placed and which it reflects, is in a alarming state of lethargy.

The very University is not enough prepared for the commission entrusted to it.

And, there being no intellectual "order" in this non-existing debate, the occasion has been solved by using what we might call the accountant's strategy.

The mere counting of credits has replaced the necessarily previous debate.

Moreover, the latent reflection over the architect's profession should not only be based on the present professional organization. On the contrary, there should also be a previous discussion that would determine the specific nature of the architect and his procedures within a changing society.

It is a question of order for both problems.

A previous and basic order of more structural matters. Anything done without this condition will just be an illusion. An this characteristic Order of Architecture, the way in which Reason controls the most intense emotions, cannot be transmitted without personal commitment and vocation.

In addition to the acknowledged

necessary specific contents, that should be conveniently stated by the current ideology, students should employ their university period in the acquisition of the required maturity to use all that knowledge. Just in that way, just for personal interest and commitment, it is possible to satisfy learning. Any other way is just a false approach.

In any case, it is not easy to evaluate the typical time required for this objective. If everything is left as it is today, the abbreviation does not seem to be an appropriate measure. It could be, though, if the educational methods improved, the number of students per teacher decreased, the Schools were asked for certain minimum quality conditions and the teachers were better prepared and their educational and research effort evaluated and criticized to reach an optimum.

It is essential, again, to establish an order.

A deep analysis of our present Schools should be the basis for any efficient reform. Perhaps, the conclusion could be that some of them are superfluous.

This analysis and the subsequent debate would determine the fundamental and basic profile of the kind of architect resulting from the new educational plans.

But the real process has not taken into account any analysis or paradigm of architect and the discussion has just been focused on the quantity. More credits or less credits. A discussion that just seemed an idle talk in which the real intentions were hidden. A fight for an advantageous credit distribution, as if that unit was a universal pattern. Thus, the essential matters have been abandoned and it is just the accessory that has been debated.

The plan should just be, important as it is, the means of getting some result. But, if the objectives are not well defined, any programme is as bad as the current one. Or as good. We will never know. Efficient education has recently taken place under supposedly mediocre plans, just thanks to the conjunction of excellent teachers and pupils. And vice versa, "good" plans have been disastrous in less suitable conditions.

Anyway, what should be done is to establish what is "best" for the majority. The extremes are unpredictable. We cannot expect "geniuses" in all our classes.

Coderch even said, some time ago, that "now, we really do not need geniuses". We do not even need the kind of "companion" everybody knows. Geniuses and companions, though, will eventually appear, "in spite of" the plans. We should, therefore, organize things "for the vast majority" in Celaya's words, taking in account their general features. We have to establish those of the architects to understand the appropriate "ways" of learning what is essential in the "architectural" character. To combine the dedication of Juan Ramón, "to the minority,

A question of order

Miguel Angel Baldellou

From the very moment in which one of the oldest professions in the world, that of the architect (compared by Kostof to other public and notorious trades), had to be organized, it became necessary to state the theoretical and practical knowledge that should be required to those in

search of such a title.

From the very moment in which Architecture began to separate itself from other parallel professions, due to its theoretical and practical complexity, discussion on its specificity tried to clarify not only its distinctive realm but also the kind of knowledge that was

always", and majority's will would just be possible after a hard effort, apparently impossible today, but most necessary.

THE MORAL AUTHORITY

For the new Educational Plan to be an acceptable document, it should have been agreed by people of the utmost moral authority; a condition not thoroughly satisfied as some members of the committees seem to be using them just for personal advantage, thanks to the support of their voters.

Some time ago, Gropius, an experienced authority, said that "every human being is capable of conceiving Forms. The problem, therefore, is not at all the existence of a creative capacity but, more or less, the being able to find the key to set it at liberty". That easy. This conception was the origin of the Bauhaus and all its programmes. But it was the conjunction of aims and circumstances that made possible such a school. The subsequent use of the same programmes in other situations proved the original an unrepeatable model.

To teach and learn should be personal needs of teachers and students, if we want a fruitful dialectical relation to be born between them. While Order is absent, that order

demanding by Kahn with an intuition based on effort, an order which is a previous and basic requirement for any intellectual structure capable of organizing, the Architecture, the architects' model and the necessary programmes to form them, will have no other sense than that accorded to them by a society which is not even the Merchant's Europe, but (in the words of Rafael de la Hoz) the Speculator's.

In this context, should Architecture hide itself in a ghetto just inhabited by necessarily self-educated architects, and return, after a solitary voyage, purified from such undesirable companions?

It is possible that we are now witnessing the end of the modern utopia.

The same that talk about recovering lost dreams contribute to the internal disorder. This might just seem paradoxical but is also a sign of the end of a cycle.

And, could it possibly be the beginning of a new one? I, honestly, think that, in the present circumstances, it is not. Le Corbusier used to say that the first lecture to the standard pupil should be the transmission of enthusiasm. He would find it hard.

School, we even made a first attempt to design a innovative method for the purpose.

II. As we stated in the Foundational Document of our School, "dialogue must be part of our education, as the means to overcome the existing tendency to conceive teaching as a mere offering of specific knowledge on different subjects. The main objective is to state the basic contents of architectural education that would permit each department or subject board to criticize and improve the teaching methods of its own specific topics. The education offered by a School of Architecture requires a deep analysis of the basic architectural process of creation and communication in order to establish a design method that would be transmissible".

Following these "foundational" intentions, we have tried to state a rational criterion for architectural educational that, due to the deep relationship between this activity and the world of artistic creation, should, obviously, be based on a better connection between the different subjects. A basic improvement in the education of the future architects would just be the organization of the whole curriculum in "vertical" interdisciplinary workshops. These would welcome the new students and subsequently would bring them up to the end of their studies by means of broad minded and imaginative teaching methods.

But the present tendency to divide the curriculum into completely separated subjects founding the educational process just on the activities of the different departments, restricts the possibilities of establishing such an obvious learning method. Moreover, in most cases, drawing instruction is just conceived as a mere training on a certain craftsmanship, and not as an essential process in which an specific language intended for architectural comprehension and creation is learnt.

Taking in account this commonly accepted discrimination, and trying not to fall in it, the educational team with which I work has established, after a long process of debate and critic, a new teaching method for drawing skills that would initiate the pupils into the world of architecture. Our system is not just a pattern intended to avoid any problem, it aims at the specific education of future architects trying to introduce them, from the beginning of their studies, into the drawn language as indispensable means of expression for their own thinking as creators. We simply try to offer the student a new system for communicating within the domain of architectural creation. As any other language, this one will have its own general rules, and will need a full training in comprehension as well as expression. Therefore, we firstly familiarize the students with the use of this language by others, trying to provide them with basic theoretical as

well as practical principles, to avoid an excessively formal approach.

In our opinion, this process of assimilating the drawn language (comprehension and transmission) is one of the basic, though most difficult, moments in the whole education of the future architects. Consequently, we think it is essential to offer a complete knowledge of the specific code as well as of its interpretation in terms of its dialectical relation to built architecture. The "Architectural Visual Expression" will, therefore, help the future architects to acquire a full, rational and spirited use of this language as expression of their architectural thinking. They will, consistently, be able to "read", study, and interpret any kind of architecture by means of their own drawing skills.

To sum up, they will be as much trained in reproducing architecture as acquainted with the study and interpretation method for the most eminent examples of contemporary architects. Thus, they will comprehend the role of drawing as a secondary language that must be clearly understood, in which the basic criterion for evaluation would be, consistently, the transparent expression of the architects thought.

III. It is obvious, from this point of view, that a good way to start would be the analysis of the procedures and ideas of a renowned architect as Le Corbusier, Mies, Sota, Siza. This would help the new students to get a better understanding of the creation process and the role within it of the drawn language.

For, what could be better than unraveling the complicated process performed by any of our great masters in their most eminent works?

If we study the creative process of, for example, the Pessac or Farmsworth houses, analyzing the extant drawings and establishing the different phases and relations between drawn documents and buildings, we will surely get a deeper knowledge of the visual language and its use. At the same time, we will get closer to a true interpretation of the different factors (social, aesthetic, technological) that determine this conceptions within an specific cultural moment.

An example. Argan wrote about the Farmsworth House: "The building is just the space for Mies, and this space (the light) is the building material for the architect's expression. The supreme ideal is a building that would not obey Nature's laws, would not have weight, would not have stresses, would not be an obstacle for light...Very influenced by the Neoplastic movement, he will just accept two structural perpendicular axis, vertical and horizontal, and just one composition element, the plane".

The Farmsworth House and Barcelona Pavilion are indeed excellent examples to be used by the teacher in order to make the student an expert apprentice architect. Mies,

Learning a language

Pedro del Llano

Meditations upon the future architect's initiation to drawing skills.

I. I will never forget that lamentably boring sensation during my first class on "drawing skills as architectural language"...How could anyone in my own generation forget that abusing and sterile practice? Forget the exigency of "lavar sin barbas" (apply watercolor uniformly on) a ionic capital? Or that of reproducing the ambiguous tangle of acanthus by means of an auxiliary grid?...With regard to my own self, I must confess I feel incapable of forgetting, even in the future, the sad remembrance of those so scholastic experiences.

Applying watercolor, smoothing it, outlining...Copying and copying and copying, mechanically. Our education was reduced to just copying, just that repetitive practice, with no reference to our true aspiration to become architects.

I never understood the meaning of all that trouble. In fact, I would never

have been able to overcome the difficulties to reach the high standards required to join the "eminent" circle of architects, without the unexpected help of a young man from Navarra, recently appointed as teacher, Rafael Moneo.

He was the first to talk to us about the essential importance of drawing as a secondary language for architects. Of course he said nothing about virtuoso drawing, it just had something to do with the indispensable sincerity of our sketches if they were to be used as designing tools.

Later on, I myself became a teacher of drawing skills within the Architecture School of La Coruña. And many times I thought and discussed with others about these meditations, in search of a rational attitude towards the problem of initiating our pupils into drawing as the essential language for the production and transmission of architectural works. Taking in account the special characteristics of our

moreover, always in search of a geometrical ideal (as Sota in his Bankunion project, or Siza in the Quinta da Malagueira), offers us a personal way of drawing very related to his own architectural thought.

Studying the different drafts, sketches and plans that define any of these projects, the student will understand why architecture expresses itself through austere images, avoiding the use of a detailed technique that could be an obstacle for a clear perception of the representation. He will understand that, as Paul Auster puts it talking about literary expression, "the most important thing is not to overburden the reader with a long catalogue, but just help him to see things by himself". And therefore, "words do not matter at all, their function is just to make the reader aware of things, and he must forget them once pronounced". Consistently, the student will have to work hard to develop his own capacity for a personal drawn expression. He will try to simplify his own "sentences", to distinguish the essential from the superfluous and, finally, understand that "the best results occur whenever an important amount of 'air' is left around things. Because, in this case, it is the reader that has to make the fundamental work: building an image from just a few hints".

IV. After these reflection it must be clear that we are convinced of the necessity of a deeper relationship between architecture and a rigorous kind of drawing. In this sense, a possible educational proposal could be based on a simple scheme of the different aspects of architecture and their bi-dimensional image: creation and plan drafting of forms, standard representation of spaces, simulation of spaces, drawing as a basic tool for comprehension and transmission of built architecture, analysis of components...

The whole process would be as follows. First of all, the student will make a brief study of a piece of furniture or another object designed by the selected author. He will be able to see, manipulate and measure the object at a real scale. Secondly, he will have to make the complete documentation of an elementary building of which he will just have a fragmentary knowledge. This will be his first approach to scientific research. Afterwards, he will work on a well known and documented work by the same author by analyzing the composition patterns of the building (functional, structural, formal, related to construction...). This progressive educational procedure will introduce the pupil into the world of architectural drawing skills and, at the same time, will make him aware of the creation process as an analytical activity.

V. With our proposal, we have tried to overcome other strategies for architectural drawing education either based on abstract models

(calligraphic exercises and other training practices) or historical architecture unrelated to nowadays procedures. We are fully convinced that the best way to make the students aware of the importance of the drawn language and its arduous learning is trying to combine the analysis of drawing techniques and the study of contemporary architecture. We have tried not to mistake intelligence for ability, in the words of Alejandro de la Sota. And, thus, the drawn skills will just be used to represent architecture, away from any "artistic" intent. They will provide us with a code to organize our ideas, and a basic procedure to communicate them and make them realizable.

They have to feel enthusiasm for architecture and learn how to draw more as a mental activity than a mechanical exercise. They must be convinced of the necessity of being experts in the use of our secondary language if we want them to follow the whole process. Only in this way, it would be possible for them to develop their own drawing capacities up to the point where architectural thinking will be easier and they will be able to express correctly any mental design.

VI. For us that have known the old and sad educational system, a mere way of transmitting cold and distant technical or scientific knowledge unrelated to a broader cultural realm, it is a constant aspiration to meet a new way of teaching, leading to a more free and deeper way of wisdom.

Many years have passed since the days of our student battles intended to change that lamentable situation. And now I have been offered the possibility of displaying my opinion (not restricted to the specific academic domain) on the alternatives to drawing skills teaching. I would, therefore, like to summarize my position. If we really want our pupils to develop an analytical capacity and a constant desire for new knowledge, our teaching must avoid the continuous reference to abstract, non contemporary and restricted theories and focus on a broader comprehension of the lively, spirited and distinct culture in which it occurs. It is essential to exceed the mere training of their drawing abilities and induce in them a real devotion to their work as an intellectual activity with a true realm larger than that of their own profession.

In the words of Le Corbusier in his Message to the students of Architecture, "as instructors of future architects, our mission is to disclose before our pupils the view of an infinite, unbound intellectual extension". Through their instruction on drawing skills, we will help them to make their first steps in the world of architecture, disclosing, thus, that infinite view and providing them with a permanent ability to clearly express their own ideas.

Urban planning education

Luis Moya

From the XIX century on, as the cities have become more complex and have established different relations with their surrounding territories, urban planning has become more and more prominent. Architects have played in this process a decisive role, specially within the building practice. The architects' education in this matters should, therefore, take this situation in account. The main point should be what kind of education is most suitable.

The different Schools of Architecture in Spain are, consistently, trying to adjust their programmes in urban planning to the real professional practice of the architects in this field, whose main characteristic is the analysis and design of spaces. From the Analysis of Forms to the Urban Planning, from the design of little objects to the creation of territorial norms, our profession is always engaged in the conception and formalization of spaces. The architects work is, therefore, always expressed by means of a project. Every analysis of reality and diagnosis will be part of a complete process of project and construction that would include management and budget considerations.

Each project, though, has its own size and scale, what means that it requires different procedures and techniques to be efficiently accomplished. On the other hand, each proposal has also its own term. Thus, the larger the space analyzed, the longer the time it takes to get any result. The structural transformation of a city, organized by means of a General Plan might just be noticed after fifteen years or so. This condition is not always taken in account by the political powers.

In spite of its importance, Urban Planning has always been considered just a theoretical topic within the Architecture Schools, another secondary subject to complete the education on architectural projects. Thus, the general approach is just based on the scale of an specific building, even when the proposal includes several.

Nowadays, Urban Planning teachers are trying to make comprehensible that each scale has its own characteristics and these must be taught within specific subjects. This fact determines that the main weight of urban planning education should be on the urban projects as distinct from building ones. But theory must also be present as it should provide the means to interpret the intricacy of handling a larger space, for a longer span of time than that employed in a

building project.

Thus, though in every urban planning course the project has a main significance, in the first years there is also an important amount of theoretical knowledge to be learnt while, in subsequent courses, the project becomes more and more important. That is, in the first years there is much more of analysis and information and in the last ones more of diagnosis and proposal.

Urban Planning, in fact, is the legal and socialized format of a series of different disciplines whose results must be realized. That is, Architecture must be coordinated with Geography, Economy, Sociology, Law (the Land Law establishes all the rules to be taken in account) and specially History as a source of information and inspiration. But Urban Planning education should not be just the sum of different disciplines nor a mix of partial aspects of each one, but something else.

The School of Architecture is, consistently, trying to change its approach to urban education though, obviously, the transformation is slow as it needs consensus and subsequent structural alterations. The New Educational Plans might be of help in these matters.

Research must also be present as a fundamental basis of University education. But the main aim should always be to educate good professionals and not bad investigators, in the words of Ortega y Gasset.

Because in the Architecture and Urban Planning fields, the topics that could be investigated are, precisely, the problems confronted within the professional practice. I, personally, consider there are enough institutional possibilities to provide the necessary funds for this research, as its results should be made public and put into practice. And this is, perhaps, the most problematic point. Should the proposals resulting from investigation be offered to Private Corporations or to Public Administration? The problem is, obviously, not only related to urban planning investigation. It is a general question that is more or less beginning to be posed in Spain in order to get some improvement in this matter.

We hope that, from now on, the changes within urban planning education will be noticed in the professional works of the present students. We hope that their architecture will take more in account the context in which it is built and their urban planning will give solutions to real problems and social needs.

Teaching architectural projects in Spain

José María Lozano Velasco.

It is a well known statement that teaching and learning are very different things, but some teachers seem to think they are completely unrelated. The present critical situation of Spanish University (and, perhaps, of every European University) is casting a shadow over the very educational system. If the University has never been the nucleus of avant garde knowledge, nor has it been able to transmit the results of the most advanced research, the total absence of this most actual matters in today lectures is rather alarming. Teachers restrict themselves to confirm just what they already know which, sometimes, is not much more than what they learned in their own classes; meanwhile, life goes on. The Wisdom Temple is more like an old museum with long forgotten items, perhaps historically valuable, but whose authenticity is no excuse for the lack of new ones. The metaphor is rather sad if we concentrate on the role of the teachers; museum guides repeating everyday the same dates and ciphers, public employees that just want to fulfil their contracts. And even sadder if we think that students are induced to take the role of the visitors (more or less interested) as passive listeners to the heap of data they receive, better or worse, with no real knowledge about the use of them all.

The educational discussion seems to be just a matter of pre-university studies and the pathetic division between the teacher's teaching and the students' learning, leave both completely alone and free. Nonetheless, the dialectic of such an old relationship as it is that of pupil and master, does not permit any tricks. And so, if teaching what one knows seems to be difficult, to teach what one does not know is just pathetic. True learning is a rather different thing. To learn is not just to receive knowledge (though it is indispensable); one needs to know that this knowledge is necessary and feel this necessity, this lack, to be able to use it once learnt. This might seem very complicated but it is fundamental, for University education as well as any education. To teach and to learn are not separated concepts. And, though it might seem tautological, we have to state that as impossible is to teach with no real will that the student would learn as to learn what is not taught with conviction.

I have feel necessary to express all these rather obvious thoughts because of my personal commitment and privileged position as a witness, being a University teacher. I think I had to take advantage of the opportunity accorded by the Revista Arquitectura to accomplish this self-critic.

Teaching and learning should not be the roles of two completely detached and unrelated individuals. They must be the two sides of the same problem, to be solved by the Arts and Sciences for the benefit of technical and social progress. It might be said, and it is no exaggeration, that the cultural level of one society can be measured in the quality and efficacy of its educational system, in the capacities of the two parts: the ones to receive and the others to transmit.

Ah!...and when they say "do what I say, not what I do", they are just playing the role of the old rural preacher, licentious, obnoxious and therefore incompetent.

TEACHING ARCHITECTURE

The situation is not very different if we concentrate on architecture, on architectural education. I might be even more explicit in my critic as it is my field. Architectural teaching in Spain is nowadays a mix between the traditional Beaux Arts method (a strong influence throughout Europe) and a certain anglo-saxon tendency to technology. The consequences are not always satisfactory. The architecture curriculum of our Superior Schools is more an obstacle race than a methodical sequence of studies.

The different Boards and Commissions in charge of the new Educational Plans for Architecture, about whose good meaning (as a group and as individuals) I have no reason to doubt, have always worked on the idea of "providing the type of architect required by society". This unanimous principle, though, in spite of its social importance and educational character, has induced rather different approximations and interpretations. This fact is not just a consequence of human condition, but also a specific feature of architecture which is, by definition, plural and needs adjustments (better or worse) for every kind of material and every personal situation.

I have no intention of answering here this most posed question about what is exactly what society demands from architects. But this is precisely the design of most of the statements on the diverse "Principia" documents in deontological norms, statutes and rules approved by Professional Associations, Schools of Architecture and other related groups. It is obviously true that this is desirable, but it seems that, in fact, these much repeated statements have, sometimes, been devoid of any meaning due to real controversies and different approaches. Perhaps any answer (or most of them) is a legitimate answer. In these case the

most fruitful conception would be the result of the cooperation between every vision and not just the analysis of common points.

Another possibility, less frequent but more precise, would be the examination of the real facts and evaluation of the professional efficacy. In this case, the question would be more or less: What is the role of the architect in the present society? and Is this role acceptable for the architect? or... Is it satisfactory for the client? From this evaluation we might infer other interesting relations within the professional practice. But, again, there would be different interpretations that would make the conclusions confuse.

On my opinion, architectural production must be placed among other goods production systems. Because it should be a useful product for people and the way of evaluating its quality should be the same (elementary or sophisticated) as for any other product. The question, though, becomes complicated if we refer to architecture education. To think of it in terms of goods production and to compare it with the teaching of other goods production might seem strange. But it is not.

I would also like to state that a rather different approach is that of the artistic type of education for architects. An unquestionable aspect of our profession that has been prominent along history. In this case, what is important is the stimulation of the artistic capacity of the student and the transmission of aesthetic codes that would improve it. The quality criteria would not be anymore those of goods production, but the appropriateness of the students results and their correlation to the more or less explicit teacher's canons (stylistic or others).

I want to make clear, though, that creativity, and its encouragement, is a concept shared by both models and not a differentiating characteristic. That does not mean I am in favor of an ingenuous mix of both. It is just that I feel the architectural education in Spain is too much closer to the second type than to the first one and, as it is obvious for any reader, I feel more inclined to the first and non-existing one.

In our Schools, the teaching of Architecture is composed by a series of scattered matters from drawing skills to a superficial basic knowledge of building techniques, and some kind of historical and aesthetical erudition in order to achieve an adequate use of forms and composition capacity. The good pupil, at the risk of becoming schizophrenic, will confront every circumstance and try afterwards to compose by himself a unitary whole that, most times, would be just a fantastic mix without structure.

The current teacher of architecture (that is, of basic sciences, descriptive geometry, domestic services,

economy, urban planning, aesthetics... etc) will, maybe, find some excuse in the most repeated "inter-discipline coordination". But this concept, well-meaning I am sure, does not play any other role than that of hushing their consciences that know very well the, at least partial, failure.

TEACHING ARCHITECTURAL PROJECTS

The main aim of this article is to examine the teaching of architectural projects in Spain, so I will not delay it anymore. In this case, it seems that everyone (or most of us) agree that "project teaching should be the main subject of architecture studies". The other matters, indispensable and with particular contents, would, nevertheless, be always related to this main topic. As I have said, everyone seems to accept this principle but, at the same time, everyone feels free to transgress it. The real fact is that every teacher (including those of architectural projects) offers a particular and autonomous education in which there is no allusion to any existing main topic and, therefore, the system is non-systematic and does not work.

I have heard many times that "the ability to make architectural projects cannot be taught, it just must be learnt", but the educational results of this maxim are not very convincing. In fact, it conceals a cynical attitude appropriate for the most strict follower of Diogenes. Anyway, the application of this principle is responsible for the critical situation of our Projects Departments within the Schools. The teachers of these matters very often mention it when they have no other reason to justify the poor capacity of their students. But its consequence is just the amusement of other teachers and desperation of poorly qualified students.

I do not intend to be injurious with my companions. A simple look at recent (and not so recent) school projects, will prove that their pedagogic foundation is not working as it should. Eventually, the routine, lack of stimuli and mediocrity will appear as domestic phantoms.

Just two decades ago, it was frequent to talk about the "leap in the dark", "the black box" and the methodology crisis (N.Portas, G.Broadbent, Ch.Alexander, Margarit y Buxadé, among the most significant). All this topics have their place in our analysis, as the search for rational criteria and new learning methods in the architectural education becomes, sometimes, desperate.

In all this discussion there are, finally, two fundamental attitudes. Some think that the lack of an explicit "discipline corpus" is more suitable for the kind of education given by a master to his apprentice (a very

frequent opinion among teachers not related to "projects"). Others try to use, in their classes, the history of architecture as a reference for design categories, architectural types and building syntax. But it is possible to exaggerate any attitude and so, in this field, we might either find a complete lack of "theory" and an education just based on the teacher's ability to correct or to choose the topic of the exercise, or an excess of theoretical foundation more suitable for other subjects as History, Aesthetics or Composition that will keep the teacher away from the drawing board of the students.

In a recent communication, read in the Faculty of Architecture of La Habana within the "XV Latin-American Conference of Faculties and Schools of Architecture", and whose title was "The teaching of architectural projects, between academic discipline and craftsmanship", I tried to recover the old "vitruvian triad" based on "comfort" and whose actualized components might be: building logic, functional assembly and final image. All these, together with my own, above mentioned, idea of architectural production as related to other goods production, help me to provide my students in the School of Valencia with new educational methods whose results are, I might say, satisfactory.

PROJECTS WORKSHOP

The term "workshop" is commonly used in relation to architectural projects education. It obviously suggests (consciously or not) an atmosphere of artisan labor or manufacture. The term also insinuates the possibility for the students to work in the very classroom, which would become similar to a professional office. Both things imply the necessity of a suitable space within the faculty and the permanent presence of teacher and students, which are not common characteristics of our Schools. It is also frequent to hear about variants as the "horizontal" or "vertical" workshops. I think every single teacher within every School of Architecture in Spain has tried both. The horizontal workshop implies an specific increasing level of definition for the projects made in each course. The projects would become increasingly more complex along with the student's progress. This conception usually includes a higher level of theoretical teaching and is constitutes an "easier" method for the students.

In the vertical workshop, this progressive use of increasingly difficult topics disappears. Each student, according to his own level, achieves a higher or lower definition of the project. This method is more difficult for the teacher as he has to control individualized approaches. In

both cases the relationship between students (learning from one another) is important, but in the second one it is essential as its success is precisely based on it. In this context, the honest teacher tries to help the student to develop his own designing stimuli, guiding him according to objective parameters previously (or simultaneously) stated by means of theoretical lectures, written guidance or just implied by the ideology of the specific "workshop". While not so honest teachers usually establish a kind of complicity with the students in which "anything is permitted". In this last case the workshop's success is usually possible thanks to generous marks.

After this description, it seems the achievements of both types of workshop (or of the different schools) should be rather similar. But this is not the case. Because there are other important factors to be taken in account: the differences in the number of students per teacher; the "moral authority" of the teacher (acknowledged or not by the student) which is usually a consequence of its professional success outside the school; his educational capacity; effective commitment and, of course, his ideology (idea of architecture). Nowadays, it seems there is a certain concern about teaching building techniques in projects classes, which I think is rather good news. But something I, usually, miss is an explicit distinction between vernacular or local traditions and individual tendencies of ancient or actual "masters".

ARCHITECTURE SCHOOLS IN SPAIN

There are nine public Schools of Architecture in Spain (ten if we take in account the almost new one in Granada) and two private ones (Navarra and the C.E.U. San Pablo in Madrid). The results obtained in each of them by the teachers, visible through their students' works, are rather different.

The "Madrid's Monster" has almost wasted every chance to become an organized institution with its own culture and sense of reality. I think that, whatever Mr. Aroca might say, the controversial critic made by Javier Carvajal when he quitted his lectures is still valid. There is a continuous struggle among clans and groups. The Architectural Projects Department is composed by more or less 110 teachers, almost unknown to one another (I think they have never had a meeting). It is divided into sixteen Workshops, "governed" either by one of the eight Professors or one of the twenty seven Main Teachers. Many of them are, no doubt, eminent professionals; but, unfortunately, this fact does not always imply good

educational results. In some cases, the poor performance of the students compared with the supposed quality of the teachers is scandalous.

In Cataluña, the situation is rather different. There is only one Department for Barcelona and El Vallés, though both schools maintain their own characteristics. With just a few Professors (remember the recent retirement of eminent ones as Bohigas or Correa), this Department employs very prestigious Main Teachers from the "diseny" professional elite, along with other temporal teachers of rather the same origin. Everyone of them maintains his individual approach and the whole group agrees to offer a "tendency" education in which it is possible to recognize, in the work of the students, that of their teachers.

The Schools in Sevilla and Valencia were created in the same period and have more or less the same number of students. The structure of their Educational Board, though, is rather different. In Sevilla, the Architectural Projects Department comprises four Professors and four Main Teachers, among a total number of thirty eight. In Valencia, with a total number of thirty one teachers, there is no Professor and nine Main Teachers organize the courses. In both Schools education on architectural projects is provided by independent Workshops of the above mentioned vertical type. The contribution of some prestigious professionals and the building tradition within such a beautiful city as Sevilla have determined the importance of this School in relation to the Valencia one.

La Coruña is, perhaps, the most singular. It is more recent than the ones we have talked about. Its Projects Department employs three Professors, three Main Teachers, the Emeritus Professor Albalat (very esteemed by all of them) and seventeen Associated Teachers. They maintain the traditional horizontal workshops and keep a number of students very fond of their homeland (even the foreigners). In Valladolid, projects education is similarly organized. But here, being so close to Madrid, there has been some problems with "passing" teachers. Trillo, Linazasoro and Capitel have left there Juan Carlos Arnuncio, as inheritor, an excellent Main Teacher, Director of the School after Simón Merchán resigned. Nowadays, his importance within the city is unquestionable.

Las Palmas and San Sebastián are the last ones in this account (along with the recent Granada School). They keep the peculiarities of the small, provincial schools. A small group of students and the essential collaboration of paradigmatic professionals as Félix Juan Bordes and Luis Peña (now Emeritus Professor).

We have so far stated the differences between the schools; but there is a common feature among them with very few individual exceptions: a visible detachment from reality.

Perhaps, it could be interesting to recall now (without nostalgia) some traits of the Degree Examination established by the San Carlos Beaux Arts Academy in Valencia, between 1802 and 1846. "The aspirant must hand in plans, elevations, sections, a report on the building system and cost calculations of the designed building... He must enclose a Certificate that proves he has accomplished his practice, with an architect, on building trade... In just a day (from seven o'clock in the morning to ten in the evening) he will design an improvised exercise over a topic chosen among the three proposed by the Board of Examiners". It is also appropriate to recall the analysis made by the Professor Fernández Alba, on the celebration of the Hundred years of the School of Madrid. He talks about it in terms of "anti-modern conception", "poetic of the colossal", "interpretation of architectural space just in relation to its image and not to its true spatial data essential to the building process", "building techniques just as an answer to official norms and not as a true proposal for architectural design". This account, unfortunately, is still valid. Oriol Bohigas examined the 68 crisis and talked, among other things, about "too extensive and abstract Educational Programmes, excessive duration of studies, overpopulated schools, old fashioned educational methods..." after twenty five years the problems are the same.

THE NEW EDUCATIONAL PLANS

What I have so far stated might seem excessively pessimistic. But the new Educational Plans just provide me an excuse to insist upon this pessimistic view. I will not mention the polemic about the number of credits and courses. The real fact is that the present plans are exactly (with slight variations) those of 64. And, though the song may say that "twenty years is nothing", in architecture, thirty years is too much. It is essential to re-define the role of the architect. The Renaissance model or even the Modern Movement Pioneer model are not useful anymore. I do not want to add anything to what was said in this same publication about "the necessary architect", but it might be beneficial to insist on the importance of the architectural projects teaching to achieve any result. I will be optimistic about the future only if there is no intent of accommodating old methods, if new educational imaginative techniques are adopted and if what I call "project production" becomes prominent.

Madrid, school and architecture 1978-1993

Salvador Pérez Arroyo.

"Father Valdés received me, he raised his spectacles up to the brow and, with half-closed eyes, asked me; - And you, why do you study? Is it conviction?"

"The Friars' Garden" M. Azaña 1927 (1)

I will try to examine some general features of the architecture lately made in Madrid and I will mention some representative examples. In any case, I have tried not to make of my article a simple list of names.

Great masters as Oiza and Carvajal have quitted the School of Madrid. They were experienced teachers capable of transmitting through their work the best of our architecture. Their absence has provoked a void within the School and indirectly resulted in the renunciation or isolation of other teachers. They used to communicate, in a very straightforward mode, their own vision of architecture. Many times in overcrowded classes. The atmosphere was vibrant then.

In 1978, the ARQUITECTURA BIS magazine published an issue on the School of Architecture in Madrid. They tried, more or less, to establish the existence of a certain Madrilenian style or school, connected with some of the teachers that lectured then. Things from then on have radically changed. There is not really an architectural style connected with our School (as probably there was not then). Our School is much more a battle field where different groups fight, persecute and take vengeance of each other. There is no collective idea or aim and the education is completely disjointed. A critical education for the students that would make them able to overcome the multitude of fashions spread by magazines is completely abandoned.

The real power within the School is composed by a number of teachers whose intellectual origins are in the later days of the Dictatorship. Many of them have neglected the professional practice and are now developing a kind of "virtual" architectural culture. This is a problem very extended through the Mediterranean countries where the University produces more architects than those needed by society. In this situation the future architects are generally persuaded that the ideal model is the American architect. It is something like America America. An ingenuous and deceitful Kazan.

This kind of "virtual" education, by theoreticians detached from practice in traditionally practical areas, is usually connected with the fashionable and foreign concept of individual education, which is just a way of controlling pupils to keep the power. There is not anymore a Main Hall Lecture. Even as an architectural space, this traditional room so important in the first Universities, is completely forgotten. The Master

Lectures, a way of direct communication with the real professional life, are just left to occasional foreign visitors and have no role in every day studies. In this way, personalized education is completed by an uncultured idea of culture as a product to be consumed. I just feel embarrassed when I remember the visits of Culot, talking to the unlearned about marxism and appreciation or Eisenman, explaining with pleasure how his clients had accidents in his houses, just for provocation.

I do not want to discourage the necessary "cultural entertainers" within the School, but just to point out that these "shows" have nothing to do with quality education. There is just a kind of agreement to follow the game rules and everybody knows where the tricks are.

I do not completely agree with M. Fornes when, in his treaty "Art Practice..." (1841), he says that "theories are just good to confuse uncultured spirits". But I must say that we have to think about the problems aroused by the situation of a University degree were just theoreticians seem to do their work. We lack debate and polemic. Those "COAM Critical Sessions" in the fifties and sixties, open minded conversations usually published in ARQUITECTURA, are much to be regretted.

"I cannot even say I went through an intellectual storm. I finished school with no acquisition; I had nothing to leave or lose. They had just given me cardboard weapons, so I may take part in the fight but, luckily, I had no intention to do so". M.A.

In 1978, when the "Banco de Bilbao" building by Oiza was not even finished, critics were already saying that he had made concessions to "commercial" and "formalistic" interests. This Oiza's fall into a questionable method, made them look for another paradigm of Madrid's architecture. Bankinter building was one the candidates, and it really became a very much copied building. But this does not mean it founded a style or school.

The most significant difference between Madrid and Barcelona is the proportion between private and public building commissions. In Barcelona, until the works for the Olympic Games, the importance of private constructions was notable. Madrid, though, being the administrative center became, from the first democratic elections, the site for all official works. Some of the most

eminent examples of good architecture in this city around 1978 were, nevertheless, private enterprises: Banco de Bilbao, Bankinter, Bankiún. An optimist and young economic power that was to create even a new area within the city, Azca. On the other hand, official works were, in most cases, terrible architectural failures probably because of bureaucracy and other (not always economic) reasons.

We could infer that this paradigmatic examples would be followed by the new architects. But it was not so. Individual approach and style diversity have been the most visible features of later architecture. Even the very authors of these works have not repeated the experience and have tried to do different things. Versions of the Bankinter building might appear sometimes in Final Degree Projects, but Torres Blancas or Banco de Bilbao have had no sequels.

What could be the reasons for this confusion and heterogeneity within Madrid's architecture? Madrid has, no doubt, produced important personalities in architecture: Molezún, Fisac, Cabrero, Sota, García de Paredes, Laorga, Ortiz Echagüe, Higuera, Fernández Alba or Juan Daniel Fullaondo within publishing world. In the ideological and cultural dessert of Franco's dictatorship, they were an impressive example. But they were not a compact group, and that is one of the reasons why they failed to create a local school. Their intuitive, intelligent and sensible work, though, is visible in publications like the splendid book by Carlos Flores "Contemporary Spanish Architecture" (1961).

Today's confusion is, in part, a consequence of a contemporary similar situation abroad, prompted by the massive publication of specialized and luxurious issues. Architectural design has become a senseless and non meditative activity just intended for the professional public. On the other hand, most of the above mentioned "masters" (the exception might be Sota) have constantly changed their conception of architecture, confusing their possible devotees. But, most of all, the blame must be laid on those did not appraised their work enough, did not understand their significance and just tried, after Franco's death, to break with all passed experience.

The above mentioned invasion of specialized issues is too complicated a topic to be discussed here. I will just point up that this phenomenon has had similar consequences in other fields. Thus, "news are more important than reality" and, as Sánchez Ferlosio puts it, "the future will only be possible when, one morning, the paper will be completely blank" (2). General information issues, as daily papers, have also joined the architectural discussion as an ideal way to promote other interests. Specially in Madrid, absurd

and confusing public opinion inquiries have taken place within architectural design processes, as those relative to the lampposts in Puerta del Sol or the square in Chinchón. The Architecture School in Madrid usually participates in this senseless polemics just as a way of supporting someone's political interests.

Within this period of time we are talking about, Madrid has developed and partially built the proposals made by its Urban General Plan of 1985. In the last issue of this same magazine (ARQUITECTURA 296), I discussed the possibilities of the peripheral settlements. The 1985 Plan has made possible the construction of a large quantity of housing units. These have obviously been the most significant architectural works of later years in this city, though its importance is much more due to the whole group than to individual relevance. And, again, it has been Oiza, with his "El Ruedo" building on the M30 (contradictory as it is), that has opened the prospect for new conceptions in this field. Most of the housing projects dictated by the General Plan to fill the "voids" within the city, though, have been examples of a boring and reactionary architecture.

Rhetorical formalism, Russian neo-monumentalism and other imported concepts generally related to building in consolidated cities, with an specific pre-existing context, have been ridiculously adopted in housing projects made in the middle of nowhere, in areas linked to motorways where columns, pillars and frontispieces where just a mocking caricature. Any "progressive" architect from the thirties' avant-garde movements or the social protests in the sixties would have felt distress in front of these visions.

The term "Critical Regionalism" was used to allude to some works by, for example, Cano Lasso (his magnificent building in the Segovia st., near the "Viaducto", or the one in Basilica st.). But there is a big difference between the use of some traditional elements in those essentially modern building of the sixties and seventies and the present ostentatious solutions so close to the concepts of "Socialist Realism" or "Monuments for the People". Today, it is rather frequent to see diverse copings with classical orders that break the vertical and horizontal composition lines and meet frontispieces, chimneys and a vast repertory of Russian elements as railings and bars. They just represent social pessimism, renouncing to invention and research. The strict regulations for social housing are, obviously, to blame as they do not permit an imaginative exercise on types, plans and organizations. Architects, then, just try to "express" themselves through these formal elements.

We now remember other housing developments, as the magnificent and unique works in "Juan XXIII", "Cañorroto" or "Fuencarral" colonies. And a significant figure, the architect J.L. Romany, a silent and mystic master. Later works, though, with very few exceptions, have not such a quality.

But I must also mention other works performed within the core of Madrid and included in the Special Plans of the 1985 General Plan, as the area of "San Francisco el Grande". Generally speaking, these urban operations have completed degraded areas, though not always with excellent results, and have been the starting point for a more strict and coordinated conception of working within the consolidated city. Previous experiences had been much more heterogeneous as they were lacking the general direction brought by the 1985 Plan. I have many times criticized this Plan in general terms but I must confess it induced the creation of a more sensible and quiet school that, in some way, changed the concept of urban operations. We cannot forget the proposals made by J. Navarro, his ideas exposed in his Local Urban Plan for the "San Francisco el Grande" area. This experience was very important for the recent urban development of the city. The housing units finally built in the zone have, unfortunately, the same problems as those already mentioned, though, in this case, they are not so contradictory as they are constructed within a historical context; but the assembly has a rather good quality.

"My salvation was less a consequence of sanity, than a virtue of my indolence" M.A.

This example has proved how it is possible for a Local Urban Plan (not very rigid, but very clear) to improve an area, even regardless the quality of the buildings. And regarding these, we have to admit the vitality and allure of those designed by J. Navarro, apparently eclectic but capable of drawing a number of devotees, as the above mentioned Bankinter building. His two buildings, the library and the Social Services Building, are paradigms of his own architectural ideas. I feel they are rather out of scale but they are the rare product of a long personal meditation and use of sensibility; a fact that determines the difficulty of being conceived as models.

There is also a more progressive approach to maintenance and restoration or refurbishment of abandoned buildings. Within this field, important recovery operations have been performed that have rescued interesting archetypes as the "Hospital de Jornaleros" (Laborer's Hospital) and the "Casa de Baños" (Bath House) in the Toreros Av. But I must criticize a kind of senseless and exaggerated restoration fever promoted by the Commissions for Control and Maintenance of Heritage in Madrid and its region.

What was a fight against the indiscriminate destruction performed by speculators, has become a blind and uncultivated cult to old items. And this is just an example of intellectual pessimism and lack of ideas. I will just mention the "hollowing out" of some buildings in Salamanca district and the absurd and incoherent new functions assigned to old industrial or residential types of Madrid architecture in order to "save" them.

Politicians, journalists and other groups have promoted the concept of "typical" object as defined by the tourism culture against a more progressive notion of restoration. They leave aside real problems as environmental quality, maintenance, protection against pollution or noise and even against this same tourist trade which is, in some way, degrading some districts and nearby villages within the province of Madrid.

The obviously heterogeneous character of Madrid as a big city, its capacity to absorb works of diverse epochs, to progress and change, is not taken into account. New thing are censured, specially by journalist that have lately played the role of promoting the most reactionary ideas.

In this same field, nevertheless, there have been some interesting works like the restoration of the Plaza Mayor (and disputed substitution of the paintings in the Casa de la Panadería) or the completion of the facade of the Oratorio de Caballero de Gracia in the Gran Vía, by J. Feduchi. This last one is an interesting and beautiful example within a significant and valuable Avenue (Vid. ARQUITECTURA 296). One of the best architects in Madrid has made possible a sensible and civilized termination for an old fracture of the city following the ideas of the 1985 Plan.

Other interesting refurbishment operation has been that of the Atocha railway station, designed by R. Moneo after winning a contest. Some features of this building might be objectionable as the, perhaps, outdated conception of the station as a huge hangar, a XIX century tradition, where the traveler gets lost. It seems as the new, modern and clean trains should be waited for in comfortable and carpeted halls. Moneo, though, has chosen a big vestibule with a structure almost identical to that designed by Nervi in 1960 for the Labor Palace in Turin and adjacent to the old Atocha station by Del Palacio. It is, nevertheless, one of the best spaces lately built in Madrid. It provides the city with a larger, and not frequent, scale as that of the Ilustración Av., designed by J.A. Fernández Ordoñez.

Another sphere in which architecture has developed interesting works has been that of official and public buildings: libraries, sport facilities, social services headquarters etc...Quality is not always present.

The works by J. Navarro in San Francisco el Grande are magnificent examples but there are many others. In this realm, the problem is not so much the stylistic heterogeneity (a general characteristic of Madrid's architecture), but the really confusing programmes and uses intended for the buildings. In many cases, senseless projects are abandoned, once built, by the very Administration. The policy is to get an equilibrium in the placement of official buildings. But this good meaning has resulted in a worrying loss of contents of the new projects and, perhaps, it would be sensible to go back to a concentration policy which would guarantee architectural quality and permanent use of the facilities. There can not be a Cultural Center without a group of permanent employees, nor a Museum without an exhibition programme etc...

In most of these projects, moreover, the Public Administration has forced a functional separation between project and building works. And this has resulted in disastrous consequences. Park and green areas operations have endured the same problems. Many of them are now mere mocking images of the designers intentions.

We cannot forget, in this field, the large project of the Campo de las Naciones. A contest was organized but political interests succeeded in annulling its results (the same case as in Plaza de Castilla). The Campo de las Naciones has become a lamentable example of the invasion of a kind of "marble and glass" commercial architecture. The nearby "Fair Precincts" are much more interesting. Oiza has achieved a proportioned and serene building.

Meanwhile, the Madrid of "commercial development" has created an architectural undercurrent of offices, mercantile buildings and factories. Many of them in the suburbs or even destroying important parts of the city. This incomprehensibly hushed up operation is visible, for example, along the road to La Coruña. I will not talk about the so criticized leaning towers in Plaza de Castilla. I think they could even become an interesting paradigm but, essentially, they must be finished.

We must mention the work of J. Carvajal within this field. He has designed one of the best offices building in the new Castellana Av., Emilio Castelar Sq. This same architect is also the author of the Torre de Valencia, an example of luxury residential skyscraper, a type with just a few illustrations in Madrid, as the nearby tower by Gutiérrez Soto or the renown building by Oiza. In the same square (Emilio Castelar), R. de la Hoz has designed another superb offices building. One of the best buildings in Madrid that, along with the American Embassy, composes an specially good assembly within our city. There are

not many other examples of meditated and sensibly designed buildings within this type but we can point up those by E. Población, an architect whose work resembles in some way that of Roche or S.O.M.. He is the author of the Beatriz building, in Velázquez st., the Banco del Norte and the Electric Company Headquarters, in Príncipe de Vergara st.

Many other features and characteristics of the late architecture in Madrid cannot be discussed in this article. I will, therefore, leave aside interesting topics as the works in the Teatro Real, in the Prado Museum or the polemic ones in Plaza de Oriente.

Madrid's architecture is not the result of a unique conception. Although it is, essentially, a conservative town traditionally connected with public administration "culture", it is also very open minded as it lacks local references. This particular characteristic could have induced the promotion of the most modern architecture, a risky compromise with progressive creativity. But it has not been so. A rather conservative left wing has influenced, even from the moment of the 1985 plan, its architecture.

The School of Architecture has not been able to play its necessary role: coherently give shape to new generations of architects, open new critical ways in education, analyze its own city as a site for experiment. On the contrary, the very School has contributed to create this reactionary attitude. In fact, it has work in collaboration with the political power outside it, accepting a poor role.

It has been an institution with no capacity to assimilate exterior influences, unable to give information and not induce a vulgar copy. I must recall here the lack of an enthusiastic and spirited figure after the resignation of J.D. Fullaondo, who has been left alone and bored with no one to fight. His article in ARQUITECTURA BIS (issue cit.) is enough to understand his attitude.

This absence of important masters inside the School has made possible an outside exploration in search of personalities. This has been the case of A. de la Sota, a master that was forced to quit education and is, nevertheless, an unquestioned myth among young architects. I cannot understand why the School of Madrid is not able not make him Doctor. His influence is evident but one of the main features of our institution is its incapacity to see what is just in front of it, to understand the most useful and beautiful things. It is a blind society whose blindness is caused by something I do not get to understand.

(1) All quotations come from the same work, 1936 edition.

(2) "More and worse years will come and make us even more blind" R. Sánchez Ferlosio.

Typologies.

On Archives, an introduction to their typology

Salvador Pérez Arroyo.

We begin, with this issue, a series of studies on different groups of buildings classified according to their use and type. For this purpose, we have gathered some documentation related to three archive and one library buildings. It will be essential, therefore, to state the differences between both types. In a library, the reader will find documents of which there are a number of copies throughout the world, information published in any format (print, photography, etc...) for its general circulation. An archive, though, keeps unique documents, not particularly interesting for publication and, therefore, just studied from time to time. According to E. Londolini (1), the archive is just an "spontaneous sedimentation of documents". But the same author states that not every text is a document nor every group of documents, an archive. The specific character of the archive would, more or less, be its being related to a concrete bureaucratic activity. The library, on the other hand, would have more to do with the human capacity for collecting items and looking for different sources and countries in order to get a broad knowledge about the historical, scientific or literary culture.

Generally speaking, the spatial concept of a library is usually that of a big study room, while the archive is conceived more as a space for restricted research. The library typology is rather well known and, from the XVIII century, it has been the topic for many projects and studies that have tried to make of it a space for intellectual discussion, an "agora" for culture. The archive, though, is more a kind of abstract and high technology space for mere conservation. It does not have big study spaces and, in most cases, it is the deposit that constitutes the core of the building. In any traditional library, the book is an essential (many times "at hand") element of its image. In an archive, long corridors lead to closed spaces where documents are just looked for by special personnel. The archivists organize, catalogue and evaluate the documents to facilitate its future availability. But Londolini explains how even official rulings and custom have, sometimes, resulted in a library conception of the archive and vice versa. It was in France, during the revolutionary period, that the distinction was clearly stated. In the archives, a long period of time might pass between two utilizations of the

same document and this is the reason why they become so vulnerable. Possible damages might occur unnoticed for a long time. This characteristic and the fact that the archive documents are usually unique make of the inner climate and environmental control a main designing feature for this type of building. An archive must be a safe space for conservation and the use of the required technology for climate control is essential. The designer should take into account the possibility of prolonging the life of every format in the archive and compensate the exterior climate conditions to achieve an stable atmosphere for the documents.

These are the reasons why, usually, the archive projects become an opportunity to use the most sophisticated technology and maintenance systems, either natural (compensation) or artificial (fixed). The concrete location of each archive and its exterior condition will determine the appropriate method.

It is rather usual to place archives in old existing buildings after a refurbishment and adaptation project. In these cases the main concern of the architect becomes how to make an existing structure resist the new, generally high, loads with the required safety factors.

But in most cases, old buildings are not very appropriate for this use and even less if they bear a high historical value. One of the exceptions might be the new Community of Madrid Archive Building placed in an old beer brewery in Amanuel St. The strong structure of this old construction, intended to bear the high loads of the liquid containers and its industrial character have made possible the location of all the required facilities. We cannot forget, though, that there are some old windows that cannot comply with the documents' exigencies. To bury the deposits might be a solution but it brings other ventilation and security problems.

As an example, we will mention the case of the archive placed in the old Seminary in Quebec. The refurbishment project has caused the destruction of most of the original building and has disfigured its typology just leaving the outside skin of the old construction. It is a modern building inside an old shell. J. Haymond, in his article "Adaptative Reuse of old buildings for Archives" (2), keeps more or less

the same view over these matters. Nevertheless, it is usually the central location of these buildings that make of them possible candidates for archives and also, very frequently in Europe, the necessity of finding a use for old,

abandoned, historical constructions.

NOTES

- (1) "Archivística. Principios y problemas". 1993. Ed. La Muralla. Madrid.
- (2) Published by "The American Archivist". Vol 45. 1982.

Historical archives

HISTORICAL ARCHIVE OF THE PROVINCE OF CUENCA

The new building for the Historical Archive in Cuenca is a restoration made over the remainings of the old Inquisition Prison, in the upper limit of the historical core of the city. The old construction was an Arab building refurbished in the XVI century that was very damaged during the Independence War. The new project has tried to combine restoration and renovation criteria, as the authors feel that ruins should not necessarily become museums. Thus, they have evaluated as worth to be maintained the external volume of the building, part of the landscape of Cuenca, and its relations with the adjacent urban pieces. The distinction between old and new parts is just determined by the different building systems used in each of them. An inner modern structure of reinforced concrete columns and solid slabs bears the high loads of the archive independently from the exterior ancient walls. Where new walls had to be built, these maintained the width of the old ones. As the Archive requires a documentation entrance separated from the public one, the authors have taken advantage of the ground slope to place them at different levels as well as in opposite sides of the building. The outer perimeter has been maintained except for the construction of the vertical communication shaft in the storage area, whose modern exterior appearance tries, nevertheless, to harmonize with the rest. The limitations and difficulties due to the use of an old building located in a scarcely accessible part of the city are accepted as a way to avoid the progressive desertion of the historical core.

ARCHIVE OF THE CROWN OF ARAGON. BARCELONA

The urban location of the new building for the Crown of Aragón Archive, at the crossing point between three main streets and very near to the Plaza de las Glorias with the new Auditorium by R.Moneo and the theatre by R.Bofill, the Olympic Villa and the Sea, makes

of it an important landmark within the city. The new North Station Park, lowered from the street level and designed by the sculptress Beverly Pepper, is contiguous to the building with which it composes a unique urban site. The archive building comprises two differentiated volumes for the two distinct functions of the institution: storage and offices for public assistance. Both are connected by the entrance area that links the street facade and the inner Park. The whole building has four floors which are identical in the storage volume. In the offices one we find: service area, entrance for documentation, laboratories and workshops in the semi-basement (park level); main entrance and employees offices on the ground floor (street level); research rooms and related services on the first floor and mechanical services and skylight devices on the fourth floor. The building has, therefore two distinct entrances, the public one and the documentation one at different levels.

HISTORICAL ARCHIVE OF THE PROVINCE OF ALAVA

The building, located within the University Campus in Vitoria, is organized into two different wings due to the discrimination of the two main functions: documentation storage and administration, scientific research and related activities. The right wing (storage) is a closed container with a high loads bearing concrete structure; the required dependencies for the treatment and management of documents since they enter the building until they are placed in their position, are located in its ground floor. The left wing (public) encloses an exhibition hall, conference room and periodicals library on the ground floor, and a research room and administrative offices on the first floor. The authors have tried to show the possibilities of new materials and building systems to create new architectural standards that, they hope, will be recognizable by future generations as traditional references of the city of Vitoria.

From "Cerro del Viento" to "Colina de los Chopos"

Eva Hurtado Torán

"...as a bigger world.
Bigger! Without grimace or fuss,..."
Gabriel Celaya

Sometimes, it might happen that the desires and efforts of different people working together, would induce such an enthusiastic answer around them as to produce an atmosphere of cooperation in which each one will make his best. And their incredible results remain over the years and build the substratum of the very reality in which we live. The "Institución Libre de Enseñanza" (I.L.E., Free Institute of Education) brought, no doubt, one of these miraculous moments to Spanish culture and education.

The I.L.E., following the example of the International College, was created in 1876 to join together the old worries and hopes about Spanish education of a group of people within the University.

It began to work mainly on alternative higher studies, as this was the field of its founders; but, after the first attempts, it came closer to the younger students, confining their aims within the University to counsel and support for the Official Centers students. In the first years of the present century, it realized its main aspirations. It was a lay institution, just concerned with individual ethics, which tried to induce, through education, a specific way of life that could improve the isolated and culturally poor Spanish society (1).

The ILE headquarters was located successively in several places. In 1881, they thought about having a new specific building for them; for this purpose, they bought a piece of land at the end of the Castellana Avenue, lot number 179 in the official plans, and had a project made by the architect Carlos Velasco. But this idea never came to life due to monetary reasons and, finally, in 1887, they just procured a villa in the Paseo del Obelisco (2).

After a few years, the group working in the Students Residence (3), in Fortuny street, began to buy one by one the adjacent lots and kept them until 1907 when, finally, thanks to the "Junta para Ampliación de Estudios" (JAE, Council for Additional Education), an organism of the Public Instruction Ministry, they were able to build their own dependencies.

That was the beginning of a larger operation which would make possible, due to the impressive effort of a group of personalities, this uncommon oasis within Madrid. A place where educational as well as architectural experiences provoked an extraordinary development of cultural activities. A distinct and charming atmosphere that can, even

today, encourage us. Therefore, we will try to make a brief analysis of the architecture built within the site called "Cerro del Viento" (afterwards "Colina de los Chopos") from its very beginning to the days previous to the Civil War. Firstly, we will distinguish two different periods: the plans for the pavilions of the Students Residence (1910-1918), and those for the buildings of the Primary and Secondary Schools, Laboratories, Library and Auditorium (1926-1935).

The new buildings site was chosen in the suburbs of Madrid, where low prices made possible to think about large operations. It was a piece of land around the "Altos del Hipódromo" (Racetrack Hill), probably a favorite walk for the people of the I.L.E. as many of them worked in the Castellana Avenue in different organisms of the J.A.E. (Natural Science Museum, Physics Research Laboratories or Industry Engineering School). The land was finally acquired in 1910 and the commission made to the architect Antonio Flórez Urdapilleta, close to the I.L.E. As an architect, he had dedicated many years to educational buildings in which the critics might

find, perhaps, a rather excessive monumentalism and arguable use of neo-mudejar models. But in the three pavilions he designed for the Students Residence, what we find is the work of a sensible and experienced architect. He organized there a sequence of main spaces surrounded by smaller, domestic constructions of suitable size, and was able to take in account the future development of the assembly (4).

We have not many information about the work of Flórez in these first years. From the documents kept in the Archives of the Ministry of Education and Science, we might deduce that the form of the lot (long and narrow) as well as economic reasons determined the general organization of the assembly, conceived as a unit by means of shared characteristics in the different buildings (5).

As components of a bigger whole, the austere and unadorned pavilions, are almost a strict answer to their functional programme and sunlight necessities. The first two pavilions, the "Twins", 1913, used as dormitories three storeys high, are the same repeated building even designed for the addition of new units; the third one, the "Transatlantic", 1915, perpendicular to the others, houses the

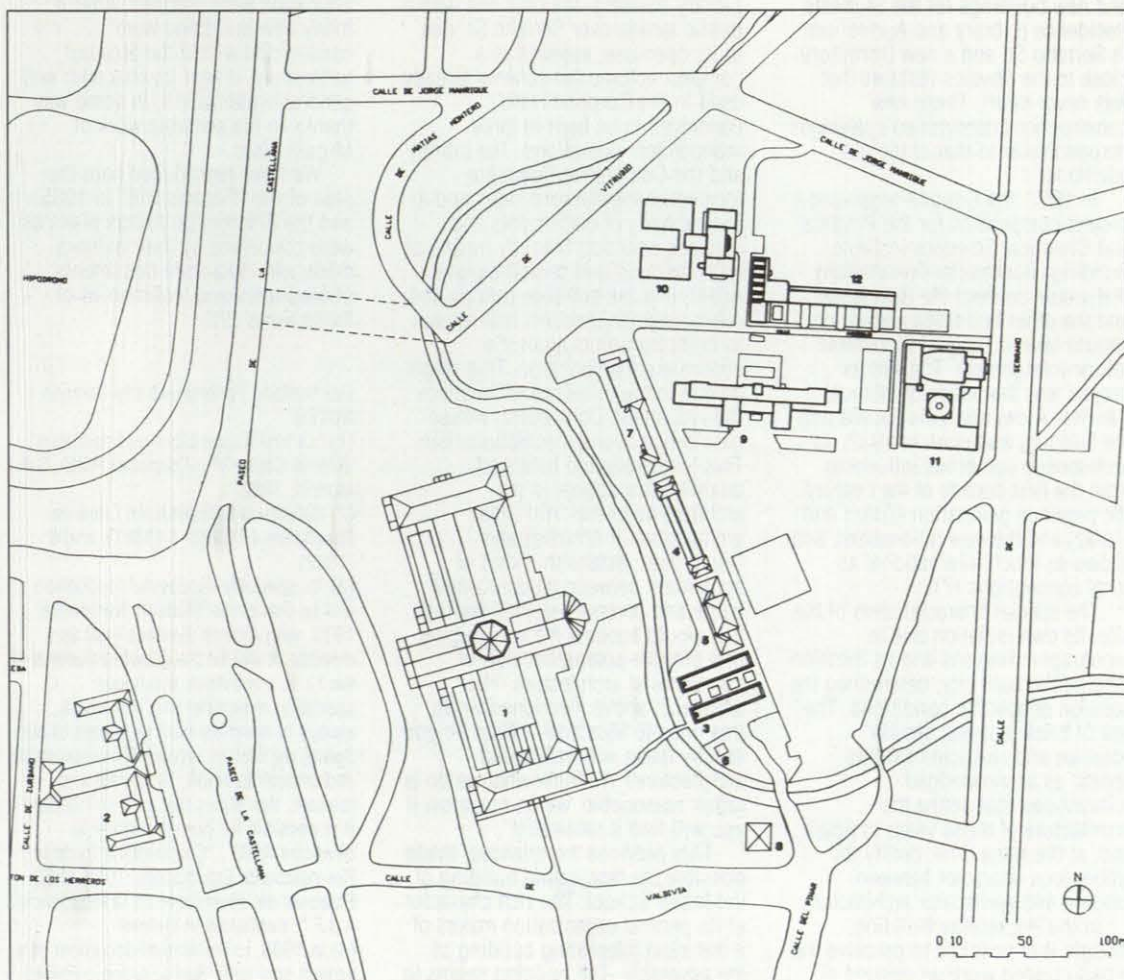
independent laboratories in its ground floor, and more rooms above. All of them show glazed corridors and terraces conceived for the use of the growing community.

The materials chosen for these buildings were just brick, iron and wood and the composition pattern was designed just with the significant eaves, the shadows of fenestration and the glazed corridors. An unadorned architecture in which D. Antonio displayed his wisdom.

"During the summer of 1915, our Council lost the inestimable help of the architect Mr. Flórez, as he had to resign due to other demanding business...", and the Council had to look for another architect. Francisco Javier de Luque was the architect chosen to continue the buildings.

In the fourth pavilion, the "Central Pavilion" or just "The House" (as the others used mainly as dormitory) we find the common services. Apparently, this building was left almost completely designed by Flórez, though it does not exhibit the same formally clear architecture as the others. But it is the fifth pavilion, intended as a big library hall and dormitory, that shows the most confusing scheme. It seems that this pavilion was the first Institute-School of the I.L.E.

In 1918, already with five pavilions, the Students Residence



continues its enlargement works: the little pavilion for the janitor, the bicycle shed, the urban conditioning of paths and sport fields and the Director's Residence, built in 1923 by the gate of the Pinar Street for Jiménez Fraud and his family who will become the leading spirit of the group.

An interesting feature of the assembly is the broad use of plants and vegetation, a symbol of the growing institution; the poplars, rosebays, box shrubs, acacia and lime trees appear in many written accounts made by students who lived there, descriptions that help us to imagine the magical atmosphere of the Residence in those years. The incredible number of future personalities in culture, art and sciences that lived together in the Students Residence of Madrid, Spanish as well as foreigners, prove the significance of this group, not without problems, within the intellectual life of Spain in those years (6).

In a second period, the Institute will occupy the lower lots by the Vitrubio and Serrano streets which were bought in 1928 when D. Alberto expressed his worries about the future development of the surrounding lots. They were assigned for the buildings of the Physical and Chemical Sciences Institute, the Institute-School (Baccalaureate and Infant School) and new buildings for the Students Residence (Library and Auditorium in Serrano St. and a new Dormitory close to the Physics Institute that was never built). These new constructions determined a new axis perpendicular to that of the old pavilions.

In 1927, the Council organized a project competition for the Physical and Chemical Sciences Institute Building (Rockefeller Foundation) that would connect the Residence and the other buildings and which should take in account a possible future enlargement. The winner project was that made by Manuel Sánchez Arcas and Luis Lacasa and the building was open in 1932. Its architecture combines influences from the first decade of the century, the previous generation (Zuazo and Flórez) and the new rationalism, and shows as much international as local conceptions (7).

The special characteristics of the site, its own isolation due to topographic reasons and its location outside the built city, determined the creation of specific conditions. The use of brick facades, simple volumes and restricted heights appear as acknowledged conventions that define the architecture of those years in Spain and, at the same time, certify its ambiguous character between modern and vernacular architecture.

In the Rockefeller Building, though, it is possible to perceive the broad-minded working method of

the architects and its suitability for the programme: flexible building and facilities systems, structural standardization, mobile partitions, accessible services, and a strict study of acoustical, temperature and vibration conditions... important innovations in Spain, and the results of serious research. This building, and this is an interesting fact, has kept the same use over the years.

The next works were performed by the architects Carlos Arniches (the author of the Female Residence in Miguel Angel St.) and Martín Domínguez; both knew the pavilions as they had lived in them and were permanent collaborators to the Council.

The Institute Building, 1931, is rather different. It occupies the north section of the new lots with its clear, rotund and symmetric composition of prisms. Its frontispiece and academical general scheme, make a contrast with the rather more free wings, with a particular treatment of porticoes, walls, blue painted columns, classroom fenestration and handrails, a language not easy to classify.

This building, as well as in the Infant School, has concrete structure and bare brick facades. The exquisite treatment of the functional interior and services, proves the serious work of the architects beyond the formalistic appearance.

The Conference Room and Library building, the only one with a public facade over Serrano St. due to its open use, appears as a compact volume (an scheme already used in the Cordoba Hotel), conceived to be built in three independent operations. The Library and the Conference Room are located on the outward sides and a central body of classrooms and services connects them by means of an open court and central cloister. Again, it is the entrance canopy and other singular elements that remain as complex points against a continuous composition. This might be due to the influence of the more individualistic Domínguez, whose lyric sense overcomes Rationalism. This temperate and balanced qualities that appear in the architecture of the "Hill", the architecture of Arniches and Domínguez, establish a kind of agreement between modern avant garde and diverse personal feelings that would become the very engine of a broader comprehension of functionalist architecture. The architects above mentioned wrote this lines to Mercadal: "What do you exactly mean with rationalist architecture? We think what we do is rather reasonable; we do not know if you will find it rationalist".

This previous experiences, made possible the fascinating building of the Infant School. The rich character of its general organization makes of it the most interesting building of the assembly. The building seems to

be just worried about its inner life, whose most insignificant details were estimated by the architects: the sunlit exterior classrooms with mobile glass walls, the showcase with plants, birds and fishes to be copied, the North skylight, the individual access, services, cloakroom and orchard for each class, a panel system for heating that allows ventilation of the upper level of the classroom keeping the lower sections hot...; an avant garde architecture well related to foreign experiences. A collaboration between the architects and the directors of the Institute-School in which, once more, the new educational systems are enclosed by a new architecture. The use of the court in a place with extremely high, and sometimes low, temperatures is a problem whose solution by means of vertical and horizontal canopies is another singular feature of the project, an splendid contribution by Eduardo Torroja (8).

This nine buildings completed the first scheme made by Antonio Flórez; an assembly in which study work, sports and entertainment were possible, where teachers and students of every age could live together; a place that fulfilled the hopes of those who had thought about it and aroused passionate feelings in those that came to know it. But then came the Civil War and the activities of the Free Institute of Education were stopped. After it, many new buildings were constructed within the area but, fortunately, it kept its character and general organization, in some way thanks to the sensible work of Miguel Fisac.

We have reproduced here the plan of the "Poplars Hill" in 1935 and the different buildings plans as were conceived by their authors, made with data from documents, photographs and testimonies of those times (9).

Eva Hurtado Torán University Campus NOTES

(1) "La Institución Libre de Enseñanza", Vicente Cacho Viu. Ediciones Rialp, S.A. Madrid, 1962.

(2) Boletín de la Institución Libre de Enseñanza 4 (1880), 5 (1881), and 6 (1882).

(3) An specially successful foundation will be that of the Students Residence, 1910, with Alberto Jiménez Frau as director. It will be the growing nucleus of the I.L.E.'s activities and hopes: "...I, specially, remember that Hill where, always in mind the best examples of our Spain, we tried to recover that reasonable and critical tradition, temperate and tolerant, that states that only in freedom it is possible for human dignity to develop itself", "Cincuentenario de la Residencia de Estudiantes. 1910-1960. Palabras del Presidente de la Residencia, A.J.F.", published in Oxford.

(4) In 1908, in the written document of a project sent from Roma, Antonio Flórez

Urdapilleta says: "...The projected park has a triangle scheme: a theorist would say that three is the number of Divinity and would look for some connection...; I confess that it is a triangle because it suited my plans".

Students Residence Pavilions

- "50 años de Arquitectura Española 1900-1950", Bernardo Giner de los Ríos.

- Carlos Flores and Eduardo Amann wrote: "The architects of Madrid between 1800 and 1910 created a housing type for the middle bourgeoisie whose characteristics were the expert use of brick, formal harmony and regularity...this type was very much related to other domestic architecture, that of the low cost school buildings". (5) Extracts from Secretaría de Obras de Pinar St. (A.G.A. of Alcalá de Henares). Memoirs, annals and documents from the J.A.E. (Educational Library of the Students Residence)

(6) A broadly examined subject:

- Texts by Alberto Jiménez Frau and Antonio Jiménez Landi.

- Texts by F.J. Laporta, T. Rodríguez de Lecea and other authors in the magazine Arbor, No. 493, Madrid, 1987.

- "La Residencia de Estudiantes 1910-1936", Margarita Sáenz de la Calzada. CSIC, 1986.

- "Ni convento ni College, la Residencia de Señoritas", Carmen de Zulueta y Alicia Moreno. CSIC, 1993, etc.

(7) Physical and Chemical Science National Institute

- Rev. Arquitectura, No.105, January, 1928.

- Rev. Residencia, vol.IV, No.1, february, 1993.

- Rev. Arquitectura, No.241, march-april, 1983: "El Edificio Rockefeller", Antonio Bonet Correa talks about the surprising entrance portico, on the south facade. He thinks it might be an "unnecessary concession" to the funds providing Foundation (International Education Board), that was so fond of colonial architecture in the American campuses.

(8) Institute-School. Baccalaureate Pavilion.

- Rev. A.C./Gatepac, Nos. 9 and 10, 1993. "Documentos de Actividad Contemporánea. 1931-1937", Ed. GG.SA. 1975.

- Rev. Arquitectura, No.241, march-april, 1983: "La construcción de la Colina de los Chopos en Madrid", Antonio Capitel.

Conference Room and Library.

- Rev. Residencia, vol. II, No. 2, april, 1932.

- Rev. Nuevas Formas, year II, 1935.

- Rev. Nueva Forma, No. 64, may, 1971. Specially the texts by Juan Daniel Fullaondo and "Domínguez, Arniches, Torroja...y la arquitectura extramuros", by Santiago Amón.

Institute-School. Infant School Pavilion

- Rev. Nuevas Formas, cit.

(9) Projects and Works Documents (Education and Science Ministry), documents from "Secretaría General y Obras" of CSIC and Works Board, in A.G.A.

General Plan for the Poplars Hill, by Junquera, Pérez Pita and Associates. Testimonies and Photographs from books and magazines kept in the Students Residence.