

City and university

University cities
and urban campuses

CARME BELLET

JOAN GANAU

Editors

Editorial
MILENIO



CITY AND UNIVERSITY

UNIVERSITY CITIES AND URBAN CAMPUSES



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*Col·legi d'Aparelladors
i Arquitectes Tècnics*

Lleida

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DEDICATION



In memory of de Joan Vilagrasa Ibarz (1953-2003), Professor of Human Geography in the Departament of Geography and Sociology at the University of Lleida, and director of the Urban Study Weeks from its origin, in 1982.

PROLOGUE

The 8th edition of the Urban Studies Week was held in Lleida a few years ago, between 10th and 14th April 2000 to be more precise, and was entitled: *University cities and urban campuses*. The Urban Studies Weeks began back in 1982 and have since dedicated each edition to the analysis of a particular aspect of the city. Since they began, these sessions have been jointly organised by the *Universitat de Lleida* (Lleida University), the *Ajuntament de Lleida* (Lleida City Council), the *Col·legi d'Aparelladors i Arquitectes Tècnics de Lleida* (The Official College of Technical Architects and Quantity Surveyors of Lleida) and the *Col·legi d'Arquitectes de Catalunya* (delegación de Lleida) (Lleida branch of the Official College of Architects of Catalonia).

The length of time between the 8th Urban Studies Week and the appearance of this publication –to a large degree, been due to the death of the director and prime mover of this initiative, Joan Vilagrasa– led us to doubt whether or not to edit and publish these acts. However, we finally decided that the texts remain relevant and of interest for a number of significant reasons: firstly, on account of the intrinsic quality of the contributions, which include significant reflections that go beyond the specific examples cited; and secondly, because of the relationship between cities and their respective universities has gained even greater interest and relevance over the last few years. Today, more than ever before, we recognise the notable role that universities play in socially, culturally and economically dynamising cities and indeed territory in general. Experts continue to review and analyse relationships between universities and cities as shown by the numerous publications and studies that have recently treated this subject.

Within this context, the present publication seeks to offer a further opportunity to examine the role that universities play in dynamising their cities and their importance for defining and developing different projects. The links between universities and cities and between universities and territories can be analysed from many different angles, and offer a rich and multifaceted series of relationships. With this in mind, the sessions sought to consider a wide array of situations ranging from the social, economic and spatial aspects of the university world to a more detailed analysis of the urbanistic dimension of university campuses.

We have organised the contributions of the different experts as a series of thematic blocks or sections, which do not always correspond exactly to those outlined in the original programme for the 8th Urban Studies Weeks. In the first of these sections –*Present processes and future perspectives*– we present a group papers that offer general reflections on the processes of change in which universities currently find themselves immersed and we also take a look a little further ahead and identify some of the challenges that are waiting on the horizon. The three papers included in this section recognise the key role of universities as factors that are important for socially and economically dynamising their adjoining territories.

The paper by Richard Dober points to the necessary interrelationship between the university and the city, and the fused development of the educational community and the university world in what he calls *Edutropolis*. This implies the two realities working together in a single network in which the upper levels of the educational system interact with, and form part of, the cultural and social dynamics of the local community. Dober analyses the educational system through a very specific case study centring on the metropolitan area of Boston, USA. In his paper, he seeks to explain the synergic relations that are established between university and society when the educational system works within a wider network and when the three elements that combine in the university –teaching, research and community service– work together as a single unit.

The second paper in this section is by Francesco Indovina. After an inspiring analysis of recent socio-economic changes and of the role of the university in modern society, this author reflects on the functions that universities should perform in the future. Indovina stresses the important role played by the university in the 21st century, understood in terms of its function as a well-connected public service that is present within global networks, and its importance as a powerful tool for bringing about transformation at both the local and regional levels. In the final section, the author analyses the role of the university as an instrument for creating the city and promoting the urban environment.

Herman van der Wusten analyses the changes that have taken place within the academic community in the era of globalisation. Although universities have always been involved in international networks, these networks now seem to be much denser than before and the connections within them seem to be governed by much more intense relations. The notable strength of virtual –but at the same time real– communities, calls into question the traditional association between the university community, and particularly its academic staff, and the most local and regional of settings. For this reason, the author stresses the importance of local strategies developed by universities and that imply a commitment to both research and the promotion of the immediate territory.

The second thematic block collects together four papers that focus on *The social and economic dimension* of the relationship between universities and cities. In the first chapter, Richard Harris contributes a detailed empirical study of the impact of the

university of in the city of Portsmouth, UK, presenting the corresponding *input-output* analysis. This practical case also allows the author to establish a methodology with which to evaluate and estimate the impact of universities upon the territories in which they are located.

François Dubet analyses the different student typologies that can be distinguished in France (and consequently also in Europe). Dubet also refutes the myth of there being a strongly self-defined student community and underlines the importance of the role of students in the cultural changes in many cities and particularly in small and medium-sized cities.

The third paper is by the anthropologist Larissa Adler Lomnitz. In it, she stresses the role played by the middle classes and top officials in Mexican universities. The author studies the prototypes of students and graduates who must find their place in society and the problems that derive from the current climate of economic liberalisation and the weakening of the role of the State, which has had a great influence upon recent graduates.

The final paper in this section is by Gabino Ponce, Antonio Ramos and Andrés Pedreño and looks at Medpark; the scientific park of the Universitat d'Alacant. This paper was originally presented as a poster and was subsequently given the form of a written article in order to facilitate its inclusion in the present publication. The text presents the project for Alicante's science park; Medpark, as a space for transferring technology and knowledge that is strongly committed to ensuring the development of the Alicante region. This involves not only developing the area's economic base, but also stimulating its social dynamics and general environment.

The third block of this book is dedicated to an analysis of the implications of the *University system and territorial model* and includes two papers. In the first, Esteve Oroval contrasts the model for "local" universities, which typifies the Catalan university system, with other forms of organisation. He particularly focuses on a model that he considers more practically and economically efficient; the territorial university model based on various different campuses. He cites various examples of this latter organisational model ranging from the University of California to several different Spanish examples.

In her article, Madalena Cunha Matos, explains the process behind the creation of the Portuguese university system, affording special attention to what has happened over the last few decades. This historical analysis allows her to relate the time at which each university was set up to the predominant urbanistic model and architectural style of the period of construction. The author reaches a conclusion shared by many of the other experts who presented papers at the meeting, favouring urban campus rather than the peripheral model.

The fourth and final block analyses *The spatial and urbanistic dimension* of the relationship between university and city. The paper by Pierre Merlin, which in fact was the opening lecture for the 8th Urban Studies Week, provides a general framework

within which to study this factor. The author presents various ways in which it is possible to set up university campuses and advises the traditional European campus model as opposed to that of the isolated Anglo-Saxon campus that, largely due to its extension throughout North America, became very popular in Europe during the 1960s and 1970s. The author also comments that this trend has changed over recent years. Many universities are now located in, or are returning to, the centre of the city. In this way, they try to fit into the urban fabric and to help structure and complement it both functionally and urbanistically.

The paper by Pablo Campos offers an exhaustive analysis of the university typologies employed in Spain. Although his work largely reaffirms the urban vocation of the majority of university projects, the author also recognises the existence of a very diverse and complex situation that is rather difficult to define. At the same time, Campos notes that the latest tendencies increasingly opt for the urban model and involve notable efforts to achieve integration with the point of location and to reinterpret its cultural memory. The new campus of the Universidad Politécnica de Cartagena is used as a case study and as an example of modern-day typologies.

Michelangelo Savino presents an overview of relationships between city and university through a series of social and institutional agents that have interests that do not always coincide and which take decisions in function of existing correlations of power. This idea of a consensus, and of an institutional pact between different agents, which is not always easy to maintain, is presented as the fundamental way of designing and realising city and university projects that benefit all of the parties concerned. Savino's case study focuses on the city of Venice and particularly on the complex situation of its historic centre with its loss of population and non-tourist-related economic activities.

Carles Carreras reviews the historical relationships that have existed between city and university in Barcelona over the last five centuries. The growth of the university has been closely linked to the development of the city, while the city, in turn, has been both conditioned by and has taken advantage of the university in the structuring of its urbanistic environment. In recent years, Barcelona has clearly committed itself to the information society with ambitious projects such as that of District 22@, which is currently being undertaken in Poblenou.

The paper by Josefina Gómez, Daniel Marías and Ester Sáez was originally presented as a poster and analyses the evolution of the first Spanish university campus to be built on the urban periphery. This occurred at the end of the 1960s and involved the Universidad Autónoma de Madrid, at Cantoblanco. The paper offers a critical description of the origin and construction of the campus during its first stage and underlines how more recent interventions have sought to give the campus a more urban character than it initially possessed. Furthermore, the growth of the city and the improvements made to its communications have helped to better integrate the site within the area of influence of the Madrid metropolis.

Finally, José María Esteban and Benito García present the planning project for the Jerez de la Frontera campus of the Universidad de Cádiz. This work was also originally presented as a poster. The project opts for an urban campus, macro-functional model aimed at generating new opportunities at the chosen site that should also be open to the city as a whole.

Unfortunately, this publication cannot include all of the presentations made in the course of the 8th Urban Studies Week. In part, this was because we did not have full copies of all of the papers presented. This is a problem common to many meetings attended by a large number of people and one that will, unfortunately, prevent readers from sharing the valuable contributions made by some of the other speakers.

Another factor stemmed from the fact that the last day of the meeting specifically reserved for the presentation of a series of studies that were developed in parallel to the meeting and which examined the impact of the Universitat de Lleida on its city and local territory. In this case, the work in question, which was carried out by lecturers from the departments of Geography and Sociology and Applied Economics of the Universitat de Lleida, can be consulted elsewhere. It was published in 2001, in a book by Joan Vilagrasa entitled *Ciutat i universitat a Lleida*.

The book presents four separate studies that seek to offer a global vision of relations between the city of Lleida and its university. The first study presents an analysis of the area of influence of the university which, despite being basically regional, also has a notably extra-regional impact in the case of higher level studies in agronomical and forestry engineering. The second study examines student life as an element of cohesion between groups of young people and as a very relevant factor for life in the city as a whole. The third study analyses the economic impact of the Universitat de Lleida and is based on methodology similar to the *input-output* analysis used by Richard Harris in his study of Portsmouth. The final chapter examines how the urban campus of the Universitat de Lleida fits into the urban fabric of the city yet still manages to conserve its own separate identity. As explained on other occasions during the Urban Studies Week sessions, the general conclusion points to the need to seek a pact and consensus between the different institutions in order to jointly plan the future of the university and the city.

Finally, it only remains to wish you all a good read and hope that the contents of this publication will encourage you to attend future editions of Lleida's Urban Studies Weeks.

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RECENT TRENDS AND FUTURE PERSPECTIVES

EDUTROPOLIS: AN EMERGING 21ST CENTURY PARADIGM

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Dober, Lidsky, Craig and Associates, Inc.

The United States is fortunate in having a productive mix of colleges and universities. Columbia University and Santa Fe Community College are good examples of the range of institutions. The former is a multi-purpose, undergraduate and advanced degree research campus located in dense Manhattan. Columbia draws its students and faculty from an international pool of exceptionally qualified candidates and scholars. Santa Fe Community College is situated on the edge of a desert in New Mexico, serving a regional population seeking programs and courses that will improve their lives and advance their position in a competitive society. These contrasting images are a kind of warning sign that indicate that any generalizations about American higher education are fraught with imprecision and ambiguity. There are too many variables to formulate a universal concept that captures so many institutional distinctions and so much differentiation. Warning aside, some broad profile of the current situation in the United States is both necessary and desirable before plunging into the central theme of our paper: *Edutropolis* – An Emerging 21st Century Paradigm linking campus and community.

HIGHER EDUCATION PROFILE

Educationally, the United States is a two-class nation, 1998-1999 statistics. Twenty per cent of the population has an earned college or university degree and forty-six per cent of adults in the United States have had at least one year of higher education. Paradoxically, while participation rates in higher education have soared, the quality of our primary and secondary school educational system is apparently deteriorating. Ten per cent of the population is illiterate.

Higher education is a fundamental economic and cultural resource in the United States. During this past century, colleges and universities have been the primary source for advances in science and technology, both in terms of research and its application in industry, agriculture, transportation, communications and medicine. Nearly all our living Nobel Prize winners have been associated with American colleges and universities. Since the early 1950's higher education has produced many of our writers, musicians, artists, architects and designers. Campuses also provide the amateur and professional athletes who compete successfully worldwide.

The United States has 4,000 accredited colleges and universities (1999). They enroll about 14 million students, of whom 58 per cent are women. A third of the students currently enrolled in American degree programs are part-time students. Many are raising families and hold full-time jobs. Significantly, a fourth of the college and university students are more than thirty years old.

Not included in this summary are an estimated 1.5 million adults, retired and well educated, who are participating in on-campus educational activities, enrolled in courses with other students but not seeking credit for their work. The latter is also an example of a proven technique for advancing friendly town/gown relationships. Good will is generated when qualified elders fill the seats in under-subscribed courses at a modest fee.

In economic terms, the overall financial picture is unprecedented. Higher education expenditures totaled \$180 billion in 1997, or 2% of the Gross National Product. On average, students pay in tuition and fees about twenty-five per cent of the annual costs for higher education, which total about \$13,000 per student. No decline in this level of investment in human capital at the local, state or national level is forecast or expected.

THE EMERGENCE OF *EDUTROPOLIS*

That support for higher education will continue to be an important economic and social factor in America's economic and social development, transcending partisan politics, is clear in recent national trends, public policy debates, and national and state elections.

As to the future, and the conference theme, Campus and Community, here is my hypothesis as it relates to the American scene.

One: higher education will be a necessary activity for social, cultural, and economic advancement in the 21st century.

Two: significant populations will be living in metropolitan areas composed of core cities, suburbs and outlying areas; eighty per cent according to demographers in the U. S. Census Bureau.

Three: the concept of campus and community has to be extended to embrace more than town and gown. It has to include *the network of all the institutions* of higher education in the metropolitan area so as to take advantage of their synergistic relationships.

Four: That network, largely adventitious and unplanned, is beginning take shape in metro regions with a high participation rate in higher education.

Five: I call the emerging form, the 21st century paradigm, *Edutropolis*; blending two words education and metropolis.

EDUTROPOLIS DEFINED

Edutropolis is a metropolitan-wide network of post secondary institutions serving and supporting a multiplicity of educational, social, economic and cultural missions.

Those missions include the traditional triad of teaching, research and community service, *and also*, increasingly, community advancement and enhancement; i.e. community development.

EXPECTATIONS

I would expect the *Edutropolis* phenomenon to continue to be a prominent and consequential factor in community development for several reasons. Higher education is an engine for regional growth and an anodyne for the disturbing oscillations in technological change. Higher education is increasingly a source of personal cultural and aesthetic satisfaction. Once exposed to higher education in its multitudinous forms and formats, there is both will and reason among a significant population group to continue to participate in college and university activities and endeavors. Higher education is becoming a major contributor to the quality of community life. Its presence is affecting the physical forms in the precincts surrounding the individual campus and, through its synergistic influence, affects the overall regional setting.

EDUTROPOLIS EXEMPLIFIED

Metropolitan Boston is as an instructive example of how *Edutropolis* is forming, and its constituent and defining characteristics. The following descriptions illustrate the phenomenon.

Metro Boston has a population of 3,600,000 million people. About 300, 000 people are enrolled in degree programs at 57 accredited institutions of higher education. Nine of these are public institutions and forty-eight are private. By most standards, twelve of these institutions would be ranked as having an international reputation, seventeen are well-regarded national institutions, and twenty-eight are essentially organized and managed as regional and local institutions.

Broadly categorized, the institutions differ in purpose by the degree programs offered:

- Associate (32)
- Bachelor's (42)
- Master's (42)
- Doctorate (18)
- Post-doctorate (9).

They also can be differentiated by some of their educational specialties:

Art and Design: 6 institutions

Business and Management: 6 institutions

Education: 5 institutions

Engineering and Technology: 6 institutions

Law: 6 institutions

Library Science: 1 institution

Medical and Dental: 6 institutions

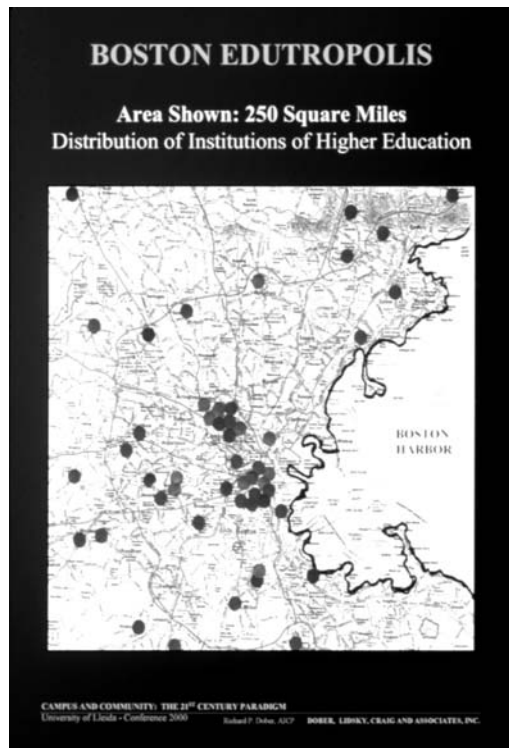
Music and Dramatic Arts: 5 institutions

Optometry: 1 institution

Pharmacy: 1 institution

Theology: 6 institutions.

FIGURE 1.
*Distribution of College and University Campuses
in the Boston Edutropolis.*



Geographically about a third of the schools are in the core area, the remainder being distributed throughout the region. The location pattern is adventitious, reflecting three and half centuries of uncoordinated but vibrant entrepreneurship. Historically in the Boston region it would appear that every social cause, religious sect, and economic agenda from the Pilgrim days forward has sought (and in many cases succeeded) to crown its existence with a college or university campus.

INSTITUTIONAL CONTRIBUTIONS TO COMMUNITY ENHANCEMENT

This rich history of sectarian interests and variations in mission, size and location, and educational specialties has, increasingly in recent years, permitted the colleges and universities to offer to the public an interesting range of activities and events that contribute to the quality of community life. Where once, in the main, the campus was inward looking, serving teen-agers and young adults, the broader missions and demographics identified earlier have affected its outlook and involvement with an enrichment that has substantial results beyond the campus boundaries.

For example, most of the Metro Boston college and university cafes, bookstores, forums, museums, theaters, arenas and stadiums welcome the public to share their facilities, programs and activities. Institutionally supported public radio and television have widened access to information and ideas. Some institutions run medical and dental clinics, offer legal aid, sponsor housing for the needy, and provide instruction and mentoring at primary and secondary schools seeking assistance. College students spend significant time helping the elderly, the disabled, and the dispossessed. Institutions provide part-time and seasonal job opportunities. For every professor and researcher there is an additional person serving in some support capacity: professional, managerial, technician, operator, clerical, and janitor.

PHYSICAL IMPACT

Town and gown conflicts continue to exist. In many Metro Boston areas young, energetic, East Coast students seem to live on West Coast time, occasionally upsetting the rhythm and quietude of nearby family life in the neighborhoods both share. Institutions in a growth mode compete with neighbors for land ownership and land use. Colleges and universities are non-profit institutions, and some do not pay a fair share of taxes for local services and infrastructure. Overall the benefits outweigh the drawbacks. Especially in the older metropolitan core cities where pockets of obsolescence and decay are being erased or ameliorated by institutional development.



FIGURE 2

Emerson College Opera House, Boston, Massachusetts. An obsolete theater at the edge of the city core is purchased and renovated for the College's theater and opera training programs and related public performances.

Source: from the author



FIGURE 3

Workshop Theater, Victoria Arts College, Melbourne, Australia. An obsolete warehouse is added to the campus and the building redesigned as a college workshop theater.

Source: from the author

In Boston, Suffolk University and Emerson College have recycled out-of-fashion office buildings at the edge of the central business district into student residences. Adjacent to its new housing, Emerson purchased an abandoned movie house for its opera and theater programs. In East Cambridge, the Massachusetts Institute of Technology has helped to transform an out-dated industrial area (factories, processing plants, warehouses and trucking terminals) into a splendid contemporary mix of campus and community. The physical form of the new precinct includes the conservation of older residential, housing for all income groups, new facilities serving the private science and technology sectors, and the conversion of old industrial buildings into new uses.

For MIT the latter actions included a candy factory reconstructed as a cancer research center, a bean and ketchup warehouse redesigned into a publications center, and a light-industry fabricating plant converted into graduate student housing. The transformation is expected to accelerate when a railroad spur line adjacent to the MIT west campus boundary is placed underground along with a new mass transit line. The upper level of the right-of-way will become a landscaped boulevard constructed to serve and symbolize these substantial changes.

POLICY ISSUES

A scanning of institutional presence and productivity in Chicago (Illinois), Atlanta (Georgia), Denver (Colorado) and the Twin Cities (Minnesota), would suggest the *Edutropolis* phenomenon is evident also in those metropolitan areas. And overseas, our recent experience would suggest that *Edutropolis* can be detected in cities such as Toronto, Canada and Melbourne, Australia.

In the main, this aspect of campus and community development (which we label the *Edutropolis* factor) is unplanned and uncoordinated in terms of public policy and management. This raises some interesting questions. Should we consider higher education (like water, highways, and mass transit) a fundamental metropolitan infrastructure element? If so, can partnerships and consortiums be organized to rationalize and coordinate collaborative efforts among metropolitan-wide colleges, universities, governments, and public and private agencies? What can be done to optimize contributions that educational institutions are making and can make to the quality of community life and to economic development at the regional level?

A healthy model (campus and community intertwined in *Edutropolis*) would respect the institutional independence and the distinctiveness of each institution and the districts in which they are located, but would also seek the synergy and potential of a coordinated metropolitan plan for taking full advantage of their presence and purpose. How to accomplish that goal is not yet clear; but I think a disciplined effort is worth launching in terms of articulating some specific desirable outcomes and the means to achieve the extraordinary benefits that *Edutropolis* appears to be yielding.



CITY AND UNIVERSITY IN THE 21ST CENTURY: FROM THE IVORY TOWER TO THE GLASS BUILDING; FROM THE GLASS BUILDING TO THE SQUARE

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PROLOGUE

The 21st Century is nothing more than the century that comes after the 20th Century. It does not, in itself, suppose the emergence of a “new world”. It could however, be the century in which modernity is affirmed with greater vitality and on a greater scale than in the past.

Modernity is science, innovation, dynamism, change, the promise of liberty, and the search for social justice. But, to be able to affirm this with vigour and to build upon it, two key concepts must be taken into account: “limit” and “redistribution”.

It is necessary to limit the existing “lack of awareness” of decisions, which has been translated into a childish reliance on development and progress. However, it is even more necessary to redistribute (on both the geographical and social levels) the “benefits” that have hitherto accrued to only part of humanity and to extend them to the whole of mankind. This must be regarded not only as a “right” that must be recognised but also as a need that will prolong human existence.

In recent years, there has been an enormous growth in the “power to transform”. Fields that once seemed inviolable have at times been recklessly transformed. At the same time, enthusiastic experiments have presented us with new decision making quandaries, extending the range of possibilities and inverting our ethical values. In each and every sector from biology to chemistry, from data transmission to the physics of new materials, and from surgery to biotechnology, humanity seems to recognise no limits other than those that it has (knowingly) set itself. Yet at the same time, it seems incapable of facing up to the challenge of social organization. It seems unable to guarantee that the benefits of these scientific and technical advances become *real* or to regulate them according to the principles of limit and redistribution. In this way, every program or project seems “dangerous” and, above all, useless. We have entrusted our fate to the metaphysics of a process of spontaneous self-organization. We have transferred the concept of the “invisible hand” from the rhetoric of the market to the ambit of social organization (without taking into consideration what are normally referred to as “the shortcomings of the market”).

In almost every field, our eager eye scrutinizes the material in question in great depth and tries to identify all of the different possibilities that exist for “intervening”. Yet in the field of social organization, we move around like little blind mice. Solutions are found that cure our bodies, while our “social illnesses” are left to take care of themselves. We allow wars and epidemics to resolve problems that could be solved through the use of “reason”.

It is true that unhappy past experiences may make us more cautious, but being cautious should not imply acting like fearful cowards or even imbeciles.

In today’s world, we have technical progress, great scientific advances, and enormous increases in productivity —whether real or projected— all of which imply great changes for our lives, our cultures and our desires. Yet there are signs (which are very clear to those who wish to see them) that not all of this change is compatible with the present form of social organization. There is an ever-greater incompatibility between these great innovations and their “promises” on one hand and their “rules” on the other. The substance and form of our social organization, the very rules of coexistence and “regulation”, and those relating to the political sphere of decision-making, need to be profoundly renewed and indeed revolutionized. This is a necessary condition if we are, on the one hand, to allow scientific and technical development to continue progressing guided by the principle of limits, and on the other, to allow the new frontiers of discovery to be pushed back to the benefit of everyone. Only in this way can the so much demanded, and so often promised, liberty, equality and social justice, finally become a reality.

The dynamisms previously alluded to and their particular speeds represent a source of *instability*. This cannot be eliminated, but if it is to be positively controlled, there is a need for another type of master plan: one capable of providing greater “safety” and of harnessing the instability and converting it into a motor for actions and projects. In the absence of such conditions, this instability looms menacingly over both individuals and whole communities and gives rise to “barbarity” and to the useless and selfish search for individual stability. The search for security —which constitutes the basis for human coexistence— therefore tends on the one hand to lead to affirmations of “the right to use violence” and on the other to expect “spontaneous” social solutions based upon a form of social interaction that is neither governed nor infinitely multiplied.

However, in such a situation, the individual will tend to succumb to solutions imposed by certain strong powers (be they economic or political). In fact, the social organization that has been “spontaneously” determined is no longer the result of the *absence* of an explicit “project”, but rather the concrete realization of a social order imposed by an implicit project. It hardly seems necessary to point out that every form of social organization (however we judge it) is the expression of a project. It would be a cultural distortion (perhaps even a defeat) to affirm that an *explicit* “social project” might be no more than a warning of coming “disasters”, while its absence would guarantee a positive —although perhaps not perfect— result, as in

the case of “freely” taken decisions and continuous interactions. In reality, it is a case of trying to impose an implicit project that few people are aware of, and that they are even less identified with.

The rejection of modernity lies in just this; in the move from the conviction that it is possible to consciously and collectively build a better social order, and the hope that this can be done in a spontaneous manner.

It could be said that today we live in an ambivalent situation, with the existence of two different possibilities: the imposition of modernity could lead either to the realization of a number of our many dreams, or alternatively to their rejection in favour of leaving our future to the whims of fate and future events. These two alternatives can be expressed in different ways. On the one hand, we can consciously and collectively use all of the possibilities that science and technology can offer us, and in this way, reap the positive rewards of the modern world. On the other, we can wrap ourselves up and shelter in the hypothesis that —if given free reign— the existing economic and social mechanisms will allow us to reach our professed objectives of liberty and social justice (and in both a faster and better way).

We do not find ourselves faced with a duplication of a “naïve” perspective; to the contrary, we find ourselves before a situation that arises as a result of the (cultural, political, ideological and material) “pressure” created by those who hold a power that enters the general debate by effectively promoting a social model based on liberty and social justice.

In this way “the task” has been converted into a battlefield, not only between rival “interests”, but also between two “projects”: one is instrumental, and represents the interests of business and capital, while the other is represented by the freedom of movement of workers. These two projects have their own particular forms and different contents. They respond to their relative strengths, the tools available (technologies, organization, etc.), the level of development, and the presence or (relative) absence of forces kept in reserve, etc.

Fordist and post-Fordist forms of organization embody the instrumental project in specific contexts. The loss of awareness in the productive process – which is a result of the maximum division of “dependent” labour on the assembly line (which has, however, still produced the social and cultural unification of the workers) – is no different, in terms of the instrumental project, from the reorganisation carried out in parts of the post-Fordist system or from the growth of “independent” work (though we will not discuss how effectively independent this may be). It is a question of finding solutions that are appropriate to specific phases of development – including technological development – and that allow a different way of subjecting and instrumentally distributing work.

When the “reason of capital” does not find any (social and cultural) equivalent, it is transformed into a piece of “natural” information. Any liberating project comes up against the stumbling block of “technical reason”. It is possible to transform the

physical world. It is possible to give a new form to the biological world. It is possible to explore the universe, and to carry out new and more powerful technologies. However, it is not possible to plan or to try to create a society of the free and the equal, or at least consciously move in that direction with any degree of certainty.

Work itself —with its quantities, qualities, remuneration and method of payment— is governed by a technical reasoning that is not subject to debate. It responds to a law that, if broken, can only bring negative consequences: it is said that, “the market takes its revenge” like an intangible God with human needs.

“Technical necessity” is organised according to time and takes many forms: flexible employment, contracts for in-service training, hired labour, work from home, part-time work, “occasional” work, and telemarketing, etc. These are all presented as technical *necessities*, and do not express forms of social organization that could (or should) be modified. The de-socialization of work has finally reached all “negotiations” related with work. From this perspective, flexibility —proclaimed as “the management of one’s own working time”— and part-time work, etc. cannot constitute “liberating” factors if they do not eliminate all the elements of insecurity and uncertainty that cause substantial dependence, and even become paroxysms of “self-exploitation”.

The “nature” of the professional services that are demanded of the worker has changed due to the evolution, organization and development of technology. It is common to speak of more qualified forms of employment, of a demand for greater knowledge, and of greater responsibility and autonomy, but in reality, technical progress has a tendency to squeeze the work pyramid and to transform it into an almost impermeable hourglass that tends to exalt the work done in the upper part of the system and to underestimate that associated with the lower part.

This is not, however, a technical need, but rather a social decision.

2. THE NEED FOR REAL DEMOCRACY

Precisely because of their ambivalence, the previously mentioned transformations draw attention to the problem of how to (democratically) control such processes. We should not be indifferent to the fact that these innovations could bring about the profound inspiration of modernity, or even provoke greater discrimination and impose a degree of inequality perhaps hitherto unimagined in the course of human history. The false splendour of the idea that “small is beautiful” is being combined with a real concentration of economic and political power, which looms menacingly, like the threat of a hurricane, over the economic world; for however elaborate the “laws that defend competition” may be, they somehow always seem ineffective. The concept of globalisation is increasingly associated with the almost unlimited exploitation of labour in the poorest countries; environmental sensibility constitutes a limit to development in less developed countries; “financing” the economy places the destinies of whole races in the hands of the privileged few.

It seems increasingly necessary to have some form of democratic control over all of these processes, yet our “governments” seem to be increasingly less independent of strong economic powers (rather than governing, they seem to be governed). Democratic control cannot be regarded as a function of political institutions (whether these are run by the state or decentralised) until effective controls can be exercised over them. In fact, these institutions embody a concentration of political power that ends up existing in symbiosis (although not always pacifically) with concentrations of economic power. The growing distancing (from its historic functions) that can be observed between the political sphere and that of society simply accelerates and facilitates this process of political “autonomy”. The defence of the common, general interest which all types of political institution are supposed to pursue is eventually frustrated in the interests of clinging onto power itself.

The question that could be asked today is whether or not it is really possible to restrain the personal objectives of the great economic powers and subject them to the general interest, thereby making them assume a “technical” (rather than a necessarily social) function. This is especially relevant if it is possible to make the political institutions assume the role of guarantors of the common good. This question suggests that “politics” could again become a “normal” activity for the social being – which is the fundamental prerogative of the subject who is able to take an active role in planning the future rather than being a mere spectator in a game played by others. Unless these conditions are fully met, all of our “concerns” (environmental or otherwise) for future generations will be in vain. This is a necessary, yet far from simple, process. The degree of innovation that needs to be introduced into how politics is actually conducted is not modest: this cannot be achieved through direct participation alone, but rather calls for the responsibility to elaborate an idea, an aspiration, and a common “dream”. It will —perhaps— be a long process, but it will hopefully not take so long that the final result is ultimately diluted to a point at which it is impossible to distinguish its particular taste. In the meantime, we need these first light flavours.

All of this will be possible if our society is *also* able to produce dynamic institutions capable of continuously redesigning their own role in response to the changing needs of the times. They must be able to *contribute* to establishing “democratic control” and, above all, to revealing the “mysteries” of economic powers, research and innovation to an “independent” authority. This is so because their objectives must be dictated by the common interest and must seek to establish a relationship of trust (between institution and collective) supported by democratic controls over the institution itself and with norms for transparent behaviour.

In essence, it seems fair to say that only a large number of institutions endowed at the highest levels with independence and with generally recognised authority (not just that residing within narrow groups) and themselves subject to mechanisms of control can guarantee to make a relevant contribution to the forming of responsible

opinions and exert an influence upon political decision-making. In other words, it is necessary to seek a multitude of independent controls.

This road that leads us to regard the “riskiest” of research in a positive way, as it is freer from the fear and narrow-mindedness dictated by ignorance and mistrust. In this way it is possible to avoid the dangers of uncontrolled investigation, yet at the same time expect the most ambitious projects to yield results that will lead to general progress and to an improvement in life for everyone. In fact, it is only this control that allows us to measure our projects and results, not in terms of profits, but on the basis of the advantages that they offer to humanity as a whole (examples such as the “genome” and “cloning”, to name but two recent cases, call for much reflection in this light).

3. RELATING TO THE UNIVERSITY

As a prelude to the specific theme that has been assigned to me, it seemed useful to advance – in the form of a summary and apodictic – a few observations about what I consider to be the general characteristics of society at the present moment in history, and the “needs” that – seen from a certain perspective – are expressed by such tendencies. For this reason I do not think that the university can be considered separately from the processes that are currently in course. In fact, precisely due to its characteristics and history, it may be assigned (or may claim back) a number of functions that are very important in this new context.

The assigned theme may perhaps therefore be reworded as follows: in what sort of university and in what sort of city, tomorrow?

You will probably have observed how imprudent I have been in agreeing to examine a question that has been made so difficult by the uncertainty that seems to be associated with it. This is the case whether we consider the future of the university (in almost every country, the current agenda contemplates some type of reform), or, above all, that of the city whose nature – according to some – has been called into question by the new forms of territorial organisation, and whose very existence – according to others – has been threatened by the extensive use of new computer and data transmission technologies (an argument which first appeared following the invention of the telephone). I would certainly have been imprudent if my stated objective had been to make predictions. But I do not intend to go so far: instead I aim to simply point out what the “new functions” that the university (of today and for tomorrow) could (and should) develop might be, with my attention firmly fixed on the general changes that people have tried to plan for it, and the demands that these changes place upon the current reality.

I know that it is hardly realistic to speak of the *university* as a homogeneous institution, even at the European scale. Not even my own detailed knowledge of the different university systems would allow me to differentiate between the different

logics that they obey. Furthermore, I do not think that this would be particularly useful from the perspective of the reasoning that I would like to develop, although I would like to stress that the observations that follow will probably have different values in different national contexts. Despite this, people have the impression that the “transformation” of the university is a tendency common to all countries and societies. They believe that there is a general attempt to adapt the institution to a set of new demands, though with different rates of transformation in each particular case. It is precisely in the interpretation of the term “*adapt*” that the different attitudes and hypothesis are most evident; this is effectively an area of cultural and political confrontation.

In essence, the answers to the new demands that await the university cannot be grouped together to form part of the same plan: by schematising and simplifying, it is possible to identify two different and opposing general tendencies.

The first tendency looks to the university to exclusively concentrate on developing its “training” function to the best of its ability. It must do this by providing training to enable students to reach a suitable level of professionalism in a series of different fields and at different levels (therefore implying the use of different and more refined instruments of selection) and to thereby meet market demands for different professions, and also the needs determined by the particular social order in question. Essentially, this constitutes a quest for the adaptation and modernization of one of the functions of the university, but it should be remembered that this is not its only function. This tendency is closely related to a way of managing the institution’s affairs. It is no coincidence that such great emphasis has been placed upon the competitive character that universities must assume in both their reciprocal relations and with regard to the “market” for students. In this last context, it seems clear that the main reference for the institution is not “society”, but rather private enterprise. Contextually, this has weakened the “public” nature of the institution (in terms of financial resources, the oft repeated message has been that universities must become self-sufficient).

The second tendency proposes that the functions and traditional roles of the university should be strengthened as they can provide the best response to the demands expressed by the whole of society (and not just the business sector). This does not imply ignoring the new and more diversified demands for training imposed by technical, scientific and economic change, but rather the university laying claim to (and effectively carrying out, which is more difficult) its historical role as a “centre for cultural production”. It is obviously not the only centre for cultural production—it is one of many—but, it is characterized by the significant attention that it affords to the general interest.

It seems that under certain conditions the university can (once more) aspire to become one of the essential institutions of the present and one of the ones that we will most need in the future. Such institutions help to perform a function of

“democratic control” in very delicate sectors such as research and at the same time use this channel to promote their formative function.

As might be expected, the ideas that follow speak of, and refer back to, this possibility. It seems to me that those of us who work at, and make a living from, the university cannot help thinking what a powerful instrument this institution has been in the cultural evolution of our countries and how, even today, it can play an important role in affirming the principles of freedom and social justice.

It is possible that “objective” situations may finally determine a series of positive conditions that could allow the university to (re)assume an “independent” function.

4. A FEW CRUCIAL QUESTIONS

4.1. *The devil's flour*¹

Is it worth reflecting on the circumstances that have enabled the university—within certain limits—to withstand the pressures of political power, while putting up much weaker (if not to say nonexistent) resistance to economic power. The (financial) resources of the latter have generally been considered not as a factor that conditions the activity of the institution, but rather as something positive, especially when economic power supports research and adopts a disinterested and generous attitude. That apart, it is evident that this represents a rather utopian view of a much more compromising situation, which also includes such phenomena as the imposition of lines of research and cultural prerogatives.

It may, however, seem incredible that in today's world such a contribution of resources should have—how might we put it?—a constitutive character, in the light of a formula repeated by many governments, in which “universities must find private resources of their own in order to fund their (formative and research) activities”. In the past, although substantial, contributions still had a “private” nature in that they did not substitute the public commitment to the university. The present situation seems more dangerous and is also quite deceptive. On the one hand, this tendency tends to objectively reduce the “independence” of the institution (understood in terms of a certain apparent desire to try to homologate everything), while on the other, the resources made are not appropriate to the needs of the present situation.

In fact, we should perhaps reflect upon whether the “private sector” is tempted to transfer economic resources to the university out of pure generosity or whether it simply seeks to take advantage of the university's (human and structural) potential for research and innovation.

1. Italian proverb: *la farina del diavolo va tutta in crusca, non dà il frutto sperato ciò che si è ottenuto compiendo una cattiva azione*. The expression literally translates as: “The devil's flour turns everything into bran”, which approximately means that anything that has been obtained by dishonest or questionable means tends to give poorer results than those initially expected (translator's note).

Generosity, as it is well known, is never totally disinterested. Financial questions and mechanisms come into play that, to a certain extent, treat such gestures as if they were, in fact, a “public contribution” whose allocation had been entrusted to private uses, but this is not the point. The fact is that the majority of Europe’s financial systems are not equipped for this purpose (it is not, therefore, a case of there being a particular type of avarice that characterises Europeans more than Americans, but rather a question of the greater fiscal advantages that are enjoyed in the USA).

If the university institutions of the old continent do not (except in very exceptional cases) have much hope of benefiting from the economic generosity of important companies and families, they can hardly hope for anything more than a few crumbs from the investigative commission. It is not a case of outside forces doubting the investigative capability of the institution, nor of them giving insufficient attention and importance to research. As repeated on so many occasions (in fact so many times that it really calls for critical attention if it is not to become merely a commonplace), today, more than ever before, the results of research have a high economic value, which (at least in theory) can rapidly be transformed into benefits. In fact, it is precisely the high economic value of the results of research that has led to the increase in privatisations. To put this in a simpler and more explicit way, no-one is prepared to contribute a significant level of funding, or to finance research activity which is expected to produce results that could be converted into significant economic gain, without having complete and absolute discretionary control over the results deriving from such research. While the (traditional European model of) university can guarantee good results and major economies, it is not able to guarantee the necessary levels of reserved rights. This is not because the system is full of imperfections, but rather a result of the political and cultural impositions of the institution itself, which in substance derive from its public and collective nature. From other examples, it is also possible to observe how publicly funded research also tends to prefer specific “agencies” for its more ambitious projects, and how this increasingly implies a “private” business-like style with respect to organisation and ideology.

If the situation were indeed that described in the previous paragraph, this would constitute a first fundamental argument in favour of the university of the future *demanding more public resources*, because only public structural funding can guarantee the independence of non-business-sector-related research and training projects. In referring to this independence, there is no wish to accuse researchers and teachers of suffering from (to avoid expressing it in other terms) “deferential” subjectivity or of denying the fact that there is no clean separation between public and private research (the former tends to guide the latter). There is, however, an intention to highlight the fact that within an institutional structure governed according to democratic premises, collective control may be effectively exercised. While the adopted reference point is *society* and the demands that it expresses, the existence and interplay of different points of view constitutes a guarantee of autonomy with respect to both political and economic forms of power.

It is impossible to ignore the fact that the general situation in Europe is often frustrating for the “researcher”, either due to the lack of available means, or to their inefficient management. The way in which resources are allocated between different research sectors tends to be governed more by criteria of “power” than by any promises of results. Thus, inefficiency is often exacerbated by ineffectiveness. All of these circumstances combine to tempt the researcher to move to more appealing surroundings, even though these tend to be more closely conditioned and —above all— characterised by a degree of competition that amply exceeds opportunity (and hence the so-called “scientific frauds”). Yet as we all know only too well, the researcher is often prepared to sell his soul to the devil in order to pursue his own scientific research project.

It could be said that where no action is taken to correct existing tendencies —which see fewer and fewer public funds being destined to the university— the institution is on course to lose the function that it has performed in Europe for centuries. In fact, not being able to rely on (or perhaps, more precisely, not having to rely on) the “devil’s flour” of either private generosity, or significant private financing for research —and with public donations being constantly reduced— universities will have no other alternative than to turn to their “only” market; their students, for the money that they need. They will have to do this by greatly increasing their fees, by introducing rigorous selection procedures, and by carefully selecting which professions to prepare their students for.

In this process, there are also two possible routes. One involves transforming the university into an institution dedicated to forming a very select elite (a route that was also followed in the past with enviable results being obtained by some historic institutions). But this hypothesis is totally anachronistic with regard to the present needs of society. The other alternative involves making a rigorous selection of very specific and specialized formative projects that would exclusively and perfectly meet the demands of the labour market (in this way, the high costs associated with acquiring training would be justified by the guarantee of future recompense). This would imply a drastic reduction in formative activity (Ah! Who will now bother to study Sanskrit?), cultural impoverishment, and a very narrow and temporally defined idea of what should be regarded as “really important” and “relevant”.

I do not subscribe to the indifference of the university in the face of transformations in the labour market and the need for a new form of professionalism (though we will return to this subject later), but rather to a less narrow vision than that dictated by the labour market and one that would take into consideration the wider needs of society.

These observations lead to a single conclusion: the exaltation of university functions requires increasingly greater amounts of public funding, and this is just the opposite of what is currently being proposed by many governments. It is therefore not a case of maintaining the existing situation, but rather of identifying a set of conditions

that would not only permit the institution to survive, but also help it to develop in accordance with the demands of the time. The university should not operate as a *business enterprise*, but rather as a centre for *cultural elaboration*; with effectiveness as the ultimate management objective; with results that are not exclusively tied to immediate returns, but also to the needs of society; and with a critical and therefore creative attitude, rather than one of conformism.

It is a question of the university being allowed the possibility to enjoy a relevant degree of autonomy and independence and to thereby become a generally recognised authority (although with this status submitted to certain control mechanisms). The university might then be in a position to contribute to the formation of responsible opinions and to therefore act as one of the possible “subjects” capable of developing a democratic control function.

4.2. *Lifelong learning*

The university will—in any case—be caught up in a transformation process that will modify it down to the very roots of its structure. In fact, it will have to examine itself with respect to a demand that was previously alien to it: lifelong learning. In stark contrast with the past, the subjects of innovation, and not just technological innovation but also scientific innovation, *are all part of the same generation*. This phenomenon of “acceleration” has produced a situation in which it is not now possible to acquire a high level of professional preparation through just one period of study that will serve for the rest of a person’s life (with modest periods of recycling to emphasise professional practice); instead, there is a need for a continuous series of periodic recycling.

Today, more than ever in the past and probably more than in the future, training constitutes a fundamental necessity for economic development. Promoting the quality of education and therefore the quality of “imparted” knowledge—or (to use a term that I particularly dislike) the quality of “human capital”—should be regarded as an objective to be pursued with determination and without *skimping on resources*. It is in this dimension therefore that we must situate any modifications to what is demanded of the university: lifelong learning, according to the meaning generally attributed to the term and which will be explained in more detail below, should include elements of both training and didactics.

Furthermore—and as has often been repeated—the current phase of development seeks greater flexibility in the employment of the work force. In its most benevolent interpretation (there are several infamous versions), this idea calls for highly qualified manpower to submit itself to a continuous process of education. This may involve the recycling or the acquisition of new professional skills, even in areas that differ from those in which the skills were originally acquired and all of this within a context of (potentially) discontinuous work and professions (although

obviously the matter is much more complex than this and poses problems of great social relevance that it is not possible to go into in any depth in this article).

In such a situation, in which the recycling required concerns not just the acquisition of several new skills, but rather a new level of training, the role of the university must, out of necessity, change its traditional stance: it must cease to be an institution for the first stage of higher level education and instead become a centre for ongoing higher level formation.

Essentially, we will find ourselves increasingly faced with a reduction in the time that students will *continuously* spend at university and a simultaneous increase in the time that they spend in *non-continuous* forms of education. In other words, students will no longer study a single formative program (albeit divided into various cycles), but will call for, and indeed need, a series of formative programs relating to their specific professional needs, the latest scientific and technical advances, and the demands imposed by the market for their specific professional services.

Even so, the demand for lifelong learning must not be regarded as the exclusive domain of new “techniques”, but rather as a means of recycling methods and presenting new conceptualisations and contextualisations of problems. Reducing everything to a simple technical recycling would imply looking at just one side of the question—the simplest—without providing appropriate solutions to existing needs.

The fact that there is an ever-increasing demand for lifelong learning is evident from the significant supply offered by the private sector; training has become a veritable “business”. Evidently, such private initiatives tend to almost exclusively focus their attention on recycling skills, which is the easiest area: a rapid recycling without entering into too much detail or cost, with the consequent result of little new knowledge being acquired that is not already obsolete.

While the concept of “lifelong learning” does not exclude technical recycling, it does present a number of other questions and demands, particularly regarding the most appropriate methods for recycling particular skills. There are various needs to be attended to: the need to place innovation in specific and appropriate reference contexts; the need to enrich conceptualism by taking into account future paradigms and correcting and recycling them; and the need put technical evolution into context, through adopting a “critical” approach to the problem of technical development. These are all questions that can only be dealt with by a higher level cultural institution (if it is given the necessary tools and conditions to do so).

The effect of this transformation should not be underestimated, as its influence will be enormous, with respect to both organization and content.

At the organizational level, the supply of training will have to be reconciled with a demand that no longer comes from students in full time education, but which—with ever greater frequency—will come from a growing minority of student-workers, student-professionals, and student-executives, etc. This presupposes the need

for an appropriate methodological approach: one that will be different from that traditionally adopted.

On the content level, although recognizing that the university is —almost by definition— an institution dedicated to innovation, it cannot be denied that this innovation often fails to influence the field of didactics. On the other hand, in the case of lifelong learning, the attention given to innovation and scientific progress is not only fundamental, but needs to become an integral part of the general evolution of society —in all its different aspects— and of the interrelationship between research and training. For this reason, a certain auto-complicity that often tends to characterise the university institution should not go unpunished.

It is important not to underestimate the dangers inherent in this process of transformation and to be aware of what the university might stand to lose: the reduction of the process of lifelong learning to a mere technicality, could imply a consequent reduction of the special connotation of higher level formation, especially with reference to its “concepts”, “critical” approach and context. One particularly relevant danger relates to a potential reduction in the amount of public resources assigned to the university.

4.3. *Research*

Today’s interventions in the field of research are a particular source of worry on account of their results, which may have very negative consequences for humanity, both in terms of the ways in which they are used (which may be selective and discriminative) and to the purposes behind this research, which too often seeks economic gain rather than ways of “improving” the quality of life for everybody. This is a circumstance which threatens to fuel the deep distrust that already exists with respect to scientific research and its results (a distrust which —it must be said— could be considered relatively justified). The risks connected with this situation are varied yet symmetrical. On the one hand, there is a danger of encouraging a movement opposed to research, which could be tantamount to a case of “*Butare il bambino insieme all’acqua sporca*”.² On the other, there is the irresponsible dynamic of research driven not so much by a “mad scientist”, but by a “board of directors” exclusively obsessed with making profits.

Can the university play a positive role in this arena? Does it, effectively, have the authority and ability to make the contents and results of its research intelligible —above all in those cases of research that most shake awareness and demonstrate an interest in the future?

It is not possible to imagine the university deciding what and how to investigate, but it is possible to envisage how it might become the point of reference for the

2. This literally means, “throwing out the baby together with the dirty water”, or eliminating – whether through carelessness or stupidity – something that is good together with something that is not wanted (translator’s note).

“collective” and help people to understand, know, delve into and therefore promote or prevent research projects and programs, and free their results, etc. In short, it could become a centre for monitoring scientific research.

It is true to say that university researchers share the same vices and virtues as all other investigators. They may and should also —however— be motivated and encouraged to develop and assume the function of “guarantors of that which is collective”. In other words, their attitude towards research should not only focus on the more specific aspects of results, but also on the more general results and effects that these may produce within the wider context.

It is clear that this role can only be developed on the basis of a relevant contemporary commitment from the university and its researchers to their research. An objection might be raised owing to the fact that this duality of roles (researchers and research critics) could be seen to constitute a contradiction. Such an objection does not, however, take into account the fact that the problem is not so much concerned with “criticising” research techniques and methodologies —for which the opinions of “strictly” sector-specific experts are perfectly valid— but relates to developing a multidisciplinary approach for addressing different angles of research and their possible consequences. To make sure that we understand each other, it is not a problem of critically analysing the techniques used to construct transgenic products (a small group of scientists are legitimated in this criticism) but rather of introducing a method for *scientifically* verifying their results, consequences, and short-term and long-term effects, etc.

The need for the university to assume this role —or better said— contribute to this role, is —as has already been mentioned— closely related to the relevant development of “university research”, understanding by this concept a type of research that is not directly conditioned by economic results. This reverts us to the subject of public resources that should be made more readily available to the university, not only —as previously argued— to allow free research, but also to make it possible to investigate at all.

In all its activities —but especially in research in which the assigned objectives are shared— the university should not only act as a “glass house”, but also as a place in which the subjects, programs and results of scientific investigation can be the objects of scientific and technical and/or scientific and social diffusion and debate. The university should no longer be a “glass tower” (made of an opaque though noble material) but an agora, square, and/or open space for discussion and comparison, and a source of greater clarity.

This also appears to be essential transformation: this is not a case of opportunity, but rather one of necessity. As already observed, it is possible to note a certain lack of trust here, whose roots are based in reason: the principle of *minimum risk* or *maximum caution* is often invoked; the possibility of “controlling” the results of research is questioned; there is a widespread impression that research tends to have profit as its objective rather than seeking to improve living conditions, and that at

times this effectively “thwarts” the second objective. This is a situation that could have dramatically negative consequences, with an effective block being placed on research in sectors that could offer positive results for the collective welfare and yet at the same time the first cases of uncontrolled research carried out behind the closed doors of opaque institutions.

In order to eliminate these negative results it is necessary to create an authority that could serve as a point of reference, not just for sharing the “verdict” but also for providing an opportunity to build a common knowledge and motivated conviction upon a base of clarity and transparency. And for all the reasons expressed above, this authority can be none other than the university.

5. UNIVERSITY AND CITY

The redefinition of the mission of the university—if it restructures its position in society—also implies the redefinition of its relations with the city.

Many observers have highlighted a certain feeling of discomfort amongst the population in this respect, perhaps linked to the deterioration resulting from globalisation. In short, globalisation tends to annul identity and to destabilise the population.

If we accept this diagnosis as correct, we must also note that it is possible to find the remedy in a new statute for the identity of places that tends to oppose the search for very simplistic means of identification which have little substantial relevance and are based on what we might define as “primary” elements (such as ethnic origin, blood and faith etc.). In other words, it is a case of establishing a new statute capable of performing the dual function of serving as a means of creating local roots and identity while at the same time interacting with the “global village”—to use a term that, although rather mundane, succeeds quite well in defining the concept of opening out to the whole world.

In order to reason along these lines, but above all in order to discuss the role that the university may play in this new context, it is interesting to put forward a few observations about the city while bearing in mind the fact that it has complex and often contradictory connotations. It presents a potential for social openings and at the same time for very discriminatory treatment. It constitutes the centre for intense (economic, social and cultural) relations and is also the result of processes of interaction between independent citizens, asocial citizens, institutions, organized centres, economic powers, cultural institutions, and services etc.

In order to develop some of the observations that have been made with respect to the possible future of the city, we propose a historical investigation of the “urban condition”.

In the first phase of its development, the capitalist city is characterized by the *direct* influence of its productive processes: the city is, primarily, a *pure* expression of the development of the forces of production.

In this phase, for a number of reasons, which include the very demands of the productive process, conflicts between capital and labour and new social and political ideas are substituted by a long period of *urban reform*. In the city, which remains the “centre of power” (and precisely because of this), the mechanisms of “social regularisation” are activated. This is a long and contradictory phase, with specific elements marking each of the different periods, and continues right up until the modern day.

Today, this tendency for long periods of urban reform seems incompatible with the social mechanism of capitalism. In other words, we could be witnessing a *break* with the past: the city has become the symbol of processes of individualistic appropriation and pillaging that do not seem to be countered by any government function. It is a passage that opens a phase of uncertainty surrounding the destiny of the city and that arouses the dense nucleus of its contradiction: the city’s function (in the broadest of terms) as an “accumulator” of economic energies and its function of socialization. Casting aside the building mortar of urban reform always implies the risk of this contradiction exploding in a socially destructive way.

As a result of this situation, the future evolution appears uncertain. The answers to the dramatic demands are insufficient and the possibilities of capitalising on the positive offshoots in collective terms, although certainly real (it is only necessary to think about new technologies), are modest. The role that the institutions will want (or will be able) to assume, and the means by which they will be able to activate, will be the main tools for ensuring that the results are not dramatic, and that—to the contrary—they may allow the new possibilities offered by scientific and technical development to be used to design a positive outcome.

Only the *public city* can “organize potential”, give a new structure to existing social mechanisms, provide a network to help citizens to organize themselves, and develop an identity that is both strong and open at the same time. By a public city—in this context—we understand not only a way of organizing space and its collective use, but also the construction of attractive elements that are capable of engendering positive conditions for the development of the city and the quality of the life of its inhabitants.

In this scenario, the university could (and should) play a very relevant role in the re-foundation and transformation of the city. We previously mentioned how it is necessary to pass from the ivory tower to the glass house, but this is not enough: the university must be transformed, because it is destined to protect and control the evolution of the scientific research that will make it a freely frequented *square*. But, a general reorganization will be needed to prevent this function from acting as an obstacle to the normal development of formation and research: this will imply a redefinition of the role of students—who are active elements in the “square”. Similarly, relations between the university and the “outside world” cannot be idealistically taken for granted, but should be structured and made operational.

It is a question of trying to give this institution a new form and of equipping it for the task of re-qualifying the city and thereby eliminating the sense of separation that often characterizes relations between the university and the city. The university should not be seen to *lodge* in the city, it should be regarded as an integral part of the structure, form and functioning of the urban community.

Its functions of providing higher level professional training, acting as a centre for cultural elaboration, guaranteeing standards, and helping to comprehend the evolution of science and technical skills, may all help to make the university a reference point for urban qualification (not just in the physical, but also in the social and cultural senses of the concept) and/or a source of relevant contributions to the construction of a strong and open identity for its citizens.

If, on the one hand, it is—in effect— necessary to regard strong local identities with perplexity, on the other, the “rooting factor” constitutes a modality of belonging and equilibrium for the social being. Today, such a root is always accompanied by an “international” awareness and by ideals of coexistence (which are necessary, though difficult to achieve), which are the only conditions for being able to live in equilibrium with globalisation and, above all, to avert worries and fears concerning diversity.

It is precisely in the construction of this condition that I feel we must call upon the university to make its contribution, not only in its condition as the institution of its beneficiaries, but also as the “local institution” that is open to everyone, and as a centre for experiments in coexistence. It is true that the university cannot perform this function alone, but the contribution that this institution could make—apart from being substantial and meaningful— should not be underestimated.

Synthesising these ideas, the relationship between the university and the city seems to take different forms in different settings:

- Spatial organisation: the university constitutes a strong pole of attraction. It possesses the tools and means to perform qualified interventions. This “quality” (including that of its spaces) cannot be found in the constitution of its nature, but rather in its capacity to intervene in spatial scenarios that have lost their original function (areas now in disuse) and that—on account of their size— represent more of a problem than an opportunity. In essence, the university presents itself as an active force for urban reorganization;
- The answer that—in formative terms— presents technical, scientific and economic evolution: with lifelong learning as its latest characterization;
- The contribution as an authority that can help to understand the processes of technological development, scientific innovation, new discoveries, and methodologies;
- The creation of a strong pole of identification.

6. TO FINISH

It is not easy to predict how the century that has only just begun will eventually unfold. It could turn out to be long or short, bloody or pacific, democratic or authoritarian, technological or ecological, barbaric or highly developed, discriminatory or egalitarian (in fact, perhaps even the generally understood meaning of these words will change in the future). However it turns out, it will be what we are capable of wanting it to be, for there is no written destiny.

There is one thing that is certain: the university, as we have known it until now, will undergo a significant transformation. It might, as we have already said, either lose some of its historic functions or see them exalted within a new context.

We firmly believe that the university will be able to make a valuable contribution to fulfilling the promises of modernity, but for this to happen, it must undergo a self-transformation capable of challenging and changing the elements of conservatism that so often characterize it.

The university that we need is one that permanently resembles a research and training laboratory that serves the interests of the whole of society. It must challenge historical and environmental values, be characterized by a firm commitment to democracy and social justice, and be capable of measuring the benefits offered by the results of research in terms of collective advantages (with benefits for all). And its democratic management will be fundamental to guaranteeing these objectives.



THE URBAN UNIVERSITY AND THE IMAGINED GLOBAL ACADEMIC COMMUNITY

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INTRODUCTION

The university is one of the core institutions of western society. In its long history it has enormously changed but there is still a family resemblance between at least the ethos of the early medieval institutions in places like Bologna, Coimbra, Paris, Louvain and Oxford and the leading universities in the western world that are part of their respective national education systems. In addition there are new university-like institutions that originate from other considerations like the state induced implantations of higher education in peripheral areas (this applies all across Europe: it has been the case since the Second World War and is now particularly vivid in France) and the private initiatives to complement or supplant the higher education systems in the former Soviet empire. But also in these cases, the basic model of the university is still often upheld as an ideal. This certainly also applies to cases like Lleida, where an old university tradition is now powerfully rejuvenated by means of a sustained decentralization policy in higher education. In universities there should be an atmosphere of free debate where well established truths can be disputed in order to arrive at deeper insights and there is at least the pretence of contributing to the education of those entering prestigious vocations. Universities should therefore be distinct from society at large, providing free space for intellectual debate, having their own autonomous governing bodies, and remaining in touch with the institutions that control access to the higher vocations e.g. through certification, in which their alumni will become active. This applies to classic cases like medicine and law, but also to professions that were instituted much more recently like architecture and psychology.

In their long history, individual universities have always had to cope with at least three outside forces: other universities, the local context, and national policy. Universities have been continuously engaged in cooperation and competition with their equals. The medieval theologians and renaissance humanists looked for freedom and the best opportunities for discussion and to challenge colleagues to debate basic questions, 19th century scientists looked for the best laboratory facilities, while today's university professors perhaps focus on sourcing grants and identifying the brightest students. Some

university professionals have always been footloose and travelled around a network of institutions that hung together on the basis of an intriguing mixture of competition and cooperation. In the Dutch context, we may think of the humanist Erasmus roaming across 16th century Europe from his native Rotterdam, or a few famous chemists and physicists, like Van 't Hoff and Van der Waals (both Nobel prize winners), who spent extended periods at German universities in the late 19th century, or the political scientist Lijphart and philosopher Staal, who moved to California in the 1970s.

Universities have also continuously had to secure their independent existence vis-à-vis the local context in which they operate. This was particularly true when they were located in cities, which was a moot point as urban life and the university were inextricably intertwined. Professorate, student bodies and support staff were often part of the residential population. Cities provided goods and services to “their” university. The university population gave a particular flavour to the economic, cultural and political life of their cities. Town and gown were different, but mutually enmeshed. However, a profitable relationship is easier said than done, even when cities, particularly in the 19th century, made a point of establishing their own university as an investment in the future. This applies to the red brick universities established in the major British cities in the late 19th century, which were based on civic pride and also to the re-establishment of the University of Amsterdam in 1876, at the outset of what was later called the “Second Golden Century”, in reference to the leading role that Amsterdam had played in the United Provinces that separated from Spain in 1648.

From the early 19th century onwards, universities also became increasingly linked to state policy. The reform of Berlin University set the tone. This was a conscious effort, not only to provide a forum for free debate and the pursuit of knowledge, but also to provide a device to enhance Prussia's position as a modern state in the new, post-French Revolution, Europe. The subsequent development of the research university was also aimed at boosting national development and, in the case of the USA, would eventually give rise to the central role of some universities within the military-industrial complex that helped to strengthen the USA's hegemony during the Cold War. The recent mass market university has been one of the many facets of welfare state development in which tertiary education, through generally rather modest tuition, and student grants have made universities accessible to ever larger numbers of students with the appropriate qualifications. In the Netherlands, universities became heavily involved in colonial policy from the late 19th century onwards and the Technical High Schools that were later reclassified as universities were instrumental in the state's ambitions to industrialize the country. However, it eventually took quite a long time to fully establish the nature of relations between the Dutch state and its universities. In the case of the University of Amsterdam, the institution's re-emergence as a modern University in 1876 implied the acceptance of state rules, but the university was primarily a municipal initiative and, until 1960 when the state took over, its funding came from the city of Amsterdam (Knegtmans 2000, 358,376).

After the Cold War, the state recast its role in the field of technological development. In Europe, it seemed that the European Union would become increasingly important as a research funding agency for both technology and also a wider range of academic fields. The welfare state has been under attack since the late 1970s, but it has by no means been abandoned. However, its provisions suffered cut backs in many places and any expectations of ever growing expenditure for university education from collective funds have long been forgotten. In consequence, in the future, the university will probably have to learn to be less dependent on state funding and regulation than it was in the recent past and the main conditioning factors will be the way in which it manages to connect up with other universities and how it is able to embed itself in the local context. By way of example, it should be stated that the state contribution to the University of Amsterdam's budget has, in recent years, decreased from virtually complete coverage to covering about two thirds of the total budget. The university has consequently had to fine-tune almost every aspect of its activity to adjust to state prerogatives. The university is now actively engaged in developing policies aimed at its peer institutions and its immediate environment and establishing official agreements and more informal policy networks.

In the rest of this paper I will concentrate on the positioning of universities within academia at large. In section 2, I will add a few observations about the local context, and in section 3, I will close with some conclusions as regards the coming set of conditions within which universities will have to operate and discuss what they may have to do in order to cope. I will continue to use the University of Amsterdam as an example, but will also draw on work and other examples that are more extensively reported in Van der Wusten (ed., 1997, 1998).

UNIVERSITIES IN ACADEMIA AT LARGE

In debates on globalization it is often said that globalization has existed for a long time and that, looking at certain indicators, globalization was no less apparent in the years prior to 1914 as it is now. This particularly refers to the openness of national economies to international trade (Hirst & Thompson 1999). A somewhat similar case is found when we look at universities. As already mentioned in the previous section, they have always been involved in international networks of learned individuals and institutions. But there are some differences between then and now, as is the case with international trade. Time-space compression in the modern world makes instant contacts between widely distant university sites possible at an unprecedented scale and also allows far more intensive and direct contacts for massive numbers of people. University development has also resulted in a vastly expanded number of universities and of people engaged in academia compared with earlier generations. The current international network of universities is therefore much larger in terms of the number of universities and the number of people involved with them and it

is also, at least potentially, much more tightly linked. It remains to be seen to what extent this potential has been and will be realized.

The enlargement of academia is one of the preconditions for the ongoing specialization and fragmentation of the production of knowledge. This trend has important implications for the functioning of the place-bound institutions that most universities still are. "I am world famous" is a qualification that any academic can now rightly claim. Some unfortunately, however, do this on the basis of something as obscure as an interest in the aquatic archaeology of the mid-Bronze age, or some similar interest shared with perhaps only two colleagues in Brazil and Australia with whom they frequently exchange email messages. This allows researchers to function to a large extent in a situation in which they are effectively cut off from their immediate environment within the university and the local milieu in which it is situated. This can, but not necessarily does, further endanger efforts to establish universities in communities in which scholars create and maintain an intellectual climate in which the pursuit of knowledge is paramount. Locations are still rated and the most attractive tend to attract talent in a competition between different sites, whereas those that lose out in this battle have greater difficulty to survive as creative milieu.

Universities are academic organizations and the professionals that are at the core of these institutions and their respective student bodies all react in their own particular ways to opportunities for internationalization and for strengthening their academic networks. In general, many faculties have already been engaged in international contacts for quite a long time, but of late the numbers of such contacts have grown dramatically. In recent years, university administrations have become far more active in this sense and student bodies have also effectively internationalized. We should, however, beware of interpreting the outward signs of this internationalization in an overly dramatic light. For example, the mere existence of web site of the University of Amsterdam and its appearance may give the impression of an institution that is open to the wider world. It is, of course, but a large majority of the visitors to the web site in late 1998 came from within the institution itself, while only a small percentage of these visitors was non-Dutch (Webtrends October 1998, provides information on the most active organizations and most active countries).

Over the last decade, the central board of the University of Amsterdam has started to establish official links with other universities throughout the world and has encouraged faculties and students to take part in new European programs. It has also made an effort to bring together university administrators from the OECD countries to discuss the future of academia with respect to this issue. Serious efforts are currently being made to sign up with several other institutions in a consortium of European and American universities in attempt to further this process of internationalization. The idea is to start joint teaching and research programs, share professorships and facilitate student exchanges. The express purpose of this initiative is to create a stronger common position within the international network of universities

and to reach beyond the purely national context in which much of academic politics tends to be currently engaged (Bremer & de Wit 1999).

Many faculties have already been engaged in international relations for quite some time. In some disciplines, international associations of scholars date back from as long ago as the 19th century, when they began as gatherings or contacts between people interested in a particular field, though without there necessarily being any formal academic links and credentials. Scholarships like those in the Fulbright programme have been important in speeding up this type of process. This has been accompanied by the promotion of international publications and the participation in internationally funded research networks. In the course of this period, academic standards have evidently become increasingly international, with the ground rules mainly being set in the USA and the UK. This does not, however, by any means, imply that all academic work is now geared to an international audience or that all teaching programs have lost their local and national flavour. In many disciplines these traditions are still strong: even so, they cannot completely dismiss or ignore the international dimension and its possible impact. Consequently, we now see hybrid forms of academic work in which local traditions and international standards are mixed and combined together.

In the case of the Netherlands, the direction of this international orientation and its change over time is amply demonstrated by an analysis of honorary degrees conferred by different universities and in different disciplines and in the use of textbooks. As far as honorary degrees are concerned, there has been a general shift from a European to a more, but not exclusively, American orientation, with considerable differences in timing between universities and disciplines. Judging by this indicator, the strongest bout of “Americanization” occurred just after 1970, whereas the influence of British academia has remained remarkably strong since the early 20th century. As for textbooks, a culture shift was observed in medicine and the sciences in some leading universities between 1930 and 1955 when German textbooks were replaced by books of Anglo-American origin. Even so, the majority of honorary degrees were conferred to Dutch nationals and text books remained, to a considerable extent, national productions (a third of texts in medicine and the sciences and a much higher percentage in fields like law) (Rupp 1996).

The internationalization of the student body has also progressed in recent decades. On the one hand this has meant that sizable numbers of students now gain at least a couple of months of international experience during their undergraduate courses. In some faculties within the University of Amsterdam, about 10% of the students are involved in international programmes every year (which indicates a much higher degree of exposure for each cohort of students). It is university policy to extend this situation to all of the faculties and to encourage these numbers to rise even higher. This could, however, be a difficult task. On the other hand, sizable numbers of foreign students coming into the university are also forcing the institution to

internationalize the way in which it operates. The main issue here concerns the language of instruction (which is very important for cases like that of the Netherlands where only small numbers of incoming students are expected to become acquainted with the local language), but there is also a need to examine ways of coping with increasingly diverse groups of students within the classroom. Furthermore, as the institution attracts foreign students according to commercial tariffs, the way in which the institution and the student body interrelate is different from under the traditional system. The Dutch university system is, despite its massive growth, still full of remnants from an earlier time, when numbers were student smaller and personal relations abounded. In the contemporary mass-market university, such relations tend to erode and to be replaced by benign mutual neglect. The new ethos introduced by the commercialization of university education is much more consumerist in its orientation. An attractive balance has yet to be found.

Although the policy of the central board of the university and the current activities of the faculties and students point in the same direction, this does not necessarily mean that they stem from similar motives or are could be considered part of a common project. In a recent dissertation, a comparison was made between the arguments supporting a policy of internationalization that have been accepted by faculties and students in several Asian universities and those adopted by the universities of Amsterdam and Louvain (Kornpetpanee 1999). It turned out that the policy arguments in favour of internationalization could essentially be grouped into two categories: those subscribing to the notion that internationalization should strengthen the position of the university within its own country (nationalization dimension) and those arguing that internationalization should be supported on account of its general contribution to knowledge and learning (universalization dimension). Staff and students from Singapore and Malaysia stressed the universalization dimension, the academic population of Thailand underscored both dimensions, the people from Leuven supported the items that pointed in the direction of nationalization, and those from Amsterdam failed to subscribe to either dimension to any significant extent. In general terms, this means that the academic population of Amsterdam expressed an apparent lack of interest in the way in which university policy was directed in this area, yet at the same time was quite actively engaged in international contacts. There was virtual unanimity as to the positive connotation of internationalization, but university policy should leave such dealings as strictly voluntary undertakings; facilitating but not imposing internationalization. It should also be stressed that the differences observed between universities (or rather between attitudes tied to national traditions) were certainly more important than those observed between fields of study. There was also an appreciable difference in attitudes regarding nationalization between students and staff, with students being more supportive of the nationalization argument. On the other hand, positions regarding universalization hardly differed (Kornpetpanee 1999, 55, 67, 70).

From a very recent study, we know a little bit more about the nature of the identification and commitments of faculties and staff in part of the University of Amsterdam and particularly where these commitments were more local and cosmopolitan. With regard to the question of to what extent people felt committed to the different institutions in which they were engaged, the population of the Faculty of Social and Behavioural Sciences answered as follows. They felt the highest level of identification and commitment to the narrowest working environment and to the people with whom they dealt on a daily basis. This was followed by the worldwide academic community of their particular discipline. This was particularly strong in the case of professors and tended to diminish with academic rank. They felt least committed to the university and to the faculty of which they formed part. This shows quite clearly that academic staff tended to have a quite disengaged relation to the larger institution of which they formed part. They felt identified with and committed to a small immediate circle within the institution and to an imagined community of scholars engaged in the field with which they are acquainted (based on data kindly supplied by the author of Meyer 2000). This imagined international community—as in the case of the imagined national community proposed by Benedict Anderson (1983)—is not known in its entirety, but feels no less real for this reason. In fact, commitments tend to simultaneously polarize in the local and cosmopolitan directions, disengaging from the middle levels of localized organization that, in fact, represent the exterior image of “the university”.

In this respect, a university—and indeed a particular faculty, for that matter—functions a little like an airport. They both occupy a certain position within a wider network, providing a facilitating environment for a number of activities that take place both inside and outside the institution itself. An international airport now competes with other similar institutions for the best possible position as a hub. It has to satisfy its carriers and their passengers by offering local facilities and transfer options. A successful international airport is now also one of the most important factors determining the location of a series of other highly appreciated functions (relating to the production and services sectors). Most carriers—and certainly their passengers—do not have a deep commitment to a particular airport, although in some cases there are special links on account of shared financial interests and landing rights based on state treaties.

Universities are also looking for similar hub positions and, if successful, function as magnets for the location of other types of investment. This comparison should obviously not, however, be taken too far. It certainly does not apply to a clear majority of the faculties, although it does portray an appreciable trend, which does not augur well for universities at the lower end of the university prestige scale or for those occupying peripheral positions in, or effectively located outside, the international network of universities. It also exerts pressure in favour of the quality of relationships between universities and their local contexts. These can easily be

neglected, but that would—in the long run—undermine one of the main assets in this international competition. The previously mentioned consortium, in the case of the University of Amsterdam, is one way in which to engage the problem of competitiveness within the international network. It is a strategy that airports also follow. It remains to be seen, however, how airports and universities will link up with their more immediate environments.

UNIVERSITIES IN THEIR LOCAL CONTEXTS

Town and gown cannot completely ignore each other, their mutual relationships are multidimensional, but their exact mutual impacts are difficult to fully establish and analyse. A series of studies has been conducted into the economic significance of universities within their local economies. Their comparability suffers from many methodological and data problems, but one of the major messages to emerge would seem to be that researchers should concentrate on a university's contribution to the innovative potential of its local economy, though this is something that is particularly difficult to quantify (contributions by Lambooy, Huggins & Cooke, Armstrong, Darrall & Grove-White in Van der Wusten (ed.) 1997). In turn, universities undoubtedly benefit from attractive surroundings, but the evidence for this is highly anecdotal. In the same vein, we can be certain that universities provide audiences for the arts and often artistic performances and produce new talents as well. Universities also have an impact upon local politics, by providing voters, demonstrators, participants in public debates and politicians. As an important land user, universities are also significant actors in the local political arena and suffer the consequences of badly maintained urban environments (chapters by Claval, Musil and Burnett in Van der Wusten (ed.) 1998).

The relative sizes of the towns and universities in question are fundamental to this debate and particularly with respect to the urban setting in which each university is located. Universities can practically disappear in really large cities or just leave their imprint upon quite specific parts of the cityscape, whereas in other cases a town may be so small that the university becomes its principal *raison d'être*. This makes for very differently coloured town-gown relations. A related question concerns the specific location of the university within a particular city and its relative concentration or dispersal. Some universities were initially established when their city was small and have remained there either out of their own preferences or because the municipal authorities have asked them to stay. The extent to which they have to manage their own property, their location and immediate environment may be a very important factor for their future viability. In this regard, inner city universities may have a vital role to play in the revitalization of inner city areas and may heavily invest in maintaining good relations with their environment. This particularly applies to a number of important American universities. Many universities have also moved to other, more

suburban locations, for reasons such as the price of land, possibilities for expansion, or obtaining better access to their student populations.

A fairly pretty general trend amongst universities that have decided to remain in inner city areas is the selective dispersal of some of their activities. Medical hospitals and hard science facilities have often moved out of the centre, while social science and humanities faculties have generally preferred to stay behind, as has the central university administration. This has also been seen in the case of the University of Amsterdam. The consequence is a widely dispersed university in which the different parts of the university find it hard to cooperate and coordinate their actions. Other major Dutch universities show the same pattern, but this has also happened with the Hebrew University in Jerusalem and the University of Miami, to name just a couple of international examples (see chapters by Groenendijk, Shachar, Nijman in Van der Wusten (ed.) 1998).

Some of the major questions concerning the physical planning of universities over the coming years have to do with the consequences of the mass introduction of the internet and internet-related technologies as their possible consequences for face-to-face teaching and the storage of information and particularly the positions and locational requirements of what used to be called libraries.

Certain economic activities have often been situated close to universities, with publishers being just one example. During the last few decades, however, there has been a renewed interest in the synergies that universities and new high tech companies might potentially exploit. Examples from the USA can be seen around Stanford University in California and also associated with the cluster of universities near Boston in Massachusetts. The Science Park of Cambridge University, in the UK, is another example. But efforts to emulate these successes have not always fallen on fertile ground. In Amsterdam a large new project is now in its early stages of execution. This involves moving the sciences faculty to a new location on the outskirts of the city and where space will also be available for new business activities in related fields. The first results of this experience seem encouraging.

As the economies of the highly developed world apparently move into a new stage, there is increasing emphasis on knowledge intensive activities and this has meant that locations close to universities have increasingly come to be considered as niche positions, because they enable a continuous flow of face-to-face contacts which, despite the compression of time-space, is apparently still regarded as vital for research and development activities. Within the whole gamut of knowledge intensive industries, the culture industry is one of the latest and most rapidly growing. New products are now being developed and marketed that are based on mass entertainment and traditional expressions of high culture and this may be one of the largest growth areas of the new economy. Peter Hall (2000) and Thomas Bender (1998) were among the first to foresee a future trend for cultural industries and universities to craft new bonds, based on the experiences of Los Angeles and New York.

The question of to what extent a university is affected by its local context is very difficult to answer. It goes without saying that the University of Amsterdam has been very fortunate in this respect. The accessibility of the city has enhanced its chances of attracting first rate talent to at least visit its facilities. The question now is whether it can use this external asset to maximum effect. We simply do not know the answer to this question yet. The local context is real enough, but its influence upon the quality of the university may be ephemeral, though no doubt significant. A recent research study compared economics faculties in the Netherlands and Britain in terms of their local connections and the significance of their local environments with respect to a number of aspects that influenced the ways in which they functioned. The study showed that faculties situated in cities located in the upper part of the urban hierarchy were more widely and more informally connected with local partners (such as companies and the public sector). On the other hand, in other cities, such contacts had to be developed and maintained through more formal means and institutions and with greater difficulty and the faculties in question also did their best to remain well-connected to agents in the main urban centres. Those who graduated from these faculties also tended to move to the larger centres, whereas graduates from larger centres tried to stay where they were (Van der Meer 1996). In the case of the University of Amsterdam, in addition to a multitude of informal contacts within its local environment, the central authority is prominently present in the “Kenniskring”, an open network administered by the local Chamber of Commerce in which important local players meet regularly to discuss matters of common interest related to the local economy.

CONCLUSION

The university, age old though it is, now finds itself confronted by a new set of circumstances. In a period of internationalization, university administrations are now vigorously engaged in international activities and students are following suit. In contrast, the ethos of the academic staff has, to a large extent, already been international for quite some time now. Academic staff tend to be primarily engaged in immediate working relations within the university and as part of the perceived wider, worldwide community of scholars who share the same disciplinary heritage. This community is, however, more imagined than real, and this orientation on the part of academic staff gives rise to problems in providing local roots. A university is, at one and the same time, embedded in its local environment in a multitude of ways, but it is difficult to know its exact contribution or the precise consequences of its location. The trend towards the local dispersal of universities within their respective cities does not, however, bode well for the university as a local community of scholars. Finally, universities are tending to become less closely monitored by national authorities and to become more autonomous members of the international sphere of education. Nonetheless, this does not apply equally to all countries and it certainly does not mean that the national influence upon universities—which was

evident during the last two centuries and particularly at the height of the welfare state era, in the 1960s and 1970s —has necessarily subsided. In fact, far from it: undoing this influence is a slow process that may take decades, though it will possibly be assisted by efforts to create more European-wide frameworks for universities and their educational mission.

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CITY AND UNIVERSITY
THE SOCIAL AND ECONOMIC DIMENSION

THE ECONOMIC AND SOCIAL IMPACTS OF THE UNIVERSITY OF PORTSMOUTH ON ITS LOCAL ECONOMY

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This paper measures the economic impact of the University of Portsmouth and its consultancy company (the University of Portsmouth Enterprise Ltd. - UPEL) on the local economy, using a 107 by 107 sector local input-output (IO) table. (The IO-table is specifically constructed for this purpose). Thus, a more detailed (and hopefully accurate) means of measuring the total (i.e. direct, indirect and induced) effects of direct University spending is available than for other comparable studies. In addition to considering this economic effect through University (and UPEL) expenditure in the local economy, the study also considers the type and scope of the research work carried out by the University and whether it benefits the local economy. Finally, as a result of a recent survey of employers' use of graduates, a more detailed examination of the University's direct impact on the local labour market is undertaken.

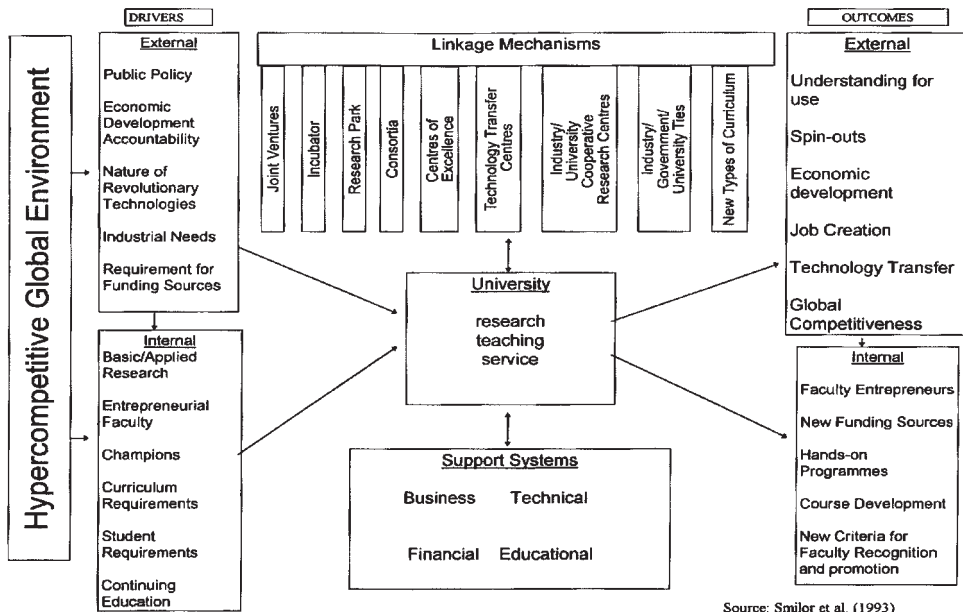
INTRODUCTION

Universities play an important role in local economic growth and development, in particular through the network links that exist between them and other organisations. That is, the economic impact of universities goes far beyond local expenditure by the university, its staff and students, which generates regional income and employment. Production and service sector activities in the local economy are increasingly knowledge dependent, and universities are in a unique position to diffuse the knowledge gained from basic and applied research back into the local business community. Put another way, economic growth is not only dependent on current levels of efficiency and cost effectiveness in production; rather, quality-increasing activities are becoming more important, as well as an ability to keep abreast of the latest technological developments affecting industry, and it is here that a local university can influence growth in the region.

Smilor *et al.* (1993) argue that universities have begun to pay far more attention to their part in establishing and improving network links in the local economy. This is leading to the emergence of the “entrepreneurial university” which has a direct

involvement in the commercialisation of research together with a more proactive approach to local economic development. Figure 1 sets out their model of what is driving this new paradigm, how the university responds, and thus the outcomes for the (local) economy. Firstly, the hypercompetitive nature of the economy has led to external and internal forces that are altering the university's research, teaching and service missions. This is facilitated through new and innovative linkages between the university and local organisations, with the outcome being various benefits both to the external community and internally. The external benefits are often apparent through increasing technology transfers (Dill, 1995), e.g.,

FIGURE 1



- the licensing and patenting of commercial applications of basic and applied research;
- providing technical and managerial assistance to entrepreneurs, especially in the small business sector;
- developing new technology in collaboration with business partners, through research and technology centres;
- managing facilities in support of new technology-based businesses; and
- making available the university's financial resources for equity in start-up businesses.

Notwithstanding this wider role, which suggests that the economic benefits to the local community are likely to be large, it is very difficult to measure such knowledge impacts and the extent to which technology-based firms rely on universities to provide R&D support or the strength of university-industry technology transfer links (Robson *et al.* 1995, Anselin *et al.*, 1997)). It is likely that for all but a small group of 'ivy-league' universities, the links are fairly specialised and cover only a small number of businesses in any local economy (Henderson *et al.*, 1998). Thus, in terms of the economic impacts on the local economy, it is easier to only measure the expenditure impacts of the university and consider such questions as to how many local jobs are directly and indirectly dependent on the university.

In addition to considering the expenditure impact on the local economy, two other specific areas are explored here in the context of the major activities of the University of Portsmouth: (i) the extent to which funded research impacts directly on organisations located in Portsmouth and south Hampshire; and (ii) the impact of the University on the local graduate labour market.

The paper proceeds as follows: the next section is concerned with measuring the economic impacts of a University on its local economy, and concentrates on methodology and data requirements.¹ Section 3 then looks at the external funding of research covering the academic years 1995/96 to 1998/99 and considers to what extent the research undertaken at the University of Portsmouth is likely to directly benefit local organisations. Section 4 presents an overview of some results from a recent survey of local employers that shows the extent to which these organisations use graduates, and the extent to which there are barriers to graduate employment.² Finally, there is a summary and conclusion that brings together some of the major themes covered.

MEASURING THE ECONOMIC IMPACT OF THE UNIVERSITY OF PORTSMOUTH

With some 1,900 employees, the University of Portsmouth is one of the largest employers in the Portsmouth Travel-to-Work Area (TTWA). In addition to direct employment, there were 17,779 students registered with the University in the 1994/95 academic year, although not all were located in Portsmouth.³ Consequently, the University has a major role in generating expenditure, and thus jobs, in the local economy.

1. Full details are contained in Harris (1997). More information on the input-output model used is provided in Harris and Liu (1998).

2. The full results of this survey are available from: <http://www.pbs.port.ac.uk.ac.uk/~harrisr/upcs.pdf>.

3. The student population in 1998/1999 was 17,606. Staff numbers are comparable to the figure quoted above, since university funding in the UK has continued to incorporate efficiency gains (i.e. increases in funding are usually at or below inflation so employment growth is severely constrained).

In order to calculate the impact of the University and its staff and students on the local economy, a 87×87 sector I-O table is used to measure the direct, indirect and induced impacts of University related expenditure. A brief outline of the methods used to construct the local I-O table is provided first, before setting-out how the various multipliers are calculated.⁴

Constructing the local Input-Output Table

The construction of a regional I-O table ideally requires survey-based information on sales and expenditure by industry that identifies inter-industry linkages, both between local industries and in terms of exports and imports of goods and services. While it is generally agreed that information on inter-industry linkages is generally too expensive to collect, Harris and Liu (1998) show there is still a need to survey local organisations to provide benchmark data on total sales/turnover, exports, total purchases of materials and supplies, imports of materials and supplies, and total labour costs. They argue that this is the minimum requirement to be able to construct a reasonably accurate regional I-O model, and they illustrate their arguments by comparing the survey-based 1989 Scottish table with two alternatives: a hybrid table using a mixture of survey and non-survey information, and the more common LQ-based non-survey approach. They find that the hybrid approach is reasonably accurate *vis a vis* a complete survey table, and thus it is this same methodology that is reported on here.

A survey of local organisations in the Portsmouth TTWA was undertaken in 1994 which obtained total sales/turnover, the percentage of sales exported, the percentage of materials and fuels imported, and total labour costs. This provided sufficient information to obtain I-O row figures relating to total inputs, intermediate purchases and imports (although these needed to be adjusted for sales by final demand, and taxes minus subsidies, using UK estimates), and income from employment for the intermediate sector of the IO table, as well as column figures for exports and total sales. As to final demand, the I-O column total for consumer expenditure was obtained by taking the local area *pro rata* share (using population figures) of the published Regional Accounts data relating to consumer expenditure for Hampshire county. Regional information on the total amount spent by Central Government and Local Authorities on final consumption goods is harder to obtain. Thus, it was necessary to assume that there is a strict one-to-one relationship between government purchases of final consumption goods and the numbers employed locally in various public sector industries. Information on local Gross Domestic Fixed Capital Formation and stocks and work in progress was also incomplete or non-existent, and again national estimates were broken-down using local employment shares available from the 1991 Census of Employment.

4. See Harris and Liu (1998) for full details of the construction of the local I-O model.

Thus, reasonably reliable non-survey estimates for total final demand were constructed (export data already having been obtained from the local survey). What was missing were data on imports related to final demand for goods and services, as well as information on how the total figures are distributed across the 87 industries in the local I-O table. (Information on sales by final demand and taxes minus subsidies is also needed, and this was obtained from applying the ratios implicit in the UK I-O table —see Harris and Liu, *op. cit.*, for details). Missing information was filled-in using known row and column totals which needed to be allocated across the I-O table using initial guesses (from the UK I-O table) and a special computer programme which ensures that computer allocated row and column amounts equal these known totals. Details of the procedures used are provided in Harris and Liu *op. cit.* Table 1 provides an aggregated version of the Portsmouth TTWA input-output table, including the University sector.

TABLE 1. *Portsmouth TTWA Input-Output Table, 1994 (£ million)*

	Extraction	Manufacturing	Construction	Distribution	Transport & Communication	Business Services	University ^a	Other Services	Total Intermediate	Consumers demand	Government	Fixed investment	Stocks	Exports	Total Final Demand	Total Output
Extraction	47	10	5	5	1	1	1	2	73	76	27	0	0	137	240	313
Manufacturing	15	115	31	26	8	22	0	10	227	136	170	145	18	1692	2160	2388
Construction	0	1	84	2	0	1	1	0	89	18	43	420	5	92	577	666
Distribution	4	9	8	15	5	2	1	2	45	522	26	17	0	15	580	625
Transport & Communication	5	9	5	35	29	13	1	5	101	119	37	5	0	209	370	471
Business Services	11	44	55	53	16	131	0	13	324	131	80	101	0	285	596	919
University	0	0	0	0	0	0	2	1	4	7	35	0	0	28	70	73
Other Services	7	24	6	10	6	17	2	54	127	515	793	0	0	184	1492	1619
Total Intermediate	89	213	194	146	65	187	8	87	989	1523	1211	686	23	2641	6085	7074
Imports	104	1199	220	111	94	270	16	165	2177	840	270	198	0	0	1308	3486
Income from Employment	67	582	147	212	249	273	43	1112	2684	0	0	0	0	0	0	2684
Balance	54	394	106	156	62	190	6	254	1223	199	-12	-2	0	12	197	1420
Total Inputs	313	2388	666	625	471	919	73	1619	7074	2562	1469	882	23	2653	7590	14664

Based on a 87 × 87 sector table.

^a UPEL and the University combined.

The I-O table can be represented algebraically as: $F = (I-A)X$, where F is the column-vector of total final demand; I is the identity matrix; A is the direct (or technical) coefficient matrix; and X is the column-vector of total output. Consequently,

$$X = (I-A)^{-1} F \quad (1)$$

which shows the total output generated for each sector by any final demand vector F . The matrix $(I-A)^{-1}$ is the usual Leontief inverse and each cell, r_{ij} , gives the amount of output needed from industry i in order to satisfy a £1 increase in the final demand for industry j .

Based on this approach, it is possible to examine the overall effect on output in the economy (and hence jobs, if we assume that for each industry the employment-to-output ratio is constant) of different final demand vectors (e.g., the consumer expenditure generated by staff and students), and the demand for goods and services emanating from the University. That is, the impact on output of staff and/or student consumer demand is obtained from:

$$X_k = (I-A)^{-1} F_k \quad (2)$$

where F_k is a (1×87) column-vector of consumer spending on local goods and services by group k , and X_k is the consequential impact on local output. The impact on local income and employment can be measured by using the results obtained from equation (2), and then multiplying these by either W (the row vector of labour income coefficients)⁵ or L (the row vector of labour-output ratios).⁶

The impact of University non-wage expenditure in the local economy is measured by:

$$X = (I-B)^{-1} S \quad (3)$$

where X is output in the economy dependent on S , the column vector of direct purchases by the University from local industry. The matrix B is equivalent to A but with the University inter-industry column and row removed. Again income and employment effects are obtained by multiplying through by W and L .

The difference between the direct expenditure (F_k or S) of University activities and the total impact (X_k or X) provides estimates of the multiplier effect, i.e., the proportional increase in local activity due to indirect and induced effects which are over and above the direct spending impact of the University sector. There are two types of calculations that can be used: if the Leontief inverse $(I-A)^{-1}$ is based on the inter-industry transactions matrix then a Type 1 multiplier effect is measured. However, this assumes that while spending by the University increases local sales through higher purchasing linkages throughout the economy, these extra sales do not generate additional employment. If more staff are employed, then total income

5. That is, the ratio of income from employment to total inputs for each industry.

6. That is, the ratio of total employment to total output for each industry.

levels will increase and some proportion of this extra income will be spent on goods and services, generating additional, higher multiplier effects. To include the induced effect of additional consumer spending, the consumer expenditure column vector in the I-O table can be added to the technical coefficient matrix A , thus allowing consumption to expand as part of the multiplier process when equations (2) and (3) are used to measure the impact of the University. This Type 2 multiplier effect is likely to be an over-estimate since it assumes that all additional income is spent. However, the Type 1 estimates are clearly an under-estimate since no allowance is made for additional consumer spending in the local economy.

Three basic sets of information are needed in order to measure the expenditure impact of the university: (i) the value of the University's local expenditure on materials and equipment (i.e., its non-wage expenditure); (ii) student expenditure within the local economy; and (iii) household expenditure by staff who live in the local area. In every case, it is necessary to include only local expenditures, and not expenditure which takes place outside the Portsmouth TTWA. It is to obtaining these data that we now turn.

University income and expenditure

It is crucial to be able to separate out that expenditure that takes place within the Portsmouth TTWA from that which occurs outside. Once the information on non-wage University expenditure is available, it can be used to calculate the extent of (backward) linkages between the University and the industries from which it buys. However, to make the I-O table operational, it is also necessary to have information on which local industries buy goods and services from the University, and thus detailed figures are required on both the income and expenditure side for the University, in terms of what is purchased and which industries buy educational services, *and* in terms of the location of these buyers and sellers.

The estimates of income and expenditure for the year ending 31 July 1995 used in this paper are mostly based on the official figures presented in the University's *Report to the Board of Governors*. In order to be able to allocate amounts to specific industries and geographic areas, it was necessary to make use of the expenditure and sales ledgers since these contain information on names and addresses. However these ledgers are not wholly appropriate for the present purposes,⁷ and it was only

7. In particular, the expenditure ledger is used for every type of purchase (e.g., income tax, national insurance and pension payments are recorded, as are unpaid cheques) and in many instances the information given on particular items was insufficient to make out who the payee is and where they are located. Given that this ledger contained 74,199 items, it was only possible to identify £70.117 million of the £73.694 million recorded in the University official accounts. The missing 4.8 % relates to the "other services rendered" and "other income" categories recorded in "Other Operating Income" in the *Report to the Board of Governors* for 1995.

possible to identify 95.2 % cent of the official income and expenditure arising from activities in 1994/95. Table 2 summaries the basic data on income and expenditure. With regard to the former, £2.8 million was from sales to Portsmouth TTWA customers (of which £1.4 million was generated by the short course and consultancy activities of the University of Portsmouth Enterprise Limited - UPEL) and £6.5 million resulted from sales to the rest of the UK and overseas.⁸ The major source of this income is from short courses and research grants and contracts, and the University was able to generate some £1.3 million from the use of its residences, catering and conference facilities.

TABLE 2. *Portsmouth University Income and Expenditure, 1994/95*

Income	£m	Expenditure	£m
Government (mostly HEFCE)	35.0	Income from Employment	42.7
Student fees:		Purchases	
<i>local (i.e. PO1-PO11)</i>	3.7	<i>local (i.e. PO1-PO11)</i>	7.0
<i>rest of UK</i>	15.1	<i>rest of Hampshire</i>	3.0
<i>overseas</i>	4.1	<i>rest of England</i>	14.2
Hall fees & leasing	2.8	<i>rest of UK</i>	0.2
Sales (short courses, contracts, etc.)		<i>overseas</i>	0.0
<i>local (i.e. PO1-PO11)</i>	2.8	Balance (depreciation, etc.)	3.0
<i>rest of Hampshire</i>	0.7		
<i>rest of England</i>	5.3		
<i>rest of UK</i>	0.0		
<i>overseas</i>	0.5		
Total	70.1	Total	70.1

The most important source of income was the £35 million received from the HEFCE in the form of grants to fund the continuing educational operations of the University. Student fees amounted to £23 million. Finally, the letting of halls and leasing arrangements with students provided some £2.8 million. Thus, the University generated £25.7 million in terms of exports (comprising fees from students coming from outside the Portsmouth region and sales to individuals and industries located outside PO1-PO11).

8. The information on sales was drawn from over 4,700 entries in the University's sales ledger, since this provided names and addresses of those individuals or organisations who purchased services. This allowed each transaction to be mapped to a location (and industry if the payment originated from within the Portsmouth TTWA area).

On the expenditure side, around £7 million was directly spent in the local economy while £17.4 million comprised imports of goods and services from the rest of the UK and overseas. Local expenditure (which included internally some £0.83 million in transfers to UPEL and the Students Union) was allocated to 87 industry groups, with the major items comprising £0.75 million to the electricity industry; £0.95 to construction; £0.5 million to hotels and catering; £0.28 million to the telecommunications sector; £0.48 million to public administration; £0.63 million to other education providers; £0.76 million to health services; and £0.3 million to recreation and welfare services. Purchases from outside the region were not grouped by industry, because of the time it would have taken to code the 58,813 entries which were identified as imports.

The single most important item of expenditure in Table 2 is the £42.7 million spent on labour costs,⁹ which includes employers' contributions to social security and pension costs. The remaining item of expenditure is a balancing item of £3.1 million to cover depreciation and other non-identified costs.

Student fees (amounting to £23 million in 1994/95) can also be classified according to where they originated.¹⁰ Overseas students, as a subgroup, accounted for 18% of fee income, while 16.3 % (or £3.74 million) was generated from students whose address prior to entry was given as the Portsmouth TTWA. The rest of Hampshire was the next major catchment area (11.2%), followed by counties to the east and north east of Portsmouth, rather than to the west, where it might be expected competition for students is lower. The University is clearly dependent on the South of England for its UK student population (since at least 52.7% of non-overseas income comes from only seven counties in the South East),¹¹ although every county in the UK (except for the Hebrides and Shetland Isles) sent some students to Portsmouth during 1994/95.

Separate detailed information on the income and expenditure of the University's business company was also collected. It also spends in the local economy, and receives income from selling its services to local businesses. Table 3 shows that most of UPEL's income came from outside the Portsmouth TTWA (£2.37 million, or 74%),¹² while in terms of expenditure the company mainly purchased from the local economy

9. An additional £2 million was spent on enhancing pensions, but this has been omitted from the current expenditure figures on labour costs, since it comprises an extraordinary payment.

10. These figures are compiled from the postcode variable in the 1994/95 HESA return which covered all 17,779 students listed with the University, together with information on course fees which had to be merged into the HESA file. Note some 6.5 % of fee income was from students with no known postcode address.

11. The figure could be nearer 60.7 % if all the students with no known postcode are allocated to these counties.

12. The sectors which provided most of the £0.31 million local (non-University) demand for consultancy and short courses were: pharmaceuticals, the office machinery sector, health and personal services.

TABLE 3. *University of Portsmouth Enterprise Ltd. Income and Expenditure, 1994/95*

Income	£m	Expenditure	£m
University	0.4	Income from Employment	0.6
Sales		Purchases	
<i>local (i.e. PO1-PO11)</i>	0.4	<i>University</i>	1.5
<i>rest of UK and overseas</i>	2.4	<i>local (i.e. PO1-PO11)</i>	0.3
		<i>rest of UK and overseas</i>	0.5
		Balance (depreciation, etc.)	0.3
Total	3.2	Total	3.2

(£1.83 million) with most of the local expenditure (82%) going to the University, partly in payment to staff for consultancy services (£0.75 million) and partly for fuel, light, power and accommodation (which were purchased through the University). Other than expenditure that went through the University, the only *major* items of local expenditure amounted to £0.11 million to the hotels and catering sector and £0.15 million to other educational establishments. The cost of UPEL employees amounted to £0.57 million, while the balancing item (covering depreciation and profits) amounted to £0.34 million.

Student and staff local expenditure

The student population can be disaggregated into those that live in the Portsmouth TTWA and those that live outside, with the latter also contributing to local expenditure since this group spends a significant proportion of their time at the University.¹³ The basic data available was the 1994/95 HESA accounts, which lists all 17,779 students that were at some time registered with the University during the academic year. Of this total, 2,224 students were immediately excluded as belonging to an external category which covers distance learning students, those taught by other institutions on a franchise basis, and sandwich and language students and others who took a year out.

13. Note, information was collected directly from students on where they lived and the proportion of expenditure incurred in the Portsmouth TTWA. No information is available separately on expenditure by staff or other consumers relating to spending outside the region, or spending by in-commuters living outside the TTWA. It is assumed that the I-O figures for consumer expenditure accurately take into account these injections and leakages.

The remaining 15,555 were allocated to the Portsmouth TTWA or elsewhere on the basis of the term-time accommodation and home address markers in the HESA database. This approach is not straightforward and involved certain assumptions, as detailed below. The 1,770 students recorded as living in halls were clearly located in Portsmouth. Those students classified as living in their parents' home in the PO1-PO11 area were assumed to have Portsmouth-based term-time accommodation. It was also assumed that foreign students listed as living in their parental home during term-time were living in Portsmouth. Of the 637 students from the rest of the UK who were classified as living in their parents home, 94.3 % lived in adjacent counties (Dorset, Hampshire, London, Isle of Wight, Surrey, and East & West Sussex), and thus it is assumed that this category lived outside the Portsmouth TTWA.

Students whose home address before coming to University falls within the postcodes PO1-PO11 and who were registered as living in their own home during term-time were assumed to be located in the Portsmouth TTWA. Overseas students living in their own home were likewise allocated to a Portsmouth term-time address. Of the 2,055 students from the rest of the UK who stated they lived in their own home during term-time, 78.7 % lived in adjacent counties (see above list), and were consequently assumed to live outside the Portsmouth TTWA. Assuming this to be correct, it indicates that a sizeable number of students were prepared to travel quite a long way to attend lectures at the University.

Lastly, all students listed as having "other accommodation" term-time addresses were assumed to rent in the Portsmouth TTWA. This is a necessary assumption based on incomplete data, and while it inevitably overestimates the true figure, it is not likely to be incorrect by very much.

Having obtained "raw" numbers of students allocated to Portsmouth or elsewhere, it is necessary to convert the figures into Full-Time-Equivalent. This was done using two further sets of information contained in the HESA database:

1. The month when the course was started and the month when the student left the course, during the 1994/95 academic year, were used to calculate the proportion of the 10 month academic year that the student was with the University. This takes account of those students who leave early and do not complete, whose course is less than a full year, and those whose course ends before July.¹⁴
2. The HESA database also contained a variable STULOAD which is a FTE measure used to calculate the proportion of the year a student spent in Portsmouth on the course (e.g., any sandwich students not picked up earlier would be covered by this variable).

14. Postgraduates were treated in a similar way, but using a longer academic year.

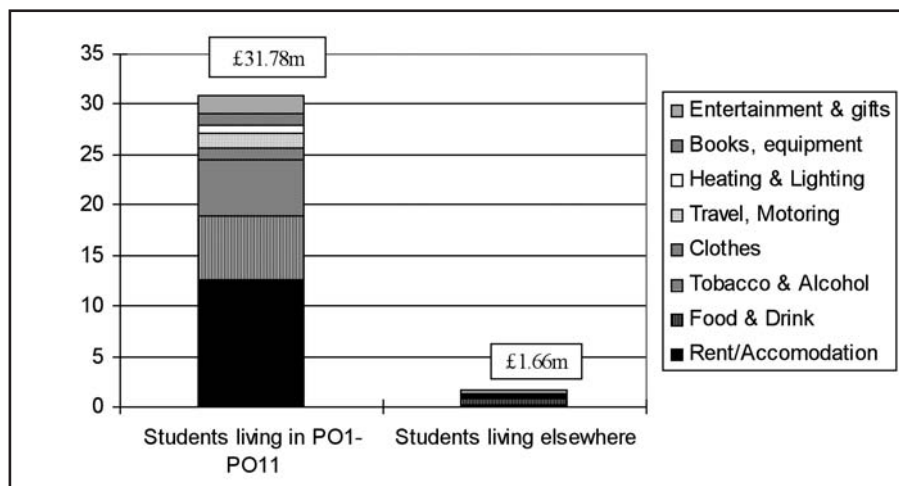
The outcome of applying these two corrections is the number of FTE students attached to the University, by geographic location (Table 4).

TABLE 4. *University of Portsmouth Student Population, 1994/95 (excluding 'external' students)*

Category	Living in PO1-PO11		Living outside PO1-PO11	
	raw numbers	FTE	raw numbers	FTE
Undergraduate (full-time)	9,190	8,693	1,320	1,246
Undergraduate (part-time)	671	271	664	293
Postgraduate (full-time)	541	495	75	70
Postgraduates (part-time)	487	232	438	206
Further Education (full-time)	432	364	154	115
Further Education (part-time)	1,542	847	41	21
Total	12,863	10,902	2,692	1,951

A survey of student weekly expenditure was undertaken¹⁵ to obtain information on average weekly expenditure by type of student (e.g., undergraduate and postgraduate) together with where they lived and how much they spent in the Portsmouth TTWA and elsewhere. The average amount spent on various items was then multiplied by 30 (weeks) for undergraduates and FE students, and by 45 (weeks) for postgraduates. The resulting amounts were then multiplied by the number of "FTE" students in each relevant category to give total annual expenditure in the Portsmouth TTWA.

FIGURE 2. *Student Expenditure in the Portsmouth Travel-to-Work Area, 1994-1995*



15. This survey of some 400 students was undertaken in late 1994 by staff from the Centre for Local and Regional Economic Analysis in the Department of Economics, University of Portsmouth, prior to undertaking the current study. My thanks to Jeff Grainger and the CLREA team for permission to use their survey results.

Figure 2 shows that annual expenditure in the local economy amounted to £33.4 million, most of this from students living in the Portsmouth TTWA. The various items of expenditure identified in the diagram are treated as consumers' expenditure in the local economy (and this is how it is presumed they enter the I-O table). Certain assumptions have to be made about which industries are affected and how much of the £33.4 million is spent on locally-produced goods as opposed to goods which are imported into the region, with the result that student spending on goods and services produced locally is judged to amount to £23.8 million with the remaining £9.6 million being spent on goods and services bought locally but imported into the area (Table 5 in Harris, 1997, provides details).

TABLE 5. *Income and Expenditure by Portsmouth University Staff by Type and Location, 1994/95*

Category	Number	Net Annual Salary ¹	Annual Expenditure ¹
<i>Living in PO1-PO11</i>		£m	£m
Academic	471	8.4	6.6
Manuals	185	1.1	1.0
Support & Research	712	6.5	5.5
<i>Living outside PO1-PO11</i>			
Academic	330	5.8	4.6
Manuals	14	0.1	0.1
Support & Research	266	2.8	2.4
Total	1,978 ²	24.7	20.1

1. For academic staff, amounts include net payments from UPEL for consultancy.

2. This figure is larger than the 'official' University total of 1,885 since all employees (including temporary workers) who received a wage in 1994/95 are included in Table 5.

As to staff expenditure, information was made available by the University on every individual who received a wage payment in the 1994/95 period, comprising a breakdown of the annual amount paid, the status of the individual (in terms of whether they were academic staff, manual, or support/research staff) and their home postcode address. Table 5 summarises University employees by type and location, showing in particular that a sizeable proportion of the academic staff (17% of all employees) lived outside the Portsmouth TTWA area.

Since consumption expenditure is based on disposable incomes, it is necessary to calculate net salaries for staff, and then relate these to expenditure. Tax, National Insurance payments and pension liabilities were subtracted from gross incomes, using Inland Revenue information on an individual's allowances against tax, plus the rate at which individuals are liable for contracted-out NI contributions and for the two main occupational pensions schemes in use. It was assumed that 50% of staff could claim the higher married persons' allowances, although changing this percentage alters the final

results by very little. Note, information was not available on other income earned from other sources, and thus tax liabilities must be considered here as a lower limit.

UPEL paid £750,000 to staff for consultancy, and after deducting an estimate for tax, NI/pensions and assuming that payments went only to academics (of who 57.1 % live in the Portsmouth TTWA), the UPEL addition to disposable income for staff living in Portsmouth was nearly £289,000. Thus, total net disposable income available for spending in the Portsmouth TTWA was £16 million in 1994/95. This estimate of disposable income has to be adjusted in three ways in order to arrive at the direct impact of staff expenditure in the local economy. Firstly, savings must be subtracted from income to obtain expenditure. Then only the spending of those staff who it is presumed would leave the area (if there was no University) should be counted in terms of their impact; those staff who would remain in Portsmouth and who would claim unemployment benefit should be omitted. Lastly, some of the expenditure by staff is on imported goods and services which, because they are not produced locally, do not affected local output and employment levels.

Savings were calculated by applying estimates for different groups of the marginal propensity to consume (*mpc*) out of disposable incomes. The *mpc* for academics was obtained from regressing (the natural logarithm of) individual household expenditures on (the natural logarithm of) household disposable income, using individual household data from the 1993/94 Family Expenditure Survey.¹⁶ Only households where the head-of-household (HOH) was employed full-time and belonged to the "professional workers (employees)" occupation group were used in the analysis. The resulting estimate of the *mpc* was 0.78.¹⁷ The data for manual workers was based on households where the HOH was a semi-skilled manual (*mpc* = 0.9),¹⁸ while the results for support and research staff were based on households where the HOH belonged to the junior non-manual occupation group (*mpc* = 0.84).¹⁹ Multiplying staff disposable incomes by their respective estimates of the *mpc* gave estimates of expenditure (Table 5), and thus savings.

It is assumed that all manual employees and 52 % of support and research staff²⁰ would stay in the Portsmouth TTWA if the University did not exist. If it is

16. The variables used from the FES comprised P550 (total household spending) and P344 (gross normal weekly household income).

17. The model's R^2 (goodness-of-fit) was 0.53, based on 236 households. The t -value attached to the *mpc* was 16.2. Diagnostic tests for the residuals indicated that there were no problems with regard to non-normal residuals. Some experimentation was undertaken with regard to 2SLS estimates to account for potential simultaneity bias (instruments included age of the HOH and other aspects of human capital), with the results obtained being fairly close to those obtained using simple OLS.

18. The model's R^2 was 0.70, based on 252 households. The t -value attached to the *mpc* was 24.2.

19. The model's R^2 was 0.71, based on 264 households. The t -value attached to the *mpc* was 25.2.

20. Individual information separating out support from research staff was not available. However, separate figures on the proportion of the total which comprises research staff and senior support staff suggested that a figure of 48 % comprising migrants was not unreasonable.

further assumed that 50% of non-migrants are married, and thus could claim the married persons' additional allowance, then the total sum amounting to unemployment benefit for those who would remain in the Portsmouth TTWA equals approximately £1.7 million. Subtracting savings and unemployment benefits from disposable income gives a sum of £11.4 million in terms of spending by local staff. This is presumed to be distributed across consumer expenditure categories in the I-O table in the same way as expenditure undertaken by all Portsmouth households. Thus, 40.6 % (or £4.6 million) is spent on imports (or is taken up in VAT and other taxes), giving £6.75 million net expenditure in the Portsmouth TTWA which would be lost if the University did not exist or were to close.

The expenditure impact of the University

To measure the impact of the University sector, Equations (2) and (3), based on Type 1 and Type 2 Leontief inverse matrices, can be used along with the estimates previously obtained of direct University non-wage expenditure (£6.2 million), spending by UPEL (£1.7 million), consumer spending by students (£23.8 million), and consumer spending by staff (£6.8 million).²¹ Table 6 summarises the results, showing that direct expenditure of £38.5 million results in additional local output of between £9.3 - £27.9 million. This is equivalent to an output multiplier effect of 1.24 (Type 1) or 1.73 (Type 2). Thus, every increase in expenditure by the University sector of £1 results in an additional 24 - 73p of indirect and induced spending in the Portsmouth TTWA economy, with the higher figure likely to be a much better indicator of the full impact.

TABLE 6: *The Total Impact of the University Sector (£, million) in the Portsmouth Travel-to-Work Area, 1994/95*

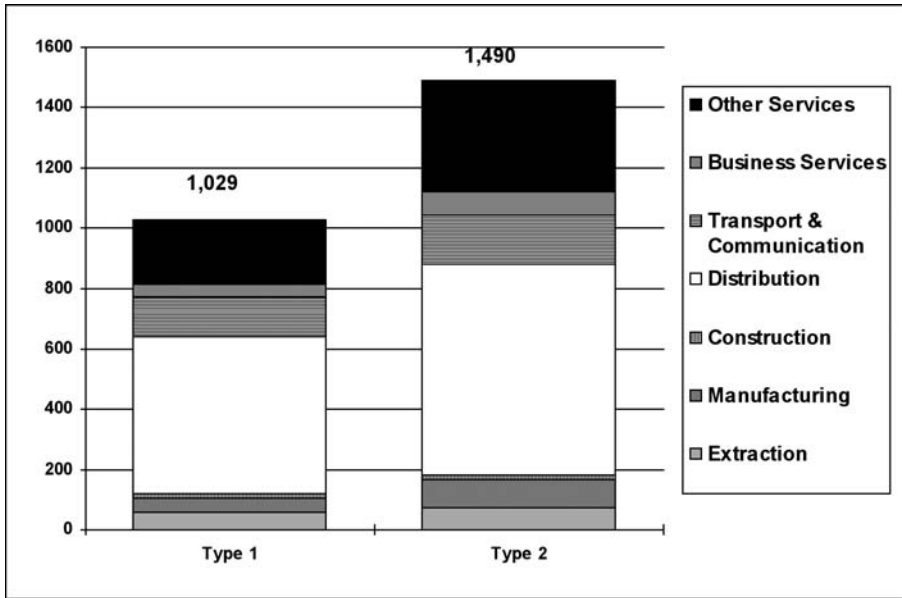
		Type 1			Type 2		
	Direct spending	Output	Employment ¹	Income	Output	Employment ¹	Income
University	6.2	7.3	205	2.8	10.0	272	4.1
UPEL	1.7	1.9	40	1.1	2.7	59	1.4
Students	23.8	30.9	721	11.3	42.6	1010	16.3
Staff	6.8	7.7	196	3.4	11.1	282	4.8
Total	38.5	47.8	1,162	18.6	66.4	1,623	26.6

1. Employment figures are converted to full-time equivalents.

21. Note, all the figures used here are net of sales by final demand and taxes (minus subsidies). Thus, the University and UPEL figures are lower than previously reported.

In terms of employment in the local economy, Figure 3 shows that between 1,029 and 1,490 full-time equivalent jobs are dependent on the University sector,²² in addition to the 1,885 directly employed by the University. Thus, in the absence of the University it is estimated that the local economy would employ something like 3,375 fewer people (which is equivalent to around 2.1 % of the employed workforce). The major sectors where jobs would be lost include Distributive Services (698 jobs), Other Services (371 jobs), and Transport & Communications (157 jobs). These figures indicate that the employment multiplier effect of the University sector is between 1.55 and 1.79.²³

FIGURE 3. *Total Indirect and Induced Jobs Created by the University Sector in the Portsmouth TTWA, 1994-1995*



EXTERNAL RESEARCH FUNDING AND ITS LOCAL IMPACT

This section looks at the external funding of research covering the academic years 1995/96 to 1998/99 and considers to what extent is the research undertaken at the University of Portsmouth likely to be directly benefiting local organisations.²⁴

22. The difference between these figures and the totals reported in Table 6 is that Figure 3 excludes intra-University jobs dependent on University expenditures.

23. These multipliers are larger than the output multipliers, indicating that the University has a greater impact in terms of jobs on employment intensive service sector industries.

24. The figures considered here would have been allocated to "sales" in Table 2, although we are dealing here with the post 1994/95 period.

Not all research is funded by outside agencies; indeed a substantial proportion of government (i.e. mostly HEFCE) funding that is used to pay academic salaries can be said to cross-subsidise generic research (the consequences of this are currently being debated in the University sector). But research supported from outside funding will incorporate specific industry and regional links directly benefiting from this research, since universities generally “charge” for research outputs that are tailored to specific needs. The only other major source of funding not included here is the operations of the University’s consultancy company (UPEL), but in recent years this has fallen substantially as any research that is deemed to have a public element to it (i.e., external benefits to more than just the client) has been classified to the research accounts of the University and not UPEL.²⁵

There were 487 externally-funded research projects undertaken by the University of Portsmouth between 1995/96 and 1998/99, totalling to £13.9 millions. These have been classified by source (using a classification derived by government) and by allocating projects on a spatial basis. The latter comprises projects deemed to have no specific local impact (where local refers to the approximately the Portsmouth TTWA); those commissioned by companies that have a presence in the local economy but the projects resulted in outcomes that would benefit the company more widely (e.g., in the UK or international operations); and projects commissioned by local organisations to study specifically local issues (note, the majority of these projects were undertaken for local authorities or similar bodies in the public sector).

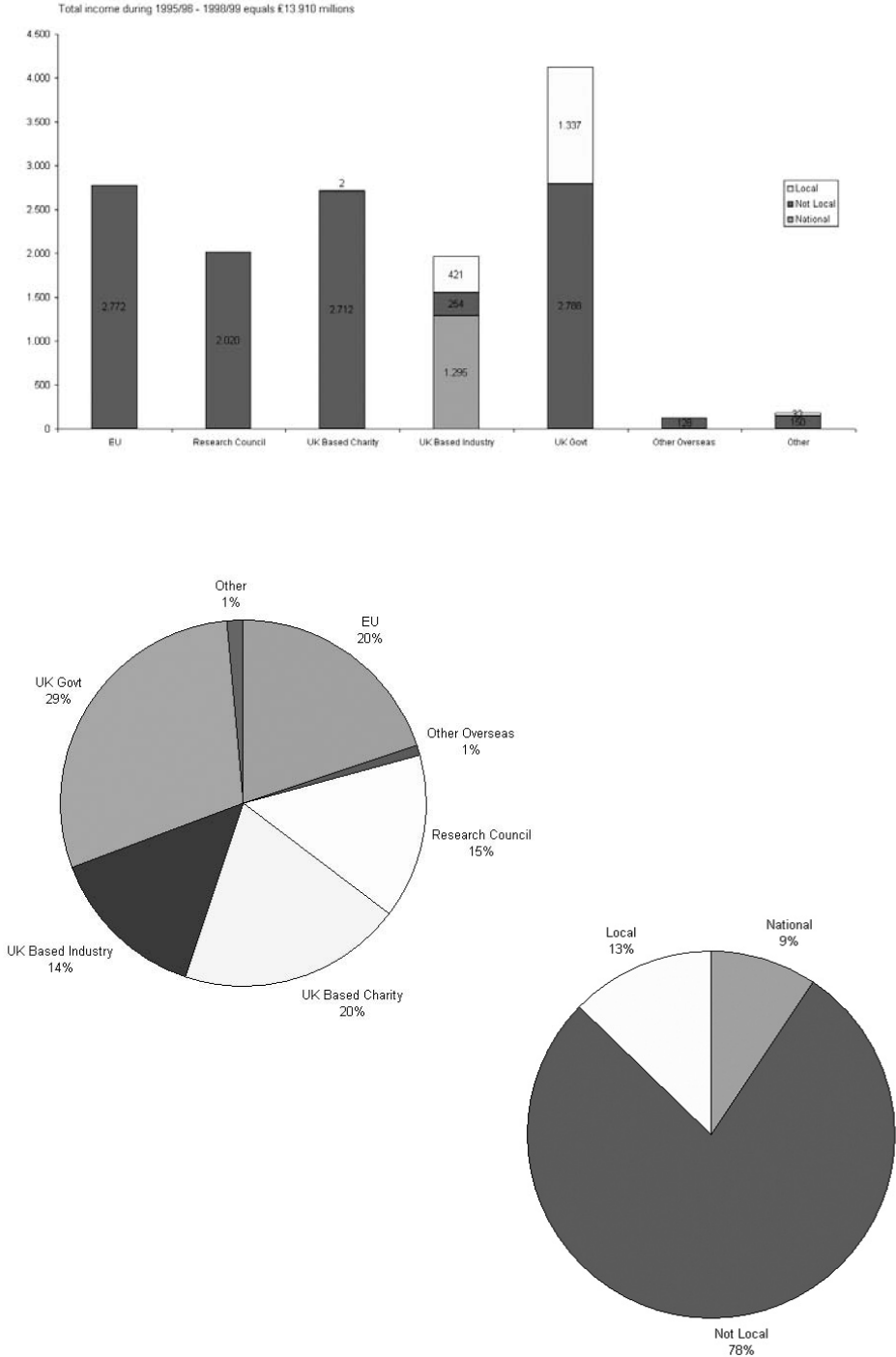
Figure 4 shows that research directly related to UK industries only accounted for some 14% of income during the period, with the largest benefactor being UK government (including local and health authorities), followed by the EU and UK charities. In terms of local content, income during the 4-year period amounted to only 13% of the total, most of it benefiting government agencies (specifically local authorities). Only 21% of research undertaken for UK-based industry is deemed to have a local orientation. This suggests that either the University of Portsmouth has missed opportunities to exploit local entrepreneurial content, or is it simply that research (as opposed to consultancy) is more general and likely to have external economies that local organisations would find difficult to appropriate and therefore internalise?

THE IMPACT OF THE UNIVERSITY ON THE LOCAL GRADUATE LABOUR MARKET

The present author recently undertook a survey of local employers in order to understand more fully the workings of the graduate labour market in South Hampshire. While information is more readily available on the supply-side of the graduate mar-

25. UPEL income in recent years has fallen to probably only £300k.

FIGURE 4
Research Income for University of Portsmouth, 1995/6 – 1998/99



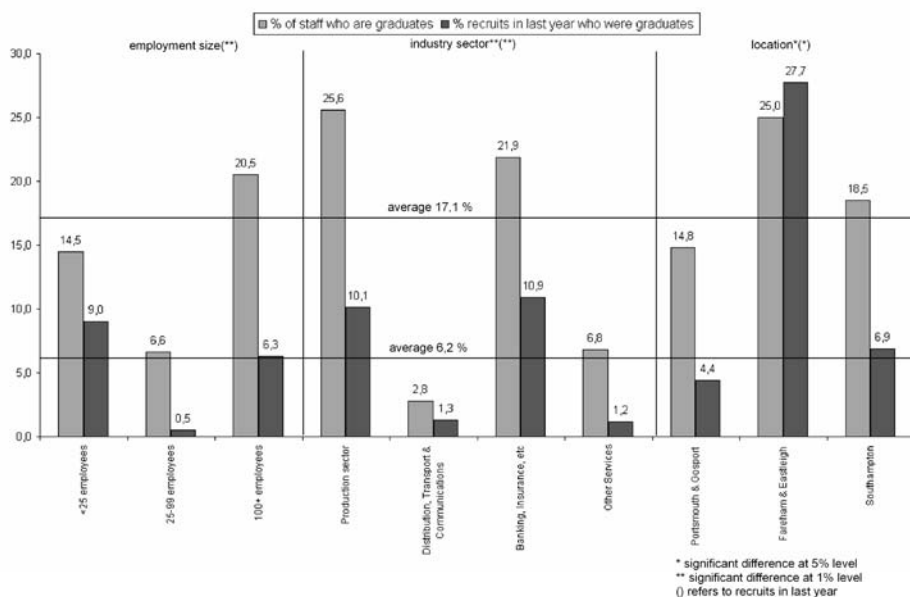
ket (e.g., information as to who are more likely to be graduates, their characteristics, and occupations; and information on graduate employment profiles after entering the labour market – e.g. DfEE, 1999), there is little data with which to build-up a picture of the demand for graduates by organisations of different size and sub-sectors. Thus, a postal and telephone survey was undertaken in November/December 1999 to collect information relevant to understanding more clearly such factors as which types of organisation employ graduates, what type of jobs are “graduate jobs”, why graduates are not recruited, and various other factors associated with the graduate labour market. Details with regard to the conduct of the survey, the population covered and response rates are provided in Harris (2000).

The Extent of Market Penetration by Graduates

The information provided by the postal/telephone survey on the percentage of organisations in South Hampshire that employ indicates that across all sub-sectors 58.5% of organisations employ at least some graduates, particularly large organisations and those in the Banking & Insurance sector and organisations located in the semi-urbanised hinterlands surrounding Portsmouth and Southampton. This is mostly as would be expected given supply-side information that is available from the UK Labour Force Survey.

While some 58% of organisations employ graduates; this does not take account of the proportion of staff with a degree. Figure 5 therefore presents information on the percentage of graduate staff in each sub-group, and which of last year's recruits were graduates. Some 17 % of employees in the area were graduates (with just over

FIGURE 5. *Percentage of Graduates and Graduate Recruits in South Hampshire, 1999.*



6 % of 1999 recruits holding degrees).²⁶ The depth of graduate employment is clearly lower than the number of organisations with graduates which is to be expected given the proportion of graduates in the labour force. However, graduate employment in medium-sized organisations (defined here as those with 25-99 employees) is significantly lower than the proportion of such organisations that employ at least some graduates. This might imply that there is something different about the nature of graduate jobs in these organisations (something to which we return to below).

A large proportion of the workforce in the production sector has university degrees, even more than those employed in banking, insurance and finance. In contrast, a much smaller percentage of employees in other services (which includes education and health) are graduates, and only some 3% of employees in the distribution, transport and communications sectors have degrees. While this spread across the different industrial sectors is similar to the broad pattern of graduate employment across the same sectors in the UK, the production sector does seem to have a particularly high level of graduate coverage while other services seem to be rather underrepresented. Again graduate employment is high in semi-rural areas of Fareham and Eastleigh when the actual numbers of graduates is considered, rather than just the number of organisations that employ graduates.

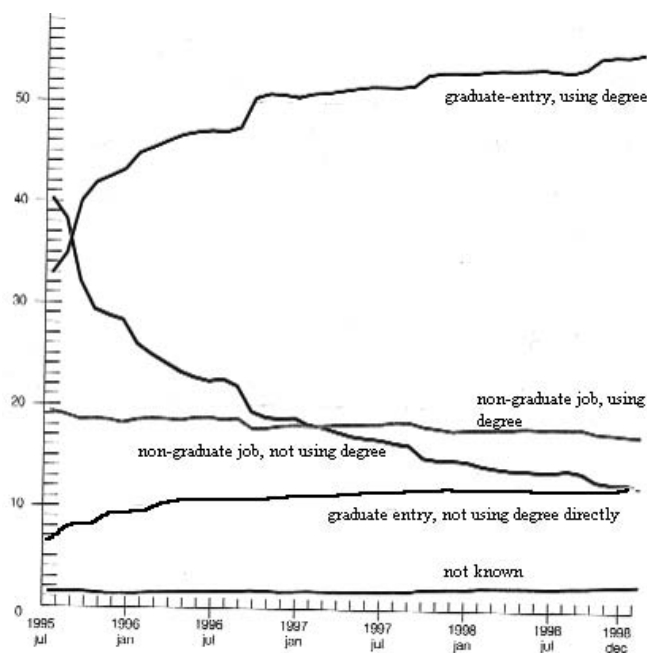
The proportion of the workforce recruited in (mostly) 1999 with university degrees was just over 6%, with the pattern of recruitment similar to the pattern of graduate concentration, although on a smaller scale. There is insufficient information available to say whether this lower level of graduate recruitment, if repeated year-by-year, would result in a declining level of graduate penetration into the labour market, since we would need to know more about the turnover of graduates and non-graduates in the labour market before being able to reach conclusions about what was happening to the net stock of graduates.

Thus, these data suggest that graduate employment opportunities are concentrated in specific sub-sectors of the labour market, such as the smallest and largest organisations, those operating in the production and banking and finance sectors, and establishments located on the outskirts of the major cities in South Hampshire.

Defining graduate jobs

After graduating from Universities and other Higher Education institutions, many graduates do not immediately obtain what may be termed a graduate job – that is, a job typically filled by graduates or one where use is made of the degree either directly or indirectly. A recent study (DfEE, 1999) defines a graduate job as whether a degree is used in performing a job (i.e., where the employee uses their subject/discipline knowledge or skills when performing the functions of the job). However, while a

26. Data from the 1996 Quarterly Labour Force Survey provides a figure of 15.4% of the workforce being graduates in the South East (excluding London).

FIGURE 6. *The Changing Composition of Employment in Graduate Jobs: subjective measure*

Source: *Moving On: Graduate Careers Three Years After Graduation*, a report to the DfEE, 1999.

degree may or may not be required to gain a job, the degree skills and knowledge may or may not be used in the work environment. Thus, there are a number of permutations when measuring graduate jobs. Figure 6 reports the profile of jobs obtained by graduates after leaving the HE sector in 1995, for the 3½ years following graduation. Initially, less than 33% of graduates entered jobs where the job required a degree that was then used in performing the job. Upon graduation, the highest proportion of graduates took jobs that required no degree and where they did not use the skills/knowledge gained as part of their degree programme. As with the objective definition of a graduate job, as time elapses graduates filter into graduate jobs where they use their skills and knowledge, although after 42 months only some 55% of graduates filled graduate-entry jobs where they use their degrees.

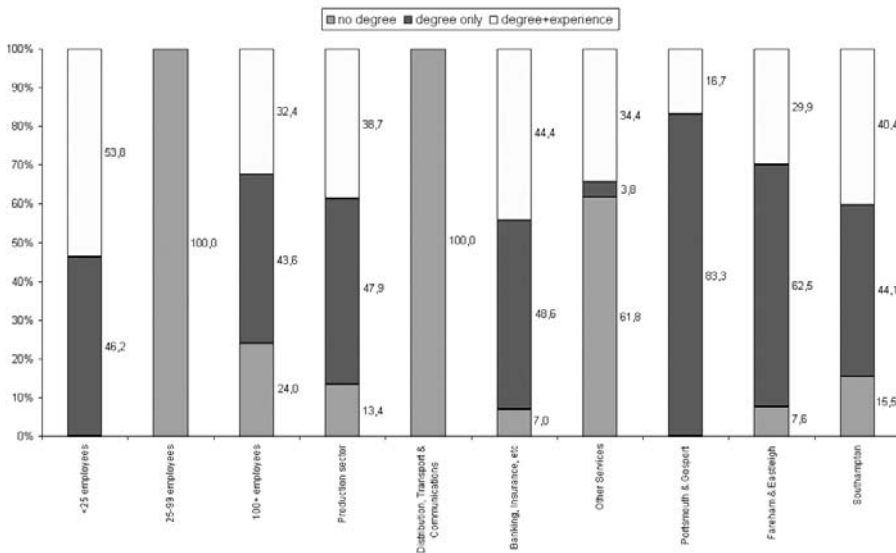
This information on defining a graduate job helps to explain the information collected in the survey covering employers in South Hampshire. Organisations were asked to state, with respect to graduates recruited in the previous year, what percentage were to jobs:

- Where a degree was not a minimum requirement.
- Which specified a degree as a minimum requirement.
- Which specified a degree and relevant experience as a minimum requirement.

Figure 7 presents the results (based on data relating to the number of graduates recruited, rather than the average percentage of organisations responding to each category). Small and large organisations recruited mainly graduates who required a degree or a degree with relevant work experience (the latter is especially important to the smallest enterprises), while medium-sized organisations (where graduate employment is low – Figure 5) were willing to accept graduates for non-graduate jobs. In terms of different industrial sectors, the small proportion of graduates recruited to the distribution, transport and communications sectors generally did not take up graduate jobs, while many of the jobs in the other services sector were also, by definition, non-graduate employment. In contrast, the production sector and banking, insurance and finance recruited a significant proportion of their graduates to jobs where a degree was needed and often required relevant experience as well.

In total, over 15% of the graduates recruited (mostly) in 1999 went to non-graduate jobs; some 44 % were recruited to jobs that required a degree as a minimum requirement; and over 40% of graduates needed both a degree and relevant experience to secure employment.

FIGURE 7. *Job Requirements for Graduates in South Hampshire 1999*



Reasons Why Graduates are Not Employed

Over 41% of the organisations operating in South Hampshire (and covered by the survey) did not employ any graduates. These were therefore asked to rank the reasons why they had no graduates, covering *inter alia*:

- The company is too small to employ graduates;
- Graduates are too expensive and cannot be afforded;
- Past graduates did not stay;

- The organisation has not considered employing graduates.
- The work undertaken is not suited to graduates.
- The organisation prefers staff with more experience.

Figure 8 presents the major barriers to graduate employment, by size of the organisation, industry sector, and location. Overall, nearly 58% of organisations without graduates stated that the most important reason was that the work they undertook was not suited to graduates, while 15.4% stated that they could not afford graduates and another 15.4% thought that graduates lacked the necessary experience required to work in the enterprise. Interestingly, only a small percentage (less than 4%) had not considered employing graduates while past failures to retain graduates did not feature as a main reason for having no graduate employees. Clearly, there is a strong perception that graduates are not likely to “fit” into the organisation.

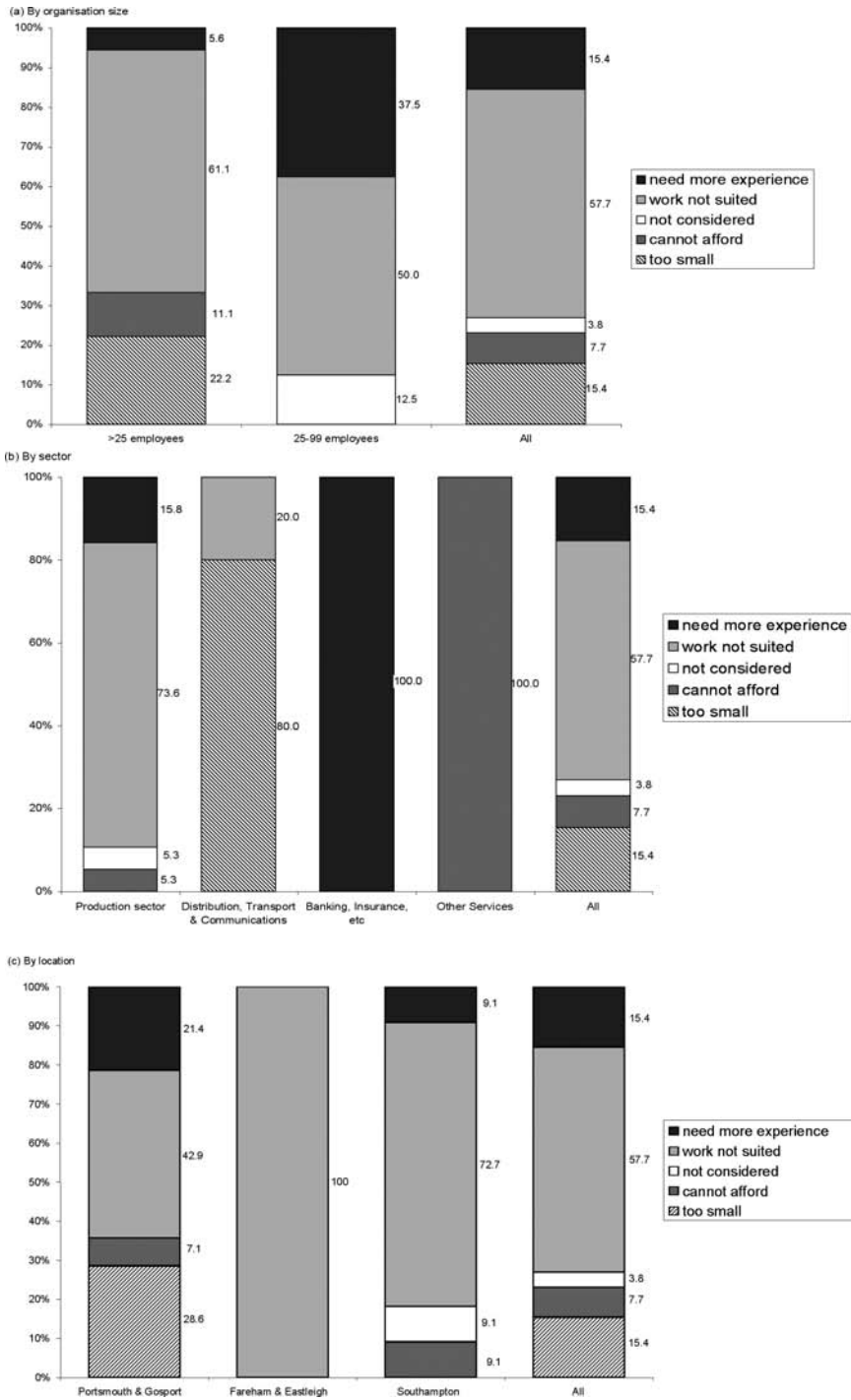
The smallest organisations were more likely to believe that graduates are not suited to their line of work, and (importantly) this far outweighed (by a ratio of nearly 3:1) any belief that they were too small to employ graduates. Some 50% of the medium-sized organisations were also of the view that graduates were not suited, although experience also plays an important factor for over 37% of the respondents. None of the larger organisations (employing over 100) stated that they do not currently recruit graduates or that they did not expect to (which accounts for why not all organisations in this size-band employ graduates but none of the organisations suggested their were any barriers to graduate recruitment now or in the future).

The reasons for not employing graduates are more polarised when looked at by industrial sector. In the production industries, the major barrier to further graduate entry (where market penetration is relatively high) relates mostly to the perception that the work undertaken in the organisation is not suited to graduate employees. This may suggest that plants of this type produce low technology goods and services that involve few innovations and the use of older technology (certainly the plants covered are relatively small, with an average size of just 14 workers). Previous analysis of small manufacturing plants in the Portsmouth area (Harris, 1995) suggested that many did not use best-practice technology, and continue with products that have been in existence for a considerable length of time. It is likely that this type of plant would not see the potential benefits from employing graduates, but this would need to be substantiated in further work.

In the distribution, transport and communications sector the major reason for not employing graduates is the perception that the business is too small. This suggests that these firms believe that they would under-utilise graduates, and not obtain a sufficient return. Again, this might suggest that this type of potential barrier is more perceived than real, and more information is needed to understand the nature of the concerns being expressed.

Banking, insurance and finance companies without graduates state the overwhelming reason for this is a lack of experience, and this suggests that these organisations

FIGURE 8. *Major Reason for Not Employing Graduates, South Hampshire 1999*



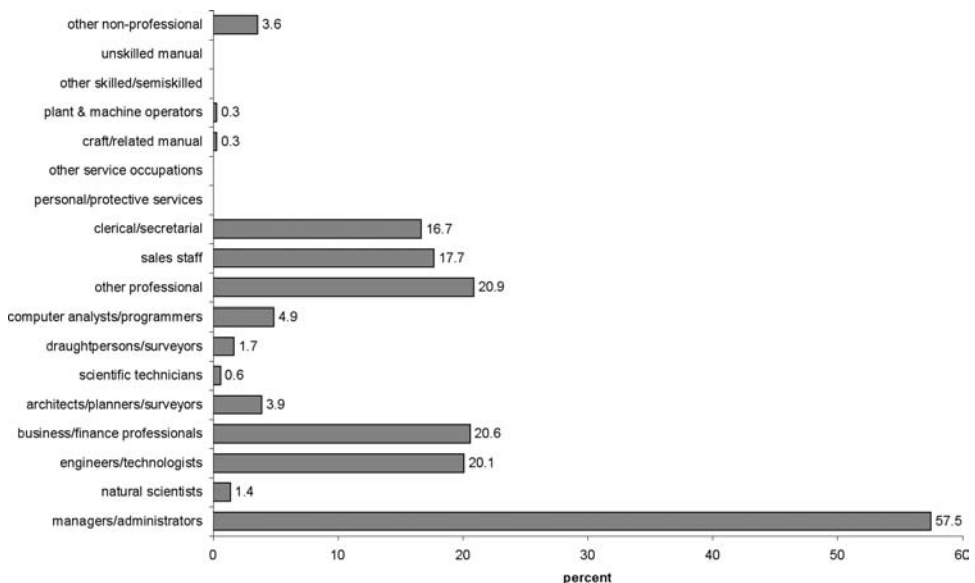
require more specialised knowledge (certainly, they tend to be larger organisations with an average size of 60 employees). Organisations in the other services sector think that graduates are too expensive, which may reflect the type of skills expected of them or an expectation that graduates want too high a return on their human capital.

Lastly, Figure 8 shows that Fareham and Eastleigh organisations that do not employ graduates are mainly concerned about the suitability of graduates. This mostly reflects that fact that over 82% of this sub-group are in the production sector (see the discussion above). A similar situation holds for Southampton, while Portsmouth and Gosport have a greater spread across different industry sectors.

Graduate occupations and whether graduates are preferred/not preferred

Graduates are much more likely to be found in certain occupations: for example, natural science occupations, as engineers/technologists, as business/finance professionals, as architects/planners/surveyors, etc. Thus, organisations were asked to state whether they currently employed graduates in certain occupations, whether they were recruiting to these occupations in the following 12 months and, if they were, whether they preferred to recruit graduates. Figure 9 shows the percentage of respondents who said that they employed graduates in the 18 occupations that were listed. Managers are well represented (partly because they are a major proportion of the workforce and have a relatively high graduate penetration), as are engineers/technologists, business/finance professionals, and other professionals. Sales staff and clerical/secretarial are

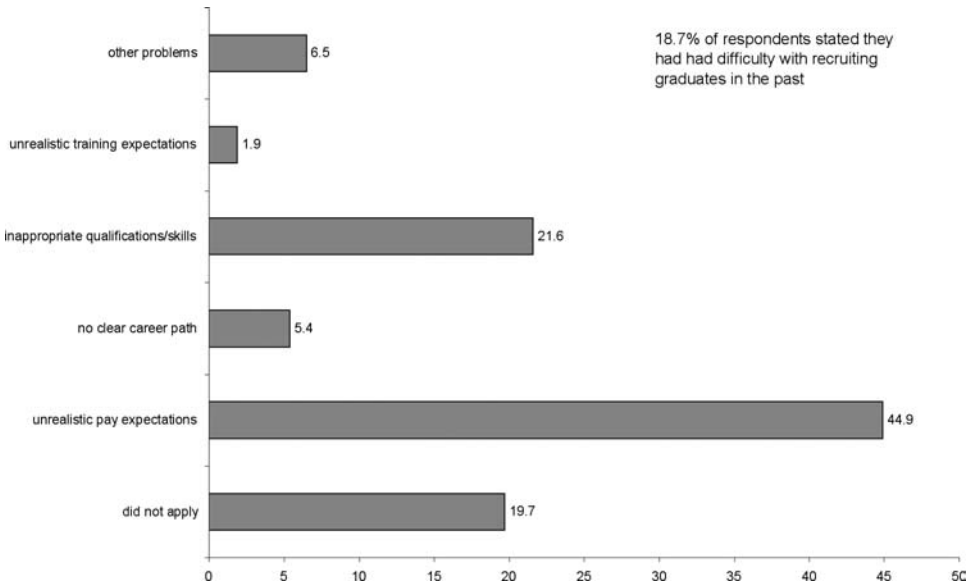
FIGURE 9. *Occupations Where Graduates Currently Employed, South Hampshire 1999*



also well-represented, partly because of the relative importance of these occupations but also because these occupations are often the easiest points of entry into many organisations for graduates. As expected, manual occupations (other than sales and clerical) are much less likely to have graduate employees.

Figure 10 shows (for those occupations where graduates are more likely to be present) whether organisations were planning to recruit staff and whether they preferred graduates. Clearly, organisations do not think that graduate status is necessary, let alone sufficient, when recruiting staff to what would normally be termed graduate occupations (e.g., engineers/technologists; business/finance professionals). This in part suggests that they do not regard the skills and knowledge gained as being essential to providing the human capital services required by the organisation.

FIGURE 10. *Whether Planning to Recruit in Next 12 Months and Whether Prefer to Recruit Graduates*



Difficulties in recruiting graduates

Nearly 19% of respondents stated that they have had difficulties when trying to recruit graduates in the past. Those organisations were then asked to rank the most important reasons for the difficulties experienced. The options to choose from included:

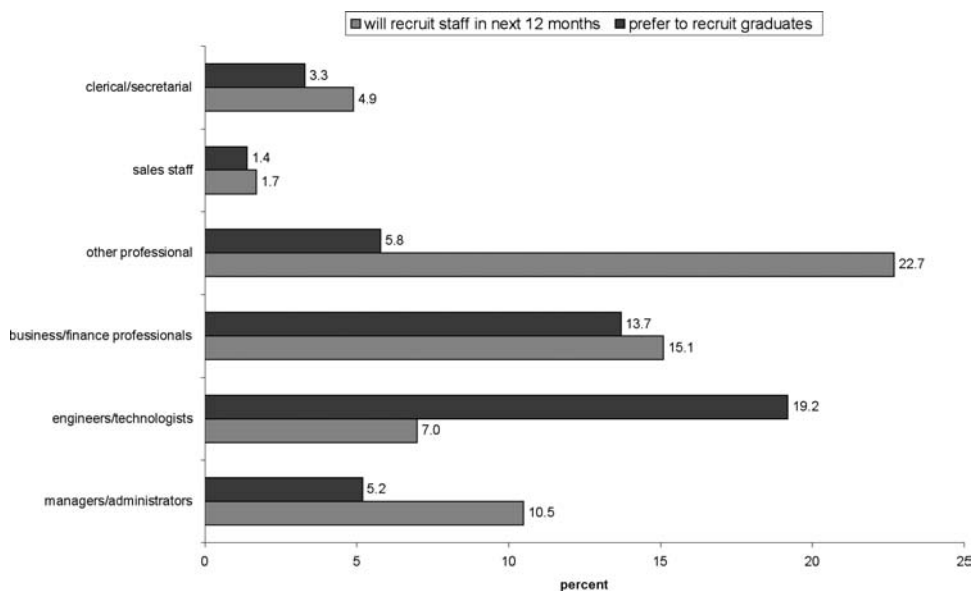
- Because graduates did not apply.
- Pay expectations were unrealistic.

- There was no clear career path for graduates;
- The graduates had inappropriate qualifications and/or skills; or
- Their training expectations were unrealistic.

(The respondent could also provide their own specific difficulty if necessary.)

Figure 11 indicates the most important recruiting difficulties experienced at any time in the past. In nearly 45% of organisations that had had difficulties, unrealistic pay expectations was the most important reason; the next most important category is inappropriate qualifications and/or skills (21.6%); while difficulties in attracting graduate applications also features significantly (nearly 20% of relevant organisations experiencing this problem). Given previous work on how graduates adapt in the labour market following entry (cf. *Moving On: Graduate Careers Three Years After Graduation*, a report to the DfEE, 1999), it might be expected that the initial valuation of their human capital by graduates often exceeds employers valuations, since the latter can be recruiting to non-graduate jobs and/or to graduate jobs that require more specific experience (that can usually only be achieved through job-related experience in the work-place). This suggests that many graduates lack both a clear perception of what employers expect, and a sufficient range of skills that will make them sufficiently productive at the beginning of their career.

FIGURE 11. *Most Important Difficulty in Recruiting Graduates*



Implications of University impact on graduate labour market

The recent survey undertaken by Harris (2000) on behalf of the University of Portsmouth Careers Service provides important information on the demand-side of the graduate labour market. However, it also raises many questions that require a more in-depth study to be undertaken that can obtain from employers the reasons why they employ graduates, for what type of jobs, and with what benefits (and costs).

The major topics covered have included the extent to which graduates are able to obtain employment across a range of organisations, industry sectors, and locations. A major conclusion is that graduate employment opportunities are concentrated in specific sub-sectors of the labour market, such as the smallest and largest organisations, those operating in the production and banking and finance sectors, and establishments located on the outskirts of the major cities. Moreover, graduates are often not recruited to graduate jobs, or the jobs they obtain also require relevant experience over and above the skills and information obtained through acquiring a degree.

In terms of the barriers to graduate employment in those organisations that do not employ graduates, the results show that there seems to be a strong perception that graduates are not likely to 'fit' into the organisation, either because the work is not suited to them, or they lack necessary experience, or that the organisation would not utilise them sufficiently to make it worthwhile employing workers with a degree. Even in those organisations where graduates are employed, there is strong evidence that organisations do not think that being a graduate is necessary, let alone sufficient, when recruiting staff to what would normally be termed graduate occupations.

As to those organisations that have experienced difficulties in recruiting graduates, the evidence suggests that they find graduates cost too much (presumably in relation to the return they offer), and often lack the necessary skills and/or appropriate qualifications for the job. That is, graduates may overvalue their human capital when seeking work because they lack a clear perception of what employers expect, and a sufficient range of skills that will make them sufficiently productive at the beginning of their career.

In conclusion, there seems to be strong evidence to suggest that employers require graduates that have a more general understanding of the labour market together with generic business skills, as well as the specific skills associated with the degree-course studied. This might then extend graduate penetration into a wider section of the labour market, and reduce some of the real or perceived barriers to graduate employment. In response, the higher education sector needs to include more training of these generic skills into degree programmes, which also include strong elements of experiencing employment as part of studying. The results also suggest that universities would benefit from greater attempts to involve employers in what goes on in the HE sector, so that misperceptions of what graduates have to offer can be minimised.

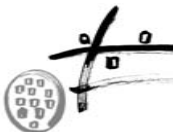
SUMMARY AND CONCLUSIONS

Universities have the potential to play a major role in stimulating local economic development, both through their own activities (which generate and maintain local demand and thus local jobs), and through the transfer of knowledge to local organisations. This study has concentrated narrowly on only a small number of areas related to the local impact of the University of Portsmouth.

Specifically, a detailed account has been given of how to measure the expenditure impact of a University, in terms of data requirements and an appropriate methodology. Secondly, we looked at the local-content of externally funded University of Portsmouth research in the last 4 years, showing that this local content is fairly small (only 13%). Thirdly, the local graduate labour market was examined in some detail, based on a recent survey, and several important findings emerge that suggest that universities need to be more proactive in terms of equipping their graduates to exploit future local and national employment opportunities.

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YOUNG PEOPLE AND STUDENTS¹

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In a survey carried out in Marseilles, R. Establet observed that, although 64% of students interviewed defined themselves above all as students, 84% considered themselves first of all to be young people.² Evidently the two identities are not exclusive, given that one can be both young and a student, they should not be confused. To say that students must be considered as young people is not absolutely true, while it also means that their way of life is not, in any sense, solely governed by their studies, but also by the much more extensive problems of youth as a stage of life and as the touchstone of their entry into adulthood. Neither must we forget that some students, to a greater or lesser extent, distance themselves from their families in some cases acquiring a certain economic autonomy, while others begin to live with a partner and, in the end, “grow up” during the period of their studies. The different stages of this process play a major role in the student way of life, though this varies according to a series of factors that are not solely related to the type of studies undertaken, but are also influenced by student accommodation, the location of the study centre, the resources that they dispose of, etc. Thus, students are also young people, but in a different sense: they participate fully in a young way of life, replete with their own chosen relationships and the kind of mass entertainment that is not always specific to, or sufficiently characteristic of, an exclusively student environment.

BETWEEN AUTONOMY AND DEPENDENCE

Alone or with the family

At Rennes, 41% of first level students live with their families.³ This is the case for 44% of the men and 38% of the women, 43% of whom are between 18 and

1. This text has been taken from F. DUBET, X. MERRIEN, A. SAUVAGE, A. VINCE, *Université et ville*, Paris, l'Harmattan, 1994.

2. R. ESTABLET *et al.*, *L'université et la ville : la faculté des Sciences de St Jérôme dans les quartiers Nord de Marseille*, Aix en Provence, Université de Provence, Département de Sociologie, 1993.

3. J. PIHAN *et al.*, *Aires de recrutement des universités et modes de vie des étudiants. Le cas des universités bretonnes*, Rennes 2, AURAU, 1993. The national rate of students living with their families is 36%. For the more urban upper classes, or those that live closer to the universities, this reaches 43%. A. Dufour, J.L. Volatier, *Le budget des étudiants d'universités et d'UT en 1992*, CREDOC, October 1992.

19 years old, and 38% of whom are between 20 and 21 years old. Social background does not appear to have a significant influence on this situation and, in both Rennes and the university's annexes, above all it is the distance between the family residence and the university that determines the type of accommodation chosen. When this distance is less than 15 kilometres, 90% of students live at their parents' home. This is reduced to 45% with distances of between 20 and 30 kilometres and falls to only 3% when the distance is greater than 50 kilometres. The option of studying in a faculty or the central university depends, above all, on proximity to the parents' house. In 70% of the cases this is the main determining factor.⁴ It appears that the mass growth of the universities has accentuated this phenomenon of living with the family, given that 39% of the students at Le Havre, for example, live with their families.⁵ The incidence of students living with their family varies significantly according to the location of the centre. O. Galland observes that although 35% of students live with their families, this percentage increases to 72% in the case of students at Nantes, while it is as low as 21% for the universities of Rennes and Besançon. If we add to these figures data relating to students who live in accommodation paid for by their parents, the percentage increases to 84% for Nantes, 58% for Rennes and 53% for Besançon.⁶ From the age of 24 onwards half of students occupy lodgings paid for by their parents. According to J.P. Molinari, one third of the students at Nantes live with their parents. At Le Mans, where local enrolment is more important, this figure is 47%.⁷ Generally speaking, it would appear that living with their own families is more dependent on geographic circumstances than on any educational choice, insofar as it is far more common at small universities, which depend on a regional enrolment area.

This preponderance of students who live with their family is not merely the result of financial pressures, 65% of the students that do so state that they are in no hurry to leave home.⁸ The issue of family democracy is not, therefore, an invention, insofar as young students, do not wish to leave home on a large scale, even in those cases where they enjoy a considerable level of financial resources. Undoubtedly the image of the independent student escaping the family is no longer the norm. The proximity of the study centre to the family residence is shown to be the first factor in the university option chosen by 44.5% of students, well

4. J. PIHAN, *op. cit.*

5. AURH (Agence d'Urbanisme de la Région du Havre), *Le Havre: une ville accueillante pour les étudiants : modes de vie des étudiants et relations à l'espace universitaire et urbain*. Le Havre, October 1993.

6. O. GALLAND *et al.*, *Les modes de vie étudiants*, Paris, FNSP, OSC, 1994.

7. J. P. MOLINARI, *Modes de vie d'étudiants de l'université de Nantes*, Nantes, LERSCO, 1993; J. CHEVALIER *et al.*, *Le Mans: nouvelles dynamiques et revitalisation d'un campus*, Université du Maine, Groupe de Recherche en Géographie Sociale. 1993.

8. J. PIHAN, *op. cit.*

above the specific course, or the prestige of the university itself. It is evident that this factor has much less influence on Parisian students, who dispose of a much wider range of opportunities, yet who increasingly remain at home. In this sense, as observed by O. Galland and his team, things have not changed much since the time of the *"Héritiers"*⁹. Most surveys show that this sectorisation is not perceived as an obstacle, to the extent that even cases of *"descobabitation"* tend to arise from a "logic of territorial continuity".

Despite the difficulties that sharing family secrets may involve, it appears that the students are satisfied with their family relationships, they also enjoy numerous advantages, above all in the case of middle class families in which a certain "family democracy" is practised.¹⁰ O. Galland observed that 85% of students are of the opinion that their relationships with their respective families are good, and that this provides them with both a certain autonomy and a sense of security. Likewise, they also feel a sense of gratitude for the sacrifices being made. These relationships appear to be rather less satisfactory among the working classes, where the family model may be more authoritarian, and in which the family's sacrifice may result in feelings that range from gratitude to guilt. It is true that in 40% of cases students share the "ideas" of their parents, although this percentage is lower among students from classes that are more distanced from the "middle classes"; in these cases the students undergo a process of adopting a higher cultural level which gradually distances them from their families. In this sense, J.P. Molinari speaks of a true cultural tension, above all in rural areas, where parents do not understand their children's way of life or work "always with their heads stuck in a book!"

In time students leave home, this is a progressive process that often lacks any actual break-away point. The percentage of students who live with their family decreases between the first and the fourth year of the course. In Le Havre, for example, it reduced from 45% to 23%.¹¹ Nevertheless, D. Pinson notes that this separation is experienced more as a loss than as the gaining of independence and freedom.¹² Even when the student lives alone, either as part of a couple or with friends, weekly visits to the family continue to be frequent, the weekends are extended and family support persists, although there is no longer so much control.

9. The *Héritiers* were students from the cultured upper classes who, according to Pierre Bourdieu, inherited the cultural capacities proper to their class. Their historic period continued up to the 60's, with the *Héritiers* forming the majority at the university (editor's note).

10. J. KELLERHALS, "Les types d'interaction dans la famille", *L'Année sociologique*, vol. 37, 1987. (4). J. PIHAN, *op. cit.*

11. AURH, *op. cit.*

12. D. PINSON, *et al.*, *Configurations et usages du logement étudiant à Nantes*, Nantes, Ecole d'Architecture, LAVA, 1994.

*Between occasional work and part time employment.*¹³

50% of students believe that, to cover their needs, they need a monthly income of between 3,000 and 5,000 francs, although 27% would make do with less than 3,000 francs. The stated "needs" increase from one level to the next, given that 59% of second level students would like to receive between 3,000 and 5,000 francs, as against 45.5% of those in the first year. The more modest the students' social origins, the higher the percentage that believe they can satisfy their desires with less than 3,000 francs, 40.5% in the case of working class children, as against 19% for the children of executives.¹⁴ It is evident that financial autonomy is the factor that determines entry into adulthood. However a wide range of situations exists between complete financial dependence and independence, and a wide range of levels of contribution on the part of the students themselves to their own maintenance. It appears that between occasional work and part time employment almost all students work, in one way or another¹⁵. In Tours, 85% of students work in the summer and 15% do so occasionally during the year¹⁶. A study carried out in Montpellier indicates that 60% of students work in the summer, that 16% work occasionally during the year and that 34% have a part time job throughout the year.¹⁷ In terms of summer work, 77% work for over thirty hours a week. During term time, 55% of jobs involve over 15 hours a week, and 14% over thirty hours a week. In Lyon, N. Commerçon detects a rate of activity of 68%, with an increase of almost 10 points between the first and second levels.¹⁸ The share of earnings generated by occasional work and more regular employment increases with the student's age and

13. Independently of the technical difficulties involved in precisely evaluating earnings and financial resources, we can consider the results of a study carried out in Tours as being quite representative of the student condition: 56% of students interviewed dispose of between 1,000 and 2,800 francs per month; while 71% have a higher level of parental assistance. (Y. CHEVALIER *et al.*, *Les étudiants et la ville*, Université François Rabelais, Tours, 1993). Likewise we can also take into account the following figures from Montpellier: apart from rent and transport, one in two students spend less than 1,000 francs per month, and one in six spends over 2,000 francs. Students spend less the younger they are, when they live with their parents and when they go home at weekends, which does not mean that they necessarily cost less. (J. P. VOLLE (ed.), *Observatoire de la vie étudiante. 1. Les étudiants*, Montpellier, GREGAU, 1993). In fact, it would seem that students have a relatively homogeneous lifestyle, with far fewer inequalities than in the social hierarchy in general. On the other hand, what continues to be very unequal is the cost of studies for the families and the income structure.

14. F. DUBET, *Les étudiants, le campus et leurs études* (avec B. DELAGE *et al.*), Lapsac, Plan Urbain, 1993.

15. Legal or unofficial work is not specific to university students, given that at the present time this is also a factor for school children, in particular among the working class. R. Ballion estimates that 13.5% of those at school work during the school year, and 40.4% during the holidays. *Le Monde*, 17/3/1994.

16. Y. CHEVALIER *et al.*, *Nouvelles dynamiques et revitalisation d'un campus*. Le Mans, Université du Maine, Groupe de recherche en Géographie Sociale, 1991, 1992, 1993.

17. J. P. VOLLE *et al.*, *Observatoire la vie étudiante*, Montpellier, 1993.

18. N. COMMERÇON *et al.*, *Ende d'impast d'un nouveau site universitaire en centre-ville : la Manufacture des tabac à Lyon*, Maison Rhône-Alpes des Sciences de l'Homme, 1994.

the time that he has been studying: the percentage of fixed employment in the first year is 20%, increasing to 53% by the third year.¹⁹ In total, in Nice, 7% of students work more than 15 hours a week.²⁰ In a study of students at Rennes, Nantes and Besançon, O. Galland and his team observed that only 14% of students declared that they had not worked at any time in the year: 25% had fixed employment, 14% had more or less part time work and 12% worked, at least, half the day.²¹ A wide range of work situations exists, from those who work on an irregular basis to obtain extra money for their expenses, to students who are true wage earners, including those for whom work provides a regular income to complement family support or grants. This same survey indicates that almost two out of three students state that they work out of necessity, while a third only do so to obtain money to cover extras. Only one student in ten works in order to improve his training. The range of occasional jobs is extremely varied: baby sitting, working at fast-food outlets, cleaning companies, cheer leading in leisure establishments, etc. In terms of work, it is possible to outline certain characteristic profiles, although the great complexity of existing situations must also be taken into account.²²

A distinction can be made in the case of the student supported by his family, either living at home or where the family pays his rent, ensuring that his minimum subsistence and daily living expenses are covered, with or without the help of a grant. In this case the different "holiday jobs" in the summer represent a supplement to cover his expenses, but are not seen as a contribution to his education as such. This model is valid for the youngest group and is independent of social origins, although it is particularly applicable to students with accommodation in the university cities.

The second student model is characterised by the search for supplementary earnings that are indispensable for a specific lifestyle and for certain leisure activities. This is the case where the family and/or the grants only cover the cost of lodgings or food, or both. The "supplementary" part, to cover leisure, clothing and books, etc. depends on having a job, which in this case cannot be occasional. In a subjective way, the students described in this case are under the impression that this increases their autonomy, and they often claim that they help their parents to pay for their studies. In the opinion of some of the students interviewed in Bordeaux, the decision to live as a couple is often associated with passing from one category to another, in the same way as when the change is made from student accommodation on campus to an apartment in the city.

19. J. P. VOLLE, *op. cit.*

20. A. CHENU, V. ERLICH *et al.*, *Enquête sur la vie étudiante dans les Alpes-Maritimes*, Université de Nice, SOLIIS, 1993.

21. O. GALLAND *et al.*, *Le mode de vie des étudiants*, Paris, FNSP, OSC, 1994.

22. Here I have taken my figures from an extremely wide ranging classification by Galland, *ibid.*, without entering into all of the details

And finally we have the independent students, committed to a job that is more or less regular and more or less legal. This category covers a wide range of situations, including: night watchman, paid substitutes, and foreign students who work at night in the markets, or with cleaning or maintenance companies, etc.

If we return to the "*Héritiers*" we can see some of the essential differences, underlined by O. Galland in a comparison of his own data, on today's arts students, and the contents of the book by P. Bourdieu and J. P. Passeron. Work as a complement to studying has become generalised, and this fact is reflected in all social groups:

Students who work		
	1962	1992
Workers and employees	53.5%	45.6%
Craftsmen, salesmen	28 %	54%
Middle management	24.5%	49%
Upper management	25.5%	41%

Thus, as the students/workers of the sixties were mainly from the lower classes, at the present time the different percentages are much more similar, which responds more to a return to economic inequalities than to the influence of a youth lifestyle in which part time work occupies, as in the United States, an increasing place in the youth culture model. Nevertheless, the significance of work is not the same for the different social levels, and the nature of what N. Commerçon calls the "educational contract", agreed between students and their families.²³ Thus, for students from modest families, the work done in summer is a need that is written into this family contract, which at the same time includes passing exams. In the middle class categories, a professional activity forms a part of the student way of life and is different from that which corresponds to the priority objective of professional insertion. In the case of the well-off classes, summer work plays the role of training and has a professional end, which is emphatically written into the implicit educational contract.

Nevertheless, if subjective independence is closely linked to economic autonomy, the sense of having reached adulthood is manifest after certain more subtle changes. Thus, 55% of students feel that they are adults when they control their own budgets with complete autonomy. One does not become an adult by making a break but by a series of small, almost imperceptible, mutations: returns to the family home at the weekend become increasingly less frequent between the first and fourth year; leisure is increasingly more independent, earnings gradually increase, etc. Youthful cohabitation, considered as a decisive criteria for adult status, increases from 3% in the first year to 20% in the second year.²⁴

23. N. COMMERÇON *et al.*, *op. cit.*

24. F. DUBET *et al.*, *op. cit.* J. P. MOLINARI, *op. cit.*

HOW DOES ONE BECOME AN ADULT?

The period of university studies is also one of changes of status, of the progressive acquisition of functions, of adult behaviour and aptitudes. The fact that this process takes place, in part at least, during university studies does not mean that it is strongly structured during the studies themselves. Effectively, if the studies are subject to a succession of levels and years, this reality is far from corresponding to “psychological years” or stages of social maturity. From this point of view the university is not a prolongation of secondary school or technical college given that, although “freshers” (first year students) exist, there are no “veterans” as such who, merely as a result of their position, have achieved more autonomy and social responsibility. Students do not see themselves as people whose personal progress leads them towards the status of being “grown up” or “more grown up”, in comparison with school children passing from childhood to adolescence, or secondary school children passing from adolescence to youth. At no time, during a study carried out in Bordeaux, did students describe their progress in terms of these categories of growing maturity; there was no talk of either “new boys” or “veterans.”²⁵ The university encloses the time of youth, but does not precisely analyse its distinct stages and processes.

It must be said that this relative disassociation between the educational and the personal trajectory is sustained on certain objective grounds. The influence of studies is weak, the progression of the students is so diversified and the personal conditions so multiple, that it is difficult to group them under a common denominator. The situations with regard to the family, earnings and living conditions are highly diversified. In some cases, it might be a case of the student staying at university to prolong his youth, and avoiding becoming a true adult, whereas for others, this prolonged youth is distressing. To put it another way, entering adulthood appears to be both an individual and a subjective process, which is objective to the extent that there is no clear and unequivocal social definition that indelibly fixes the passage from one status to the other.²⁶

Answering the question: “how does one become a grown up?”, students from Bordeaux emphasise three arguments: the end of living with the family, finding more important and more regular work and, finally, living as a couple. Firstly, one leaves the family, which involves doing your own housework and calculating budgets. Later, regular or occasional work increases income. And finally, one sets up house with someone else “to become established”, not necessarily through marriage, but in terms of a life that is emotionally and materially more independent.

25. F. DUBET *et al.*, *ibid.*

26. Concerning the prolongation of youth, cf: A. CAVALLI, O. GALLAND, (ed.). *L'allongement de la jeunesse*, Ed Actes Sud, 1994.

The study in Bordeaux reveals that, if 35.5% of students live at their parents' homes, this percentage is 42 at the first level and falls to 24 at the second level. If we accept, rather arbitrarily, that any student in Bordeaux could live with his family, as is the case with 47.5% of those in the first year, it can be seen that, overall, 62% live alone. 14.5% of students live away from their families when "they could" live with them. In the second year 38.5% of the sample come from la Gironde, but 76% of them live alone, i.e. a difference of 37.5%. Therefore there is a "guideline" by which to establish oneself, which is individual and progressive, in the course of one's student period. Students separate themselves from their families as the result of no other "need" than that of an autonomy that is achieved in this way.

Through an analysis of student lodgings in Nantes, D. Pinson and his team observed that the choice of accommodation formed a part of a process of developing "independence".²⁷ A room in a student residence at the university is midway between the family home and a flat in the city. Sharing a cheap rented apartment is also an intermediate stage, given that this type of youthful cohabitation sets up a kind of local solidarity, with "regions" with stronger links than those of mere studying companions. It is evident that achieving autonomy through accommodation depends on geographic and material factors. Thus, sharing an apartment in a cheap block of flats is the ideal formula, in terms of "value for money", for those who cannot afford the "ideal" of rooms in the city centre. The "dis-cohabitation" process is slow, and passes from provisional to transitory and then from transitory to more permanent. The flat begins to change its character as the first consumer durables are installed. Likewise, the "lack of intimacy" of the halls of residence is replaced by the "negotiated intimacy" of a flat in the city. The number of meals eaten in the apartment increases and people start to be invited round. This distancing does not appear to be related to any worsening of relations with the family, given that 82.5% of the students declare themselves to be satisfied with family relations. At the second level, this figure is higher, 85%, than at the first, 81%.²⁸

The provision of economic support by families decreases from one cycle to the next. In Bordeaux this assistance, the provision of three quarters or more of resources by parents, passes from 73% to 53% between one level and the next. This provision increases in the case of girls, who receive 71%, compared with 58% for boys. There is always more help provided in the case of selective specialities (Medicine/University Institutes of Technology), than in the more popular centres (45.5% as against 38%). Likewise, it varies in terms of different types of training: 60% for Law, Sciences and Economics, and the IPS (Institute of Political Studies), 46% for scien-

27. D. PINSON *et al.*, *op. cit.*

28. F. DUBET *et al.*, *op. cit.*

tific units and 32% for Humanities. Financial dependence is also seen as the main obstacle to the student's status by 40% of the sample, and by 48% of the second level. It is possible that students need to be "kept", but this is not something that necessarily satisfies them. "Undoubtedly I'll feel like an adult as soon as I get my first real job. It's a question of money". Students increasingly work while they are studying, despite the fact that family income is not the only determining factor of student employment.

48% of students in Rennes have a vehicle, 1/3 of the students in Bordeaux have a car. In Rennes, the habitual use of a car does not vary between the different social classes: 46% of the working classes, 48% of executives and employees, and 50% amongst farmers. It seems that the smaller and more decentralised the university is, the more usual the need for a vehicle of some kind. While 37% of students have a car, the figure is only 29% for first level students and 51.5% at the second level.²⁹ Being "motorised", i.e. owning a vehicle financed by either the family or the student himself, is an aspect of the student lifestyle, which provides a certain degree of independence. N. Commerçon and his team recorded that 40% of the students interviewed in Lyon owned their own car, while 29% only used it to get to the faculty.³⁰ J. Chevalier showed that, in the case of students at Le Mans, the "motorization of mobility" affects all aspects of student life, with regard to both work and leisure: the car is both a means of transport and one of the key elements of their way of life.³¹

Becoming an adult "is to be independent of your parents and to take charge of your own life, through very specific means, such as maintenance or accommodation, and starting to live your own life".³² One of the main differences between the students in their first year in the faculty at Lille is characterised by the specific destination of the money provided by the parents of well-to-do families in monthly allowances and, in the case of more modest families, in the form of occasional payments. Yet by the third year, independently of social origins, the practice of an overall provision "to spend as you please" has become generalised.³³ Students tend to space out the time they spend with the family. As time passes, family encounters are less frequent. "They have to live their own lives, as their parents live theirs". Weekly visits to the family home diminish from 22% at the first level to 13% at the second. And, more than anything else, total dependence is left behind, given that, with the money from partial employment, they no longer owe anything to anybody; above all when such money, as in the majority of cases, is used for leisure and their own personal lives.

29. F. DUBET *et al.*, *ibid.*; cf. equally N. Commerçon *et al.*, *op. cit.*

30. N. COMMERÇON *et al.*, *ibid.*

31. Y. CHEVALIER, *op. cit.*

32. F. DUBET *et al.*, *op. cit.*

33. B. CONVERT, M. PINET, *La carrière étudiante. Contribution à une sociologie de l'étudiant*, Ecole centrale de Lille, 1994.

Living as a couple appears to be a decisive step towards adulthood. "I will consider myself to be grown up when I've taken the decision to live with someone and, at that time, I will no longer count on support from my parents, I'll take complete charge of my life". "I'll feel like a real man when I have a woman; if not, the faculty is eternal adolescence". Cohabitation increases as the years pass: the average is 9.5%. At the first level it is 3%, although this increases to 20.5% by the second level. If we take into account the INSEE figures, quoted by O. Galland, the percentage of student cohabitation outside of marriage continues to be particularly low in relation to the national average: 44% among boys and 36% among girls aged between 20 and 24 in towns with between 100,000 and 200,000 inhabitants.³⁴ Living as a couple is a decisive stage, insofar as "one is not only responsible for oneself", and where one ceases to solely belong to one's family.

A mathematics student describes the passage to maturity as a series of "combinations" between economic, family and personal logic systems. That is why there is no general guideline for entering adult life. Youth's uncertainties and ambiguities mature at the university. There, they are developed, all the more so insofar as students have ambivalent feelings about their future. The future often seems far from bright, given that 69% of students state that they are concerned about unemployment, even at the second selective level, where the figure is only 56%. Social origin is not a shield for their anguish, insofar as this is more common among the children of executives than among those of workers. Likewise, 21% of students consider that fear for the future is the main disadvantage of their status as students. Concern about the future affects girls far more than boys, worrying 77% as against 59%, with 24.5% of girls stating that this is the main disadvantage of their status as students, while only 16.5% of boys feel this way, and are inclined to postpone the moment when they take their professional tests. In fact, that is what they do, given that 34% of them believe that free time is the main advantage of their status as students, and this figure does not vary very much from one year to the next.

The data collected reveals a clear difference in the rhythm of reaching maturity between boys and girls. Girls appear to be more closely connected with their families and to receive more support than boys. They have more numerous opportunities for part time or occasional work, but are less often employed in steady jobs and are more concerned about the future. Among girls, it is as if the model of more traditional family dependence was still operative, as if they were already aware of the specific disadvantages in the employment market. In this sense, the variations between the sexes are minimal but constant.³⁵

34. *Ibid.*

35. These observations are in convergence with those of C. BAUDELLOT, R. ESTABLET, *Allez les filles*, Paris, Seuil, 1992.

THE DOUBLE LIFE OF STUDENTS

Emigrant or sedentary

In a great many cases, the student way of life can be seen as a stage that is “split” down the middle between university life and youthful life in the family, or with companions unconnected with the world of the university. The researchers of the “Observatoire” investigating student life in Montpellier, indicate one of the differences between sedentary and emigrant students.³⁶ The emigrant is the student who returns home every weekend and makes an effort to limit his time spent at university to that which is indispensable to follow the essential courses. 73% of students at Dijon spend all of their weekends with their families and another 13% do so every fortnight.³⁷ 44% of the students at Rennes go home every weekend, which is also the case of over half of those whose families reside within a radius of 30 to 200 kilometres of the city.³⁸ These weekly migrations mainly involve the use of public transport and private cars, which have become an essential ingredient of the way of life of provincial students.

All of the studies carried out in the provinces underline this phenomenon of a double life, which sometimes suggests a case of breaking away, when the students in question are “freshers” and come from families that are culturally distanced from university standards and values. Emigrant students include the youngest, who live in the cheapest lodgings, and who tend to live on campus. Sometimes, as in the case of Bordeaux, the campuses empty out on Thursday afternoons, except for their foreign students who suffer a feeling of captivity. The sedentary students are the veterans, who tend to live in the city centre, although it is the emigrant students who really give life to the university. This is so to the point that certain departments and the TRU (Training and Research Unit) avoid giving classes on Monday mornings and Friday afternoons or Saturdays.

Student social life is influenced by this duality. All of the surveys indicate the differences that the students establish between their *colleagues* from the university itself and their *friends* from older relationships, such as those from school, from their hometown, and from sports clubs, etc. When it comes to taking part in sports, they are more inclined to do so with friends than with university colleagues: students more frequently choose the team from their hometown than that of the university. According to students in Bordeaux, they even tend to fall in love more frequently outside the university environment than they do as the result of encounters in the lecture halls of the faculty. Evidently this duality is much greater in the popular universities than

36. J. P. VOLLE, *op. cit.*

37. F. BOURDON, C. PEYRON, *Le cas de la délocalisation du premier cycle de Droit à Nevers*, Dijon, Université de Bourgogne, LATEC, 1993.

38. J. PIHAN *et al.*, *op. cit.*

in the more select and integrated sectors, which tend to favour a certain team and corporate spirit. Of late, this duality has proved more dominant in educational terms, as is the case in high schools or University Institutes of Technology. Nevertheless, B. Convert and M. Pinet observed the same migratory mechanism, and the same double life, among Parisian students of middle class origins, at university in Lille; insofar as possible, they return to life in their home town.³⁹ O. Galland indicates that this double life is satisfactory for most students, as it shapes a personal space in which they combine their autonomy with a certain security and instrumental relationships with emotional relationships. This double life gently compensates the transition to the status of adulthood and allows them to establish the distance that they want to maintain from their family. The distance grows gradually, with greater lengths of time between family visits, where they manage to establish their own secret life, without cutting off family ties. Thursday nights out, filling certain of the city's cafes and bars, are like ceremonies that mark the borderlines between one life and the other, the end of the university week and the return to "civilian" life. These get-togethers are common place in the majority of provincial universities, above all at Bordeaux, Montpellier, Rennes, etc. and are the most palpable, and at the same time the most spectacular, collective expression of student life.⁴⁰ On Thursday nights, certain cafes and bars are obligatory points of reference for student life, where they "have a good time", often drinking too much, and where young students feel that they are entering the real student world. Some high school students also go along, looking for a taste of what is to come and mixing with "real students". Perhaps this is the only time, apart from demonstrations, when students act as such in a collective way. They can thereby affirm that they form part of the student world, at a time when they still return home to their families every weekend, to their "other life". The more experienced students tend to avoid such get-togethers, judging them to be "infantile", and look to acquire a rather more sophisticated relationship with the city. Their concepts of citizenship and urban trajectory penetrate beyond these cafes and bars that symbolise the world of students.⁴¹

Sometimes, it so happens that the worlds of friends and colleagues come together, through the "brotherhoods" formed by countries. This is particularly the case of uprooted minorities. Foreign students who live on campus do not identify or organise themselves on the basis of what they study, but rather on the basis of their

39. B. CONVERT, M. PINET, *op. cit.*, cf also F. PERON *et al.*, *Brest ville universitaire: pratiques et perceptions du campus, de l'agglomération brestoise et de la région par les étudiants brestoïses*, Brest UBO. AUCUBE. 1993.

40. R. ALLAIN *et al.*, *Rennes, ville universitaire : relations sociales, économiques, culturelles, de loisirs entre université et ville ou quartier*, Université de Rennes II, AURAU, 1993; M. L. FELONNEAU, *Territorialités étudiantes et symbolique urbaine*, Université de Bordeaux III. CRIAM, 1994; J. P. VOLLE, *op. cit.*

41. M. L. FELONNEAU, *ibid.* It seems that at these university annexes and in small and medium sized towns, such get-togethers are less evident due to the fact that the students leave during the week.

origins, which constitutes a much stronger tie. On the campus at the University of Bordeaux, students from the Antilles, the Maghreb, and Africa, etc. structure their relationships around associations and festivals that link them to their country. In this way they create the emotional security that they lack, as well as a network of support and information that is indispensable for adapting to university life. In fact, this social structure responds to a “minority’s logic”. A double life is created on the basis of the conflict between studies and the community, which occupies part of the environment set aside for the family and “real friends”. African students at the University of Nice define themselves, at the same time, as students and intellectuals, as well as immigrant workers, given that this is what they are taken for as soon as they leave the strictly university territory.⁴² These students “avoid going into town” for fear of encountering racist attitudes that can even include aggression. In particular, travelling by bus can involve bothersome incidents, such as avoiding sitting next to a black, etc. Likewise, there is the fear of being taken for an illegal immigrant, while African students generally avoid going to certain places, such as the beach or the old town centre of Nice. On the other hand, the university city is over invested and on campus extensive networks of collaboration are set up: to search for lodgings, jobs, thesis supervisors, etc., with the network acquiring, in this way, a truly national dimension. Veterans look after recent arrivals, through a system of “tutoring” and, through parties and dinner invitations. A community world, organised on the basis of nationalities, is formed. Durkheim’s description of the cosmopolitan student world of the Medieval universities evokes the role of such brotherhoods, which structured the relationships between students from the same origins.⁴³

The campus and the city

Student life is not solely governed by weekly migrations and the juxtaposition between friends and colleagues. In many university cities there is a certain antagonism between the campus and the city itself, and between work and “life”, that profoundly structures the student way of life. In this sense, we must bear in mind that, since the 1950s, campuses in France have been built on the outskirts of the city and are in no way comparable with the typical Anglo-Saxon campus. They were designed as places of work and to meet the basic needs of the students, but are not places with their own life, with cafeterias, auditoriums, shops, etc. Despite recent efforts on the part of the rectors of universities and the municipalities, when the last class finishes the campus empties out, in the same way as factories or offices.

42. J. STREIFF-FENARD, P. POUTIGNAT *et. al.*, *Etre un étudiant africain dans l’université française. Le cas de Nice*, Nice, IDERIC, 1993.

43. E. DURKHEIM, *L’évolution pédagogique en France*, Paris, PUF.

In Bordeaux, Rennes, Nantes or Brest, as well as in many other cities in which different surveys have been carried out, the same opposition can be seen between the campus, seen as a functional space or a “teaching machine”, and the city that takes in the essential aspects of a youthful world.⁴⁴ 16% of the students at Angers stay on the campus after classes have finished. “The students have accommodation in the city, but do not live there”, states J.P. Volle.⁴⁵ In order to escape from the “nocturnal desertion” of the campus, most students prefer to live in the city centre; the more advanced they are in their studies, the more likely they are to abandon the campus, which is shown to be a way of entering student life. On the other hand, for foreign students, it offers them a protective environment, even though it isolates them even more. Likewise, students believe that living together on campus soon becomes a loaded and monotonous way of life; which is when they take an interest in the city, with greater diversification and more freedom of choice.

The campus, seen from the functional point of view of the consumer, is a terrain reserved for “useful” studies and alimentation, and the surveys carried out at Rennes and Bordeaux, by means of a system of mental clichés, indicate that for half of the students the campus is no more than a studying environment and has no further interest for them apart from that which is essential, and on which no emblematic monument exists. At Brest, 75% of students stay on campus for five or six days, eating an average of five meals there; 20% never eat there at all.⁴⁶ There is no doubt about it: the campus is no more than a suburban university, with all that this image of emptiness and atomisation implies. Nevertheless, students are relatively uncritical in terms of the reality of the campus, and the majority of them are not nostalgic for the “*intramural universities*” and the “little Latin quarters” of the provinces. The functional campus will suffice for them in terms of their studies and, in most cities, the biggest problem is transport, which is more important to them than the organisation of the campus or the structuring of their social life. The distancing of one world from the other in this “double life” is of greater concern than the “double life” itself. The students do not dream about an ideal campus, the maximum expression of a student community; enclosed in functional and utility-orientated expectations within their concept of the campus, the symbiosis of their youthful life and the world of study is something of relatively little importance.

The historic city centre and certain streets that make up the student district, along with their bars, cinemas and meeting points for the Thursday night get-togethers,

44. Cf the majority of the studies in the “University and Town” programme, in particular those of: G. MOSER, E. RATIU, *Pratiques de l'espace universitaire et budget-temps des étudiants dans deux universités “intra muros” et deux campus périurbains*, Paris V, Laboratoire de Psychologie de l'Environnement, 1994.

45. J. P. VOLLE, *op. cit.*

46. F. PÉRON, *op. cit.*

represent an alternative to the traditional concept of the campus. The city centre is overvalued because it represents a mixture of genres and activities and because it is both “cultural” and “young” at the same time, allowing students to wander round as they please. Even in the case of Nice, in which the university centres are within the city, they seem as if they were “outside”, creating a poorer and more limited perception than that of the city.⁴⁷ A. Sauvage observes that these perceptions are not too different from those of the city’s inhabitants, whose topics and clichés are shared by students.⁴⁸

The location of universities in working class suburbs has little influence on the rupture between the campus and the city. Studies carried out in Vaulx-en-Velin and in Bron, indicate that the relationship between the population and the students is non-existent; the “city” continues to be the centre of Lyon,⁴⁹ as in the case of the National School of Public Works, which is effectively enclosed within itself. In Marseilles, in the del Merlan quarter, the distancing between the faculty and the quarter confirms the rule. Even for the 44% of students who live there, if they want to have “fun” or to live a little, they go into Marseilles⁵⁰. In Cergy, the situation is the same: as well as indifference, a certain amount of hostility has been registered between students and local youths.⁵¹ Surveys carried out among students in the Saint Martin d’Hères and Belsunce quarters of Marseilles, where the Puget faculty is located, show that these neighbourhoods do not represent a prolongation of the campus. The students trivialise these spaces, conceding to them merely instrumental functions.⁵²

The binomial relationship between the campus and the city serves to reinforce student identity more in the provinces than it does in Paris or its outskirts. As noted by O. Galland, in Nantes there is no student environment as such, while students at Rennes and Besançon identify themselves with certain student neighbourhoods and certain “drinking areas” clubs or shopping zones. Provincial cities have not

47. A. CHENU, V. ERlich, *op. cit.*

48. A. SAUVAGE *et. al.*, *Rennes, Ville universitaire : ville centre, centre-ville et université. Scénario*. Rennes, LARES, SCET, 1993. A study carried out in Bordeaux suggests that the perception of the city and the campus may vary a little according to the course chosen. For the Sciences, with closer links to a relatively enclosed and older campus, the city is simply seen as a decorative backdrop. In terms of the Humanities, the campus is defined as a “teaching machine” and Bordeaux as “their” city, as a space set aside for pleasure. Even so, all such variations are quite tenuous and do not affect the fundamental duality between campus and city. Cf M. L. FELONNEAU, *op. cit.*

49. L. ABDELMAK, J. JEANNERET *et. al.*, *Les sites d’enseignement supérieur en périphérie de grande agglomération. Recomposition urbaine et articulation université ville: Le cas de Vaulx en Velin et de Bron*. Université de Lyon II, ECT, ENTPE, ASTER, TEN, 1993.

50. R. ESTABLET *et. al.*, *op. cit.*

51. M. LEROUX, R. CURIE *et. al.*, *Confrontation et accomodation dans la ville : l’implantation de résidences universitaires à la Croix Petit à Cergy : analyse ethno-sociologique d’une turbulence urbaine*. Paris IRESO. GRASS, 1993.

52. A. TARRIUS, D. FILATRE, M. DI BENEDETTO, *Aménagements universitaires et dynamiques intra-urbaine, Recherche exploratoire*, Marseille, TRANSIT, 1993.

completely lost their student environment while, in the capital, student areas are less recognisable, despite the over-publicised image of the Latin Quarter. Likewise, the fact that provincial students live less frequently and less time at their parents home (22% in Besançon, as against 78% in Nantes) increases the perception of their own territory held by students as a whole. Urban student social life is less intense in Paris than in the provinces. The “student area” only exists in provincial towns and cities. Perhaps this situation can be explained by the relatively important mobilisation of today’s provincial students, as clearly shown by their battle against the “Professional Insertion Contract”, in March 1994. The question of the great university city, particularly Paris, as the founding centre of student identity, has more to do with myth and nostalgia than reality. The systematic comparison sustained by G. Moser and E. Ratiu, between students on two campuses –Nantes and Rennes II, on the one hand– and two intramural universities –Censier, in Paris and François Rabelais, in Tours, on the other— shows that the organisation of time is more varied and flexible in Paris, where there is a wider range of opportunities and the level of expectations is higher.⁵³ Parisian social life is, however, less tied to the framework of the university than in provincial centres. On the other hand, the migratory phenomenon is irrelevant in Paris, where home visits are scaled to a greater degree during the week. In the *intramural* universities, students spend more time at the centre, and university contacts are more restricted. In Paris, although the students are more integrated with the city, they are less so in their role as students.

Thus, we observe the rather paradoxical effect of the rupture between campus and city. It seems that attachment to the city and the symbolic appropriation thereof is greater among students on the campuses, to the extent that the functional, and “neutral”, character of the campus is opposed to the city as the environment of the student lifestyle in itself, insofar as it could even be said that the city is then “desired” as an expression of this way of life. Students at *intramural* universities prefer to merge with the city, given that this indicates, to a lesser extent, their collective identity. The city/campus pairing is so fundamental that it is often no more than the spatial expression of the student’s own double identity. Students are defined in terms of their studies on campus and seen as young people in the city.

UNIVERSITY STUDENTS AND HIGH SCHOOL PUPILS

Rapid mass growth in the student population and the introduction of new university networks in small cities has resulted in the emergence of new types of students, differentiated from “mass students” by their social and cultural characteristics, as well as their way of life, that tends to be similar to that of high school pupils.

53. G. MOSER, E. RATIU, *op. cit.*

Being able to enrol in the first level at university annexes, located in small cities and towns, directly depends on the resources of the parents. This is also associated with an unsettling idea of student life in the big city. Only a small minority of students in these annexes experience such geographic sectorisation as an imposition (13% as against 8% in central universities).⁵⁴ Conversely, proximity is the determining factor of an option that allows them to live with their families and close to their school friends. As one history lecturer at Bordeaux said: "Students at university annexes have made the choice not to be students".

A survey carried out in the Poitiers region shows that university annexes and University Institutes of Technology in small cities and towns have allowed the enrolment of students who, if this had not been the case and without this proximity, would not have continued to study.⁵⁵ In this sense, students at Angoulême, where the majority come from working class families, lag behind in their studies in comparison with their colleagues at Poitiers. There are more technological degrees, because the "harder" it seems to pass a particular degree –with category C or D or an honorary mention– the higher the level of enrolment in large cities and throughout the territory as a whole. Thus, in Angoulême, 48% of SEA (Social and Economic Administration) students had not applied to Poitiers and, if the faculty of Angoulême had not existed, 15% of them would have started working directly after school. One particularly interesting aspect of these students is that they are "less motivated" and their application for enrolment often arrives after they have been rejected elsewhere. Could it be that these students are less prepared? Whatever the case may be, their exam results are lower than those of their colleagues at the central universities.

A survey carried out among first level Law students at Nevers confirms these observations.⁵⁶ Here too, social enrolment is significantly lower than at Dijon: 13% as against 34% of the children of executives and 48% of the children of workers or employees, as against 28% in Dijon. 45% of the students at Nevers, as against 78% of those at Dijon, state that they "freely" chose where to study. Among these new types of student, the student lifestyle is frankly less consolidated than in the larger cities. The students live with their parents and 74% of them only ever eat at home, they go out less and go to cafeterias and cinemas less often than their colleagues from Dijon. School exam marks are significantly lower in Nevers and the student "environment" is seen as more negative, insofar as students do not feel that they belong to a student community.⁵⁷ As pointed out by J. M. Berthelot, a process of

54. J. Pihan, *op. cit.*

55. J. L. Marchais, *Influences des délocalisations universitaires sur le recrutement, le profil, les cursus et les débouchés des étudiantes*, Poitiers, Institut d'Economie Régionale, 1991, 1992, 1993.

56. F. Bourdon, C. Peyron, *Le cas de la délocalisation du premier cycle de droit à Nevers*, LATEC. Dijon.

57. The same conclusions can be drawn from the E. Verschave, S. Bortolino *et. al.*, study. *Les futurs bacheliers du littoral Nord-pas de Calais face à leur orientation. Etudes des premiers vœux OCAPI en 1991*, Lille, Université du littoral, 1993.

“secondariness” can be detected in the annexes, which is not solely due to “second class” recruitment, but also to maintaining a “secondary” way of life.⁵⁸

“At the annexes it’s as if you were still at school”. The culture of student “nights out” has not reached the university annexes, given that these students come from a class where such traditions do not exist and they find themselves in towns or small cities where they do not exist either. Definitively, this “high school pupil” attitude is to a lesser extent the result of the reduced facilities of the annexes themselves than the notion of studies. The university, even though it continues to be a source of hope, has lost some of its symbolic meaning for the new candidates, who continue to be tied to their family and their adolescent friendships.

YOUTH CULTURE

Is there a way of life that characterises students? And does an easily recognisable style that would allow them to be identified, actually exist? Except for certain evident factors, such as the organisation of time, which is specific to the pacing of studies that are combined with different kinds of work,, and with the exception of the pace of life prior to examinations, the relationship of students with culture appears to be very different today from what it was at the time of the *“Héritiers”*. With mass higher education, students can no longer be defined on the basis of their particular relationship with culture, but on the basis of the heterogeneous nature of these relationships and their adhesion to a mass youth culture, which is much more than a style pertaining to the students themselves.

Student leisure and entertainment activities are similar and informal. An affinity is established among friends and university colleagues on the basis of opportunities and mutual preferences. In terms of the more informal aspects, students almost always manage to escape from cultural and sports programmes. Thus, student life appears as a “pilgrimage” between old and new friendships, between colleagues and friends, between disparate amusements and specific spheres of sociability.⁵⁹ At the University of Angers, for example, 50% of students go out on the town once a week and go to the cinema in a systematic, almost hegemonic, way. Half of them take part in some kind of sports activity, although half of these do not belong to any specific club; they are more interested in “keeping in shape” than in competing. The majority of those who belong to some kind of sports club choose a “civilian” association. 70% of the students at Angers do not belong to any association and

58. J. M. BERTHELOT, “Les effets pervers de l’expansion des enseignements supérieurs : le cas de la France”, *Les sociétés contemporaines* 1990, 4.

59. AUCUBE, *Les processus d’intégration sociale des étudiants à propos des sites de l’Université de Bretagne Occidentale*, St Brieuc, Atelier d’Etudes et de Recherches, 1993.

only 3% are in a union.⁶⁰ O. Galland collected identical data: 30% of students belong to an association, as against 24% of young people out of the population as a whole, although the difference, it must be said, is hardly significant.⁶¹ The social life of students is not necessarily organised: 59% state that they belong to a group whose aim is to “go out on the town” in 51% of cases, to take part in sports in 18%, and “to eat” in 7%. In terms of the associations to which they belong, in 62% of cases the aim is sporting, in 22% of a cultural type, in 14% religious, and in 9% of cases of a political or union type.

As pointed out by B. Convert and M. Pinet: “Today’s students sleep at night and on Saturday nights, just like everyone else, and they go to the cinema”.⁶² 70% of first year students get up before eight o’clock in the morning and 80% of them go to bed before half past eleven”. In Rennes, three quarters of the students go to the cinema once a month, while 80% never go to the theatre.⁶³ In fact, these leisure activities depend, for the most part, on social origins. Becoming a student has no fundamental affect on student tastes; it does not mean that they will become actively involved in a particular student culture: the theatre and classical music concerts continue to be the preserve of the upper classes, “cultural goodwill” appears amongst the middle classes and the cinema predominates in the preferred activities of the working classes. This state of affairs does not prevent students from criticising the cultural sub-infrastructure of the campus and of these provincial cities or towns, in this way showing their “good will” and adhesion to a higher culture, in the same way as many television watchers deplore the “level” of television programmes but continue to watch TF-1 rather than the Art Channel.

A study carried out in Nice clarifies three of the principal relationships between students and culture.⁶⁴ Cultural activities of a *youthful* type, which can be defined as similar to those of all young people, include: discotheques, sports, rock concerts, etc. This is a masculine style, holding sway in the UIT’s (University Institutes of Technology) and the BTS’s (Superior Technical Diploma) among students with social class origins among employees, sales staff and workers. The *traditional* style, in which there is a certain preference for the cinema, jazz and “music hall”, is prevalent among older students and those from higher social classes. Finally, there is a small *cultured* elite, who go to the theatre, to classical music concerts and to the opera; this is particularly characteristic amongst girls and older students from the more cultured

60. D. PENNEAU-FONTBONNE., *Conditions de vie des étudiants et accessibilité à un ensemble de services*. Université d’Angers, 1993.

61. O. GALLAND *et. al.*, *op. cit.*

62. B. CONVERT, M. PINET, *op. cit.*

63. R. SECHET POISSON, J. P. PEYRON *et al.*, *Les universités de Nantes et de Rennes et leurs antennes : espace imaginé, espace approprié, espace promotionnel*, Université de Rennes II et de Nantes, URA 915, 1993.

64. A. CHENU, V. ERLICH *et. al.*, *op. cit.*

social classes. This characterisation reveals, above all, that the pole of “cultural” tastes is well below the youth pole of the “masses”, and that students do not differ much from the rest of society. Their relationship with culture is no more than an extension of that of society as a whole: it is more childish and populist among the youngest and most culturally deprived, and more cultivated and less populist among older students and those from the more privileged classes.

Student preferences are linked to age and social origins: they tend to avoid “extreme” tastes, such as hard-rock, in the same way that they reject extreme political ideas. Students from the more privileged classes have more possibilities, though they are equally “average”. Surveys on students and culture carried out in Grenoble confirm these observations.⁶⁵ There is no true “student culture”; attitudes continue to be correlated with the main variables, depending on social origin, the overall climate of “cultural opinion” and the sex division. These results also generally confirm differences between scientists and artists. Those who are actively engaged in, initiated in, or fans of, refined or avant-garde culture are a small minority, with the majority of students having no particular interest in culture at all. 60% of students have never been to a museum, and 75% have never been to the theatre. The percentages among the French population as a whole are 70% and 85% respectively. “What we could catalogue as a “common student condition” does not actually exist outside the discourse of those who question whether or not it does exist”.

This medium term character is shown by the preference for the cinema and sports as student leisure occupations. Their preferences with respect to films are exactly the same as those of other young people and they also clearly prefer the most fashionable actors. We must, however, point out one significant difference between students and the rest of the population; they are below average consumers of television, watching it for forty-five minutes a day during the week and an hour and fifteen minutes on Sundays. Television is not the chosen form of entertainment in the world of students who prefer activities that involve a more selective sociability.⁶⁶ Nevertheless, a survey carried out at Le Mans shows that this sociability is much more focused on group entertainments, such as meeting up in bars and cafes, than on any kind of institutional cultural consumption. Such cultural infrastructures as the MJC and newspaper reading rooms are frequented more by high school pupils and “non-students” than by university students.⁶⁷

In summary, students are only young people, just like the rest, with the exception of a “cultured” sector, whose origins are related to social and hierarchical enrolment from “cultivated” origins, and who particularly study literature and arts. The student

65. F. & N. BERTHEIR, *Les étudiants grenoblois, les loisirs et la culture*, in A. PESSIN *et. al.*, *Les étudiants et leur culture*, Université de Grenoble II, ARSA, 1994.

66. N. COMMERÇON, *op. cit.*

67. Y. CHEVALIER, *op. cit.*

lifestyle is an “extension” of scholarly activity. With the exception of certain very specific cases, the influence of the university does not transcend a strictly university framework. What has most weight in the characterisation of students is the double life that they lead, the positive aspect of which is that it creates space for their autonomy which allows them to structure their youth.⁶⁸

The condition of being a student which, being so widespread, covers an ample sector of youth, thus appears to be a youthful way of life that is extensively juxtaposed with respect to the studies themselves. This mode of life is contained within an extension of young people’s existence consisting of successive mutations and progressive separations, moving towards a growing independence. It is equally defined by the various social conditions of the student’s origins and depends on where the university is located, the economic and social conditions of the individuals attending it and existing cultural hierarchies. This is particularly the case among young students. These ways of life are contained within a series of dualities that lead us to affirm that the condition of being a student is more of an activity and a progression, than a status or a “way of being” in itself.

* * *

The establishment of mass higher education has diluted and diversified student way of life and their experiences to an extreme extent. This situation is often paradoxical. Most of the time, it is the medium sized cities that have best maintained the aspect and ambience of a student city, in which they have their own neighbourhoods, with their own cultural and social activities that are defined by the students. On the other hand, it is difficult for small cities and towns, where university annexes have been set up, to acquire this character, which seems to have been set aside for high school pupils. In terms of the campus, this graft does not seem to have been very positive, because the city or town continues to conserve its capacity to attraction and offer cultural input, and in France, campuses continue to be considered as shelters for students and not as model types for universities.



68. The priority conceded to culture in the double life of students may, in part, explain the weak impact of the cultural policies conceived by the universities. Cf “Evaluation de l’opération ‘Un tramway nommé culture’” in A. PESSIN, *et. al., op. cit.*

SOCIAL CHANGE, UNIVERSITY AND URBAN MIDDLE CLASSES: THE CASE OF UNAM

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The evolutionary scheme of the Latin American state university is closely related to the great political and social changes in these nations.

In the National Autonomous University of Mexico (UNAM), as in its Hispanic American counterparts, great changes have taken place that first reflect the transition from a pre-industrial and agrarian to a predominantly urban developing society later the transition resulting from globalization. The first kind of society corresponds to a university for the elite, with a handful of faculties, and study plans that are rigidly directed towards the formation of the liberal professions. The goal of this university is the professional degree.

In the last century, with the rise of the middle classes and the industrialization of the Latin American countries, the elitist university no longer answered the educational needs of the masses (Trowe 1970). The large national universities underwent an uncontrollable numerical expansion corresponding to the growth of the middle classes and new degree courses were developed that were adapted to the needs of a more complex economy and a more dynamic society. In Mexico, large university campuses were built containing all the faculties, schools and institutes that previously functioned in different parts of the city, with the consequent concentration of large student masses. Institutes were founded dedicated to scientific research, artistic creation and cultural diffusion. These existed as parallel organisms that were independent of the original faculties and assumed functions of growing importance for national development. Employment in the world of academia became a profession apart and was no longer merely the responsibility of former graduates of the liberal professions—such as doctors, engineers and lawyers—who dedicated a fraction of their time to university teaching (Brunner 1985). Parallel to this evolution, the large national Latin American universities, while maintaining their functions as centers of criticism and study, had become ideological battle grounds (López Cámara 1974: 3).

In this paper we put forward a dynamic model of the internal process at the UNAM, vis-à-vis its connection with the national socio-political system. We start from the basis that the functions of the university within the national system are not limited to strictly academic concerns, such as teaching, research and cultural

diffusion, but also include some more important implicit functions. These allow the control of social mobility, stimulate and channel social criticism and create the ideological, ethical and political bases of the Mexican nation. Some of these functions may interfere with others, especially in the case of explicit and implicit functions, and cause conflicts between various groups or currents with contrasting ideas about what the University should be. We propose making a description of the dynamics of the UNAM in terms of the contradictions produced between the different functions performed by the University vis-à-vis the national system.

THE ORIGINS OF CONFLICTS

Internal conflicts within the University can be interpreted as (open or latent) struggles between several currents personifying different University projects. These different projects can be summarized in two main currents: the first promotes a type of university that is productive and the transmitter of knowledge. It is “the territory for study, critical reflection and discussion... an interpersonal community concentrating on truth as a fundamental value, and the organization of professional preparation that is to form and specialize groups in society”. The second, in contrast, sees the University as a place for public training and social criticism (Pérez Correa, 1974, 375).

This conflict of goals tends to take the form of a struggle between political forces. What Perez Correa has referred to as “projects” are not only abstract ideals but also real and present functions that the UNAM is already carrying out. They are the components of this “political-academic duality; this internal tension between the academic objectives of the University. They define a specific form of rationality and specific political characteristics and their call for a growing amount of attention (from the university authorities).” (ibid)

What are the functions of the National Autonomous University of Mexico in relation to the national system? Its explicit functions are easily definable, since they are stipulated as an obligation in Organic Law. These are to give classes, carry out research and diffuse culture. These functions primarily include the training and preparation of professionals. A very high percentage of the leaders and bureaucrats in the public and private sectors, in national politics and in the liberal professions are graduates of the UNAM. Over time, work in scientific research and cultural diffusion has increased in importance, to the point that the UNAM is now the most important cultural and scientific center in the country.

As for its implicit functions, these include all of the University functions that are not otherwise stipulated either in Organic Law or in the University Statutes but that respond to the pressures or needs of the national system. Among these, we would particularly like to emphasize the following:

- a) *Social mobility*. The University is considered to be the main force in upward mobility for thousands of young people who want to join the middle classes or improve

their position within this class (Lopez Camara 1974: "Las voces del CEU: 1987). The social mobility offered by the university is not merely contained within the degree qualification itself, but also in the huge opportunities for social contact with fellow students and teachers. The social networks established by the student in the course of his period at the UNAM represent a very important socio-economic resource for the graduate. The same thing occurs in the vast majority of Latin American state universities (Brunner 1985: 49-62; Garc'ia Salord 1998)

- b) *Control of the urban labor market.* The postponement for several years of the entry of large numbers of young middle class people into the urban labor market is a function of control over access to occupations with a high demand for labor, and of regulation of the growth of the middle class itself. (Pérez Correa op. Cit. 1974)
- c) *Political and social criticism.* In a political system which has only recently permitted institutionalized forms of dissent, the function of the University as a source of criticism has acquired an essential importance. In its most constructive aspects, this function represents a very valuable mechanism for fostering social change and an integrating element for the national conscience of Mexico. In the years following the Mexican Revolution, when the country was fragmented into various ethnic, political and regional groups, the National University played an important role in uniting outstanding exponents of Mexican culture in its classrooms as part of a conscious effort to create new national values (Madrazo Garmendi 1970). During the central decades of the 20th century, the most important function of the National University was expressed through the intellectual productivity of its members and through the criticism expressed by this group. According to Monsivais (1973), in Mexico, social criticism could still serve as an escape valve allowing for the relatively inoffensive liberation of tensions generated within the national system and which could otherwise pose a threat to it.

Since the political and economic reforms that have been carried out over the last few decades —and which have introduced reforms aimed at a greater democratization of society and simultaneously changes to its economic structure (neoliberalism)— the parties have mainly absorbed criticism received at the national level, while in the universities it has been the students who have criticized the economic direction of the country, defending their work prospects and possibilities for social mobility.

- d) *Battle ground.* The UNAM has frequently been a political battle ground, as much in the figurative sense as in the real sense of the concept. The particular conditions of student coexistence offer numerous opportunities to professionals and students to participate in party activities connected with university life. For example, the transformation of the elite university into a university for the masses has produced the need for changes with regard to such practical matters as budgets, entrance requirements, fees, the offer of professional studies, and the quality of teaching. All of this has produced student reactions which have regularly developed into

large-scale movements that have frequently overflowed beyond the university boundaries and affected urban life both physically and politically. The political struggles of the UNAM are rather like mediaeval tournaments, in which enrolled champions with different motivations publicly mediate their differences. The UNAM territory was, and still remains, an ideal forum for this type of struggle due to its relative political and geographic autonomy, even when the city itself is now often used as a battleground.

- e) *Trainers of political leaders* Apart from its function as a battlefield on which different national and university political currents can test their strength, the UNAM also serves as a training ground for political leaders of every leaning. A high percentage of Mexico's political leaders are graduates of the University and gained their first political spurs there (in 1999, the four pre-candidates for President of the Republic for the PRI and the PRD were all graduates of the UNAM).

The internal dynamics of the University therefore occur within a territory characterized by a series of conflicts involving the divergent, and sometimes frankly contradictory, functions that the national system has explicitly or implicitly imposed on the UNAM. These functions are sustained by opposing forces that fight for and defend their own separate views of what a university should be. For example, the UNAM is at present the main center for generating the country's scientific research (Malo y Garza 1987). There is a need to create a solid scientific and technological basis with which to successfully face up to pressures and demands from the large technology-generating centers. Free expression is given to all types of internal political opinion within the UNAM, even though some of this may oppose this need and indeed interrupt and distract the scientific and teaching teams from their work. Another example, in its dual role as a melting pot for the national conscience and a source of critical sentiment and spirit, the UNAM has become a *sui generis* political factor whose control is coveted by several external forces. If they achieve their aim, some of these forces could endanger the very autonomy of the university as they have designs over many of the implicit functions that this institution currently performs.

THE FORMAL STRUCTURE

In 1997 there were 268,615 students at the National Autonomous University of Mexico which is one of the largest universities in the world. The academic personnel totals 29,979 of which 4,890 are full time teachers and 1,929 are researchers. There are also 27,477 administrative workers. Apart from the "bachillerato" (high school), it also offers technical preparation, undergraduate degree courses, postgraduate courses, masters and doctoral degrees. It includes 4 independent professional schools and 15 high schools, Preparatory Schools and Colleges of Sciences and Humanities. Each of these bodies has its own campus and establishments located in different parts of Mexico City. In other words, apart from the University City, which houses 150,000

students, faculties and institutes, there are another 4 university campuses and 15 preparatory schools. In 1997 the annual budget for this institution was 6,483,262,268 million pesos (Statistical Agenda, 1997, UNAM).

Since 1944, the internal organization of the UNAM has been made up of the following authorities: the *Board of Governors*, which appoints the Principal and the Deans. Its 15 members are elected by the *University Council* or by the Board itself. The University Council is a collegial body whose members are: the Principal, the Deans of the schools, faculties or institutes, UNAM teachers and students' representatives, representatives of the continuous university centers, representatives of the University employees and the General Secretary. The *Principal* represents the UNAM and presides over the University Council. There is also a *Board of Trustees* that administers the University's patrimony (3 people) and the Deans of the faculties, schools and institutes, who are proposed by the Principal and assigned by the Board of Governors. There are also *Science and Humanities Coordinators* (assigned by the Principal), and their respective *Technical Councils* that function as consultative organs. Finally the organs that constitute the *College of Science and Humanities* and the *National Preparatory School* are as follows: coordinators, directive committees, technical councils, directors and the internal council for each site; the organs of the Open University, with their academic commission, coordination and the divisions of the system (Valades 1974).

With the growth of the UNAM, this administrative structure has become even more complicated. In the faculties, schools and institutes there are heads of departments, internal councils and other functionaries assigned by the Dean or designated by the teachers and/or students. Faced with the growing internal complexity, the authorities and the academic-administrative functionaries particularly concentrate on conciliating the opposing interests of successive hierarchical levels and of the different academic and political groups. It is a political system that seeks to balance forces and thereby ensure stability in order to safeguard institutional values.

"CAREERS" WITHIN THE UNAM

We use the term "career" to designate a functional specialization in relation to the national system. Every individual who passes through the University undertakes a training program that is not limited to the contents of a plan of studies but rather embraces a series of activities and experiences that enable him to carry out a determined role within the national system. So, as in ancient Tenochtitlan, where there were well-defined "careers" for priests, warriors, traders, workers and craftsmen, in the UNAM we can distinguish between the formal academic careers that tend to coincide with the University's explicit goals and other careers related to implicit functions, such as more political activities.

Those who follow a specific "career" tend to defend their group interests, which normally contrast with those of other careers. For example, pressure from different

political groups may paralyze the University for certain lengths of time, which in turn tends to affect academic levels. On the other hand, the traditional resistance of academics (researchers and full-time teachers) to any kind of political participation places a barrier of inertia between the political groups and their objectives. In this article and with the aim of simplifying references to this kind of conflict, we shall limit our analysis to four main “careers”: *academic*, *professional*, *political*, and *shock troop* careers.

Each of these tends to form a social group with its own characteristics, internal structure, initiation rites, norms and values. In other words, each has its own mechanisms for integrating new members into a specific role of national life. All of these “careers” coexist in the UNAM and have developed to a greater or lesser extent according to the historical moment of the University.

The academics

We call “academics” those members of the university community who show an inclination for research and teaching as a way of life during their student years. Academics are specifically related to the explicit functions of the University and, on finishing their formal studies, tend to join the academic personnel of the UNAM or of other universities and/or centers for higher level studies. There are 6,819 researchers and full-time teachers at the UNAM (Agenda Estadística 1997, UNAM).

The scarce resources and the various conflicts that prevail in the UNAM have not impeded the formation of small nuclei of students with a good academic formation, and these are absorbed by the country’s universities and higher education centers, including the UNAM itself. This has been made possible by a rather efficient, if extra-official, semi-tutorial system. Some of the best students, particularly those interested in scientific education and who catch their teachers’ attention during the last years of their degree studies are effectively recruited as academics. Their teachers supervise their theses, help them to obtain scholarships and take them on as assistants. The majority of the present researchers at the UNAM (and many of the most outstanding professionals in the country) have passed through an informal period of apprenticeship, directed by a research professor, who has subsequently recommend them for an academic position (Lomnitz, 1976).

When he is promoted to become a member of the academic personnel in an institute or faculty, the new researcher or teacher confronts the realities of the academic career at the UNAM. He also plays his part in creating the scientific and technological infrastructure of the country. There are nuclei of researchers pledged to laying the foundations of a scientific tradition, with all the ups and downs that this involves (Fortes and Lomnitz, 1991). On the other hand, due to the dominance of vertical relations in the University structure —and in the country— the personal career of the academic leads him to occupy academic-administrative positions, since

it is here that the main form of material recognition and prestige lies. Paradoxically, to progress as a researcher one has to stop doing research.

Originally, the hierarchical positions within the University, including that of the Principal, were occupied by members of the professions. However, during the last few years, with the rise of the academic career, it is the researchers and full-time teachers who have become predominant in the university administration. When an academic becomes the head of a department or dean, he automatically becomes a member of the circle of authority that controls the destiny of one of the largest universities in the world. Among other attributes, he must be capable of obtaining the budgetary resources and the institutional support of his superiors and distributing this in the best possible way among his subordinates. In practice, this role turns the authorities into mediators who resolve conflicts of interest, through the concessions given to both sides. They represent their subordinates before higher authorities and vice versa. In other words, they are the links between the successive hierarchical levels of the university structure, absorbing an administrative weight from above and cushioning the aggression and unrest from below in order to ensure the normal functioning of the system (Lomnitz 1984).

Academics appointed to administrative posts are leaders who often develop their political skills in a rather improvised fashion due to the demands of their position. In accordance with their performance, they may be promoted to more elevated positions, which require increasingly more demanding political talents. In some cases they may even become part of the state technocracy.

The academic leaders' work has become increasingly difficult, not only because of the growth in numbers at the UNAM, but also due to the rise of informal types of power groups (that is, of groups not initially contemplated by the Organic Law) whose leaders base their power of negotiation on the importance of the potential problems that they could cause the authorities. As Caso explained in 1945, "The university authorities have always had this double character of political authorities. On one hand they need to be able to rely on popularity and group support, while on the other, they have the character of technical authorities who resolve the problems of teaching and scientific organization from a purely objective point of view (cited by Pérez Correa, op. Cit. 1974: 379)

The Professionals

Due to their orientation towards the outside world (from the perspective of the UNAM), the professionals are perhaps the group that has most suffered the consequences of conflicting objectives and functions in the University. Although demands for an effective reform of professional formation in Latin American Universities date back to the Córdoba Movement in 1918 (Portantiero 1978: 30, 58-102), these continued throughout the past century in almost all Latin American universities.

The Córdoba Manifesto included complaints about the following problems relating to teaching: absenteeism, lack of punctuality and irresponsibility on the part of the teachers; deficient preparation of classes; negligence on the part of the teachers with respect to keeping up with their assignments or in maintaining a relationship with the real world. All of this continues to a greater or lesser extent in some professional schools in the UNAM (Carpizo, 1986). The high proportion of part-time teachers, whose occupations outside the University stop them from dedicating the necessary time to their teaching, may produce a fossilization of the study program due to a lack of teacher contact with research centers, which are where new scientific and technical findings are produced and diffused. On the other hand, the part-time teachers are frequently outstanding professionals whose practical knowledge of their profession is indispensable for the student. These teachers both stimulate professional ideals through leading by example and identify and attract the best students to train in companies, doctors' surgeries, legal firms, and the public administration. This type of tutorial supervision represents an important complement to teaching and at the same time a form of selective recruitment to the profession. From the period of studies onwards, professionals are directed, above all, towards a career outside the UNAM. Nevertheless, they maintain important relations with it through teaching and professional associations and represent important political pressure groups. The political weight and influence of professionals, such as doctors, engineers, architects, and economists is felt at the national level as well as within the UNAM itself.

In general, these groups reflect the tendency of professionals to mainly identify the University with their own technical-administrative objectives (with the possible exception of those professions that contain an important proportion of professional politicians, such as lawyers and economists). The great majority of undergraduate students belong to the technical-professional faculties¹ and their part-time teachers represent a large group that has a considerable influence within the academic community. The professional careers offer a contrast to the current that aspires to a greater politicization of the UNAM. On the other hand, the group of professionals that eventually join the academic personnel of the UNAM as researchers or full-time teachers is relatively small. The professional faculties offer the main route to social mobility and entry into the middle class, although there is a high level of desertion during the undergraduate years. There is evidence of "implosion" in the majority of these faculties; students take a long time to graduate and some never fulfill all of the requisites to do so. Among these requisites is the presentation of a professional thesis (Carpizo 1986). Theoretically, these sub-professionals continue to be students of the UNAM, but in practice they join the professional work market as "*pasantes*" (who

1. In the 1985-1986 cycle, 136,870 undergraduate students were registered. Of these 51,046 belonged to the following faculties: Accountancy and Administration, 15,286; Engineering 12,104; Law 10,426; Philosophy and Literature, 7,022 and Medicine, 6,609.

have completed their course work, but not written their thesis). This phenomenon tends to create a mass of sub-professionals in Mexico, who have an incomplete or deficient preparation, who join the ranks of the public or private bureaucracy and generally perform technical-type work.² It has been observed that the professional faculties that offer the worst employment perspectives for their graduates are also the ones characterized by the highest degrees of political unrest.

The politicians

The “politicians” are those members of the university community who, from their student days on, show an active interest in politics and participate in demonstrations either in favor of or against the present political system, or who represent different factions within official or university politics. The politicians are connected with that current that considers that a primordial—or even essential—function of the UNAM is its commitment to the country’s political reality.

Within the University there are different kinds of political action. On the one hand there is political “activism”, characterized by a range of activities such as attending assemblies and meetings and distributing leaflets. Another form of political action, which is less conspicuous but more in accord with traditional Mexican political culture, is that of “amiguismo” (the utilization of friendship) which is exercised through personal connections. Neither style is necessarily connected to the idea of class struggle, but rather to more local scale “struggles” between leaders, middle class strata or different generations and professional groups.

Some new undergraduates already have already had some experience in political organizations within their high schools. Others are attracted by political activity and gravitate towards group participation of various different types. The university preparatory schools, including the College of Science and Humanities (CCH), were represented in elections for student societies and in public speaking competitions. From these came leaders and political nuclei involving the whole political spectrum, from the extreme left to the extreme right. For some years after 1968, the main breeding grounds for leaders were the Combat Committees of the different university faculties. Thereafter, there followed a period of student passivity (García Salord, 1985: 52-55).

Once in the great melting pot, that is the UNAM student mass, the “politicians” are influenced by contradictory forces: the ebb and flow of national politics, the demands of academic life and their intellectual and affective evolution itself. Connections

2. These tendencies to sub-preparation and market loss by UNAM professionals (the dispute at the UNAM 1987) have become more marked in the last few years, as can be seen in numerous company advertisements that clearly indicate that “UNAM graduates need not apply”. This has produced a boom in private universities, and particularly in the preparation of the traditional professions (Medicine, Veterinary Studies, Medicine, and Law, etc.). However academics and politicians still continue to come from the UNAM, as indeed do members of the state bureaucracy (Meyer & Lomnitz, 1987).

with the past are continually broken and new loyalties are created. Eventually, only a small group constitutes the “politician’s” field of action, and from here are recruited the activists, who are mobilized according to the situation (specific problems). It should be pointed out that the career of “politician” is as demanding as that of the “academic” and that, on the last rungs of either career, there is rarely enough time to dedicate to both at once. Leaders, whether academic or political, completely devote themselves to their respective vocations. We can therefore observe that the political movements greatly reduce the University’s academic demands.

The structure of the political groups generally produces a leader (although there have been exceptions in mass movement situations) surrounded by an upper layer of confidantes and supported by activists who meet and work together regularly but are not exclusively dedicated to politics. Progress within these groups depends on loyalty, the level of their dedication and their capacity for leadership. The political leader should have certain specific characteristics and qualities. Apart from being smart and charismatic, he should be well-informed, which is an essential attribute in a system of restricted information where rumor is frequently the basis of political life.

One of the functions of the traditional political leader consists of maintaining personal relations with the university bureaucracy, which enables him to intervene in conflicts between students and the authorities on such affairs as registration, rights to examinations, career changes and complaints concerning various academic problems affecting students. Eventually the leader becomes a mediator who is well-known to both sides and acquires a personal niche within the university power structure. Through dealings with the faculty and school’s management his prestige grows and this in turn attracts more followers. From the authority’s point of view, the political leader ensures student tranquility which is a basic resource and an important negotiating card for the leader. Within the university and the national political context, the leader also participates in the game of tactical analysis and strategic confrontation between rival groups that constitutes the most visible part of UNAM political life. But the most essential quality of a leader is his talent and ability to capture and channel the real unrest among the bases and to translate the aspirations and objective problems of the students into words and actions.

According to Smith (1979), 70% of Mexican higher level political leaders are UNAM graduates and some political groups that are initially formed by students later form “*camarillas*” (networks) within national political life. “If a young Mexican were to ask me what the ways of maximizing his possibilities of entering politics were and of joining and remaining within the system as it is, I would recommend the following: first make sure that he has a university degree and preferably that it is from the UNAM. A university degree is an almost indispensable condition for admission to the national elite, particularly at its higher levels, and the UNAM is an appropriate territory to establish contacts with other political aspirants and to form *camarillas* (networks)” (Smith, 1979).

On the other hand, politicians opposed to the traditional regime have assumed important positions in the new opposition parties such as the Party for Democratic Revolution (PRD), thus repeating the traditional pattern of the political career.

The shock troops

Since the 1960s, there have been small groups of UNAM students organized into juvenile gangs who stand out, in spite of their reduced number, as representatives of a life career that is quite different from those already described. The best known example is that of those commonly known as “porros” (unsuccessful students who have become infiltrators) and who make themselves available to circumstantial pressure groups who give them resources and assignments. The activities of the shock troops are essentially criminal. When they are not acting on behalf of one or another political group they dedicate their time to assault and theft. Nevertheless, they are more than mere delinquents since they are connected with an implicit function of the university: that of serving as a battlefield for certain political struggles. As such, the shock troops often achieve a disproportionate degree of notoriety with respect to their real force in specific crises within the UNAM.

Because of its complexity this subject can only be treated in a very superficial way here. Generally, it can be said that these groups are connected with the University's implicit functions. They reflect the different political styles which have been used within it. Thus, since 1968, for example, we can observe a greater use of populist left-wing vocabulary among shock troops. This has contributed to the disorientation and political passivity of the student masses, generally due to the confusion of symbols. Originally the shock troops were used by the university authorities themselves. Later, they were managed by politicians outside the University. Since the 1970s, a new generation of politicians has appeared that combines the use of shock troops with a language corresponding to more modern ideas. Finally, there are gangs that have preferred not to be connected with politics but rather with drugs or delinquency in general.

Until 1970, the “porro”-style shock troop usually appeared in the preparatory schools and their socio-economic composition was predominantly poor (Guitain Berniser 1975: 115-118). Their members were young rebels, whose value system tended to accompany crime with an attitude of challenging the bourgeois values of the middle class, and they were generally respectee by the rest of the student population. This attitude was based on the “machismo” ideology and frequently made the “porros” cultural heroes, even against their will, amongst many middle class preparatory students.

The “porro” leader came to the fore in disputes that generally involved the use of force. He was characteristically intelligent, well-informed, skilled and shrewd. He controlled discipline and the distribution of booty and until recently was effectively above the law. Due to his contacts with other gangs (not necessarily within the

university, since there are other very similar gangs in poor areas) the leader could mobilize quite a considerable shock force when necessary. Within the university, or in preparatory schools, shock troop leaders presented themselves as mediators and their power was usually predominantly based on explicit intimidation. The leader's power was transferred to the organization's base in the shape of "favors" that he could confer at will and these favors were later repaid when, for example, a meeting or an event was organized.

The eventual careers of shock troop members depended on their hierarchical ability within the group. Some ended up in the police forces or performing subordinate functions in politics. Others followed the path to crime and its sequel of prison, exile and death. Some "porros" have been rehabilitated, but for the majority it seems to be a rigid "career" with few options from the moment of recruitment to the termination of their function in the system.

Since the 1980s, the porros have effectively ceased to operate as political shock troops. Even so, they remain a part of other public universities and reappear at moments of crisis since the vertical structure of the gang with its leaders and followers continues among the young people at the high school level. We therefore saw unidentified groups of pseudo-students who apparently functioned as shock troops, and who were associated with power groups external to the University appear during the 1999 student conflicts alongside the traditional leaders and political groups. Thus, even when we might say that the "career" of "porro" has now been phased out by the growing academic demands of the University, this group is still one that has to be taken into account, especially due to the influence that it has at certain national political junctures, its consequent instability, and its effect upon the student body.

SOME STRUCTURAL CONSIDERATIONS

The significance of the four careers described above; academic, professional, politician and shock trooper, is to be found in the implicit and explicit functions of the UNAM. Each of these careers supports, and to a certain extent personifies, one of the two main currents of opinion as to what the UNAM should be: a community for study and preparation, or a base for political action, either to transform society or to support the dominant system.

Until now, the UNAM authorities have worked on the assumption that these two currents or plans of action are fundamentally compatible. Even when the Organic Law appears to favor only the first of the two currents, the stability of the system imposes conciliation between the two. As a consequence of the system of mediation prevalent in the University and the country (Lomnitz, 1985), formal and informal leaders participate in this process of give and take at many different levels: among successive hierarchical steps of the academic ladder; among different interest groups; and in contacts between leaders of different "careers". Within the system,

it is possible to observe both vertical intermediation among different level power grades and the interplay of alliances and horizontal exchanges.

There are internal structural parallels among the different careers. In each case, we observe the formation of groups with similar interests that spring from the confused and non-differentiated mass of politically and academically disorientated students. The University is like a large melting pot, containing this amorphous mass that cannot understand what is happening nor decide with whom to identify. With the great majority of UNAM students, the habitual reaction is passivity. In periods of conflict, for the majority, the University represents a tangle of confusion and contradiction in which there is not enough available information to distinguish between the different symbols and those who wield them. A "student movement", as such, only truly crystallizes on exceptional occasions.³

Since 1929, the mass has generally mobilized only for passing contingencies liable to be translated into short term negotiable positions for its leaders. The concrete achievements of these movements have been considerably reduced by the time that they reach the mass level, which partly explains the skepticism and apolitical attitude of the student "silent majority".

Once a group is formed, its structure is very similar, no matter which career it is identified with. There is a leader with characteristics that meet the demands of the specific career and generate loyalty. Immediately below the leader, we find the first level of trusted aides, followed by a second level, and so on. Social proximity to the leader is a basic factor for solidarity, whether we are talking about a research work group, or a professional, political or shock troop group. We could therefore describe the University as a structure composed of several pyramid groups, some of which are formal and some of which are not, that coexist within a mediation system and compete for the resources available to this system. It also reflects the power structure and the political culture of the Mexican system (Lomnitz, 1982).

The formal authorities of the UNAM spring from the academic and professional careers. They are representatives of the main current and implement the explicit function of the University. But their implicit functions also include ensuring the system's political stability and because of this they have to meet with informal leaders on a transitional level. Political stability, as a previous condition to teaching, research and cultural diffusion, which are the UNAM's explicit goals, finally becomes an end in itself and the cardinal principle of both the university and national system (Reyna, 1974).

If the primordial aim of the formal authorities is to ensure the system's stability, the informal leaders' aim is to fight to obtain access to the system's resources for

3. In the last 35 years there have been four large movements; 1966, 1968 and its sequels in 1987 and 1999.

groups that do not initially have it and to thus obtain social mobility for the new ascending groups of the middle and working classes.⁴ The main card that informal leaders hold against the authorities is their capacity to de-stabilize the system through their previous training in exploiting deprivation and focuses of social unrest.

These sources of perturbation spring from real problems, which is why the behavior of the informal leaders can bring results and provoke changes which later help to preserve the system itself. If the result of negotiations leads to a transaction, the formal and informal functions of the University will have been simultaneously realized and leaders on both sides will have contributed to the consolidation of power within their respective groups.

For example, the rise in university trade union activity in the 1970s reflected a movement on the part of the administrative personnel and part-time teachers who were fighting for regulation of the work conditions of the growing mass of administrative personnel. At the time, they challenged the formal and academic leader, whose almost sacerdotal leadership, based on scholastic values, was perceived as authoritarian. The political leaders —at that time informal— picked up on objective work problems and politicized these through their union representations.

The result was an eventual negotiation between the university authorities and representative leaders. It culminated in the creation of two trade unions (that of the administrative personnel and of the academics). At the same time, it led to the creation of parallel structures through which the informal leadership was formalized i.e. with its formal inclusion in the university bureaucratic system.

In the following years (until 1968) the UNAM followed its course of growth (as a university of the masses), growing bureaucratization, academically-originated leadership and political passivity. However, the country's socio-economic problems, crises, growing unemployment, reduced prospects for social mobility among the middle classes, and constant demographic growth, all produced new conflicts. The 1986 movement, which mobilized more than 150,000 people in repeated public actions, posited the dilemma of maintaining an open and populist university with a very low level of academic preparation or trying to maintain the University's role in the formation of elite and middle professional groups, which the University had managed to maintain, albeit with increasing difficulty. In this conflict, the two traditional currents returned, representing a political (populist) university or an academic-professional university.

Structural neo-liberal style changes were introduced in Mexico from 1982 onwards, associated with a foreign debt crisis that implied a reduction in the state

4. The 1986 movement arose principally out of the possible abolition of the 'automatic pass' of students at middle level high school (in grades 10, 11, and 12) belonging to the university system: this effectively endangered the access of thousands of UNAM undergraduate students. This immediate threat permitted the mobilization of thousands of 'bachillerato' students. In 1999, the student unrest was a consequence of the modification of the General Payment Regulations and an attempt to increase fees.

apparatus and a consequent reduction in jobs for UNAM graduates and a greater demand for the liberal professions and the production of knowledge applicable to the new needs created by globalization. The UNAM has now lost its prestige as the trainer of professionals for industry, which now recruits its personnel from the private universities which have increased in terms of campus numbers and student registrations in recent years. At the same time, this tendency has also been reflected in a change in the status of the elite, which now looks for technical specialists in economics, administration and international law, which the UNAM generally does not offer, rather than in politics (Lomnitz 1999).

These changes demand reforms in the UNAM, if it wants to continue being the "country's most important center for studies". Over the last few years, reforms have been introduced to restrict the massive growth of the University, decentralize its campuses and raise teaching standards and give more support to research. Among these changes, reforms were also introduced that affected university entrance and the duration of studies, limiting the automatic pass from high school into undergraduate studies. In 1999 an attempt was made to increase fees, up-dating them in line with inflation levels over the previous 40 years. This was what sparked off the present student movement which, in defense of free public education, rejects the "privatization" of the university and the government's neo-liberal policy in pursuit of formal entry into the world of globalization. In this conflict we again witness the struggle between the political university and the academic one. On the one hand, society requires a university that offers a better quality of professional training and at the same time that continues to support high quality research. On the other, the student movement, now supported by new political parties from outside the University, is fighting to create a new more critical and open type of university, which is no longer only for the middle classes but also for those previously excluded. In other words, it has become a social movement that extends outside the University itself and whose demonstrations and political stances affect not only the campus but the entire city.⁵

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5. The 1999 movement lasted 8 months. The striking students took control of the main university campus (university city) and others installations by force: this included the 4 ENEPS and the 15 CCH. All classes were suspended with the consequent loss of the academic year for all students and some of the research institutes that were also closed. There were more than 40 student assemblies of 15 to 20 hours per assembly and some 20 marches to the city center with the consequent paralysis of city traffic.

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UNIVERSITY AND BUSINESS: THE CONTRIBUTION OF THE SCIENCE PARK OF THE *UNIVERSIDAD DE ALICANTE* TO THE CAUSE OF REGIONAL DEVELOPMENT

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THE *UNIVERSIDAD DE ALICANTE* AND ITS INVOLVEMENT WITH ITS IMMEDIATE
ENVIRONMENT

There are numerous socio-economic functions for defining and modelling the growth—to say nothing of the origins—of cities. Industry, trade and tourism are all forms of economic activity that are capable of determining—and sometimes even giving order to—the main factors governing the growth of many of today’s urban nuclei. They influence the way in which building plots are distributed and juxtaposed, and—normally through the mechanisms that control the market for land—help to establish a clear set of hierarchies and sub-ordinate and complementary relationships.

It is less common for “knowledge¹” to establish the rules by which territory is organised. That said, there is in fact a tradition for this dating back at least as far as medieval times. Then, knowledge and understanding resided in monastic cloisters, and that largely remained so until the dawning of the Renaissance. The architectural elements that characterised the monastery: its cloisters and patio and its different dependencies—including classrooms and professorships—represented the first attempt to organise “knowledge space²”. These elements have since been symbolically passed on to us.

With the humanism of the Renaissance and throughout the Baroque period, the conceptualisation of different types of knowledge—each with its own specific evolution—fostered the development of a whole array of different styles of presentation, each of which was defined in such a way as to accommodate each and every one of the new, individualised forms of knowledge. Little by little, buildings were endowed with the precise elements required for the full development of each particular science. They were furnished with the likes of laboratories, libraries, archives and rooms for conducting experiments. At the same time, they began to be organised over larger territorial spaces.

1. The word used in the original version is “*Saber*”, which literally means “knowledge” or “understanding”.

2. The term used in the original version is “*espacio del Saber*”. This would literally translate as the “area or space for knowledge and/or learning”.

Nevertheless, it was with the arrival of the Industrial Revolution, and its associated economic and social progress, that “knowledge” definitively fragmented into a multitude of new sciences, each requiring its own specialised spaces. Faculties, academies, scientific societies, schools and university colleges acquired separate existences and each required its own specific, differentiated space in order to realise its full scientific potential.

At that time, a question arose that remains highly relevant even today. The problem concerned whether to integrate or segregate these spaces, both with respect to each other, and with respect to the towns and cities in which they first appeared. At the heart of the matter —and indeed of these first reflections on the best model for defining the university— lay a quest for the purest and least tainted form of reason. The driving force was a desire to procure a series of utopian conditions that would foster peaceful reading, reflection, interaction and investigation; factors that together constituted the platform upon which the 19th century’s scientific project was constructed. In accordance with this postulate, complexes of conceptually and formally organised buildings were designed following a series of nationally applicable, centralised and uniform criteria.

While the oldest universities continued to develop among the tightly packed streets of their cities of origin, new universities were designed according to these new utopian premises. The “city of knowledge”³ was conceived as an island far removed from the distortions of city life and the environmental changes created by industrial dynamism.

Some of the keys to this circumstance may be found in the splendid isolation of the medieval period’s “ecclesiastical knowledge”,⁴ which sought and created an atmosphere of peace and tranquillity, deemed favourable for reflection and the quest for knowledge. Even so —to a great extent— the establishment of universities torn away from their urban settings was a practice that was rooted in the urban utopias that developed during the 19th Century and one which largely arose in response to the decline in the quality of life associated with industrialised cities.

These solutions included the proposals for “harmonious cities” forwarded by Pugin, Ruskin, and Morris, and the “socialist utopias” of Cabet, Owen, Fourier and Godwin. These ideas perhaps came to their climax in Howard’s proposal for the “garden city”. Howard structured the different functions to be found in the city in a differentiated way, and proposed connecting them by means of an excellent radial, concentric, communications network. This network was to be made all the more attractive by the insertion of a series of successive green belts, dedicated to either public or private land uses. According to the scale in question, these green belts were

3. “*La Ciudad del Saber*” —literally, the “City of Knowledge” or “City of Learning”.

4. “*El Saber eclesiástico*” —literally, “Ecclesiastical Knowledge”.

to have the added virtue of being able to separate different land uses and thereby create the most appropriate conditions for the optimum development of each of the established functions.

The “peripheral campus” model —generically known as the “American campus” model— with its buildings integrated within a context of urbanistic quality, and dominated by landscaped gardens, is a direct product of this line of thinking. In fact, according to Jean F. Block, the term “campus” is an Americanism that dates back to the 18th Century. The first example of a truly purpose-built campus —planned as such from start to finish— dates from the end of the 19th Century and was presented in a competition organised by the University of Berkeley. The winning entry was a project for a “city of knowledge”⁵ which was to act as a self-sufficient cell, and to be safe from the ups-and-downs of political and socio-economic influences. It was organised along the lines of a small city, and this idea was reinforced by the presence of residential areas for students and professors. It was also to have functional spaces to provide for its internal needs, and these included restaurants, shops, offices —offering both public and private services— and other facilities such as post offices, banks and churches. To a certain extent, this project followed the “rural” tradition of the English College. Later, however, the diffusion of the urbanistic principles of the “Modern Movement” played a decisive role in separating the “city of knowledge” from the congested —and at times degraded— urban context, with the introduction of the zoning policies that form the basis of modern day planning. Even so, a functional deficit continues to gradually kill our urban centres —and not just their oldest and most historic quarters. In this segregated model, the integration of individual buildings and blocks that provide services for each other can only be achieved through an appropriate management of their milieu. This can be done by clearly defining the functional spaces, perspectives and common environments that finally produce the sensation of a finished and fully integrated whole.

However, in contrast to the utopian ideals —which use the purest of reason and understanding to define these spaces— their closed configuration has also been used as a design strategy for controlling space. This has facilitated the repression of revolts or any other similar challenges to authority at times and in societies characterised by a relative or absolute lack of democracy.

A quantitative and qualitative evolution in university space has made it possible to overcome the apparent contradiction between the existence of these “cities of knowledge” (the *Universidades Autónomas*⁶ were initially established as islands) and the need for their integration within the larger socio-economic context of the city, or

5. “*La Ciudad del Saber*” – literally, the “City of Knowledge” or “City of Learning”.

6. “*Universidades Autónomas*” – These relatively new universities were set up outside Spain’s largest cities particularly during the 1960’s and 1970’s.

cities, in which they originated and that have subsequently sustained them. It is not now a question of making proposals for de-urbanisation, for these complexes are no longer seen as isolated ruralising units, but rather as part of a complex system for regional planning. This is maintained by a city system that is linked together by a series of economic and social ties, and structured by excellent road, telephone and electronic communications. This is also the case of the *Universidad de Alicante*.

On one hand, the centrifugal tendencies that afflict our cities have emptied them of both their functional and residential content, and this has had an impact not only upon their historic centres, but also upon large areas of their 19th Century *ensanches*.⁷ The centre-periphery dialectic has thus been progressively replaced by a relationship based upon outlying functional spaces. This has been all the more noticeable in cases where the university function has extended beyond the limits of a single city and spread across a complex city system —often coming to form the central axis around which wider economic and social subsystems pivot.

On the other hand, the demand for an active symbiosis between the university and the neighbouring social fabric —which originally constituted the driving force behind the mechanisms responsible for the university's diffusion— must now be orientated towards transferring the results of research and academic culture beyond the confines of the university campus. R&D and R&TD strategies should be used to bring together the scientific and business communities and to encourage them to work together on common projects.

Policies aimed at creating new areas of innovation such as technopoli and science and technology parks are all moves in this direction. They are designed to promote productive relationships between scientific research and business units and to put the results of such partnerships directly to work in order to improve and diversify industrial, organisational and decision-making products and to thereby benefit both the economic fabric and its social and environmental repercussions.

WHAT THE UNIVERSITY HAS TO OFFER AND THE POTENTIAL FOR ECONOMIC DEVELOPMENT

The *Universidad de Alicante*, which has been in existence for twenty years now, offers excellent potential for socio-economic development in what ranks as Spain's fourth province in terms of GDP. The university runs about fifty courses that lead on to university degree qualifications and is formed by over seventy different departments, units and research groups. Studies offered include Social, Legal and Ex-

7. These are typically residential areas formed by wide avenues and offering relatively large open spaces. Although originating on urban peripheries they are now found near the centre of large cities.

perimental Sciences, Technology, Humanities, Education and Health Sciences. There are five university research institutes (carrying out research in such fields as Water, the Natural Environment, Geographical Analysis, and the International Economy). The university currently has more than 30,000 students and a good reputation for research activity.

In terms of its total number of employees and its annual budget, the *Universidad de Alicante* is effectively the largest single entity in the province of Alicante. As far as its involvement in the regional economic system is concerned, it also constitutes an obligatory point of reference for many local businesses, and is involved with them through a series of agreements relating to technical assistance, technology transfers, and student work experience schemes with both postgraduate and in-service work experience and training schemes. The university is also a necessary reference point for international relations. It has participated in many (and a wide range of) highly innovative projects involving agreements, centres, mobility, exchanges and co-operation in conjunction with entities from different parts of the world.

The *Universidad de Alicante's* involvement in the economic development of its surrounding territory and with the community of which it forms part is amply exemplified by the following bodies and initiatives: *Área de Experimentación Industrial, Servicios a la Investigación (Planta Cero de Analítica, Plantas Piloto de Experimentación), laboratories, Centro de Proceso de Datos, Sistemas de Información y Documentación Avanzados, Centro de Documentación Europea, Centro de Creación de Empresas, Área de Prácticas en Empresas del Gabinete de Iniciativas de Empleo (GIPE), Oficina de Transferencia de Resultados de Investigación (OTRI), Centro de Enlace Europeo del Mediterráneo (CENEMES), Vicerrectorado de Nuevas Tecnologías*, and also in a series of other specialised services, such as those offered by the *Taller de Imagen* and the *Sociedad de Relaciones Internacionales*.

This commitment to innovation and technology has been complemented by a notable concern for local heritage and culture. The university possesses an excellent museum, which gives pride of place to the results of both its own and other institutions' research into the development of new technologies in such fields as information and communication. It also plays host to the Archaeological Park of La Alcudia, where research work is carried out and its archaeological heritage is exhibited.

Within its setting, the *Universidad de Alicante* aims to progressively establish a Science Park **which, through a series of investments, it plans to gradually provide** with all the infrastructure and equipment required for its educational and investigation projects. It is hoped to attract funding for this project from the *V Programa Marco Europeo*⁸ and, once under way, to progressively incorporate business funding and other financing generated by its own resources.

8. An EU programme.

THE COMMITMENT TO REGIONAL DEVELOPMENT

In the course of the last decade, Alicante's economy has lost both its spectacular capacity for growth and its position as a regional leader in terms of increases in GDP. From 1985 onwards, the year that marked the end of the Fordist period of intensive employment of labour, Alicante's industrial sector bore the brunt of an economic restructuring crisis. Various socio-economic indicators have shown a relative tendency for decline, with existing services being inadequate to absorb the loss of employment in industry and political measures also proving insufficient to reactivate this important sector of Alicante's economy. While in 1985, Alicante was responsible for 3.3% of Spain's GDP, by 1995, this share had fallen to 3%. In 1985, Alicante's per capita income was equal to the national average, but by 1995, it was equivalent to only 89%. In 1985, the net disposable family income for Alicante was 103% of that of Spain, yet just ten years later it had fallen below 97%.

In more concrete figures: while in 1985, 1401 industrial businesses were created in the province of Alicante offering 7957 new jobs, in 1999, only 392 new industries began trading and 3818 jobs were created. The different evolutionary processes of territories are a direct expression of their intrinsic levels of dynamism and their capacity to adapt to the needs of a rapidly changing world. Even so, this process of adaptation must be built upon a solid foundation of sector-specific policies that are clearly supported by regional and/or local authorities. If not, there is a distinct risk that the fleet of small and medium-sized businesses will soon be sunk by the stormy seas of world trade.

Historical inequalities in regional development have been responsible for enormous differences in the endowment of infrastructure (transport, energy, telecommunications and natural environment) and human capital. The latter, which was once assessed in terms of quantity, is now evaluated in terms of technical knowledge and labour training —factors which have now become fundamental aspects of effective, competitive production. Differences in per capita income are closely related to deficiencies in existing infrastructure and the low level of skills possessed by the workforce. Labour training and skills have a decisive influence upon regional economic structures and their competitiveness and capacity to adapt to change, and are also closely connected with performance in such fields as research and technological development (R+TD). With this in mind, efforts have been made to close the enormous gap which currently separates Spain from the average for the European Union: in the early 1990s, the percentage of employment in R+TD in Spain was calculated at around 30% of that of the most developed members of the European Union.

The fundamental problem resides in businesses' lack of awareness of the need for R+TD. Companies are obsessed with trying to repeat models that proved successful in the 1960's and 1970's, which were based upon the exploitation of a single resource —the abundance and cheap labour—, and otherwise leave much to luck.

Businesses are not aware of the importance of R+TD and are generally incapable of adopting a line of managerial behaviour based on the uninterrupted introduction of new products and productive processes.

There has been a noticeable lack of resolved impulse from public administrations insofar as taking action to palliate this deficit and to break the pronounced dependence on traditional markets in such characteristic local industries as footwear, textiles, toys and furniture. Even so —with very few exceptions— Alicante's industries have opted to destine part of their production to the black economy in order to remain competitive in the short run. However, increased competition from other producing countries on existing world markets is increasingly limiting the benefits of this resource.

In view of this situation —and along with other measures intended to support local industry— there has emerged a clear need for a science park capable of promoting relations between industry and the university. This park should promote applied research, targeting specific branches of production within Alicante's economic sector, and seek to encourage technology transfers. Support for these research facilities and for the transfer of their results is an inexcusably political measure aimed at increasing the competitiveness of Alicante's economic system. This is particularly needed given the family nature and generally small company structure of Alicante's businesses, practically all of which could be included in the category of small and medium sized companies,⁹ and which have few available resources to assume the challenges of innovation by themselves.

It has been demonstrated that only public sector investment in new technologies is insufficient to effectively promote their incorporation within the productive processes. It is not sufficient to simply connect up a whole industrial estate with telecommunications cables, or to provide a city with an integrated computer network (there are plenty of examples in the province). Thus, investments in transport, energy and telecommunications —which are essential for overcoming the difficulties facing Alicante's productive sectors— must be accompanied by major measures and incentives to encourage businesses to adopt R+TD strategies.

In the medium to long term, Alicante's economic system looks to base itself on the development of qualified employment and the consolidation of competitive managerial projects that incorporate new technologies. This must be achieved within a framework of progressive productive diversification, as it is impractical to continue relying on the exploitation of cheap labour. These are all objectives of the Medpark project. While it was cheap labour that attracted foreign investment to Alicante in the 1960's and 1970's, the main factors that international capital looks for today when taking decisions concerning industrial location are the availability of infrastructure and human resources.

9. Referred to in Spanish literature as PYMEs (Pequeñas y medianas empresas).

QUALIFIED LABOUR AND IN-SERVICE TRAINING

Over the last few decades, the labour market in the province of Alicante has suffered a series of major problems and limitations. With an overall unemployment rate (20.2%) that towards the end of 1997 was very similar to the national average—and 1.9% above the regional average—Alicante's labour market suffers a number of important deficiencies:

- a) There is a very worrying segmentation of employment. On one hand, there are the tertiary sectors, with qualified labour and greater labour stability; on the other, there is a precariousness syndrome with seasonal employment, which is typified by poorly qualified labour and the black economy.
- b) There are major entry barriers that make it difficult for young people to join the labour market.
- c) There are evident inadequacies in the creation of new employment, even at times of rapid economic growth. This is the consequence of various factors: a relatively low level of activity; the black economy; manpower surpluses in labour intensive sectors; and generally insufficient levels of tertiarisation and structural diversification.

The encouragement of competitive innovation, applied research, technology transfers and in-service training constitute the only ways to bring about the long term structural transformation of an economic base that is excessively dependent upon sectors with weak demand and mature technologies. The Science Park could be an initiative that is capable of harnessing the synergies deriving from both the present and future development of Alicante's university environment.

TECHNOLOGICAL TRANSFER AND THE CAPACITY FOR INNOVATION

Innovation and technological change will be fundamental requirements in the battle to increase labour productivity. Alicante's economy needs to become more receptive to the international competitive capacity of the businesses and regions of Europe and the rest of the world as technology evolves and permits the emergence of new forms of production and favours the extension and diversification of productive activities. The modern concept of technology covers many areas in which Alicante's businesses exhibit clear deficits: specialised teams, methods, procedures, organization, routines, and "know how". Although scientific knowledge is structured independently from its possible applications, the tremendous dynamism of this knowledge—it is estimated that relevant scientific knowledge doubles in quantity every five years—confers real possibilities for spectacular technological progress in both the present and, far more clearly, the immediate future.

The globalisation of the economy makes it necessary for Alicante's economy to adapt to increasingly rapid rhythms of change and transformations in technology,

which occur over increasingly shorter periods. In the course of these development processes, discoveries arise and new solutions are found for the problems posed in particular areas of production (these include: footwear, toys, textiles, food and the hotel and catering industry) and technology and techniques are transferred from some industries to others. In the fields of both process and product innovation, there is still potentially a long way to go. In the case of some businesses, the innovations in question may be radical, involving the introduction of previously unknown processes and/or products. In the majority of cases, Alicante's industries have been able to easily absorb "incremental innovations"; the changes that improve already known products and processes.

Science Parks create favourable environments for the development of both knowledge and information. In both areas, those of Alicante's businesses that are open to innovation have been forced to make a special effort to learn. It should not be forgotten that technology transfers from some businesses, or industries, to others constitutes a difficult and expensive operation for the receivers; on top of the price that must be paid in order to obtain this technology, there are frequently problems related with learning and coming to master it.

Any delay in adopting innovations that have a major impact upon the productivity and competitiveness of Alicante's businesses may give rise to a series of important costs. With this in mind, a Science Park can, and indeed should, embrace all of the possible fields in which technological change is seen:

- a) Technologies dominated by suppliers. – These are sectors in which Alicante's economy remains well represented (including textiles and footwear) and whose innovative capacity is mainly determined by their capacity to adopt the new process technologies associated with capital assets and intermediate goods. These technologies are generated in businesses whose main activity lies outside these sectors. The technological change involved is based on incremental improvements and is aimed at reducing costs. Reducing dependence and individual technological improvements have a great impact upon other businesses that depend upon third parties.
- b) Technologies of specialized suppliers. – Here the technology that is generated through specialised machinery or instruments requires design and engineering developments and is orientated towards such objectives as providing new products, understanding processes, and creating new materials.
- c) Intensive technologies in economies of scale. – These are technologies in which technological change is simultaneously channelled towards both product and process innovation, producing economies of scale and cutting costs. Such technologies can be obtained from internal R+D, design and engineering activities.
- d) Technologies based on science. – In the recent past, few industries based their development upon advances in basic science. Businesses, which tended to be large,

took advantage of official funding in order to make major investments in R+D resources and in engineering activities in their search for new products and ways of improving existing production processes. The likes of the chemical, pharmaceutical, electronics and electrical machinery industries have opened the way for many others (capital assets, intermediate *inputs* and manufacturing industries in general).

Although no country in the world is capable of generating all of the technologies required by a productive system, the importation of technology makes it possible to resolve material deficits. Even so, in many cases, this importation also requires additional adaptations or even potential improvements that are more readily assimilated in specialized environments, such as those generated by a Science Park.

In such a situation, it becomes progressively easier to create a group of relations for feedback derived from the process of generation and diffusion of innovations. This is particularly true of the learning and accumulation of the experience that businesses gradually acquire and of technological wealth in general, in contrast to the increasing complexity of the most innovative forms of technological development. No sector escapes from the determinism of technological development: sooner or later, its influence reaches even the most atypical of services and industries, as illustrated in the cases of leisure and tourism.

In summary, the dynamism of the results of modern day research on the world scale propitiates a very notable potential for technology transfer in a very diverse range of productive environments and this constitutes the basis of modern economic growth. The complexity and extent of basic and applied knowledge becomes an important limiting factor for its direct use and exploitation by businesses and sectors. In many cases, technology transfer requires specialisation; in others, it calls for adaptations or studies that demonstrate the viability of potentially exploitable methods and solutions.

THE MODERNIZATION OF TRADITIONAL INDUSTRIES

Over the last few decades, Alicante's traditional industries have based their competitiveness on low wages and access to mature technologies. The fact that these were intensive sectors in terms of labour employment presented them with serious comparative disadvantages during the 1970's and during the early 1980's. Technological modernization and product differentiation have still only been partially introduced in certain sectors and businesses. The ceramics and marble industries of Castellón have been some of the most receptive in terms of the introduction of innovations, whereas in other industries, such as footwear, textiles and furniture, there is still room for major modernization. The modernization of a section of the productive sectors has become a pending objective. These changes should not only put emphasis on specific reforms of processes and products, but also on the adoption of a philosophy which is much more receptive to innovation in general.

The traditional sectors can benefit from the major lines of innovation that are generated around the most innovative sectors or from the technologies and design solutions that are specifically developed for these businesses. In this respect, the *Universidad de Alicante's* Science Park constitutes an excellent way for progressively steering these sectors along the path to innovation and competitiveness.

DIVERSIFICATION AND TERTIARISATION

The high unemployment rate that affects all of our economies, and particularly that of Alicante province, has conferred maximum priority on the objectives of productive diversification and tertiarisation. In 1998, the unemployment rate in the province's industrial sector was 12.8%, while that of the *Comunidad Valenciana* as a whole was calculated at 9.6% and the global rate for the Spanish state was 8.7%. Whereas more than 1,500 new industrial businesses were created each year in the second half of the 1980's, the average number of new industries created each year between 1995 and 1999 was only 440.¹⁰ Without being able to speak in terms of "crises of managerial vocation", there is certainly a need to encourage "entrepreneurial aptitudes" in businesses and sectors linked with the sources of future demand, new technologies and schemes for taking advantage of our immediate environment.

Alicante's economy maintains a high degree of diversification on a single structural plane: with sectors that make intensive use of labour, mature technologies and weak demand. However, comparatively speaking, it has yet to reach a sufficient degree of tertiarisation, especially in specialized services for businesses that help to increase their competitiveness. There is a similar lack of relevant participation in sectors with a strong demand for high technology. Alicante province should not renounce the possibility of progressively increasing the presence of services and non-traditional sectors, and similarly, it should not renounce the chance to introduce sectors with a future. Failing to do this would be equivalent to what in the recent past would have been the result of becoming relegated to the status of an agricultural area without industry or to an industrial area without services.

EXTERNAL COMPETITIVENESS

External competitiveness is, par excellence, the best indicator of the health of both businesses and productive sectors. Accessibility to all types of information through new technologies and the suppression of barriers to free trade throughout the world —with an irreversible tendency towards globalisation— have created a

10. Data supplied by the Conselleria d'Industria, Comerç i Turisme, Inversió registrada, for various years.

single reference framework. Within this framework, Alicante's businesses must aim to produce as efficiently as those located throughout the rest of the world. They need to assimilate a capacity for innovation that is sufficiently efficient to meet the demands of this global market. Human capital has become a key piece and vehicle for the introduction of innovations and therefore also for maintaining the competitiveness of the economic fabric. Universities offer a very relevant potential in contexts in which the insufficiencies of individual research —by small-scale businesses and traditional sectors— are telling. The conception of the *Universidad de Alicante's* Science Park makes it possible to add a very important human capital potential to the benefits of technological development and innovation and, in so doing, to raise the competitiveness of our businesses with the help of products whose external commerce provides the best indicator of its future potential.

REGIONAL COMPETITIVENESS

Territorial spaces are becoming increasingly competitive. All regions offer greater incentives in the form of such parameters as infrastructure, modern facilities, specialized services, the rational regulating of legal frameworks, incentives, spaces with environmental quality, and attractive residential areas.

Within the ambit of the European Union there is also a gravitational displacement towards the centre, as a consequence of its opening to the east. Spain, and especially its southern regions, needs to therefore substantially increase its "regional competitiveness" if it wants its industries and services to be able to resist competition from abroad. From this perspective, it seems that the creation of spaces that encourage innovation and technology transfer represent a necessary option and a way to defend our productive system.

THE OBJECTIVES OF THE PARQUE CIENTÍFICO DEL MEDITERRÁNEO: MEDPARK

The *Universidad de Alicante's* Science Park, which was initially devised as a project to serve the neighbouring community, has developed into an initiative to take advantage of the educational and research potential of the departments and services of the *Universidad de Alicante*.

It was initially conceived as a space for environmental excellence, in which the aim was to promote an environment capable of encouraging creativity, entrepreneurial attitudes, and the philosophy of innovation. Other major objectives included the conservation of the natural environment, rationalization of basic resources (such as water and energy), support for the welfare state (including health, education, and leisure) and the development of culture and integration of training.

Making this a reality in a physical space is part of a search for a tight symbiosis between the university and business communities. It has the clear objective of

clearing the way for fruitful communication and coexistence; and for promoting the desired encounter between the productive sectors and the scientific community. The proposed venue forms part of the future development of the *Universidad de Alicante* and of its educational and research projects.

The Science Park was chosen ahead of other options, such as a *Parque de Investigación* (Research Park) and a *Parque Tecnológico* (Technology Park), as it was deemed the most conceptually precise. According to General Directive XIII of the European Commission, a Science Park is the name given to the development of a project related with a space that:

- a) Is physically close to, or maintains operational ties with, one or more university institutions or centres for advanced research
- b) Is designed to promote training and the growth of knowledge-based business initiatives
- c) Facilitates the transfer of technology from research centres, and university centres in general, to businesses located in and near the park through active intervention.

According to the established guidelines, the main objectives of the park are: research, development and design, accompanied by the origination of new products and their development up to, and including, the marketing phase.

The proposed trademark —MEDPARK— has the advantage of offering all the attributes of a unique geographic environment: the Mediterranean. This “trademark”, which is readily recognizable throughout the world as a reference to the cradle of civilization and numerous cultures, evokes an attractive environment which is rich in natural history and heritage, and offers a plural and diverse environment that is full of contrasts. In short, it is able to bestow our Science Park with an image that is easily recognizable, global, memorable and prestigious.

The philosophy behind the Mediterranean Science Park and its specific mission can be synthesized in the following points:

- a) To create a space for excellence and innovation that promotes relations between the university and business communities, encourages applied research directed towards productive activity within the area of influence, and fosters technology transfers and the competitiveness of the economic system.
- b) To fulfil the medium term aim of creating skilled employment and helping to set up competitive business projects within a general framework of progressive productive diversification.
- c) To encourage the introduction of new technologies and their internationalisation and also to increase the capacity for innovation within a global context.
- d) To establish a standard for environmental excellence and a space for creativity, design and future projects, and to do this in accordance with the parameters for quality and innovation associated with a knowledge society.

- e) To promote traditional Mediterranean sectors (such as tourism, agriculture, and manufacturing industries) within a framework of efficient productivity in accordance with the new parameters of innovation and competitiveness, associated with new technological developments and products.
- f) To channel potential university development over the coming years within a framework offering maximum economic and social benefits.
- g) To improve employment possibilities and working conditions for young university graduates, and also create new businesses based on knowledge and research.
- h) To promote to the maximum the potential benefits of the two urban areas that play host to the university development: Alicante and San Vicente del Raspeig, as well as those of the local *comarca*¹¹ and province in general.
- i) To encourage the possible interest of foreign businesses, which may be attracted—in the medium to long term—by the advantageous location of the Science Park.
- j) To stimulate the development of a type of university that is open to the social needs of its surrounding area.

AN APPROPRIATE FRAMEWORK FOR A SCIENCE PARK

Many of the experiences undertaken in different parts of the world have been less successful than predicted due to the fact that they have adopted some of the characteristics of Parks, yet failed to distinguish and separate key elements from secondary ones. Two of the most commonly repeated errors have been:

- a) Considering the aesthetic characteristics of the park, its services and image separately from the factors that explain or create the environment for technological development, and believing that the former are sufficient to make the park a success. Some Spanish initiatives have placed a lot of emphasis on the design of Technology Parks, and have received official support to help attract businesses committed to research, but have failed to provide the necessary critical mass of researchers to assure an on-going capacity for research and technological development. As a result, these initiatives have been converted into what might be referred to as “enlightened” industrial estates. They present a good aesthetic image and businesses have been attracted by various incentives, but they offer very little real capacity for research and innovation.

Experiences in the United Kingdom have demonstrated that, in cases where there are insufficient businesses in both number and capacity to reach the required “critical mass”, the universities have been the only nuclei capable of maintaining

11. A local administrative unit below the level of the province.

a permanent environment for the development of competitive research. At the same time, working with businesses has acted as a driving force for the universities themselves, and has brought them progressively closer to the real demands and needs of the productive sectors.¹²

- b) Adopting a narrow view of a Science Park as a place exclusively reserved for what is regarded as high technology. Or, to put that in other words, looking to attract, and indeed counting on, businesses from certain emerging sectors, while forgetting about the need to modernise the leading sectors and businesses within a given geographical region. It is the existing sectors and businesses that constitute its authentic economic base and which have the capacity to generate employment. They also possess historical competitive advantages (with respect to salaries, qualified labour, raw materials, etc), though they often need to renew these through the aforementioned innovative capacity and technological development. In the absence of either a university or committed businesses and sectors within the region itself, official organisations have to make major financial outlays either to attract businesses from outside the geographic region, or to create research institutes whose relevance and entity never reach the critical mass afforded by a consolidated university. In such cases, growth accelerates artificially although most of the time there is either unredeemable stagnation or projects are finally reconverted into something resembling any other, more or less qualified, industrial space.

It is important to underline the characteristics shared by the largest and most successful science parks, and that help to explain the development of these entities that give rise to competitive companies, foster the emergence of the sectors of the future, and also create new employment.¹³

- a) The decisively important contributions from universities and the generation of specialized knowledge.
- b) Interaction between the university and industry.
- c) Their rapid emergence.
- d) The importance of initial services.
- e) A good response from the public authorities, backed up in certain cases by substantial financial support for specific initiatives.
- f) The important role played by planning.
- g) Relative advantages with respect to location (labour market, services, accessibility).
- h) The progressive development of high quality, specialised infrastructures and services.

12. The UK Science Park Association (UKSPA).

13. Koster, K. F., Massachusetts Institute of Technology (MIT).

A serious consideration of these factors by a university institution is, in itself, a positive start. Even so, it is the results deriving from these lines of action that constitute the most important consideration.

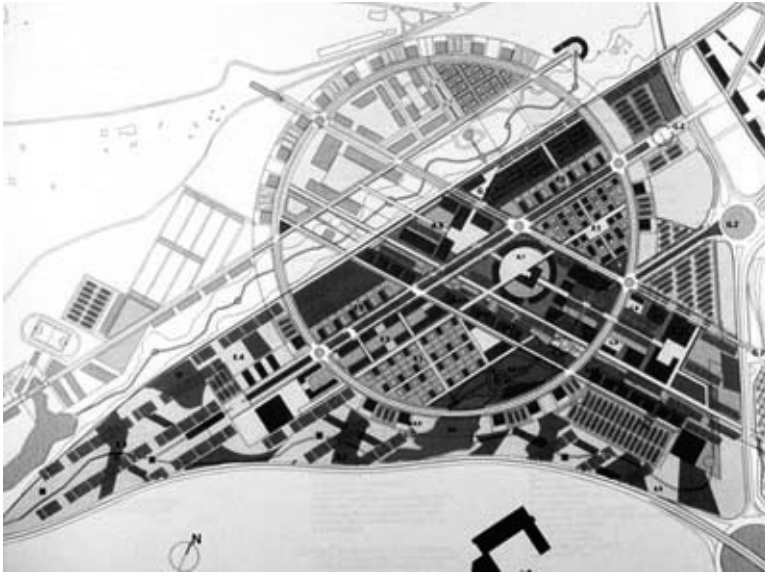
DIFFERENT MODELS AND THEIR TERRITORIAL IMPLICATIONS

According to the IASP, there are three fundamental objectives that define a Science Park:

- 1) To establish strong functional connections with universities, research centres and higher educational institutions in general.
- 2) To encourage the creation and development of industries based upon knowledge, and also that of businesses specializing in tertiary sector activities and capable of generating high added value.
- 3) To promote the transfer of technology to the businesses that rent land on the Science Park.

A recent congress held in Stockholm (24-25 June, 1998), which was organised by the European IASP and dedicated to the theme of science parks, outlined the need to expand the role of universities in both technological and other types of specialised parks. To date, their role in such entities has been only secondary. Given the interest shown in some of the conclusions from the conference, it is perhaps interesting to briefly refer to them:

- a) One frequently committed error is that of affording universities a mere secondary role, whereas greater importance and attention are given to such considerations as image, marketing the prestige value of the location, and configuring the site's urbanistic aesthetics (including car parking space, offices, and restaurants).
- b) Some of the technological parks that have received major official backing have had their potential for innovation and technological transfer notably curtailed and relegated in the order of priorities with respect to some of the more modest science parks promoted by universities.
- c) The ideal synthesis can be found by reconciling the emphasis on image of some technological parks with the solid relationship with training, research and the transfer of technology that characterizes most science parks.
- d) In the "American model", the science parks most closely connected with universities, or with businesses with a high level of expenditure on R+D and their own resources dedicated such ends, are the ones that are most successful at promoting new businesses, encouraging innovation in general and achieving the large-scale creation of qualified employment.
- e) In the "European model" (with the exception of the United Kingdom), in many initiatives and projects for technological parks, it has been possible to note a certain physical and functional distance with respect to universities. As a result,

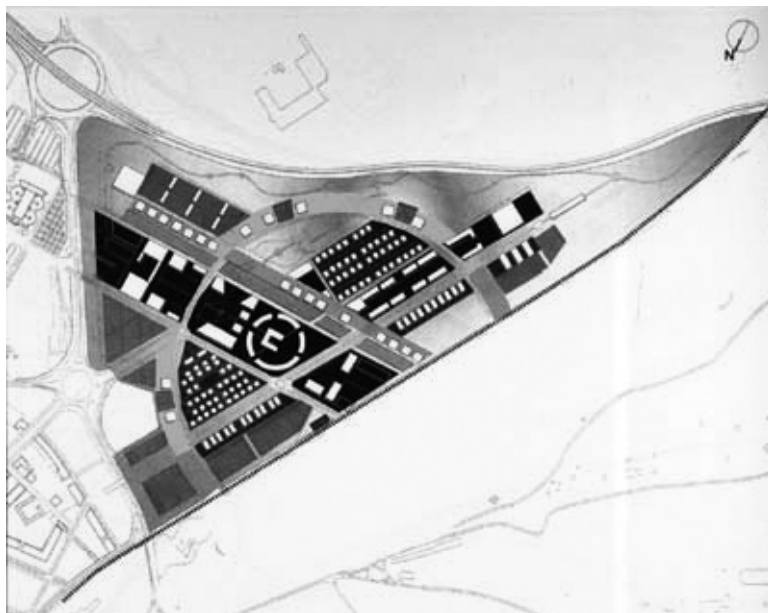


General map of *Universidad de Alicante's* Science Park, MEDPARK.

in the best of cases, they have tended to become modern industrial or business estates, with carefully guarded images, and have even boasted certain elements that would elevate them to the category of “enlightened estates”. Yet, in many cases, once their initial allocations of land have been exhausted, the main reason for their creation —encouraging innovation and technological transfer— is often forgotten.

- f) It is often difficult to understand why many of the typical businesses that look to technological and science parks do so. The fact is that almost a third (31%) of newly created European businesses seek to locate at a science park. Even so, only 8% of them do so as the result of any concrete projects or after developing relationships with universities. In other words, it is evident how image related motivations effectively hold sway over the real advantages that a science park can offer. This phenomenon is particularly apparent in the countries of southern Europe, where only 13% of businesses perceive the advantage of a relationship with a university, whereas among the countries of northern Europe, 40% of businesses see a potential relationship with the university as being something positive.
- g) Everything suggests that there is still a great amount of ignorance on the part of businesses with respect to what universities can offer them. On the other hand, relations between university and business are perhaps not always given adequate consideration and recognition in academic circles either. Although in saying this, it must be recognised that initiatives and projects developed by universities in

this area are usually very well accepted by both government and local authorities, who have great interest in converting their development policies into practical realities.



Basic schema for the organization of MEDPARK scientific park.

- h) The incorporation of university graduates into the ranks of the business community has played a decisive role in progressively raising its awareness. Even so, such efforts are largely undermined if graduates subsequently lose important contacts with the sources of knowledge and development.
- i) On the subject of these graduates, it should be noted that many universities have introduced “business tailored training”, as a knowledge of business needs makes it possible for universities to design their curricula in such a way as to prepare their graduates to help meet them.
- j) It seems important to opt for a form of management based on the logic of non-profit making organisations (such as foundations and associations) and to thereby defend the interests and general objectives that converge in a science park.

Spain’s science parks, which have tended to be more like technological parks, include very few projects in which the Spanish university system actively participates. Most of their activities are of a purely commercial or business nature. Even, at the *Parque Tecnológico del Vallès* (Catalonia), which houses businesses that turnover 55,000 million pesetas a year and generate around 1,800 jobs, the projects carried out in collaboration with the university —although relevant— are few in number. Thus, the three essential conditions that together characterise the concept of a science

park —strong connections with university research centres, industrial growth based on knowledge, and technological transfer— are not being met. In some cases, such as the *Parque Tecnológico del Andalusia*, in Málaga, a more active university presence is being demanded. On the other hand, this situation explains why —despite the relatively successful performance of parks in Catalonia— the *Universitat de Barcelona* is planning the science park of Barcelona following the previously mentioned scheme that responds to needs for innovation and the dynamic transfer of technology from the productive fabric.

THE URBANISTIC DESIGN OF THE SCIENCE PARK AND ITS VOCATION AS A METROPOLITAN REFERENCE POINT

Today, interventions conducted on the urban periphery are justified by the fact that they subordinate their decentralized location to a strategy for improving the urban fringes. This decentralization makes it necessary to draw up planning policies in order to improve, integrate and reinforce the civic aspects of these suburban environments. They may even function as metropolitan or sub-regional reference elements, within which the possibilities offered to the university student abound, as do those available to the average citizen, who can visit, access and enjoy the infrastructures, facilities and services managed by the university. There is a fundamental need to understand related interventions within a set of more global guidelines that can define a desirable territorial model, though at the same time allowing sufficient flexibility to accommodate the full range of possible interventions within these circumstances. Some infrastructures, such as those developed by the *Universidad de Alicante*, are essential for the definition of the territorial model towards which the metropolitan area of Alicante should develop. Their implications go beyond the urban system and have a decisive influence upon the wider development of the territory, its functional potential, and ultimately, its quality of life.

This vocation calls for serious reflection on the urbanistic model employed. It is necessary to start with a clear idea and to add any necessary mechanisms in order to allow it to grow and develop in accordance with the defined parameters. The *Universidad de Alicante* and the MEDPARK both contribute to these ideas for integration. Furthermore, both territorial elements have emerged as projects within a plastic whole, with a carefully constructed park, flanked by gardens organised according to the ecological parameters dictated by the natural environment, and in which there are outstanding sculptural compositions. This all contributes to a “city of knowledge”, which is housed within the patrimonial wealth of its urban context, and which has an evidently favourable impact upon the qualification of the suburban environment that it occupies. The Science Park and *Villa Universitaria* projects also represent the definitive conurbation and a symbiosis with the business fabric of Alicante’s complex industrial system. From an urbanistic perspective, the whole

complex and all the other components of the urban system are destined to convert it into an emblematic landmark within Alicante's vast metropolitan environment and will thereby reinforce the functional centrality of the provincial capital.

It is a question of taking advantage of the growth potential of the various infrastructures and future facilities of the *Universidad de Alicante* (educational and research units), in order to strengthen the physical configuration of the MEDPARK. The design guidelines anticipate the final image of a development that, in many aspects, has been slow to emerge. However, they constitute material of enormous creative value and with an architectural design that has been subjected to the dictates of an attractive location. Furthermore, they have been globally conceived in order to offer solid and coherent functionality among their different component parts – research, training, businesses and services.

Execution of the project calls for very long term planning. When it actually becomes a reality will depend on many different factors including: economic and investment cycles, official support for transfers of technology and research, its acceptance by businesses, businesses' plans for technological development, businesses' need to be competitive, and businesses' awareness of the relationship between competitiveness and technological development.

Following all that has been said, it can be deduced that a science park serving an economic area like the province of Alicante is capable of saturating the projected surface area of one and a half million square meters, within a minimum eight or maximum thirty year period. If the first of these predictions proves correct, this will be a good indicator of the health of Alicante's productive fabric and the dynamism of the businesses that comprise it. If the second prediction is correct, it would clearly show that Alicante's economic system was lagging behind that of other territories. It would be even more serious, however, to lack any economic instrument of these characteristics; that would be tantamount to trying to ignore the factors that explain progress.



UNIVERSITY SYSTEM AND TERRITORIAL PATTERN

THE CATALAN UNIVERSITY SYSTEM AND TERRITORY

ESTEVE OROVAL

Universitat de Barcelona

During the last decade —a period in which the number of public universities in Catalonia has increased from three to eight— the Catalan university system has experienced a significant process of growth and territorial development. As a consequence of this growth, the territorial map of Catalonia's university centres has been modified, but with an unequal impact upon different areas of population.

This connection between university system and territory will be the central axis of this presentation. Our main objective is that of defending the university programme as an instrument for achieving a model of territorial organisation based upon specialisation and co-operation.

The study is divided into four separate sections. In the first section, we briefly analyse different tendencies for territorial organisation found in Europe, look at their manifestations in the case of Catalonia, and examine the positive spin-offs that have their origins in territory.

In the second section, we make a critical appraisal of the process of expansion of the Catalan university system. The most distinctive features of the model that has been most important until now have been competition and confrontation between local interests and this has generated numerous disadvantages.

The third section compares the previous model with another based upon specialisation and co-operation, in which the different universities define their own specialised profiles within a general dynamic for co-operation within the group as a whole.

In the fourth section, we state the case for the university programme as a basic instrument for transforming the model for organising universities in Catalonia. We indicate the medium-term objectives involved in bringing about this change, stressing the importance of collaboration between the universities, the whole of the public sector, and private sector production.

In conclusion, we present possible models for the territorial implantation of universities, placing special emphasis on proposals that defend an integrated university system. Finally, we make brief reference to the case of Spain, which is characterised by the existence of autonomous communities that may be the main territorial elements governing the context in which the philosophy of an integrated university

system has to be developed. We also present several proposals for co-ordinating the different autonomous systems and indicate what the main objectives could be at different competence levels.

TENDENCIES FOR TERRITORIAL ORGANISATION AND POSITIVE EXTERNAL ECONOMIES RELATED WITH TERRITORY

In this first section, we begin by reviewing the main tendencies for territorial organisation that are currently present in Europe and examine the specific case of Catalonia. We then go on to examine a group of external economies relating to territories.

Main tendencies for territorial organisation in Europe

Since the mid-1980's, it has been possible to observe how large cities have played an increasingly important role throughout Europe. According to experts like Camagni (1998), the predominant model for territorial organisation in Europe is that of dispersed growth around large cities and metropolitan areas.

Another form of territorial organisation mentioned by Camagni is that of regional networks of small and medium-sized cities:

"It is a non hierarchical model, often based upon the specific "vocations" of the particular centres and upon intense complementary and synergic interactions" (Camagni, 1998: 37).

The two models share certain characteristics and may complement each other within a given territory, as will be seen later, when we examine the case of Catalonia.

The urban network in Catalonia

Catalonia is a highly urbanised territory, in which the previously mentioned processes of dispersion have occurred around the city of Barcelona. Even so, in Catalonia, we can still speak of the existence of a network of medium-sized cities and of a very important level of economic activity. Therefore, elements of the two models mentioned in the previous epigraph clearly combine. As Joan Trullén says (1998):¹

"In the perspective of the 21st Century, Catalonia is formed by a network of very complete cities (not neighbourhoods) which are organised around a great urban region; the Barcelona Metropolitan Region,² and in which the municipality of Barcelona plays a fundamental integrating role and is an important link in Europe's city system; a collective in which more than 100 cities play an important role." (Trullén, 1998: 54).

1. The complete study can be found in TRULLÉN, J. (1988): "La Catalunya-ciutats". *Revista Econòmica de Catalunya*, núm. 36, pp. 51-56.

2. *Regió Metropolitana de Barcelona*.

According to both Camagni and Trullén, the key concept to bear in mind is that of the network of cities or urban network:

“The network of cities operates with the idea of co-ordinating facilities and services, and maximising the comparative advantages of each city, in such a way that instead of competing with each other to obtain services and thereby creating a very homogenous supply with little specialisation (as has been the case with the extension of university education in recent years), they should try to co-ordinate their efforts in a search for economies of scale in the provision of services and thereby intensify their economies of localisation in those activities in which they are specialised” (Trullén, 1998: 53).

The logic of co-operation between cities is the key element for taking advantage of all the advantages offered by territorial organisation through city networks.

External economies relating to territory

These external economies receive the generic name of economies of agglomeration and are normally divided into two types: economies of urbanisation and economies of location, and they have been studied by various authors. We have based our case on the synthesis by Trullén, which collects together contributions from Jacobs, Becattini and Porter.

These economies of urbanisation refer to external economies of scale associated with cities, and influence all of the agents which are active in the territory:

“(...) include all of the advantages deriving from living and operating in cities, such as the existence of large indivisible facilities (airports, ports, universities, large scale health centres, etc.) or large blocks of demand (a concentration of more than 4 million inhabitants makes it possible to increase productive specialisation to levels that are impossible to attain in much smaller environments)” (Trullén, 1998: 52) south.

Economies of location are related to determined productive activities, and partly explain the industrial development of certain areas, affected by “industrial districts”. For example, in the case of Catalonia:

“(...) in cities such as Mataró, Sabadell, or Terrassa, we find advantages in the location of textile activities (there is an industrial tradition, an industrial atmosphere, and a specialised work force, etc)” (idem).

As we advanced in the previous epigraph, Catalonia enjoys two types of external economies of scale:

“(...) Catalonia presents an urban network that, on one hand, contains a large metropolitan region that makes it possible to generate important economies of urbanisation, and, on the other, presents a very rich group of cities that are relatively specialised in a limited number of productive sectors and in which important economies of location are generated” (idem).

In the following sections we will analyse the relationship between the models for territorial organisation present in Catalonia, the external economies of scale that derive from them, and the most appropriate university programme for taking advantage of them.

A CRITICAL ANALYSIS OF THE DIFFUSION OF UNIVERSITIES IN CATALONIA

Before presenting the specific objectives that the university programme must develop, bearing in mind the territorial characteristics and external economies mentioned in the previous section, we think that it is important to make a historical analysis of what has been the process of expansion of the Catalan university system until the present moment.

The *Generalitat de Catalunya*³ assumed responsibilities for university affairs in the year 1985, when there were only three universities in Catalonia: the *Universitat de Barcelona*, *Universitat Autònoma de Barcelona* and *Universitat Politècnica de Barcelona*. The *Universitat Pompeu Fabra* began its operations in the academic year 1990-91. Two years later, the *Universitat de Lleida*, *Universitat de Girona* and *Universitat Rovira i Virgili* (Tarragona) began to operate as independent centres, with the aid of human resources and materials from the three Barcelona-based universities. The *Universitat Oberta de Catalunya*⁴ began its operations in the academic year 1995-96. On top of these eight public universities we should also mention the three private universities that were created during the 1990's: the *Universitat Ramon Llull*, *Universitat de Vic*, and the *Universitat Internacional de Catalunya*.

Thus, the growth in the number of Catalan universities has been considerable, with an increase from three to eleven centres in just a single decade. But this process of expansion has also been accompanied by some important failings and has not met all of the objectives that were established at the end of the 1980s.

Some studies (Oroval and Bolero, 1993) have referred to the model chosen by the *Generalitat de Catalunya* as "*competitive and involving a clash of interests*". To give a precise example, one of the main objectives of the project for the creation of Catalonia's fourth university was supposed to be that of promoting greater territorial equilibrium. However, its eventual manifestation in the form of the *Universitat Pompeu Fabra* gave priority to other interests. The final format owed far more to urbanistic questions, on one hand, and to constituting a university model based upon guaranteeing better quality, on the other, than to helping to overcome the problem of overcrowding.⁵

3. The Catalan regional autonomy's governing body.

4. A distance learning centre similar to the UK's "Open University".

5. For a more detailed analysis, consult OROVAL, E.; CALERO, J. (1993): "*Financiación de la Expansión Universitaria Catalana en los últimos años*". *Revista de Estudios Regionales*, mayo-agosto 1993, núm. 36, pp. 73-121.

The absence of well-defined and transparent financial criteria is one of the main factors that explains the preponderance of this model, as it forces universities to compete for public funding which is in ever-shorter supply.

In the absence of an overall university programme and a series of clear financing criteria, this competitive model has generated a host of negative effects for the university system as a whole. Below we list some of the most significant of these:

- There are notable differences in the basic characteristics of each specific university. The dynamic of conflicting interests has resulted in a situation in which some institutions have set quantity as their main objective, while others have focussed on quality. This has caused important inequalities within the system.
- There has been an excessive proliferation of academic qualifications due to the absence of a co-ordinated programme offering different types of studies. This problem has arisen as a logical consequence of the competitiveness that has led to a varied offer of educational solutions, but has also generated a demand that has not always coincided with students' preferences.
- The social and cultural aspects of the university have deteriorated. When unrestrained by a programme that considers wider social needs, competitiveness and the existence of individual interests may adversely effect one of the basic functions of the university; spreading knowledge, research and culture to the whole of society.

Therefore, although a certain amount of competition between universities may produce some positive results, competition in the absence of a systematic programme tends to result in the problems that we have already mentioned. Furthermore it prevents us from pursuing other objectives such as territorial, social, ecological and financial equilibrium, or achieving the necessary degree of co-ordination between studies offered within the territory.

TOWARDS A MODEL FOR SPECIALISATION AND CO-OPERATION BETWEEN UNIVERSITIES

Against the model which we have previously described as being “*competitive and characterised by a clash of interests*”, we propose another which we define as a “*model for specialisation and co-operation*”. In this section we present the three basic distinctive features of this model, and in the fourth section we will identify the intermediate objectives that the university programme must meet in order to make this possible.

This model emphasises the fact that each university should define its own areas of specialisation. This should be done in a coherent manner and in co-operation with other universities and with both the public and productive sectors, and provide mechanisms to facilitate the co-ordination and combination of interests and benefit the system as a whole.

Specialised universities would be in a better position to exploit the comparative advantages and external economies of scale deriving from their relative locations. Each

university must develop its strong points, in such a way as to increase the efficiency and quality of the system as a whole. This specialisation would be a good way to prevent the proliferation of academic qualifications that characterises the present Catalan university system.

This specialisation must not, however, come into conflict with the more humanistic and generalist features of the university: certain studies which have a more or less homogeneous distribution of demand throughout the territory could therefore be provided, with a series of common features, by all universities. But other types of studies could concentrate demand in specific areas, thereby defining the specialist character of each university. We therefore propose a careful balance between specialisation and generalisation, and believe that university programming has a key role to play in this process.

As regards the question of co-operation, this is a particularly valid principle when speaking of universities, given the public nature of the service that they offer. Co-operation allows a better diffusion of knowledge and research, and is not only positive from the social point of view, but also favours greater efficiency and quality within the Catalan university system.

The need for co-ordination of the different types of studies carried out within Catalonia has become increasingly evident due to the constant growth of the university system. For example, it is necessary to prevent some first cycle studies from becoming too unwieldy, as is the case of *Empresarials*,⁶ which generates a demand in the second cycle for *Administració i Direcció d'Empreses*⁷ which often cannot be met by the system.

Thus, specialisation and co-operation offer positive aspects from the social point of view, and in terms of economic efficiency and the quality of teaching and research, as opposed to the numerous disadvantages that typify the current model based upon competition and clashing interests.

THE MEDIUM-TERM OBJECTIVES OF THE UNIVERSITY PROGRAMME PLANNING

University programme planning defines the organisation of universities within a given territory, and includes a series of different aspects ranging from the way in which they are financed to how they collaborate with the public and productive sectors. University programme planning is the basic instrument required for improving the scope of the present university model and transforming it into a model based upon specialisation and co-operation.

In this section we present what must become the medium-term objectives of a university planning programme that would make it possible to reach our previously mentioned final objective:

6. Business Studies.

7. Business Administration and Management.

- Taking advantage of the territorial externalities that derive from the territorial organisation of Catalonia.
- Defining clear criteria for financing.
- Achieving territorial, social and ecological balance.
- Favouring co-operation between universities and both the public and productive sectors.

Taking advantage of territorial externalities

In the first section we observed that the model for territorial organisation in Catalonia is formed by a network of cities with quite a significant degree of economic activity within which the Barcelona Metropolitan Region is a particularly important area. Catalonia can therefore benefit from both of the types of externalities that we have defined: those connected with urbanisation (especially around Barcelona itself), and those of location (around medium-sized cities with strong industrial development).

The existing university centres within the city of Barcelona form part of the large-scale, indivisible services that characterise the economies of urbanisation. The demand for university studies is mainly concentrated in the vicinity of the city, while improvements in transport and communications have made it possible to save on costs, especially for faculties and schools located in the centre of Barcelona.

Catalan universities can also take advantage of the economies of location offered by certain industrial districts. This is the case of some academic studies offered by the *Universitat Autònoma de Barcelona* in the areas around Sabadell and Terrassa, or the case of Chemical Engineering at the *University Rovira i Virgili* in Tarragona, and Agricultural Engineering at the *Universitat de Lleida*.

The definition of Catalonia as a network of cities makes it possible to think in terms of a university planning programme that stimulates co-operation between them. In this sense, the co-ordinated actions of different cities can generate economies of scale in the provision of more specialised forms of education, by taking advantage of the comparative advantages offered by the area in question. Once again we can find examples of this in areas with an important level of economic activity, as in the case of Vallès or the Tarragona-Reus axis.

But, as we shall see in the next two epigraphs, the university planning programme has other objectives that go beyond simply promoting these externalities. The key therefore lies in establishing a university planning programme that, while taking into account other criteria for university policy, takes maximum advantage of the externalities deriving from the different forms of territorial organisation that are present in Catalonia.

Financing criteria

As has already been mentioned, Catalonia has no law governing the financing of higher education⁸ that specifies a distribution of transfers between the public universities following any form of previously known, objective criteria. At present, Catalonia's public universities compete for public funding whose final destination depends, in many cases, upon bilateral negotiations between teams of university chancellors and the *Comissionat d'Universitats i Recerca*.⁹

The creation of the mentioned law would serve a long overdue and evident need of the Catalan university system. From the point of view of budgetary management, the existence of a series of clear norms would allow universities to foresee the resources that they could obtain, with a margin of error that would largely depend upon the workings of the university institution itself.

The financing criteria to be defined would be coherent with the proposed *model for specialisation and co-operation*. It would thereby be possible to promote the efficiency of each university, through the introduction of a series of quality indicators that, to a large extent, would depend upon the quantity of resources to be obtained. This could encourage the definition of a more appropriate profile of specialisation.

University financing has to also encourage co-operation between different institutions. In the field of investigation, for example, it is possible to foster multi-disciplinary and inter-university projects, which take advantage of the knowledge previously accumulated by different teams and diffuse the positive results to the whole university system and to society in general.

Thus specifying a series of clear cut criteria for university financing contributes both to improving the efficiency of each individual university and to the co-operation between, and results of, the whole group. The university planning programme must take into consideration this fundamental question, which influences the assignation of current transfers and also the signing of different programme contracts between the administration and each higher educational institution.

Territorial, social and ecological balance

The university planning programme must take into consideration all aspects related with territory. In this sense, it is not just a case of taking advantage of positive externalities deriving from social and economic activities that take place at specific points in Catalonia. University education must cover the existing demand for studies across the whole territory in a balanced way, including certain areas which have a lower level of economic and social development. The exploitation of the advantages

8. In other Spanish Autonomous Communities, such as Valencia, there are a series of criteria defined from the public sector.

9. Universities and Research Commission.

offered by certain locations must be combined with the objective of guaranteeing a just and equitable territorial diffusion, which can also contribute to improving Catalonia's territorial equilibrium.

Secondly, the university planning programme must favour a greater social balance within the territory. This objective is related to the previous one, as the degree of social differences varies in function with the area of reference. Thus, from the educational administration, it is necessary to defend the introduction of criteria that favour equity and that facilitate access to higher education in equal conditions and independently of social and territorial origin. The awarding of grants according to levels of income and the subsidising of movement are the main mechanisms that allow us to advance towards a greater degree of social equity.

Finally, it is important to bear in mind environmental criteria when defining the territorial implantation of university centres. The construction and/or expansion of buildings at determined geographical locations must be carried out in accordance with studies of their impact upon the neighbouring land and natural environment. University installations can take advantage of sources of renewable energy and promote the reduction, re-use and recycling of residues.

Co-operation between universities, the public sector and the private sector

The *model for specialisation and co-operation* does not only imply co-ordination and collaboration between universities that define their profile of specialisation, but also a wider form of co-operation between universities, the public sector and the private productive sector. As well as the educational administration, we could also include the rest of the territorial administrations and public companies within the public sector. Any co-operation with the private sector also implies considering representatives of the business sector and workers as collaborating agents.

The universities and the educational administration, represented by the *Comissionat d'Universitats i Recerca*, must co-operate in order to improve the following aspects of the university planning programme:¹⁰ fostering specialisation by universities; rationalising the distribution of studies that do not originate in the specific specialisation of a single university; co-ordinating investigation and third cycle studies; harmonising university management processes, encouraging the use of new technologies, creating a law for financing the university, etc.

The universities can also establish direct collaborative agreements with private companies. These may, at times, serve a specific and limited purpose, or become more important and lasting links, forming part of the general strategy of the university. Such strategic alliances may even help to improve the financial situation of the university in question.

10. Originally listed in OROVAL, E. and CALERO, J. (1993), *op. cit.*

But the type of co-operation that we would now like to highlight is that which involves all three of the agents mentioned. Here, the key concept is that of the *network*. This implies a non-hierarchical form of collaboration between a group of universities, the public sector and the productive sector. This therefore goes much further than the relations established by a single university, and also much further than agreements or alliances made with the private sector that do not involve the participation of the public sector.

The nature of the links established between these three institutions can be expressed as a *triangle*, with each of them located at one of the vertexes. Within this model, it is of great importance to establish the most appropriate *division of labour* and to decide the tasks to be undertaken by each vertex of the triangle.

We understand that the role of leadership in the creation of networks must correspond to the universities on account of their strategic interests and in coherence with their chosen profiles of specialisation. Thus, the vertex responsible for generating relations must correspond to the university.

The public sector plays a particularly important organisational role. It must be capable of creating the best conditions for the smooth working of both the productive sector and the university. It has to moderate any conflicts that may arise, to prevent clashes between the respective parts and promote confidence between them, and at the same time defend the public and social nature of education and research. In this way, the public sector can help to set up and develop co-operation networks.

The private productive sector may represent a source of finance and dynamism for some of the university's projects, above all those in the field of research, whose fruits may be spread to the wider economic sector and to society as a whole. Its role will depend upon the main types of activities to be carried out within the territory.

Within the territory of Catalonia, the specialisation of each university must consider questions such as the type of economic externalities that we have already analysed. Through the organising action of the public sector and the leadership of each individual university, the university planning programme can foster a compatible form of specialisation with the specific characteristics required by the productive sector of each geographic area. It can thereby favour relations between universities and the productive sector, and structure processes of co-operation within the whole territory. For example, the *Universitat de Lleida* could establish a specialisation profile in the area of Agricultural Engineering and collaborate with local agrarian and agro-industrial companies. It could then co-ordinate its activity with other universities located in provinces with important agricultural sectors, such as the *Universitat Rovira i Virgili* in Tarragona.

CONCLUSIONS

In this paper we have presented a critique of the model for university extension that has been applied in Catalonia over recent years and which could be referred to

as *competitive and involving a clash of interests*. Against this reality, we have defended a new *model for specialisation and co-operation*, in which each university can define its own special specialisation profile within a general logic of co-operation and co-ordinated programming covering the whole university scene.

The university planning programme is the main instrument for advancing towards the proposed models by fulfilling four basic objectives: taking advantage of the social and economic externalities deriving from a territorial organisation based on a very dynamic network of cities and with the Barcelona Metropolitan Area as a zone of particular importance; defining a set of objective and transparent financing criteria in order to encourage co-operation and efficiency; achieving territorial social and ecological balance; and promoting co-operation between universities, the public-sector and the productive sector by creating networks of collaboration with strategic objectives.

Within these conclusions we would like to very briefly highlight two other aspects that are closely related to the subject under discussion. Firstly, we refer to some of the ways of achieving an integrated university system within Catalan territory and their possible implications. Secondly, we present some of the basic characteristics associated with the relationship between Catalonia and Spain's other Autonomous Communities.

The different possible ways of implanting universities in a given territory may range from the extreme of isolated centres with hardly any relations between them, to the existence of a single university with several different centres spread across the whole territory.¹¹ The hegemony of the competitive model favours the first of these extremes, while a co-operative type model makes it possible to reap the potential rewards of the second model.¹² Stopping short of a legal fusion of all Catalonia's universities, it seems that better programming and co-ordination would help to provide a more integrated university system.

We shall now identify a few of the elements that could help to improve university integration: the existence of a series of widely accepted and homogenous management indicators, the rationalisation of available statistical information, joint co-ordination and decision making by the different *Consells Socials*¹³ involved etc. However, a more detailed investigation of these aspects takes us beyond the basic objectives of the present work.

11. This second stance is defended by Reguant, S., "*Per un model d'organització universitària a Catalunya: una sola Acadèmia*", Barcelona, Revista de Catalunya, February 1995. On a practical level, some foreign universities already work in this way, with the University of California being one example.

12. According to Reguant, such aspects include: defining criteria for selecting teaching staff, regulating the supply and demand for university places, relations with universities located in other territories, and interactions with the educational administration.

13. Social advisory bodies

As far as the relationship between the Catalan and Spanish universities is concerned, it is important to bear in mind the special position of Spain's Autonomous Communities, which have assumed—or are in the process of assuming—a transfer of responsibilities in the field of education. The Autonomous Communities are themselves the main territorial units in which the model of specialisation and co-operation, university programme planning, and integrated university systems, are being developed.

Even so, there is a fundamental need for a minimum amount of state co-ordination involving all the different autonomous university systems. It is possible to define a series of basic objectives at the state level and then establish lower level objectives corresponding to each Autonomous Community. Put in a different way, a greater degree of territorial centralisation may offer a series of advantages with regard to: basic research; third cycle courses; criteria for contracting teaching staff; student and teacher mobility; adjusting demand and supply, etc. As can readily be seen, some of these aspects coincide with the advantages that derive from a greater degree of territorial integration.

Thus, the definition of a correct equilibrium between the centralisation of some aspects and specialisation in others must contemplate the possibility of taking advantage of the favourable elements that we have defined.

In what—from the point of view of science and technology—is an increasingly interdependent world, co-operation, specialisation, university programme planning and the centralisation of certain activities within integrated and co-ordinated university systems are fundamental considerations in the quest for a more efficient and social university offering better quality.

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UNIVERSITIES, CITIES AND TERRITORY THE CASE OF PORTUGAL

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INTRODUCTION

This paper focuses on Portugal's university spaces and seeks to investigate the different types of relations generated between universities and cities. It begins by outlining the basic geographical patterns associated with major cycles of university creation, analysing and classifying the processes involved in their original locations in cities. It then goes on to propose new ways of understanding the relationship between existing university spaces and some of the main international models for planning university and educational facilities, before finishing with a look forward towards possible future developments.

The distribution of the Portuguese university network has been largely determined by historical factors and particularly by powerful socioeconomic and political forces. On the other hand, "conceptualisations of universities" formulated by educators and intellectuals seem to have played a much less influential role. Over the last 25 years, the number of Portugal's university centres has multiplied and they have become more widely distributed throughout the country. The university has therefore ceased to be regarded as a rather strange institution bequeathed to us by posterity. Today, Portugal has fourteen public universities.

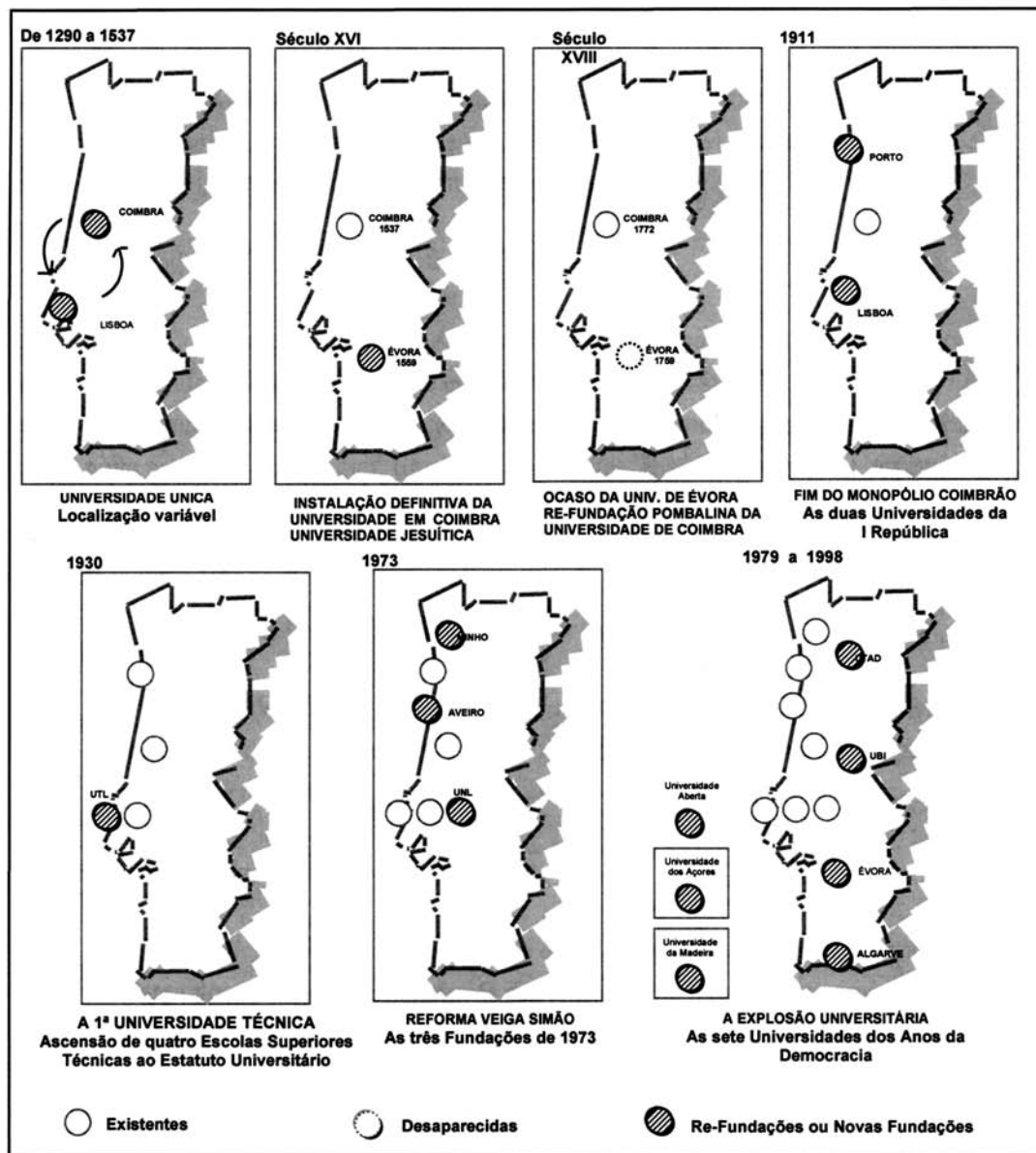
When establishing the typical characteristics of this type of institution, it is important to stress the considerable differences that exist between the largest and smallest examples: in terms of official student numbers, the former is ten times bigger than the latter. This disparity can be directly related to the age of the universities in question and their respective locations. The four largest universities are also the oldest and the universities with over 10,000 students are all located within the coastal fringe. The disparities observed between universities on a national scale are paralleled by similar disparities between different units and between their component parts; the faculties and institutes of the largest universities. In quantitative terms, some units are regarded as single universities when they are located in a single city but occupy various different campuses.

This is still the situation today, while the dynamic of the university situation is one of perpetual reorganisation.

SPATIAL DISTRIBUTION AND PHASES OF FOUNDATION

It is possible to group universities together and to identify the reasons why they were founded with reference to a series of local, regional and national influences. The establishment of universities in different parts of Portugal can be explained with reference to seven distinct periods. In fact, if we consider the configuration of

FIG. 1. *Territory and periods of creation.*



Portugal's national territory prior to decolonisation, we could even add an eighth, if we take into consideration Portugal's political presence on several continents, which was the case of its university network during the 1960's.

From their dates of foundation and locations, in figure 1, it is possible to appreciate a synthesis of fundamental periods for the establishment of universities and their relations with the present territorial organisation of the country.

The spatial distribution of Portugal's universities can therefore be summarized according to the following sequence:

First period: *the nation and a single university*

The first Portuguese university was national¹ in nature and this remained the case for over 600 years —from 1290 to 1911. Following the cited alternations, a central location was chosen in 1537; at the city of Coimbra.

Second period: *the 16th century, religion and a dual university system*

The counterreformation saw the onset of a duality marked by religious disputes. The locating of the University at Coimbra by Pope John III² was accompanied by a renewal of pedagogic contents and methods and by the appearance of a new collegiate form of organization. In 1559, the Jesuits established a new university at Évora. The two institutions coexisted for two centuries and made the university map gravitate towards the south of the country.

Third period: *the 18th century and re-concentration in Coimbra*

The initiatives of Pombal reorganized the map. The Jesuits³ were expelled and the *Universidade de Évora* was closed in 1759. A short time later, in 1772, the new statutes of the *Universidade de Coimbra* were passed: this effectively constituted the re-founding of the university.

Fourth period: *the major cities*

At the beginning of the 20th century, the logic of the size of a city's population imposed itself as a force for determining location within the university system. The realities of political and economic power persuaded the 1st Republic to put an end to the monopoly that had previously been enjoyed by Coimbra. In 1911, two cities were afforded university statutes: the national capital and the country's second largest city. This was the first time that coastal areas had received this privilege.

1. The initial moves to seek the papal concession of the first Portuguese university date back to 1288. When considering the eventual geographic location, the factors taken into account included its national character and the geographical origins of the prelates who signed the petition. In its first centuries, financial support for the University was also considered on a national scale.

2. D. Joao III's desire was for the country to have a single university that would be comparable with the most eminent centres of learning on the Iberian Peninsula (R. De Carvalho, 1986:238).

3. Despite having achieved a dominant presence at Coimbra, the Jesuits had never managed to totally control the university (R. De Carvalho, 1986:318). The initiative behind the founding of the new centre came from Cardinal Don Enrique. He requested authorisation from the Pope and this was duly granted on 20th September, 1558.

Fifth period: *reinforcing the capital's statute*

Twenty years later, the government created a second university in the capital: the *Universidade Técnica de Lisboa* (Technical University of Lisbon - UTL). This group of higher-level technical schools, which had existed since 1930, was thereby granted a university statute for the first time.

Sixth period: *accepting a colonial policy*

In the 1960's —and partly as a result of the general struggle for independence in Africa— universities were set up in the capitals of the Portugal's two largest African territories: Angola and Mozambique. These centres began their lives in 1962 as *Estudos Gerais* (General Studies Centres),⁴ with the centre in Angola and the one in Mozambique being respectively attached to the universities of Lisbon and Coimbra. But in 1968 these centres acquired university statutes, becoming the universities of Luanda and Lourenço Marques. This move corresponded to a development plan related with what was then conceived as the pluri-continental presence of the Portuguese nation.

There were differences in their different territorial manifestations: while in Mozambique, the university premises were exclusively established in Lourenço Marques, in Angola, they were shared between three cities; Luanda, Nova Lisbon and Sá da Bandeira. However, in both cases, their official seats remained in the capital cities, located on the ocean coast.

Seventh period: *reinforcing the coast*

More than fifty years passed before the creation of another new university in Portugal itself. On the eve of April 25th 1973, during the Marcellist period, the government created three new universities on the coastal fringe: the *Universidade do Minho*, the *Universidade de Aveiro* and the *Universidade Nova de Lisboa* (UNL). The statute of the capital was further reinforced with the addition of this third (and to date final) university.

Eighth period: *regionalisation and the university explosion*

After April 25th 1973, seven new universities were created in a period of less than ten years. These new centres were set up in the interior and in the archipelagos that constitute Autonomous Regions: this was the first time that university level education had been provided in most of these areas. These new universities were: the *Universidade dos Açores*, the *Universidade da Madeira*, the *Universidade de Trás-os-Montes e Alto Douro* (UTAD), the *Universidade da Beira Interior* (UBI), the *Universidade de Évora*, the *Universidade do Algarve* and the *Universidade Aberta* (Open University).

4. In February 1958, Orlando Ribeiro presented the outline "Suggestions for the study of the extension to the *Universidade ao Ultramar*" to the Senate of the *Universidade de Lisboa*. By 1960, the first vocational courses had been organised in Luanda and Lourenço Marques —now Maputo— (O. Ribeiro, article published in the *Diário de Lisboa* on 13th August, 1962, entitled "*A Universidade e o Ultramar*", a constant in the contemporary of 1964 which the author entitled "*Problemas da Universidade*". The point entitled "*Universidades de Luanda e de Lourenço Marques*" by V. Crespo (1993) focuses on the process of the creation and development of these institutions.

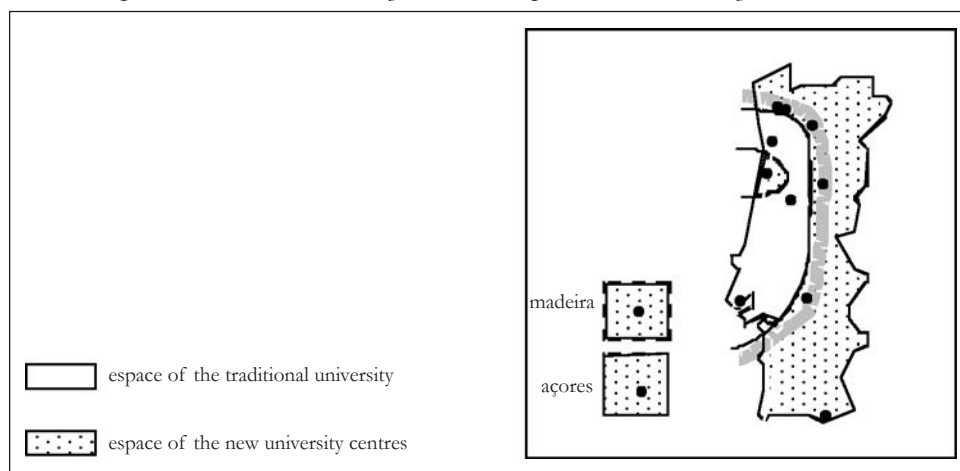
Summarising these periods in their most condensed form, it might be suggested that the founding and spatial distribution of Portugal's universities have obeyed the following logical and sequential phases:

1. They first appeared as part of a process of *national* affirmation;
2. Their consolidation was closely related to the *polarization of capital*, and the location of other *important cities*;
3. Their territorial expansion was associated with *regional development*.

The metropolitan logic was evident throughout phases 2 and 3.

In a synthetic view of the country, presented in figure 2, it is possible to distinguish between the area of traditional centres and that of the new developments.

FIG. 2. *Espace in traditional university cities and espace in new university cities.*



THE SPACE OF THE NEW UNIVERSITY CENTRES

In both areas, there is a direct relationship between the prevailing territorial orbit and the priorities of the university facilities. The first group includes universities that, in one way or another, have links that reach beyond the wider territories in which they are located. In the second group, there are much clearer logical bonds and relations with their immediate territories. For the first group, the dominant territorial bond is more national and strictly civic, while for the second, it is more regionally orientated.

There is also a ring-like distribution of university cities within the national territory. With the exception of those with coastal locations, the university cities occupy a first ring and display an off-centre location with respect to the country's transverse axis.

Let us now examine some borderline cases with respect to the proposed stages.

Rómulo of Carvalho⁵ stresses the *coincidence in time* between the creation of an *Estudo Geral* and the “final stages of the process of constructing a new European nation”. When Portugal was finalizing the definition of its frontiers, several people became aware of the need to provide the country with a new type of cultural institution similar to those then being established in some other European countries. This effectively led to the *de facto* creation of one of the first university institutions in Europe, which predated the likes of Pisa, Heidelberg, Leipzig and Leuven. The strengthening of royal authority, *political centralization* and the political security of Portugal’s frontiers, on one hand, and the reinforcement of the Church’s authority and improvements to its immense bureaucratic “machine”,⁶ on the other, both called for a well established juridical body,⁷ and this, in turn, created the need for a university.

The opposite end of the time scale is marked by a move towards the *metropolitan scale*.

This is expressed in just two cases. Other examples of the early establishment of schools or “Institutions” outside the area of the main municipality of the metropolitan area do not meet the necessary requisites of an initial focus upon the metropolitan area, understood in terms of all of the dimensions and areas that it encompasses.

The first such case was that of the *Universidade Nova de Lisboa*, whose initial locational studies—which were carried out in 1972—suggested its insertion at the scale of the Lisbon region. There was even talk of calling it the *Universidade do Tejo*. In 1974 the following alternatives were considered:

- A. Almada-Monte da Caparica (Lisboa-Setúbal axis);
- B. Oeiras-Porto Salvo (Lisboa-Cascais axis);
- C. Queluz de Baixo-Alfragide (Lisboa-Sintra axis)⁸

The present location of what is now the *Pólo da Ajuda* of the UTL was also among the options initially considered, though it was finally decided to locate it in Monte de Caparica, which in 1979 had just been reserved for UNL’s *Faculdade de Ciências e Tecnologia* (Faculty of Sciences and Technology).

The second case was that of “*Taguspark*”, which sought a similar metropolitan insertion. Three alternatives were studied in 1990:

- A. At a location near Santarém;
- B. In the municipality of Sintra;
- C. In the area surrounding the municipalities of Cascais, Oeiras and Sintra.

5. R. De Calcalho (1986:61).

6. J. Mattoso (1997:19).

7. This justified the importance assigned to the teaching of Law with respect to the other subjects taught at that time. The salaries of lecturers in this subject were at least three times greater than those of other university teachers. The majority of the students studied Law—which during the initial period of the *Estudo*, like the other subjects, had yet to be given its own “*Faculdade*” (Almeida Costa, 1997:272).

8. INEC (1974: annex).

The following year, the decision was taken to site the new university at the confluence of the municipalities of Cascais, Oeiras and Sintra, though it was finally located in the municipality of Oeiras.⁹

From these two extremes on the time scale it is possible to see that the pattern for locating universities in Portugal has been subjected to considerations related with the political organization of the national territory and the different stages of its development: the prevailing political climate has influenced the timing and the way in which university privileges have been conceded.

CAMPUSES AND CITIES

When investigating the nexuses that the campus establishes with its corresponding city, it is necessary to establish a common cartographic base. Figure 3 shows the cities of mainland Portugal and their respective university campuses. A scale of 1:25,000 was chosen in order to register the relative positions of these campuses with respect to their main cities on a series of different maps. We have used the most recently available military maps for each university city, but these do not all necessarily relate to the same period.¹⁰

Let us now return to our previous observation about the number of entities to consider. When we study the relationship between campus surface area and city area, the difference between Lisbon and the other cities is patently evident. This also holds true for the demographic weights of both their general and exclusively university populations.

The common term “*campus*” can be applied to a range of significantly different realities in terms of location, area, density, degree of consolidation, age, uses and image. All of these factors are closely related to the links between universities and the urbanistic and architectonic characteristics of their respective cities. We analysed some of the most important of these, as they were essential for the subsequent development of our research into Portuguese universities. Our studies mainly centred on the processes involved in the siting of *campuses* and the relationship between their planning and local municipalities.

9. The *Parque de Ciência e Tecnologia do Porto*, which was created at the same time as that of Lisbon, shares with it the quest for metropolitan insertion – it is spread between the Maia, Feira and Ave development areas; but it does not seem to foresee areas for degree level university education.

10. The field work relating to this set of maps was carried out around the year 1996 in the cases of Vila Real and Guimarães – the most recent works – and 1963 in that of Évora – the earliest work. The data relating to Porto, Aveiro, Covilhá and Faro is evidently outdated. All of this work dates from the 1970s, except for that Covilhá – which was conducted slightly earlier – which includes field studies from 1968. This lack of synchrony is due to the lack of availability of up to date and mutually contemporary cartographic records.

FIG. 3. *Towns and campus location*

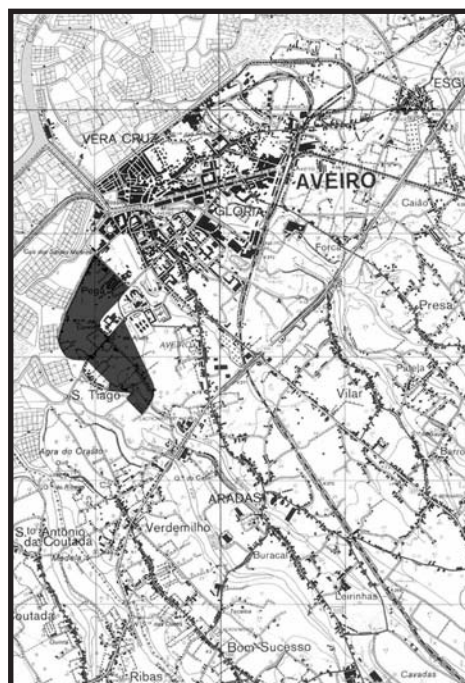
1. Braga



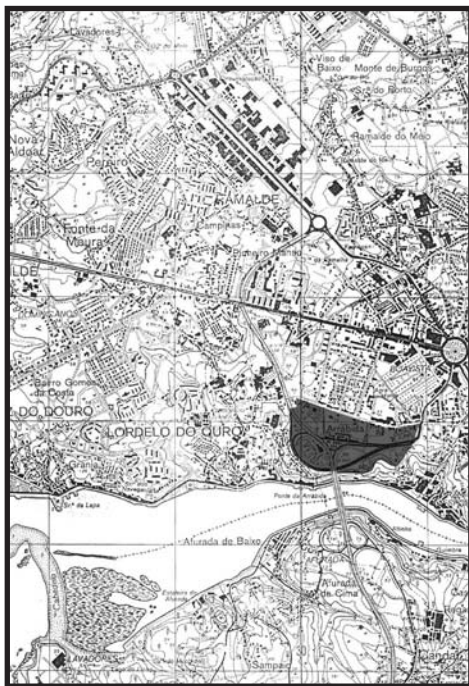
2. Guimarães



3. Vila Real



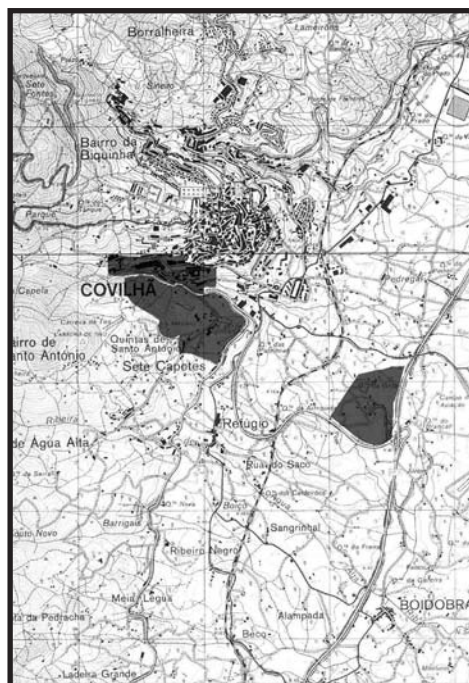
4. Aveiro



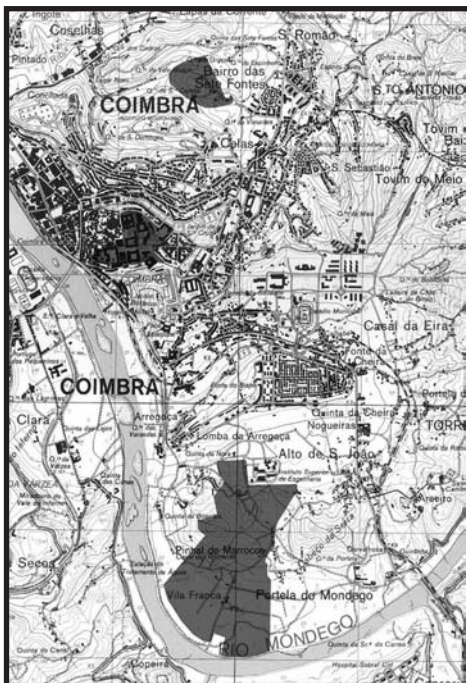
5. Pólo III - Porto



6. Pólo II - Porto



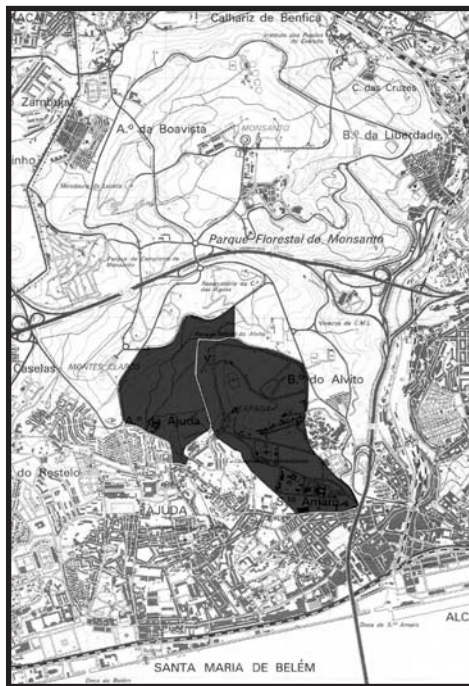
7. Covilhã



8. Coimbra



9. Taguspark - Oeiras



10. Tapada da Ajuda e Pólo da Ajuda - Lisboa



11. Lisboa



12. Monte de Caparica - Almada



13. Évora



14. Faro

PROCESSES FOR LOCATING UNIVERSITIES

Consider the process of siting a university. Is it possible to classify it? If so, what would be the different categories for the original sites of Portuguese campuses? Providing rough answers for these questions, which are presented below, implied working along the following lines:

- Identifying the history of the urban structure associated with the different campuses.
- Investigating the histories of the campuses themselves. No general history is available: there are, on the other hand, a heterogeneous series of historiographical, urbanistic and architectural works, which treat the subject in various degrees of depth and relevance with respect to the needs of this work. The vast spectrum of time scales and disciplines that need to be considered mean that history, history of art and urban history seem the best disciplines through which to study specific periods, while architecture and urbanism appear to be the most appropriate for analysing more recent periods. Even so, there appear to be precious few inventory works relating to the present period and the most recent have yet to be studied by any other scientific area than disciplines implicitly involved or associated with architectural and urbanistic projects. As a result, in some cases —and especially in the case of Coimbra's *Pólo I* (planning area 1)— it was necessary to refer to

published works, some of which were scientific in character, but also to various other types of publication produced by the universities themselves and to specialised architectural publications. In the remaining cases, it was necessary to resort to direct sources, such as specially designed and written material, and interviews with planners and those responsible for the university sites.

- A direct knowledge of the university sites and their cities (though this was rarely the case with respect to the islands, which explains why they have been excluded from the following points).

TYPES OF ORIGINAL LOCATION IN CITIES

Table 1 and figure 4 present the results obtained in condensed form.

Classifying the processes presents considerable difficulties: From what size or level of importance of a university occupation is it possible to consider it as the “motor” for the siting of a particular *campus*? Should it only respect the plans and buildings carried out, when the institution has a full university statute?

Many of the processes responsible for the creation of campuses are still open to debate, while the wide time span contemplated by this study implies considerable diversity in the processes of locating universities, due to the different historical periods in which this has taken place. Nevertheless, despite the ambiguities and hiatuses that are implicit in getting to understand the processes concerned, we decided to make an initial approach by presenting a classification that could subsequently be corrected and improved as our research progressed.

For the areas with the longest university histories, the term *campus* is a simplification and, strictly speaking, an absurdity. We simply use the term for convenience and to make distinctions with respect to other sites that form part of the same university; in those other premises the origin refers to the buildings. The classification presented below remains relevant today, once the nature of the main motor of the university site has been identified.

In this way, a distinction is made between adapted and purpose-built campuses. In this case, adaptation implies locating university functions in buildings that already existed and whose initial purpose may, or may not, have been related to spaces dedicated to educational uses. These buildings have been initially adapted and then later extended: in a second period, other new and adapted buildings, lying within a relatively small radius, have been added to them. The purpose-built location implies the establishment of buildings on land belonging to the university and specially planned for this use. The fact that there may, or may not, be pre-existing buildings and that there may, or may not, be a general plan pre-dating these constructions, are secondary considerations with respect to the longer term organisation.

Campuses are still distinguished in terms of their relative location with respect to the urban structure of their city: in the “city centre or consolidated urban area”,

“on the urban fringe or in an unconsolidated urban area”, or “outside the city”. We should stress that this is not exactly the relationship that exists today: it applies to the contemporary period in which initial location or construction took place and was evaluated on a case by case basis. Another clause makes reference to interpreting zones “within the city”, “on the fringe of the city” or “on the outskirts of the city”. An entirely objective approach, such as one based on the legal notion of urban agglomeration, had to be discarded due to the lack of reliable data and the fact that data were only available for a relatively recent period. Furthermore, the urban history and development of Portugal’s cities shows no signs of even a minimal degree of homogeneity. Changes in the conception of the urban agglomeration and the legal statute of the periphery —planned, approved, ratified— and the fact that the perimeter does not always correspond to the urban continuum in the way that it is perceived, mean that it would be inappropriate to apply these criteria to the context of this study. We therefore opted for an unavoidably subjective and approximate interpretation of the area occupied by the urban fabric consolidated at a given time, which was based on data presented in the form of cartographic records and/or aerial photography, whenever such documents were available, and also upon other indicators of Urban History, such as published texts and the testimonies of contemporary witnesses.

We observed a predictable correlation between adaptation and a central location within the city, on one hand, and purpose built structures and location on either the urban fringe or outside the city, on the other.

Most of today’s campuses are the result of purpose-built developments on their own lands: they are the direct consequence of the antiquity of the majority of the universities and of the policy governing contemporary university space and respective location. Within this group it is possible to distinguish between developments since 1973, the year in which the great university expansion began – which are the ones most similar to the strictest concept of the *campus* –, and developments prior to this date that, having been the first to experiment with campus formulas, have been attributed great historical importance within the genealogy of Portuguese university space, despite the diversity of their successes and failures. As previously mentioned, they are located on either the urban fringe or in consolidated areas of the city.

There are only two cases of purpose built sites located completely outside the city: the Monte de Caparica campus of the UNL, whose plan dates from 1977 and whose construction began the following year; and the case of the component assigned to the UTL, the *Instituto Superior Técnico* (IST), and the *Instituto de Engenharia de Sistemas e Computadores* (INESC) of the *Parque de Ciência e Tecnologia* of Oeiras, whose initial plan dated from the early 1990’s and whose exclusively university related construction – the IST block – was begun in 1998.

Among the oldest locations there are no examples of purpose-built facilities at the initial stage of location.

As with the first group, in these cases of “adaptation”, it is possible to distinguish between developments prior to and after 1973. The areas occupied by the universities as development areas or campuses —the *Pólos I* of Coimbra and Porto— are the product of their respective continuous occupation by university or university-related buildings from the 16th to 19th centuries.

In the case of those developed after 1973, there are a group of locations, which share the common feature of having chosen central premises or a consolidated area of the city, but that have assumed a diverse range of forms: from the mere preference for the premises, as a gradual substitution of precarious buildings by purpose-built constructions, as in the case of the *Faculdade de Ciências Sociais e Humanas* (FCSH-UNL) in Lisbon’s *Av. de Berna*, passing through the reuse of a distinguished historical building, followed by an extension of land, as in the case of Campolide in the UNL itself, to other situations involving a deliberate choice of premises and architecture, whether this was, or was not, followed by an expansion involving new neighbouring buildings, as in the cases of the *Pólos I* of Covilhã and Évora and of Lisbon’s *Instituto Superior de Economia e Gestão* (ISEG-UTL).

This group of cases reveals a new tendency with regard to Portugal’s university space, in which, with varying degrees of success, a new form of structuring is tested in relation to the conditions imposed by the limitations and previous conditions of these areas, on one hand, and the architectural and urbanistic demands of modern university facilities, on the other. This tendency can be synthesised as a “return to the city”.

Its force of persuasion has grown: one sign of this is the *Universidade de Coimbra*’s growing awareness of the need to rehabilitate its central space, which lies within the city. Having begun a project that tended towards the re-location of some faculties and the reconditioning of part of the university city,¹¹ it later extended this process to the whole city centre and to the structuring of this the area as a surrounding city,¹² involving the local *Câmara Municipal* of the time in an operation that involved the re-qualification of the building and of the associated public spaces.

In such cases, we do not only see the motor responsible for a process, but a careful consideration in the choice of premises and a persistent attitude. Shortly afterwards alternative uses are presented for the buildings abandoned by universities, in the case of universities that contemplate constructing new buildings on peripheral campuses. While on the other hand, some schools with seats within the consolidated fabric of the city are in a phase of expansion and look for alternatives, which may, and should, include the acquisition of buildings with some patrimonial value that

11. *Universidade de Coimbra* (1997).

12. “*Plano de Pormenorizado de la Alta Universitaria*” (Detailed plan of the Higher University). *Universidade de Coimbra*, architect Gonzalo Byrne (1998).

lie in the vicinity of their existing seats and their rehabilitation for university uses. In this way, the universities contribute to an increasingly necessary urban policy that involves the re-qualification of degraded areas of the city and building complexes. The reuse of former university buildings is an alternative, but not a very common practice —as clearly shown by the case of the *Pólo I* of the *Universidade do Porto*. The *Plano Director da Cidade do Porto* (General Management Plan for the City of Porto) of 1962 went as far as foreseeing the transfer of all existing institutes, faculties and schools to what is now the city's *Pólo II*,¹³ and even in 1979, there was talk of transferring the *Reitoria* (central building) to what is now *Pólo III*.¹⁴ A new attitude with respect to built patrimony would no doubt bring Portugal's university space policies into line with *mainstream* thinking.

The process of initially locating university functions in existing buildings has a long tradition in Portugal. The primordial and mythical space of the Portuguese University is nothing more than the appropriation and transformation of a military parade ground and a small royal palace, and for this reason it derives an added value from its unusual location on the top of the hill that overlooks the city. Particular reference should be made to the *Pólo da Mitra* of the *Universidade de Évora*, which constitutes a unique case in that it occupies a site outside the city, yet at the same time is a result of a process of "adaptation" in the sense previously described above.

The salient points in these observations are the first signs of a theorisation or clear confrontation of doctrines relating to university space, and the asymmetry between the ways in which university institutions act when applying policies that affect these spaces. This asymmetry is partly justified by variations in the relative weights of the factors that condition urbanistic and architectonic decisions. The case of a mayor university located in a metropolitan area, pressured by sheer weight of numbers and the need to compete for valuable, yet limited, space with other public and private institutions is considerably different from that of a recently established university located in a small city, which becomes its *main* institution. In the latter case, the university may assume a significant role in the local hierarchy as the main source of employment in its urban centre. The availability of land plays a decisive role in such cases. Even so, the previously mentioned situation, in which there seems to be an absence of —or at least a lack of evidence of— any form of generalised doctrine or systemisation according to which the universities as a group can manage their *performance* and intentions, still remains valid. In a few cases there is a certain consistency in design, which substantial changes to the previously mentioned purposes —of functions, locations and architectural intentions— may modify and which may be simultaneously accompanied by other improvements in the quality of the urban project and its architecture. On the other hand, in certain universities, there are signs

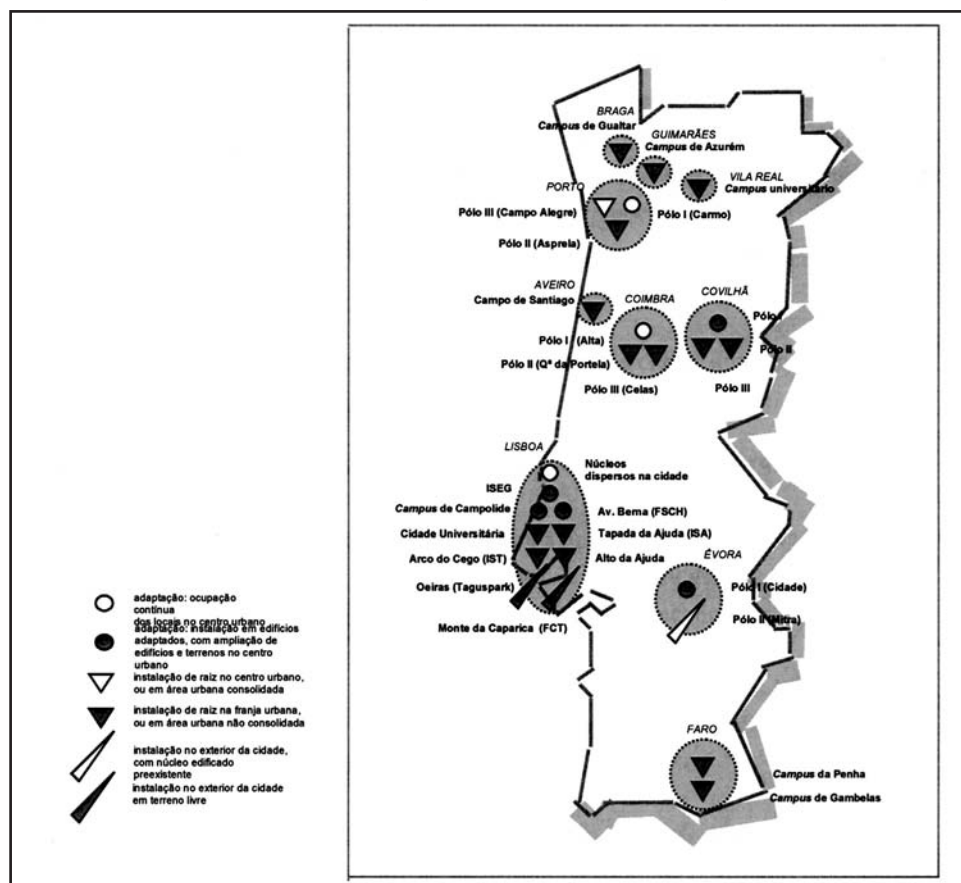
13. Tasso de Sousa (1995:18).

14. Cf. Roteiro Académico – 1979, Universidade do Porto (1979).

of a certain hesitance when it comes to considering medium and long term spatial policies: as if pragmatism were triumphing over other considerations. The very difficulties inherent in classifying locational processes are a direct consequence of this. This does not refute the fact that considerable efforts have been made to create appropriate living and operating conditions, to assess the unique nature of Portugal's integration within the European Community and to take advantage of the specific aid that this offers for the field of education. It simply implies that the pressure to meet the established deadlines for obtaining financial support, combined with the effective decentralisation that resulted from the *Lei de Autonomia Universitária* (Bill for University Autonomy), effectively fragmented initiatives and think tanks, thereby reducing to the *national scale general* interest in the problems associated with a public works project on such a large scale as that currently being undertaken.

Observe the territorial distribution of the types referred to above, which —as observed in figure 4— are organised on a city-by-city basis. It is necessary to stress

FIG. 5 - Territorial distribution of the types of original location of campus by cities.



the previously indicated, and indeed predictable, predominance of campuses on urban fringes or in non-consolidated urban areas in the case of the most recently founded universities: the greater diversity of types found in Lisbon with respect to other Portuguese cities was also predictable. The diversity of types related with different cities is the most evident fact. The structuring between types is reasonably specific from city to city, and constitutes an important factor when it comes to defining both the personality of a particular city and its university seat(s).

In the relationship between the planning of the campus and the city, the degree of cooperation between the university and its respective city council varies greatly. This ranges from mutual indifference—which causes a certain degree of conflict—as in the few cases in which the campus is a totally defined and closed entity with respect to the surrounding urban fabric, to very close collaboration, which can reach the extent—as in the case of Guimarães—of the municipality's own technical services assuming responsibility for drawing up the plan for the campus. If we examine this question from the stance of municipal policies, the diversity of the relationships with the University appears even greater.

Considering all of these questions together, we can say that city councils interact with their respective universities in the same way that they deal with all other large scale projects of an exceptional nature; casuistically. The opportunities for innovation, that are implicit when there is such an absence of norms and so many points remain undefined, can be capitalised upon by both parties (the university and the municipality) both to their respective advantages and to the ultimate benefit of the quality of the urban environment that they both share. However the absence of a clear doctrine and philosophy of university space that is capable of transcending the know-how of each individual university and the urbanistic priorities of each municipality tends to reduce the dimension and impact that such innovations could potentially have upon the Portuguese city.

The panorama of the relationship between the planning of the campus and the city in modern day Portugal therefore presents an extremely wide spectrum of different ways of organising space.

UNIVERSITY SPACES AND INTERNATIONAL MODELS

It is possible to establish a correspondence between urban relationships and the organization of *campuses* and some pedagogic, university and urbanistic models. The scheme outlined below tries to give a general overview of the different typologies found in modern day Portugal.

1. There is only evidence of one example of the model associated with *European university cities of medieval origin: Pólo I at Coimbra*.
2. The model for *Grandes Escolas e das Faculdades napoleónicas ocupando palacetes ou quarteirões* (*Grandes Écoles and Napoleonic Faculties occupying small palaces or blocks*) within the city,

originates from the construction of buildings for university uses in Lisbon and Porto both throughout the 19th century and in the early 20th century: the *Escola Politécnica de Lisboa*, the *Academia Politécnica do Porto*, the *Escolas Médico-Cirúrgicas* (Schools of Medicine and Surgery) of Lisbon and Porto.

3. The *American campus* model is not found in any Portuguese campuses. So far, it has only appeared in plans that were either never, or only partially, put into effect. These include the intermediate plans for the *Cidade Universitária de Lisboa* and, to a lesser degree, the original plan for the Porto's *Pólo II*. The fundamental characteristics of the model – large scale, diversity of uses, the importance of the residential function and sport facilities, a landscaped park-type location with an extensive green belt zone and spatial segregation – did not finally arise in anything other than a dissociated and very punctual way. Something similar is likely to occur with the pre-project for “Taguspark”: its ordinances contemplate the desire to assure environmental quality and to seek a location in a continuous landscaped green belt area, but the residential component of its university area was greatly reduced.
4. The *New English Universities* model applies to the first plans drawn up following the onset of university expansion: those for the *Universidade Nova de Lisboa* in the early 1970's and the campuses of Braga, Aveiro, and Gambelas in Faro – in the late 1970's and early 1980's. As far as their quantitative component is concerned – indexes and areas recommended for scientific areas – it could be said that this has been the dominant model for programming all of the universities to the present date. In the process of adapting it to Portugal's model for pedagogic institutions, the residential, sporting and social components of the English models were either retired or considerably reduced.
5. The model for *revitalising the city centre* focuses on the previously cited locations of the *Pólos I* of Évora and Covilhá, the ISEG, the FCSH and the Campolide in Lisbon and the new plan for the *Pólo I* at Coimbra. The *recovery of historic buildings*, which has more limited objectives due the fact that it only affects individual complexes, is consistent with this general tendency, as it also encourages the rehabilitation of the surrounding areas. These actions may affect various different parts of the city.

FINAL CONSIDERATIONS

We started by establishing an initial cartography of the physical space occupied by the country's university institutions. We then examined different hypotheses relating to territorial relations: the city appeared as the main organism involved in the spatial connections that are relevant to Portugal's universities.

The fact that the university continues to see itself reflected in the city that hosts it, is a consequence and development of the deep roots that the two share and that

date back to their common medieval past. The university is an institution that is essentially European in origin and thereby conservative by nature. The validity of this particular tradition —the close relationship between university and city— must be contemplated in the light of the threat that hangs over the spatial and social specificity of the European city: the explosion of structuring amenities and infrastructures in their *hinterlands*, the social segregation and loss of the public character of their main meeting spaces. The result for the city —just as it was constructed over more than a millennium of European history— has been that most of its constituent fabric can be travelled on foot and that it has retained a number of relatively small spaces dedicated to contemplation and study, which make it a privileged place for the purposes of meeting, discussion and the intensification of intellectual life, all of which are typical characteristics of the University. The fact that this symbiosis remains very much alive in today's Portugal, should be analysed and regarded as something positive and allow the foreseeable expansion to be carried out with and in a way that protects the added value that this privileged relationship bestows upon both the university organism and the city itself.

The fact that the university is presently going through a very dynamic phase, which has produced an unprecedented growth in its buildings and the urbanisation of its own environment, has provided an opportunity for reconsidering what is being built and how this is being done. The next stages in the expansion of existing locations and the construction of new campuses will probably receive less funding from the European Community, which is now occupied with the task of extending its territory towards the east. This fact, in itself, should be sufficient to justify or embark upon a *new phase* in the construction of Portugal's universities, which are now working on the formulation of a medium term strategy.

This study stresses the vitality of the civic tradition of Portugal's universities. Faced with the prospect of a future retraction, it is predicted that the main volume of work will be increasingly associated with the consolidation of existing groups of buildings. It is also desirable for efforts to concentrate on the reformulation and improvement of relations between each peripheral campus and its respective city through a continuous urban "potenciator" that works to create better living conditions for the university's users and the local citizens in general. This will be the moment at which to revalue and complete the campuses and to promote connections between these spaces and the urban fabric, with the inevitable involvement of the municipal authorities.

As far as the new development areas and campuses, that must be constructed *ex nihilo*, are concerned, will the ex urbanising strivings prove sufficiently viable to impose their logic? The long decades that Portugal's major university developments have required in order to be able to offer living conditions minimally similar in quality to those of the traditional city should be reflected in the extra-urban option.

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THE URBANISTIC AND SPATIAL DIMENSION

THE CAMPUS OR BACK TO THE CITY? CITY-UNIVERSITY SPATIAL RELATIONSHIPS

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INTRODUCTION

The university has not always been urban. In ancient Athens, it was divided between the Academy of Plato, the Lyceum of Aristotle and the Garden of Epicurus, all three of which were located outside the city centre.¹ Etymologically speaking, the university is the community (*universitas*) of masters and pupils. Initially it did not have its own premises. The term university gradually developed from its designation of this community of masters and pupils to signify the institution itself and its premises.

From the very beginning of its history, and continuing up to the present time, the university has provided:

- complete training, not limited to the learning of wisdom but which includes a critical dimension and teaching with professional ends that involves the passing on of institutionalised knowledge;
- centres in which knowledge is extended as it is taught, and others where it is only taught;
- teaching that overlaps with the city, in which training is not only in the hands of the masters, but also stems from dealing with the city, taking part in social matters and an education that is physically distanced, in which the masters impart certain rules for life and of behaviour as well as knowledge;
- centres of learning in the city in which the scholar divides his time between his place of study and life within that society, which are fully integrated with the needs of the time, as well as other enclosed places, at a distance from the city, in which the scholar obeys certain norms and is isolated from the outside world.

These four dimensions are not independent, although they should not be confused. The campuses of the great American universities, for example, propose research at the same time as teaching, but are distanced from the city and function as closed

1. GENESTIER, Philippe. "L'université et la cité", pp. 1-45 in MERLIN, Pierre *et alii*, *L'habitat des étudiants en France*, Marne-la-Vallée, Institut Français d'Urbanisme, Laboratoire Théorie des mutations urbaines, 1991, 427 p. See also: GENESTIER Philippe. "L'université et la cité", pp. 22-46 in *Espaces et sociétés*, n° 80-81 (Villes et universités), 1996.

centres. The British *college*, whose campus model was inspired in the ancient model, enjoyed greater integration within the city –the Mediaeval university often was the city— although it had its own rules, which converted it into a closed universe. The majority of European university campuses (in particular those in France and Spain) are distanced from the city, although in these cases the institution does not provide any kind of education that is complementary to training and constitutes a closed universe without rules of any kind, and without the student finding therein a self-sustaining way of life: few students actually live-in this type of institution, and all escape the place as soon as they have fulfilled their obligations.

Society cannot ignore the repercussions of the training systems that it adopts, and it cannot neglect the fact that these depend to a great extent on the places where such training takes place and how such places are equipped. Reconsidered in this way, urbanism is not merely limited to certain technical options, but has consequences which, in turn, have significant repercussions on social organisation.

In an age in which higher education has become available to the masses, which in the developed countries of today implies the majority of young people, it is necessary to begin by reflecting on the objectives that must be assigned to these higher education establishments, the place that they occupy in them, and the different infrastructures that will allow them to fulfil their purpose.

THREE MODELS FOR ESTABLISHING UNIVERSITIES

Although it is not exhaustive, we can propose an outline of the relationships between the city and the university based on the three models, implicitly referred to above: the Mediaeval university, the American campus and the European campus.²

The Medieval University

The Medieval universities followed on from the ecclesiastical or monastic schools which had, in turn, replaced the great libraries of the Hellenistic and Roman ages (such as Alexandria). The proposal of the first universities (Bologna, Paris, Oxford) was to bring together centres of wisdom and training, making them independent of the bishops, although under the prestigious, if distant, power of the Pope (Medieval universities were founded by Papal Bull or pontifical dispensation). These universities, as underlined by Georges Duby, were true professional associations, sworn corporations of masters and students, which gathered together hundreds, or even thousands, of students in various, although limited, centres. These associations were inter-linked

2. MERLIN, Pierre. *L'urbanisme universitaire en France et à l'étranger*. Paris: Presses de l'ENPC, 1995.- 416 pages.

throughout Europe, exercising a true *de facto* cultural monopoly and spreading wisdom, with an ideological undertone, which in turn had an influence on the political world. Although they asserted the independence of the masters and their wisdom, these universities were in fact protected by pontifical authority and were founded on the initiative of bishops and princes (or in some cases by the cities themselves). In the two cases in which they were established within the city, in the second they were less concentrated than in the first, and were considered as a means of reconstituting the elite classes of civil society, as opposed to the first case, in which they shared the intention of setting themselves up as local centres.³

Once granted charters or statutes of constitution, Medieval universities proclaimed their own autonomy. This meant that they were self-governing and that the power lay with their professors (as in Paris) or, on occasions, with the students (as in Bologna). Their pedagogic autonomy led to the awarding of diplomas after examinations had been sat (*licencia docendi* or doctorate). Legal autonomy established the university franchises, which went so far as to subject professors and students, even in relation to actions perpetrated outside the university, to their own internal justice. Such particularities inevitably led to frequent conflicts with the local population and municipal authorities. In the case of very violent confrontations, universities were occasionally obliged to withdraw to other locations (as was the case, in 1316, of the University of Orleans, which moved to Nevers). The most extreme case of independence was that of the University of Bologna, the oldest university of all, which was founded in 1205 in a free city. The premises (library, amphitheatres, laboratories, observatory, etc.), were regrouped to the north-west of the fortified city, little by little forming a true university quarter, although lacking any kind of planned structure.

At Oxford, following the partial withdrawal to Cambridge, it was the autonomous colleges (the university was nothing more than a federation of such colleges), that took root and established themselves in the city, fully integrating themselves in the existing urban fabric. The same thing happened at Salamanca, and later at Alcalá de Henares, Leuven, Uppsala, etc. where universities were founded in previously existing towns or small cities, in which their presence would make a profound impression.

Despite being very proud of its independence or its franchises, and regardless of how compacted it appeared to be within the city, the Medieval university had few teaching centres. In Paris, the Latin quarter –i.e. the area where Latin and not Medieval French was spoken– was on the threshold of the city itself, and at some distance from the centre and the cathedral. It had, however, been built up without any cohesive plan, with the somewhat haphazard construction of one building after another. The main colleges were built alongside the teaching centres, in which some of the students found lodging. Unlike at the colleges at Oxford (and later at other

3. GENESTIER, Philippe. "L'université et la cité". *Op. cit.*

British Medieval universities), an education was not in any way guaranteed. Most of the students, however, lived in the hostels or found lodgings with one of the local parishioners. Despite the generally poor quality of the residences this situation represented an important source of income for the local population, even though the risks of conflict were multiplied. Teaching took part in a variety of locations, often in the lodgings themselves. The first colleges for which grants were awarded were associated with a certain type of patronage. In Paris around fifty cases of this kind were known, the most famous being the one founded by Robert de Sorbonne in 1257 which took in students of humble origins. In the 14th century, the number of residences multiplied, with masters taking in up to twenty students and the convents taking others. In the opinion of Serge Vassal, “student accommodation was the first urban development problem that the universities had to resolve”.⁴ The students were grouped together into “nations”, depending on their province or country of origin (this system still exists today at the University of Uppsala).

In the 13th century, the Holy See strictly controlled the number of universities. Their proliferation in the 14th and 15th centuries, particularly in the south of France—a region that was loyal to the Avignon papacy—came about through the need for training required by princes (for their collaborators), by bishops (for the clergy) and even by merchants (for their children). The autonomy of the universities, in particular in the judicial field, was to a great extent surrendered in exchange for royal protection. In short the universities became popularised and underwent a conservative transformation, when they were absorbed by the powers that be and the aristocratic oligarchy.

Today some universities with Medieval origins, in particular those in the United Kingdom, have conserved a great deal of their original characteristics. Founded—with the exception of La Sorbonne—in towns or small cities they have shaped their environment and constitute one of the most important aspects of the town or city itself. Nevertheless this has not prevented such towns from developing of their own accord: Oxford is a centre of the automobile industry and Cambridge is the home of scientific estates (many of which are related to the colleges), etc.

The American campus

The term campus comes from the Latin and means “field” or “wide extension of land”. A campus can be defined as the land on which the buildings of a university are built. Today the term has a specifically university connotation, to such a point that it is considered almost a redundancy to talk of university campuses, even when it can be applied to land reserved for other purposes such as, for example, medical activities.

4. VASSAL, Serge. *L'Europe des universités* (thèse). Caen: Editec, 1988, 627 pages.

The notion of the campus has, for a long time, been closely linked to American urbanism; since the 19th century, or even the end of the 18th (Princeton, Chapel Hill). At that time, the model that inspired the founders of American universities was the British college, with its combination of education and training and residential accommodation, whose buildings and green spaces formed a community in its own right, where educational value came not only from the teaching, but also from the way of life enjoyed there and the aptitude that such open spaces tended to favour.

It was according to this logic that the first campuses were established in the United States, after its independence, when the country was no longer prepared to make do with colonial high schools (some of which were converted into the universities that formed the famous *Ivy League*). As we have already mentioned, these colleges were designed following the British model. At the time a debate arose between those who were in favour of intra-urban sites and those who preferred to locate campuses outside cities. The second option, strongly defended at that time, resulted in the construction of university residences (dormitories) alongside the university centres. The American anti-urban tradition determined this preference for rural sites, given that it was assumed that this would transmit beneficial effects through contact with nature, while also avoiding the pernicious effects of the promiscuity and debauchery found in the cities.

The *Morrill Act* of 1862, providing federal land away from the city centres for the creation of high schools and State Universities, was the starting point for the development of the university of the masses, almost a century before this occurred in Europe. It also made the campus the predominant model for American universities. These were the so-called *land grant universities*. University planning was placed in the hands of F. L. Olmsted (who took charge of some twenty or more projects, including the campus at Berkeley) and the followers of the Paris School of Fine Arts (the mass planning method). The figure of the *campus planner* first emerged at the end of the Second World War. The predominant idea of the time was that the university, established on its own campus, would constitute its own city, an idea that is certainly open to question.

It must not be forgotten, however, that since their first appearance, the surroundings of a great many campuses have undergone considerable change and development. Many of those initially set up on the outskirts of cities, or even in the country, have since been restructured and absorbed by urban expansion (as is the case of Berkeley). As a result, it is now difficult to distinguish the urban campuses from those that were not originally planned as such. Furthermore, American campuses have not always been the result of planning. In the 1950s, at the start of a period of rapid growth (between 1953 and 1980 demand grew five-fold) the majority of campuses were not based on a development plan of any kind. This did not happen until the 1970s, firstly from the perspective of expansion (the creation of new campuses and the extension of those already in existence) and later due to internal rehabilitation (after

1980, approximately) and changes of image. The promoters were private companies or, as in the case of public universities, the State and they could directly take charge of construction work or provide grants to companies for this purpose. Whatever the case, from that time on most of the universities could count on both planning and construction services. Henceforth the role of Federal Government was reduced and limited to the awarding of grants for projects of particular interest.

The European campus

The American notion of a campus was exported to Europe after the Second World War, when rapid expansion—in the case of some universities—made it necessary to acquire land, which was only available on the urban periphery, in order to set up badly needed scientific departments. Thus the notion of campus came to be associated with sites outside, but connected to, the city, on land that allowed buildings to be spread out. The French projects from this period of rapid expansion were specifically inspired by the American model, although they did not manage to reproduce such a particular style of life, the “*raison d’être*” of the American campus, as had occurred with the British colleges.

In the majority of western European countries the 1960s was a period of rapid proliferation in terms of student intake. The number of university centres in France alone multiplied fivefold between 1954 and 1974. In these two decades the State made a colossal financial investment in higher education. Senior (literary, legal and scientific) colleges were added to the sixteen 19th century universities. In contrast to the original projects, these colleges took on functions of second level training and were later brought together to form new universities in small cities and large towns. New centres were also founded in the Paris area and on the outskirts of the city, while the old university in the city centre was divided, in the wake of the events of 1968 and the introduction of the new law, into seven separate universities. The specialised schools and, above all, the University Institutes of Technology, were subsequently spread out even more and covered the whole region. This dispersion, together with the delay in the construction of student residences, favoured locally based student enrolment, particularly in recently created centres.

The university expansion of those years was associated with a type of campus that was dubbed “*à la française*”. There were various reasons for this: on the one hand, due to influences from the United States and to a lesser extent from the United Kingdom; and on the other, due to the influence of a preponderance of Modern Movement theories and in particular the “Athens letter”. Apart from these implicit influences the debate was also fuelled by more mundane arguments. The following considerations all provided arguments in favour of the external campus location:

- a) the need to provide scientific laboratories which required a lot of space;

- b) the multiplication of student numbers, which could no longer be covered by the construction of a few buildings integrated within the city centre, nor by those found in the inner periphery of the city;
- c) the availability of suburban land that could, in the case of urgent need, be quickly bought into use and was also much cheaper than trying to acquire similar land in the city centre where the process could easily have taken several years;
- d) the possibility of bringing all of the buildings together on a large site on the outskirts of town, and at a site that was not in demand, in urbanistic terms. Likewise, funds could be set aside with a view to further expansion and, in particular, it was possible to build on campus, thus providing facilities in close proximity to and including: teaching centres, university residences, restaurants, sports facilities and any other types of facilities that it was difficult, or often impossible, to imagine in the city centre;
- e) a virgin site which allowed the university centre to draw up a rational plan: the surrounding area could be integrally planned within an urban setting on the basis of the university's needs. This virgin setting would also provide a greater level of quality than anything that could be achieved in the city centre;
- f) the isolation of a semi-rural setting was more favourable in terms of providing good working conditions than the hurly-burly of a densely populated city centre;
- g) accessibility, particularly by car, would be greatly improved.

The arguments against such campuses were:

- a) it was possible to take advantage of a great many buildings in the city centre that had been abandoned by their previous owners who had already moved out to the periphery;
- b) in overall terms, campus unity was a myth, as relationships between the components of a university are often very inconsistent and bringing them together on a unified campus would not change this reality;
- c) working conditions would be more favourable in city centres as students would be closer to cultural facilities such as city centre libraries;
- d) the environment of the historic centre was seen as, at least, as pleasant and much more prestigious than that of semi-rural and often abandoned areas;
- e) the more the university was immersed in its urban context the more influence it would have on its environment.

However the arguments in favour of separation won hands down, although certain distinctions must be made:

- a) certain campuses were planned in, or close to, city centres, as had been the case at the end of the 19th century in the majority of the UK's *civic universities*;
- b) some campuses were designed to be integrated into new neighbourhoods then under construction: this was the case with the Toulouse-Le Mirail (Candilis, Josic,

Woods) and the Villetaneuse university project (which was never carried out) and also with the two campuses at d'Annappes and Flers, around which the Lille-Est new town was later built (which was subsequently known as Villeneuve d'Ascq);

- c) the majority of the campuses of the period were built on the outskirts of the city and have since remained isolated either because urban integration failed (Orléans-La Source) or because, in most cases, it was not even considered (the campuses of Grenoble-Saint Martin d'Hères, Bordeaux-Talence, Dijon-Montmuzard, d'Angers-Belle Beille, Amiens-Salouël-Saleux, Rennes-Beaulieu, etc).
- d) certain of the scientific campuses are worthy of special mention: the best received, generally speaking, were the high schools such as the Polytechnic School of Palaiseau (166 hectares), although it must be admitted that in these cases sufficient means were made available to ensure quality architecture, offering good facilities (in particular for sports) and creating a pleasant, initially flat, rural environment;
- e) and finally, we cannot ignore the fact that the towns and cities in which the old universities chose the campus solutions have also conserved their central buildings (often for humanities, human sciences and economics and law faculties).

Thus, by way of a double transposition, the Medieval British university was transformed into the "*campus à la française*", despite the fact the two concepts appear to have little in common. In this case, it is possible observe the negative effects of the desire to transpose and assimilate models whose cultural foundations are often very different and therefore difficult to combine.

Some other European countries have undergone a similar evolution. In the United Kingdom, the Medieval universities (Oxford, Cambridge and three Scottish universities), were complemented in the 19th century by the *civic universities* (established in cities such as Durham, London and Manchester), which and also known as *redbrick universities* because of the dominance of this building material. Of the other British universities, some (29 out of 49) were founded after the Second World War and the others were built in the 1960s. The latter were called *greenfield universities*, a reference to their setting, as they were mostly located on campuses on the outskirts of towns and small cities. Most of these formed part of the 1963 Robbins Plan. This defended the principle of a large scale expansion of higher education and its diversification (including the creation of *polytechnics*, which were later converted into universities in 1992). We must, however, underline an important difference in French policy in this area: most of these new universities were sited on the outskirts of average sized towns and local student recruitment was not a significant aim. The provision of university residences was therefore significantly developed and their role went significantly beyond simply providing for lodging requirements: they also had to play a role in integrating students into the university community. This integration, which tended to take place through the halls of residence and the associated sporting and cultural facilities in the British case, was often left in the hands of the *Student*

Union. In the UK, it was also part of the process of leaving the family home that university life was intended to contribute to: in the UK it was supposed to justify the tradition of students enrolling with higher educational establishments located outside of their native cities and away from their family homes. This tradition was, however, lost to a large extent with the establishment of the *polytechnics*.

In the Netherlands, the most recently established universities have also been built on campuses on the outskirts of the main cities (for example, the University of Brabant in Tilburg) or even as urban campuses (the Erasmus University in Rotterdam), while the older universities have set up their own campuses on the outskirts of cities (as in the case of the De Uithof campus of the University of Utrecht).

In Belgium, various universities moved to new campus locations: this was the case in Liege (with the new location being on a hill overlooking the city) and with the Free University of Brussels (located in the town of Nivelles, 30 km. south of the capital). Nevertheless, the University of Louvain-la-Neuve, which was created at the same time and as a result of the obligatory transfer of teaching in French from the Catholic university of Leuven, formed part of a new town: it formed the nucleus and "*raison d'être*" of the new town and constitutes an exception of great interest.⁵

Recent universities established in Sweden have also been built on campuses on the outskirts of cities (at Karlstad and Lulea). The older universities chose to expand further away from historic centres. This was the case of the urban campus of the University of Stockholm, at Frescati, to the north of the city and also that of the University of Uppsala, which was located on a privileged axis on the outskirts of the city. The Technical University of Delft, in the Netherlands, also followed similar locational criteria.

In Spain, the majority of recent projects have also been built away from city centres. This can be seen above all in the case of Madrid, where the beautiful Moncloa campus, which was originally planned in 1927, is now the home to the majority of the Complutense University (which also occupies the Somosaguas campus, further to the west) and also to both the Polytechnic University of Madrid and the National Open University. Likewise, the campus of the Autonomous University of Madrid was established some 15 km to the north of the city (at Cantoblanco) when it was founded in 1968. Rehabilitation operations have also taken place in Spanish universities located in historic centres (as in the case of military buildings on Las Ramblas in Barcelona and a former tobacco factory in Seville, etc.) or on the outskirts of cities (as occurred with the Carlos III University and the rehabilitation of former bunkers in Getafe and Leganés).

5. WOTTRIN Michel. *Louvain-la-Neuve, Louvain-en-Woluwe, le grand dessein*. Gembloux (Belgique): Duculot, 1987.

During the period of most extensive university growth, mainly in the 1960s and 1970s, the majority of developed countries adopted the campus solution, with the American model being either implicit or explicit. However, the model itself has also evolved over time, as there are notable differences between the campuses of the great and most prestigious universities, such as Princeton, Stanford and the MIT, and those of the state universities. The key to this change appears to be associated with the site chosen for the student halls of residence. In the first cases, campuses appeared and developed in a systematic way and life on campus took on an educational dimension which, as with the colleges of British Medieval universities, went beyond merely training functions and the imparting of wisdom. In the second case, in which halls of residence are less frequent, this traditional aspect of the university mission appears to have been relegated to a secondary role. Likewise, there are profound differences between the different campuses of the European universities. The majority of French universities are pale caricatures of the American model. Even in those cases in which student halls of residence have been installed on campus along with sporting and cultural facilities, collective life is almost non-existent and the students do not really take over the space and make it truly their own. Through the protagonism of the student halls of residence, British *greenfield universities* have, however, attempted to conserve at least part of the tradition inherited from the Medieval universities.

Significant differences can also be observed within a single country, as clearly seen in Spain. If we take Madrid as our example, we find that the Moncloa campus (mainly on account of its siting at a prestigious location close to the palace of the same name, but also because it is easily accessible by metro) possesses many of the virtues of the great American universities, while Cantoblanco is more reminiscent of French campuses, and Getafe and Leganés have found it difficult to integrate themselves into the system on account of their rather unattractive urban environments.

WHAT KIND OF URBANISM IS APPROPRIATE FOR THE "UNIVERSITY OF THE MASSES"?

The university has now entered a phase that could be defined as the "university of the masses."⁶ In the United States this happened some time ago, while in western Europe it is about to happen now. Can the modes of integration that were used at the time of the elitist university still be maintained? What can the universities contribute to this process, having been converted into an activity, or even life, frame for such a wide age band, and having become impregnated with the physical appearance and the soul of the cities in which they are found? What conclusions can be drawn from this in terms of university urbanism?

6. MERLIN, Pierre. "L'université de masse et la ville", pp. 47-71 in *Espaces et sociétés*, n° 80-81 (Villes et universités), 1996.

Changing to the "university of the masses"

The "university of the masses" is already a reality in the United States. It is generally held to have been so since the *Morrill Act* of 1862, which led to the development of the public universities and senior schools (created by the federal states). However, it was not until much later on that the real explosion in enrolment took place. In 1950 there were 2 million students who by the early 1990s had grown to 15 million. This figure is equal to 6% of the total population (a percentage that approximately doubles that found in Western Europe) and covers 4 different age groups. Nevertheless, these figures must be examined more closely: almost half of these students (43% in 1992) were only studying part time; over 40% (42% in 1992) had enrolled for diploma courses (two year higher educational courses), which in most European countries are considered separately from full degree, or higher level, courses. The proportion of students committed to long term courses on a full time basis (at least at *bachelor* level) only represent 42% of the population or approximately 7 million people (2.5% of the total population, covering 1.75 different age groups, a rate that is lower than that found in north-west Europe. Even so, the American university system offers much more diversified centres than the majority of European countries. There is also a clearly defined hierarchy, which has at the top the 60 leading research universities of the *Association of American Universities* and extends down to the *junior colleges* and *community colleges*, which only teach short courses lasting up to two years. It also includes the *comprehensive universities and colleges* (which prepare students for *bachelor* and *masters* degrees), as well as the professional schools and *liberal art colleges* (which also prepare students for *bachelor* degrees).

Neither is it easy to come up with a simple definition of students in France. The total number of students in pre-university education is 2.1 million, of which 1.5 million are at universities (including the University Institutes of Technology). These statistics have remained more or less the same over the last few years (partly due to the lower birth rate amongst the latest generation of students). Likewise, in the early 1960s, enrolments were lower than 300,000. These students represent 3.5% of the total population, with an age group range of almost 2.5.

This generalisation of higher education is less evident in the United Kingdom, a country with less than 1.5 million university students (including those at the old *polytechnics* and colleges of higher education), a figure that represents less than 2.5% of the population and spans 2 distinct age groups.

In the Netherlands, university students (a total of around 500,000) represent almost 3% of the total population and span over 2.5 different age groups.

In Sweden there are almost 250,000 students (including those who have already started a professional career), a figure that represents almost 2.5% of the population and covers 2 distinct age groups.

Finally, in Spain there are almost 1.4 million students, representing 2.5% of the population and again spanning approximately 2 different age groups.

The “university of the masses” is undoubtedly a step towards the democratisation of higher education. It would, however, be an error to believe that this represents any real equality of opportunity. All countries, including those in which the equality of official diplomas is openly proclaimed, as is the case in France, conserve an elitist sector. In the United States this is represented by the wealthiest, most prestigious and most selective universities, which enrol students from the whole country and also from abroad. In the United Kingdom it is associated with the Medieval universities and some of the *civic universities* (London, Bristol, Durham, etc.). In Sweden the two oldest universities (Uppsala and Lund) as well as certain highly specialised colleges (the Stockholm Royal Institute of Technology, The Chalmers Institute of Technology, in Gothenburg, the Stockholm School of Economics, The Karolinska Institute of Medicine, in Stockholm) have this status. In the Netherlands, the inequality of the different universities is less evident, although for Leiden for Humanities, Amsterdam for Human Sciences, Rotterdam for Economy and Delft for Technology are recognised as being the most prestigious. There is also a clear difference, evident from secondary education level onwards, between the universities and the professional higher educational colleges. In Spain, as in France, all universities are officially at the same level, despite the fact that the oldest, such as the Complutense in Madrid, the technical universities of Madrid and Catalonia, and the autonomous universities of Madrid and Barcelona, have the best reputations and most prestige. In France, apart from the extremely hierarchical organisation of the higher educational colleges, which are equipped with resources that are far superior to those of other universities, some centres have widely acknowledged doctoral teams and research laboratories and prepare far more theses than the rest in certain specialities. This is the case with Sciences at Paris XI (Orsay), Strasbourg I, Grenoble I, and Paris VI and with Humanities at Paris IV. It also applies to studies of Human Sciences at Paris I and Paris X; Law, at Paris I and II; and Economics at Paris I and XI (there is evident domination by the Parisian universities in all specialist areas except for perhaps the Sciences).

Conversely, the arrival of the “university of the masses” has rarely been accompanied by the multiplication of the number of shorter courses. Likewise, the “university of the masses” has not, except in France, led to free access to the chosen university and subject. Selection and guidance systems are common, although they are applied with varying degrees of severity/permissibility. In the United States, where the hierarchy of the different centres is openly accepted, everyone has a place available to them at the end of the candidate and selection process. This is not the case in Germany, however, where candidates often have to wait several years before being able to enrol for the most popular courses. Even in France, some course subjects (public health for example) have introduced a system of limited (*clauses*) numbers. The higher education colleges are very selective, including the UIT’s (University Institutes of Technology), although in a rather more modest way. Some universities have also introduced, clandestine selection processes. This generalised opening to a wider sector

of society also depends on the existing system of grants. Only the Netherlands and Sweden offer grants to all students without means testing. In the United States there are various grant systems.

To summarise, the “university of the masses” is far from being even-handed. It is closer to being a mere “inflation” of the existing university system, rather than the development of a new concept of the university as such.

Planning and the “university of the masses”

The “university of the masses” is quickly becoming a local and regional challenge. In their recruitment systems, companies are keen to have local universities and they know that it is a significant advantage for the selection of technical and executive personnel. Effectively, over half of the population is, has been or will be parents of students. Thus, the great majority of small cities and large towns either has a university of its own or actively pressurises the competent authorities to provide it with a university centre. In France, this was the case of Le Havre and of the towns along the northern coast (Dunkerque, Calais and Boulogne) and also of Artois (Arras and the mining belt), Lorient and La Rochelle, all towns that managed to found universities in the 1990s. In the 1980s, there was even a tendency for a multiplication of the annexes of the universities located in larger towns or cities in smaller neighbouring towns.

In Spain, as in France, universities are mainly found in cities and large towns and serve a more or less defined catchment area. Student accommodation is relatively scarce in either of these countries and most students tend to enrol at the nearest centre. This policy has not, however, been followed everywhere. In the Netherlands, the Hague, which is the country’s third biggest city as well its administrative capital, has no university of its own. In Rotterdam, the second largest city, the Erasmus University only teaches Economics and Health. The increase in student numbers has mainly come through enrolments at professional higher education colleges. Even after the Robbins Report, the United Kingdom reserved *polytechnics* and senior colleges the task of covering the needs of higher professional education at the local level. Universities are, of course, present in the larger cities, while *civic universities* have often been established in smaller towns (as was the case of the Medieval universities and the *greenfield universities*). The fact that the *polytechnics* were turned into universities in 1992 has not eliminated the distance that exists between them and the traditional universities, which enjoy modern research facilities that the former still often lack. In the UK, students choose their university on the basis of the specific subject and the attraction of the centre and town or city in which it is located. This contrasts with the Dutch technical colleges, the old British *polytechnics* and higher educational colleges, which rely on local enrolment. Sweden went from having only two universities to six (plus two specialised university centres). Only the oldest universities (Uppsala

and Lund) and, to a lesser extent, the centres in Stockholm, have catchment areas that effectively cover the country as a whole. In the United Kingdom, the traditional tendency for the university itself to offer student accommodation has been reaffirmed, but no such policy exists in either the Netherlands or Sweden.

The key role of student accommodation

Among the three examples of universities that we originally gave, and also within each of the three models, student accommodation conditions are shown to be very different.

In the model of the Medieval university, with Oxbridge being the modern archetype, the key element is their organisation of the university into *colleges* with halls of residence where the students lodge and where they establish their relations with their peers and professors, also within the *college* environment. The purpose of the lecturers and the *college* is not limited to the imparting of wisdom, as this is also done by the university through its main courses. The *colleges* also offer seminars and tutorials, and these tutorials, and in a wider sense the *college* itself, are not just concerned with producing future graduates, but also with forming people, in the most complete sense of the word, and creating rounded and responsible citizens.

In the beginning, the first American colleges were inspired by the Medieval university. Two centuries ago, the first campuses also imitated this model. Even today, many of the great universities –those of the *Ivy League* and also more recent ones, such as Stanford– are characterised by the relationships that exist between their different departments; teaching, research and accommodation (*dormitories*): these residences offer limited comfort, with a room shared by two students continuing to be the standard model. Until the 1960s, half of the buildings on an American campus were dedicated to residential uses. It was even possible to provide accommodation for married students, as well as professors and other staff. However, the significant increase in enrolment led to this tradition becoming increasingly discarded. The most recently built campuses have been sited in order to allow the easiest possible access, precisely because they can only offer accommodation to a minority of students. This move has been mainly conditioned by financial arguments and considerations, as student accommodation has become increasingly economically unviable. Despite this, the private universities, which –although the minority– tend to also be the wealthiest, have continued with the tradition of campus accommodation. The combined result of all of this has been that for most centres, enrolment has become increasingly more local than it was with the old universities; today, five out of every six new students enrol in the state in which they live. The proliferation of colleges offering shorter courses (with local enrolment), the increase in the number of students who live as couples, and of mature students, including those who are already working (and increasingly numerous), the scarcity of resources at the disposal of many universities (above all

the public universities) to build new halls of residence, and the generalised use of the car, which simplifies accessibility, have all resulted in a reduction of the number of students living on campus. Thus, the model of the American campus, which was originally inspired by the British Medieval *college*, has ceased to be a reality in the majority of cases. The result is that the ideal of offering an education extending beyond the mere acquisition of knowledge has, to a great extent, disappeared. The exceptions can only be found at the private universities that still insist on offering campus accommodation at least for *freshmen* (first year students who are starting university and have an immediate need to become integrated within the university community). Some of the most prestigious public universities (such as Berkeley and other campuses of the University of California) have also tried to follow this lead, but in most other centres, the arrival of the “university of the masses” has made it very difficult to maintain this reality.

In this sense the European campus is more diverse. In the United Kingdom, the tradition of seeking a change of location (enrolling at a university in a different region) is still frequent, even in the case of *greenfield universities*. The *civic universities* offer numerous halls of residence, although these are not always found on campus and are often on the outskirts of the town or city in question. The *greenfield universities*, which are often sited on a campus, provide accommodation for the majority of first year students, for the same reasons as in the United States. On the other hand, the old *polytechnics* and technical colleges, which have always concentrated on more local enrolment, only provide accommodation for a small minority of their students. They do not have either the land or the financial means of the traditional universities and perhaps there is no demand for them to try to imitate them in this respect.

Louvain-la-Neuve again provides a rather particular, though interesting, case in this respect. This university can provide accommodation for over 10,000 of the 15,000 students attending university in this new town. This accommodation was built at the same time as the university itself (and there are another 5,000 students studying at the health faculty at Woluwe-Saint-Lambert, on the outskirts of Brussels). The centre even introduced an interesting system of “kots”. This aimed to bring together groups of 8 to 10 students within common (social, philanthropic, artistic, animation, etc.) projects that had been accepted by a mixed commission of students, local inhabitants and members of the university, and could take advantage of reduced rents. In fact, the very idea behind the town of Louvain-la-Neuve favours the integration of students in a way of life which, as in the British Medieval university (Louvain-la-Neuve is in fact the heir to a university originally founded in 1425), seeks to favour the establishment of a community.

This is not, however, the case in the majority of other European countries. Despite providing all of their students with grants, the Netherlands and Sweden do not consider accommodation to be a priority issue. The Dutch universities, which previously offered student accommodation areas within the city, were later forced to

put them up for sale: the authorities considered that there was no reason to offer students accommodation facilities that were any different from those already available to other young people. In Sweden, local organisations and student unions manage rather small residential areas for students. Nevertheless, the case of Uppsala, where the Medieval university tradition persists, seems to constitute an exception, with the existence of the “nations” (old colleges that grouped students together on the basis of their region or country of origin) and their own lodgings. In Spain, on the other hand, there is no tradition of student accommodation at all, with only a very small minority relying on institutional accommodation. In France, with the exception of the important case of the international university city of Paris, student halls of residence accommodate only perhaps one tenth of all students. The majority of these halls of residence were built in the 1960s (with studio flats built as a result of the accommodation operation plan which was financed by social contracting).

Student accommodation has become the keystone of university policies and the relationship between the university and the city. Wherever the tradition of the educational university has been preserved, and the university’s relocating function has been maintained, student accommodation continues to be a priority issue in university policies (examples include the United Kingdom, the great private American universities, Louvain-la-Neuve, and Uppsala). On the other hand, wherever the concept of the “university of the masses” has taken hold (France, Spain, etc.), this has been relegated to a secondary, or even superfluous, position and under no circumstances is considered a priority.

The university in the city

The relationships between the university and the city in which it is located are multiple.

In extreme cases situations of mutual dependence arise. This was the case with the Medieval universities, which increased the prestige of their respective towns and cities, even in those cases in which the town or city in question already existed, as with Oxford and Cambridge, Louvain, and Uppsala. We can also add cases of new towns that have come into being because of their university, such as Louvain-la-Neuve or Villeneuve d’Ascq. In these towns and cities the relationship with the university is complex and not always amenable. In Uppsala, it has historically been bad: as early as the Middle Ages, the local inhabitants were complaining about how noisy the students were and about the fact that they had their own jurisdiction. Until very recently, the municipal authorities of Cambridge, a city in which none of the students officially lived, complained that the students lived in a state within the state. Even when the university has been founded by the town or city itself, after a certain time has elapsed, the latter tends to lose interest in the former and to fail to meet the university’s needs, to the point at which the State is forced to

take over (as happened with Amsterdam and Stockholm). The university usually has few arms at its disposal with which to put pressure on the city and threatening to leave would hardly be credible, apart from the fact that the students rarely form a significant part of the local electorate.

Furthermore, with regard to questions of urbanism, the university needs to have the consent of its local town or city to support its spatial development, unless there has been a prior declaration of public utility, which is not always possible. Universities are often subject to the laborious task of negotiating for building permits. In Cambridge, the city and the university are caught up in almost permanent litigation involving this question. In the United States, this has become a general issue for the private universities: Harvard can no longer use the plots of land that it originally acquired as residential areas in areas where it is now the main property owner. Although the public universities cannot oppose local urban planning decisions, conflicts still arise. The acquisition of accommodation, in the area surrounding the campus, by the University of California at Berkeley, is a constant source of conflict with the local community. Similar cases abound, with student accommodation as the main source of conflict. Complaints are made about student behaviour and they are blamed for increasing local rents and the deterioration of real estate, etc. In order to resolve this situation, over the last twenty years many American universities have become actively involved in joint planning procedures with municipal authorities (Berkeley), or even with some local associations (University of Pittsburgh). This has resulted in self-imposed limits being put on university development in terms of spatial expansion and the acquisition of accommodation.

Another significant option, in terms of spatial development, concerns university services and parking policies. This is an important issue when it comes to choosing sites for university centres. In the United States, the tradition of having campuses on the outskirts of the city and the massive use of cars have led to the choice of isolated sites that are adapted to the age of the car. This has also contributed to a reduction in the number of students living on campus. In the 1960s, there was a recommendation to set aside a parking space for each student. This recommendation has never been fully introduced anywhere, although some universities have reached a ratio of 0.6, or even higher, as at the University of California in Los Angeles and San Diego. Public transport systems have rarely been considered a determining factor. However, from the 1980s onwards habits and attitudes started to change and university centres were obliged to introduce parking charges. Some centres, such as Harvard, that are well-communicated by public transport, have tried to limit the use of cars. On the other hand, in Europe, public transport services are often considered essential. Many centres impose strict limits on parking, which in some cases represents a considerable problem for municipal authorities who have to deal with a parking problem beyond their control, as is the case with Oxford and Cambridge.

Facilities –and in particular cultural and sports facilities– could, on the other hand, constitute a basis for co-operation between the university and the city, although in reality this is rarely the case. Apart from the different mentalities and bureaucratic routines that act as a brake to such potential sources of collaboration, the needs of one and the other are rarely complementary: in the case of libraries, for example, what would be considered an appropriate use of funds for students would probably be very different from that for the local population as a whole. The most frequent area of co-operation tends to be found in hospitals (with university teaching hospitals or the use of municipal medical centres by medical students).

The economic impact of the university has hardly ever been the object of specific studies. This has often been limited to superficial evaluations of the specific weight of the university in terms of local employment or spending, which is far less than the real impact or, on the contrary, could be overestimated due to the use of multiplying coefficients which camouflage double employment. This impact evidently has an importance that is inversely proportional to the density of the city. With respect to the impact of universities on companies within their respective cities, they are affected, and above all by technological universities, but apart from exceptional cases (such as MIT in Cambridge, Stanford University in Palo Alto or the universities of Cambridge and Lund) this impact should not be exaggerated.

Many of the cities that play host to universities suffer another negative impact in the form of local taxation and rates bills. Generally speaking, universities do not pay local taxes or rates, and when they do, they normally pay preferential prices for the services provided by the municipality. In the specific case of the United States, universities are seen as a charge which must be subsidised by the municipality; in other words, by local taxpayers. Some universities, as is the case of the MIT, may even pay significant voluntary contributions in order to improve their relationships with the municipality (1 million dollars a year in the case of MIT). However, the MIT and Harvard are the third and fourth most important contributors in Cambridge, Massachusetts (with the first two both being public service companies).

Social relationships are, likewise, almost always a challenge. Universities often fear a “hot” environment, as is the cases of Amsterdam and many American universities. The city complains that the students “raise hell”. In the specific case of American universities, attempts have often been made to provide local populations with social services, such as cultural activities, advice for young people, and/or social assistance, etc. in order to offset some of these perceived negative factors.

As we can clearly see, numerous problems are created by the interaction between cities and universities and many of these are frankly bad, above all in the United States. The municipalities often accept the economic or cultural perks and the derived prestige as their due, while at the same time placing undue emphasis on the disadvantages and impositions that the existence of the university also implies.

CONCLUSION

As we have seen, in the majority of cases the campus solution is chosen when it comes to the creation of new universities or extension of existing ones. This is the case in the United States, Europe and other developed countries. It is unusual for them to establish in city centres either through the rehabilitation of old buildings or the construction of new ones. There are, however, certain well designed exceptions where this has happened, such as the rehabilitation of the tobacco factory in Lyon and, in particular, the example of Seville. In a more modest sense, mention should also be made of the conversion of former barracks at Uppsala, Getafe, Leganés, and of other cases which have also found interesting solutions. However, cases of new university cities, such as Avignon, that have systematically taken over old buildings in the city centre (inside the walls of the Papal city, in the case of Avignon) –or even put up new ones in the vicinity, as is the case of the Santa Marta hospital– are rare. Faced with the threat of impoverished city centres, as a result of a tendency towards “peripheral urbanisation” –or even “rural urbanisation”– these cities considered the arrival of students, who would make up almost one tenth of their populations, a distinct opportunity and advantage.

The arrival of the “university of the masses”, which is a concept that now encounters little resistance, has favoured the option of establishing a campus and has effectively converted it into the ideal solution. These campuses should be designed in such a way as to offer a true sense of community life and to allow contact to be, once more, established with one the original objectives of the university. However, except on rare occasions, this has not been the case. Cities that adopt this solution effectively take a decision to exclude a wide cross-section of young people and to assume the risk of seeing how the city centre slides into tediousness, with the consequent abandonment of numerous activities (shops, nightlife, etc.). Undoubtedly, the presence of the university alone would not be enough in itself to prevent this from happening, yet it could make a considerable contribution to palliating the decline of city centres, a phenomenon that has been so evident in the United States, and even in the north of Europe. In the same way, the presence of the university could also contribute to the policy of the “compact city”, which has been promoted by London, Stockholm and several Dutch cities, among others. In this sense we have seen that student accommodation can have a decisive importance in the city centre or also on the campus - wherever the former location has been rejected - as it ensures that universities are something more than mere knowledge supermarkets and helps to transform urban sites into places with a life of their own.

We must ensure this (partial) return of the university to the city centre and this reconciliation between university and city. To this end, it will be necessary, whenever possible, to favour the establishment of real student areas, rather than the student ghettos of the campuses, with areas in which university infrastructure and student

accommodation are numerous and attract the creation of cultural centres, libraries, and other associated facilities. Transforming university campuses into such areas, and allowing the city to permeate them, is undoubtedly a difficult trick to pull off. Nevertheless a successful university facility is one in which the local inhabitants play an active role, rather than merely surrounding acting as neighbours and spectators. Efforts must also be made to ensure that university buildings are attractive and that both students and local inhabitants can take pride in them. They should be located on main thoroughfares and contribute to an understanding of what the city is. In a single word they should be “monuments”.⁷ We must not forget that the university buildings are destined to be the most important civil construction projects of the early 21st century, as they were, if not always with the required architectural quality, towards the end of the 20th century.



7. MERLIN, Pierre. “L'aménagement universitaire”, pp. 87-103 in *Universités 2.000, Quelle université pour demain? (Assises nationales de l'enseignement supérieur, Sorbonne, 26-29 juin 1990)*. Paris: La Documentation française, 1991, 334 pages.

MEMORY AND PROJECTION ON UNIVERSITY SPACE IN SPAIN: FROM SALAMANCA TO CARTAGENA: THE MODEL IN 'TRANSITION'

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The thematic framework proposed by the *Universitat de Lleida* for the *VIII Setmana de Estudis Urbanos* (8th Urban Studies Week) is entitled *University Cities and Urban Campuses*. In my opinion, this title offers an invitation to reflect upon the typological panorama presented by the physical space of the university.

My own modest contribution—which takes advantage of the inertia derived from an in-depth study which began back in 1990—centres on the reflections that Spanish universities could make with respect to such an important question. The most synthetic readings of this subject pivot around two basic parameters: the internal organisation of each complex; and the relationship between city and university with the traditional dichotomy between integration and segregation.

In order to apply the appropriate degree of rigor when attempting to interpret the evolution of the different models implanted in Spain, it is necessary to conduct a parallel observation of the historical events associated with similar processes at the international level. These have resulted in the highly varied range of metamorphosis typologies manifested in the architecture of academic institutions since their first appearance in the late Middle Ages. On the chronological journey from the creation of the *alma mater* at Salamanca in the 13th Century to the highly significant university-city project of Cartagena, it is possible to trace a whole range of realities that together constitute Spain's university experience. In so doing, it is possible to recognise some periods that were characterised by a greater degree of authenticity and cultural commitment and others that were influenced by the eclectic importation of solutions alien to Spanish culture.

This paper and debate on *University Cities and Urban Campuses* in the context of Spain, follows the theoretical scheme laid out below. The third and final section proposes a series of criteria for excellence that should govern the design of a future “*Arquitectura del Saber*”.¹

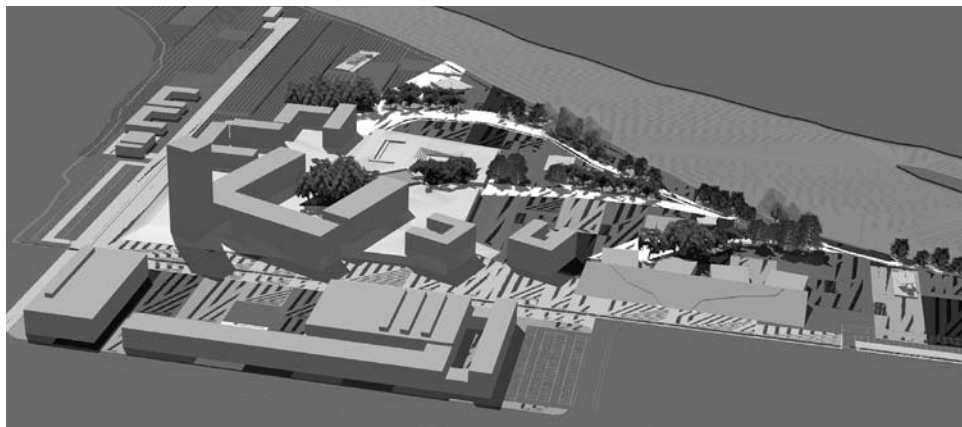
1. Particular analyses
2. Global reflections
3. Projection of criteria.

1. “Architecture of Knowledge”.

In light of the great importance of the overall mission, the final objective is that of encouraging an appropriate degree of reflection about how to optimise constructed solutions.

PARTICULAR ANALYSES

Faced with such large extents of both space and time as those presented in the transition from Salamanca to Cartagena, it is necessary to identify a series of



Universidad de Salamanca - New campus of Villamayor (P. Campos).



Old façade of Universidad de Salamanca, 1529. J. Álava (P. Campos).

different levels of urbanistic-architectonic analysis that can be equally applied to the full range of different locations. Such a methodology allows individual approaches to be brought closer together and has the added advantage of allowing comparisons to be established between them.

Conditioning factors

These are the many and varied factors and circumstances whose presence has influenced the existence and configuration of each academic location.

They may be natural, they may relate to the urbanistic environment, or they may be the result of adaptations to local culture. Similarly, they may be the result of institutional policies, have been determined by certain previously existing circumstances, or have derived from the presence of heritage icons.

In general, however, the material circumstances that have served as conditioning elements at the sites themselves can be understood as strong arguments in favour of the organisation of university establishments. Even so, their greater or lesser degree of integration within the wider scheme of the complex depends upon the particular circumstances of each specific case. There are cases in which this happens in a clearly voluntary way, while in others there are clear signs of independence from, and even ignorance of, the overall scheme.

As far as those located on the exterior are concerned, their presence tends to induce the creation of links between peripheral spaces and the architectonic complexes of universities in such a way that—in the majority of cases—their internal morphological definition does not specifically adapt to its adjacent context.

When selecting a specific type of university establishment, all of the previously mentioned factors – together with other possibilities of a more accidental nature – may, to a greater or lesser degree, have an influence upon the resulting spatial pattern. Thus, an itemised revision of all of these contributing factors would provide arguments in favour of, at the very least, channelling architectonic planning along lines that are free from suggestions and/or pressures that are not directly connected with the university administration.

Urbanistic-structural typology

This section, and the next, develops the main body of this work. In it, an attempt is made to describe and compare the specific characteristics of urbanistic structure that determine the typological nature of each university complex.

It would be true to say that there are probably as many morphological classifications of the physical spaces of universities as there are authors who have approached this topic. If a single common denominator can be found amongst all these models, it is the recognition of their evident diversity. This diversity is further increased by

the addition of the inherent complexity that results from the unique circumstances that characterise each specific project.

Amongst other possibilities, we can identify the following typologies: orthogonal or oblique mesh, detailed nuclear, linear nuclear, polycentric and organic, as well as combinations of these various different types.

To begin with, and from a strictly functional perspective, it is necessary to stress that a fully integrated university complex —with sufficient quantity, substance and variety of uses to give it effective autonomy— represents a highly unusual and indeed exceptional situation within the panorama of today's Spanish university system. Following on from this observation, it is feasible to diagnose a relationship between the quantity and variety of the present uses of a given educational establishment and its degree of isolation or physical segregation from the city with which it could potentially establish links.



Ciudad Universitaria of Madrid (P. Campos).

Speaking on a structural level, in Spain, there is no detectable connection between the physical dimension of a university complex and the number of sub-complexes or modules of coherence that it possesses – understanding the latter as partial environments whose urbanistic characteristics establish their own differentiated personality; as a uniform and logically coherent way of organising their own individual character.

The points of confluence, which could be classified as agoras —and in fact tend to function as such— mainly have a multiple and disaggregated configuration. With too great a frequency, they appear to be subordinated to architectural structures and on an individual basis it is rare to find them forming the centre of the complex. Furthermore, these structures tend to be simply suggested —rather than defined— and often end up playing an inadequate role as residual areas with respect to the general plan. As a result, one of the most urgently pending questions for the Spanish panorama is concerned with increasing the protagonism of open spaces.

The most numerous urbanistic compositions are geometric-orthogonal in style and are endorsed by a potential flexibility that has not always been capitalised upon. The freer or more organic compositions tend to be found in areas that have been conditioned by their remarkable topographical singularity.

The internal organisation of the majority of modern large-scale educational complexes has been structured according to a regular uniform plan, formed by a series of macro-blocks, upon which the different buildings have been erected. It is therefore quite normal to observe an independence of configuration between what constitutes the urbanistic structure and what is purely architectonic.

With respect the most influential foreign morphological paradigms —within the extensive trajectory of university design on a global scale— the similarities that can be recognised in Spanish versions usually reflect mimicking tendencies and timid formal references that lack common conceptual roots. This is particularly evident in the case of North American campuses and their diverse modalities.



*University of Stanford, Palo Alto, USA.
(P. Campos).*



*University of Virginia. Academic Village, USA.
(Univer. Of Virginia Arch). (P. Campos).*

Making this reflection brings to mind the origin of the term “campus” – which on many occasions is employed incorrectly. It is a term taken from Latin, which was first used in association with the University of Princeton, around the year 1770, in a student’s written description of a fire that affected the lands around Nasau Hall. It has also been suggested that the term may have been coined in allusion to the “Campus Martius” of ancient Rome. Whatever the case, it is a specific term that refers to a concrete model for a university establishment in a North American context, and one which also has its own, very specific, historical, institutional and spatial personality.

Architectonic configuration

The scope of the present analysis includes an investigative analysis of the characteristics that are intrinsically connected with the architectural structures contained within the limits of a university complex. One of the main lines for reflection centres on the important links that exist between the urbanistic design of the complex and that of the buildings incorporated within it and an evaluation of the interactions between them.

As constructed volumes, buildings destined for educational purposes assume as many guises in the eyes of those using them as the many and varied occasions on which these same observers encounter them “in situ” and move between them. This fact has much to say in the convenience – or at times even the need – to perceive an urbanistic-architectural complex with all the senses in order to fully understand its configuration. Personal experience gives rise to subjective impressions, which become important tools for judging architectural solutions that ratify organizational intentions at the complex scale and which also, on the other hand, distort their spatial arguments.



Universitat de Girona (Spain). Building of “Les Àligues”. (P. Campos).



Universitat de Lleida, Campus of Capponet. (P. Campos).

Taking quite a general perspective, one option —among many others— might be that of establishing the classification outlined below. This reflects the many and varied individual actions that can be found within such a vast repertoire as that presented by a country's Universities.

The first category to define would be that of architectural homogeneity, understanding this as the uniformity of the typological, constructive and stylistic criteria presented by the different university buildings —whether taken as a whole or on an element by element basis— and as dictated by the needs of each particular case. This homogeneity may be observed in individual (mono-structural) elements, in parts of the complex (partial) or across the complex as a whole (global). The opposite case of heterogeneity, appears at the level of the individual unit (mono-structural) among parts of building complexes (partial) or, finally, between groups of buildings and the guidelines for urbanistic organisation of the academic complex as a whole (global).

In the Spanish context, the criteria for urbanistic structuring respond to organizational guidelines that normally leave quite a lot of freedom for the final configuration of built units. As a general rule, their design tends to be formalized on a case by case basis. This circumstance tends to take on even greater significance as the particular environment's degree of urbanistic consolidation diminishes.

Spanish university complexes frequently suffer the consequences of an evident lack of uniformity. The definition of their built elements tends to somewhat randomly decant for either homogeneity or heterogeneity, yet with the two tendencies cohabiting without any predetermined order. Such heterodoxy could be attributable to three basic circumstances. Firstly, this could be explained by the mutations generally experienced in academic models when they are subsequently translated into architectural projects. Secondly, it could be a result of the coexistence of various different architectural styles, each of which —with the passing of time— has left its own individual mark on the same physical space. Finally, it could be due to the conversion to educational uses of buildings that were originally designed for other functions.

One recurring feature in the most recent complexes is that of the university macro-building. This is a building within which a series of parts or cells —that would have probably been housed in separate units in previous solutions— are brought together at the same point.

As previously mentioned, it is possible to observe a certain degree of dislocation between the expectations projected for university complexes and what is later experienced in the built reality: direct perception holds the key to interpreting these confluences and divergences.

It is also sometimes useful to take note of the significant presence of complementary elements that contribute doses of added personality to the university space. Such is the case of topographical accidents and singularities, artificial landmarks and/or items of sculpture.

The process of evolution

This section focuses on the properties of university complexes that can be recognised after considering the changes that take place over time, whether such changes have been structured through planned operations or have arisen spontaneously during particular evolutionary phases.

The physical complex of a university resembles a living organism whose spatial and temporal continuity and flexibility parallel the similarly variable character of the institution whose uses it harbours. It is important to study the peculiarities that—whether at the urbanistic or architectural level—have influenced its physical development throughout the course of its own particular history. These distinguishable peculiarities will include both those elements that have given it the capacity to adapt itself to increases and/or reductions in size, and others that—whether by action or omission—have imposed restrictions upon it.

Amongst others, it is possible to identify the following evolutionary typologies: polarisation around a nucleus; transformation of previously existing elements; extension and densification of the urbanistic structure; adaptation of buildings not previously destined for educational use; gathering of components around a cell (whether a building or an open space); and finally, collage development. The latter, which is the frequent morphological result of the coexistence of various—but mutually unconnected—forms of normal growth, results in complexes that are quite chaotic in their internal organization.

The study should have a dual focus: on one hand, it should take a global view of the behaviour of the university cell on a macro scale; on the other, it should focus on the strictly architectural parameters inherent in the constructed elements.

Generally speaking, Spain's university complexes exhibit various combined forms of growth that have occurred simultaneously and/or overlapped throughout the course of their development. As a result, the majority of university complexes over a certain size exhibit a collage type configuration. This is the result of various footprints left behind by the different ways of understanding the university architecture that characterised different periods.

Examples of integrated structuring of urbanistic spaces are rare. Even those planned as such from their initiation have been distorted by the passing of time. In cases where vestiges of medium to long term planning can be identified, this is also accompanied—as an almost omnipresent compositional instrument—by orthogonal geometry in the interests of endowing the complex with flexibility and adaptability anticipating unpredictable modifications to the programme.

After observing the current national panorama it is possible to conclude that the major development experienced by universities over recent years has generally resulted in the creation of new complexes, rather than in extensions to, or drastic transformation of, previously existing ones. Even so, it is also true that the latter have continued without any form of continuous solution.

Similarly, it is necessary to stress the recent tendency to resort to the typology of development through adaptation, that is to say, to incorporate previously existing architectural units into new uses that are alien to their original functions. In particular, it should be noted how—in many cities—this is occurring with former military facilities, which are usually characterised by their large dimensions and the fact that they occupy very central urban locations.

General Reflections

Once the range of different complexes has been analysed on the basis of diversified thematic environments, it is best to go on to take an overview of the urbanistic-architectural scenario. From among the many and varied approaches to the Spanish university as a global concept, the following analysis selects and outlines several specific lines of thought and evaluation, mainly centring attention on some of the most recent projects.

The roots of the Spanish university are essentially bound to the city

In the course of a historical review, it is clear to see the close ties that exist between universities and civic organisms, with facilities mainly being located within the old quarters of the city and in areas of the metropolitan *ensanche*.² This umbilical dependence largely derives from their habitual lack of functional completeness and from a certain conceptual eclecticism in the planning of new academic centres.

Differentiated large-scale educational complexes—and especially those of relatively recent construction—are generally located in areas on the urban periphery that suffer from a low index of urban consolidation. This “neo-peripheralisation” phenomenon is, without doubt, closely related to both the difficulties encountered in finding pockets of available building land in metropolitan centres and the evident fact that—in contrast with the halcyon days of the past—the institution has effectively been relegated to occupying a secondary position on the ladder of socio-economic values.

One consequence of all this is the fact that—fundamentally since the beginning of the 20th Century—the Spanish university has become fully immersed in the dichotomy between integration and segregation; a question that nowadays constitutes the most relevant debate in both the national and European forums.

The Spanish university does not follow a single model: it has a complex and diversified typology

Perhaps one of the clearest readings of the whole university spectrum, in its current configuration, lies in the absence of a single model of how development should be carried out.

2. Normally wide avenues that were originally residential areas on the outskirts of the city, but which may now form relatively open spaces within it.

The varied typologies and different projects do not adjust to a closed definition, but rather represent a series of open archetypes, which incorporate certain local singularities produced by the peculiarities of the environment to which they are linked.

In the case of very large cities, various educational institutions may cohabit, yet with each being dependent upon its own main site. On the other hand, when there are a number of main sites, or several belonging to a single university, it is virtually unknown for there to be any form of common spatial or typological organisation uniting them.

In complexes that have had a prolonged existence, it can be seen how, in the course of time —and without any particular pre-established order— they have gradually accumulated the varied features of more recent constructions. As a general rule, their organisation is limited to mere operations of juxtaposition. The urbanistic personality of each sector tends to ignore both those of others that already exist and those of sectors that are yet to come. It is therefore difficult to detect any constant criteria covering the whole scope of the project.

Regrettably, the successive consequences of such promiscuity among projects tend to produce chaotic processes rather than creating morphologically enriching images.

The Spanish university has recently shown a preference for the compact, macro-dimensional building model

This tendency must be analysed from two different perspectives.

If a historical angle is taken, these “flagships” could be considered as the natural successors to the typologies developed during Europe’s Renaissance period. Their paradigms were *Terribilia* —designed by Archiginnasio of Bologna in 1563—, *Sant’ Ivo alla Sapienza* of Rome —which was the work of Giacomo della Porta in the 16th Century—, and the imposing nave of Paris’s *Sorbonne* —which Richelieu enlarged in the 17th Century. In Spain, they are represented by the university-colleges, and by the *Universidad de Barcelona* —designed by Elías Rogent— and the *Universidad Central de Madrid*, which both date from the end of the 19th Century.

However, a critical appraisal should be made of this phenomenon. This must involve a questioning of how university students can identify with such mega-structures which take the form of immense impersonal containers housing veritable university metropolises that enjoy quite a high degree of autonomy. Leaving aside the conditioning restraints imposed by the construction industry —that no doubt help to explain some of these configurations— it seems clear that the majority have forgotten the additional yet highly important mission that architecture should perform and which goes beyond strictly functional considerations. As the material body of the educational institution, par excellence, their physical expression must display a deliberate emotional attitude and manifest an unequivocal intention to encourage its users to take pleasure in the activity undertaken inside it.

In principle, all of this seems —to say the least— quite incompatible with buildings that are so very distant from a recommendable human scale, and stylistically more

akin to the parameters of the building industry than to the generation of welcoming environments, in both the material and spiritual senses of the concept.

Throughout its history, the Spanish university has demonstrated its ability to find a balance between change and continuity

It is important to recognise the Spanish university's firm commitment to its own evolution, as this has enabled it to steer a course among the countless changes and external interferences to which it has been subjected in the course of its existence. This is evident both on the strictly institutional plane and also with respect to its urbanistic-architectural configurations.

Along the road from Salamanca to Cartagena, the university has undergone a continuous series of transformations, yet without ever renouncing its continuity. After almost eight centuries of university life, this is a quality that, though not always evident, deserves to be fully recognised.

In the course of its eventful secular voyage, the institutional ship has both enjoyed periods of peace and plenty and has had to weather difficult times in which threats to its very existence have loomed menacingly on the horizon like large grey storm clouds. Yet, whenever the future looked bleak and threatening, the fresh wind of utopia was able to carry the ship back to calm waters, where she could continue her voyage. Protected by such a powerful force, the university has continued to receive periodic impulses from tail winds pushing her forwards and into the future. The crew often changes, as does the rigging, and sometimes even the winds and the seas, but the ship of academia always continues on its calm, uninterrupted voyage, and never keels over.

Recent decades have witnessed an important proliferation of newly constituted universities in Spain —both public and private. In part, these have appeared due to the process of political decentralisation of university affairs. Architectural projects have had to rapidly respond to this continuing dynamic, though this has not always been done subject to appropriate planning controls.

The Spanish university displays an ever growing tendency to reinterpret its cultural memory

In the course of its long history, the Spanish university has progressively mutated from the authenticity of its medieval academic and architectural models towards a progressive eclecticism. This has been particularly evident since the early decades of the 20th Century, when a series of working models were adopted that were alien to its cultural roots. Many of these were imported from North American paradigms.

The reproduction of urbanistic typologies that were alien to domestic tradition was accompanied by attitudes of functional retrenchment with respect to them and as a result, such projects were left devoid of essential content and references. In such cases, the relationship between city and university also failed to reflect the required degree of assimilation in terms of either models or objectives.

In contrast to this conceptually eclectic tendency —which has an influence upon the European scene and even certain sectors of that of North American itself— it seems that in Spain —at least in recent times— there has been a resurgence of a concern to recognise the cultural roots of our university architecture. The configurations of a good number of recent projects show an apparent willingness to adapt the spatial paradigms of the past, —although on quite different physical scales— both with respect to their intrinsic compositions and by looking once more at ways of forming active links with the city.

The Cartagena university project, which takes over the baton from the first bearer and *Alma Mater* —Salamanca at the beginning of the 13th Century—, constitutes a unique case within the European context. It represents an audacious modern paradigm for the reinterpretation of Spain's cultural memory.

PROJECTION OF CRITERIA

The fundamental objective of the university is to educate the whole human being. To achieve this aim, it is necessary to convert the university into a physical space that has been intelligently adapted to the different conditioning factors that form its environment. What role should the Architecture of Knowledge play in all of this? The answer requires recognition of the fact that its final objective must be that of optimising the built reality in response to the tremendous importance of the mission in hand.

Correct spatial design is not only necessary from a functional point of view, but must also be regarded as a factor that, in itself, provides a solid guarantee for the cultural projection of the academic institution.

Below, we have sketched out a number of criteria for excellence that should preside over the conception of the Architecture of Knowledge.

These reflections will be illustrated with reference to their applications in the case of the *Universidad Politécnica de Cartagena*, as this process constitutes one of the most attractive in the Spanish context. On one hand, it conjugates the European roots of the historic quarters which are exemplified in the patrimony of the *Universidad de Salamanca* and, on the other, the intelligent resources of adaptability and a global vision have been taken from the most important foreign tendencies.

The University should be harmoniously and sensitively adapted to its setting

“Place”³ should be understood as the set of natural, social and cultural factors that characterise the selected location.

3. The term used by the author is “*lugar*”.

As shown below, this question has been continuously addressed from the very origins of the educational institution. The Bolognese teacher of rhetoric, Buongom-pagno, had already specified the qualities that should be demanded of the physical location for the *School*. In the Spanish context, the first solid criteria meant to govern the characteristics of the *place* at which the activities of the *Estudio General* were located were established in the middle of the 13th Century, as recorded in the second of the *Siete Partidas*⁴ drawn up by Alfonso X (*El Sabio*⁵). The king stressed the need for purpose built and functional buildings, set apart from the town. This constituted - five centuries before its time - a first theoretical-conceptual representation of the segregated model whose paradigm is the North American campus:

*“De buen aire e de fermosas salidas debe ser la Villa do quisieren establecer el Estudio, porque los maestros que muestran los saberes a los Escolares que los aprenden vivan sanos en el e puedan folgar o recibir plazer en la tarde cuando se levantaren cansados del estudio. Otrosí debe ser abundada de pan e de vino o de buenas posadas en que puedan morar e pasar su tiempo sin gran costa”*⁶

As numerous authors have pointed out, this consideration which alludes to the creation of the educational project and its environment would come into conflict with some of the principles of the Modernist Movement. The division of the city into sectors, the breaks with historic practice, and the general context, all point in the opposite direction to the established tradition of integration and identification between city and university, which so characterise the Latin tradition of Salamanca, Bologna and Paris as well as Oxford and Cambridge in the English speaking world. Having established this scheme for analysis, it is possible to examine the validity of some of the postulates of the *Carta de Atenas* such as the demand for an independence of form with respect to the natural and architectural factors that characterise *place*.

PLACE IN CARTAGENA

The natural environment. – It is a 3,000 year-old city, whose Mediterranean setting possesses a splendid physical configuration. The port model with which it can be identified corresponds to the Phoenician prototype; with a narrow entrance, commercial docks, and military port or walled and camouflaged “cothon”.

4. “The Seven Entries”.

5. “The Wise”.

6. “The town should offer fresh air and pleasant exits in all parts in order to foment study, so that the teachers who impart their knowledge to the scholars who study may live healthily within it and may give or receive pleasure in the afternoon when they arise from their study. It should also be furnished with bread and wine or with good inns in which they might live and pass their time without great expense.”

The old quarter of the city, which is the preferred development zone for future stages of university expansion, opens onto the sea along the southern front formed by the Paseo Alfonso XII. The geographical personality is equally defined by its five hills, which are historical and spatial landmarks and constitute a natural heritage of incalculable value. They are encircled by the Roman remains of *Carthago Nova*,⁷ which serve as pedestals for castles and fortresses whose presence exerts a major impact upon the unique perception of the city.

In conclusion, Cartagena offers a cultural landscape that, as a general spectacle, aesthetically rebels before the visitor's eyes.

The urbanistic-architectural environment. On the colossal face of this thousand-year-old city it is possible to clearly trace the footprints left behind by the different civilisations that have occupied it in the course of its centuries-long evolution.

The old quarter, previously formed a small peninsula, whose isthmus was located near today's Plaza de Bastarache. The Laguna del Armajal, situated to the north, was originally connected to the sea, though its access to the Mediterranean was closed in the 18th Century following the building of the military arsenal. The reclamation of marshlands—which was carried out towards the end of the 19th Century—and the demolition of the city's walls made way for its growth.

There was therefore a desire to mould the structure of growth in accordance with the radio-centric geometric imprint and in harmony with the semi-focal nature of the sea front. The most outstanding example of this intention was the "*Proyecto de Ensanche, Reforma y Saneamiento de Cartagena*"⁸ of 1898, which constituted one of the most brilliant examples of 19th Century Spanish urbanism—though one that was unfortunately never to become a reality. This expansion sought to connect the centre with previously existing outlying nuclei, thereby attempting to interrelate several *ensanches* to form a single whole, yet at the same time allowing them to maintain their own distinct personalities.

With the dawning of the 21st Century, Cartagena demands a more compensated development of its civic fabric. First, urban development should be channelled towards regenerating the city's old quarter. This should be followed by the re-qualification of the eastern sector, where an important pocket of land is currently adversely affected by the remains of the now obsolete heavy industries that were once based there. In both cases, but especially in the first, the progressive establishment of the university will constitute a decisive element in a process of urban regeneration that cannot be postponed any longer.

7. New Carthage.

8. A project for expanding, reforming and reorganising Cartagena.

The patrimonial and archaeological environment. The rich heritage and archaeological legacy of the civilisations that have occupied the city can now be contemplated with a potentially emotional attitude.

Cartagena enjoyed periods of past splendour as both a Carthaginian and a Roman port. It later received the privilege of being designated as a *Departamento Marítimo del Mediterráneo* in the 18th Century, while its mining industry flourished in the 19th Century. However, the subsequent decline of the mining sector, together with other political and economic factors, led Cartagena into a progressive decline, whose effects were felt at the territorial, social and urban levels. The consequences of this decline are still apparent today, and particularly affect its historic complex.

There is an urgent need to take committed action in order to recover the incommensurable archaeological and patrimonial legacy of Cartagena. The metropolis continues to wait impatiently for the future resurrection of its historical heritage, and this is a mission in which the moral authority of the university is destined to play a decisive role.

To the wide range of archaeological treasures, which bear witness to the different civilisations that occupied the city —amongst which the Carthaginian and Roman civilizations take pride of place—, we must add the unfinished mark of the “*Proyecto de Ensanche, Reforma y Saneamiento de Cartagena*” of 1898, as well as a rich repertoire of baroque, neoclassical and modernist architecture, whose most outstanding authors include Víctor Beltrí.

Yet despite all of this, the resurgence of the city’s heritage treasure —which it would have been desirable to have completed several decades ago— remains a task in which the establishment of academic uses —whether in previously existing or recently constructed buildings— is destined to make a crucial contribution. As the first standard, the already underway process of configurating the *Hospital de Marina* complex, located in the southeast quadrant of the thousand-year-old urban fabric, offers an opportunity to recover a splendid roman amphitheatre that dates back to the year 70 AD, and which today, incomprehensibly, lies buried beneath an obsolete and inactive bull ring.

The social and institutional environment. The creation of the *Universidad Politécnica de Cartagena* in August 1998, and its separation from that of Murcia, constituted a decisive impulse in the development of the academic, social and urban process.

The active presence of this academic institution as a promoter of cultural innovation will bring together the most important activities to be undertaken in the immediate future. Cartagena’s society has already been assigned a leading role, as the main point of origin and destination of the many works of regeneration carried out in their environment.

9. An officially recognised port and administrative area on the Mediterranean coast.

In sum, the most sensitive adaptation to the previously described parameters of *place* in Cartagena will guarantee a global project with the best possible roots and signs of longevity.

The design of a University should be undertaken through integral planning. It should begin with the choice of a model that is compatible with its academic, social and spatial philosophy

As has already been commented, in the Spanish context it is rare to find an example of holistic planning. One of the negative consequences of this circumstance is a lack of efficiency in adapting educational complexes and their buildings to changes in the orientation of the Institution or its academic and practical needs.

It is important to underline that any future projections towards the undefined future of the physical installations of a University should be preceded by prior debate about the model around which it is planned to purposely and progressively structure the development of the individual interventions.

The *Universidad Politécnica de Cartagena* is destined to become a decisive factor in the future development of the city. This will begin with the revitalisation of its urban nucleus, which cannot be put off any longer. As with all other dynamic organisations that have an important cultural dimension, the recently created Institution has embarked upon a journey during which it will be sensitive to the changes that simultaneously take place in its socio-economic, cultural and political context. Under the control of these considerations, the evolution of the city and its University must be fully co-ordinated and generate a common space with which their population can relate.

In the shadow of this philosophy, a Management Plan is being drawn up for the period 2000-2015, which will gather together the criteria and priorities deriving from the model for the implementation of its physical spaces and will establish the guidelines for its foreseeable future extension. The most advisable typology in this case, which is concerned with links between University and city, is that of total identification between one organism and the other. This reference has been selected on account of Cartagena's previously existing characteristics. It continues the historically ingrained inheritance of the medieval University, for which the case of Salamanca constitutes the most significant paradigm within the national context.

But the reflection should not end there. The singularity of the case of Cartagena lies in the unusual opportunity for the reconversion of a degraded historical fabric, and also in the possibility of adding to it a global urbanistic proposal that regards the process as a macro-dimensional unitary whole, whose evolution can be predicted.

Among the many positive consequences of the project that is now being put into action is the consolidation of Cartagena as an open metropolis, with a plural population as regards age, profession and social class, in which culture acts as its common bond.

To summarise, the coming into being of this planning instrument must establish as its goal the canalisation of the University's development space lying within its *place*.

Architecture and spaces linked with the University should be designed with the intention and sensibility that correspond to the transcendental activity that they house

The design of university Architecture must be the result of a balanced combination of courage and wisdom. Although it is quality that is demanded in any human activity, the physical spaces of the University must respond to a conception and later materialization that come up to the level of the mission that they form part of.

This can be translated into three main arguments: functional, cultural and symbolic. The first of these could be resolved within the Virtruvian trio of *utilitas, firmitas, venustas* (utility, stability and beauty), dimensioning the solid volumes and empty environments in such a way that they satisfy the necessities and foresee their evolution with flexibility. But the legacy of university Architecture would be poor and banal if it only responded to these basic requisites.

The second main axis points to the heart of the Institution: its cultural vocation forces it to exercise an intellectual and artistic avant-gardism. Culture carries with it an intelligent adaptation to its environment and the *place* that has previously been considered. The built space should therefore be sensitively adjusted to the organisational model of the University and the urban environment. At times in History when tradition and context have not received adequate consideration, projects of dubious cultural justification have emerged. A functionally correct Architecture, though one which is not sensitive to *place*, ceases to be good. This is the case of the many European and Spanish campuses which lack roots and are therefore like the misplaced links of foreign chains and the suffering slaves of their conceptual and morphological eclecticism. On the other hand, the authenticity of recent interventions such as those of Alcalá de Henares, Barcelona, Girona, Sevilla, Santiago de Compostela, Tarragona, Valladolid, Salamanca and the touching regeneration of Cartagena has been admirable.

The third argument alludes to the protagonism of Architecture with respect to the external image of the University. Ortega y Gasset defines this as the institutional projection of the student. For him, Architecture is the student's constructed body, and therefore he should reflect upon its powerful symbolic charge. The splendid plateresque façade of the *Universidad de Salamanca* is particularly significant. Conceived by Juan de Álava (1529), it has endured as an emblematic architectural stamp; a stony tapestry that announces the *Universidad de Salamanca* with expressive solemnity. Something similar is found at La Sorbonne: when Richelieu erected the new Church, he offered to the exterior the symbolic façade of its central nave. In homage to this "provocation", the city created a small square in front of the temple and even demolished some of the houses in the Rue Sorbonne to make way for it.

A jump in time takes us back to the hasty present where, in terms of physical implementation, architectural considerations have been subjugated to the dictates of, or even substituted by, modern telecommunications. This would allow the emergence of the *virtual campus*. A first, yet firm, adoption of stances in the face of this

tendency incites us to bluntly declare that it would be a crass error to dilute all of the symbolic weight of the university buildings into the channels of information. Is it really possible to imagine a *virtual University*, without the heat of a physical body and lacking an image with which society could identify?

The ambitious project that has begun to emerge in Cartagena is fated to stand out as the best argument against such impersonalisation. The bestowing of value to a lethargic patrimony and the transformation of a shadowy metropolis into a “City of Knowledge”, at the start of the 21st Century, require that Architecture and the important open spaces associated with it act as material fuses for a culture explosion that will flood the entire urban and social fabric.

Architecture should, therefore, respond to the spatial needs of the University and constitute a solution in itself. It is necessary to inject a renewed dose of imagination and utopia, as the indispensable transforming energies that the University has always used to revitalize its ideals and physical structures. With reference to the last of these, a new time has arrived at which to fight against the “hyper-semanticising” and de-contextualisation which afflicts some modern university Architecture. In order to fulfil its centenarian capacity for provocation, it must be conceived from the perspective of sensibility and courage, which in their time were as provocative as many spatial paradigms. That of Salamanca is important in its own right and has been taken as a historical landmark in this paper. But this message should not be misinterpreted: as far as its artistic potential is concerned, good modern Architecture has no reason to envy the classical period. The commitment that this promotes is that of learning the lesson from the best of our History: the true vanguard knows neither time nor place, but rather permanently emanates from intention and culture.

The future of the University lies in a wise interpretation of memory. To date, it has yet to respond with all its possibilities to a society that is calling for mature, coherent projects. We have the right and the obligation to demand that its Architecture should continue to move us, using for this end all of the provocative energy that it has shown to possess for more than nine centuries.

By way of synthesis, I wanted to bring this reflection to a close by setting out a series of concise proposals, with the aim of throwing some light upon both the emerging Cartagena project and the momentous future that lies open to both Spanish and international Universities in the 21st Century:

First. - The University has to develop the transcendental mission of educating the whole human being. To achieve this, it must pay special attention to the design of buildings and open spaces which house such an important process and which will become part of society’s collective memory.

Second. - Although it has been traditionally impelled by the transforming energy of utopia, it should give priority to urbanistic and architectural criteria in the design of its physical space, and —as far as possible— move away from an excessive indulgence with political and/or economic space.

Third. - The conception of the physical installations of the University should be guided by the application of conceptual principles that are born out of the parameters of *place*, as opposed to importing models or styles whose genesis, essence and/or configuration are unrelated to local culture.

Fourth. - The planning of university premises must go beyond the mere fo-recasting of available surfaces. It should incorporate the intention of design as an essential element, and compositions will be created that should pay as much attention to constructed volumes as to free spaces.

Fifth. - The University is a living organism in terms of its essence and formal manifestation whose fundamental need must be the internal flexibility and external adaptability of its built environments, which should help to make possible its evolution without any contradictions. The Architecture of Knowledge should therefore have its foundations set in one essential premise: its conception is not so much that of an object, but that of an entire process in movement. It is not a case of designing a road, but rather of knowing how to travel along it.

Finally, it is my intention to invite the illustrious organizers and participants in this 8th Urban Studies Week entitled "University Cities and Urban Campuses" to focus our attention on the main objective; that of correctly conceiving the urbanistic and architectonic support for the university. This strengthens the links between City and Society and, in a general way, between culture and progress.

We could consider ourselves satisfied if we were able to at least kindle this sensitivity and —why not?— also encourage and diffuse the fervour of those responsible for the planning and management of the university space. It makes no sense to start from an exclusively technical base that does not contemplate a certain sense of hope through which to channel the imagination.

The University continues to be our source of hope...

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THE ROLE OF THE ITALIAN UNIVERSITY IN THE DEVELOPMENT OF THE CITY AND URBAN POLICY

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The idea of “*Forma Urbis*” and “*Forma Universitas*” has been one the most widely accepted of the different relationships perceived to exist between the university and the city (although some have seen this relationship as conflictive in nature, rather than harmonic). A certain degree of controversy has also existed as to the relative merits of “introverted” and exclusive relationships between universities and cities (as in the case of external campuses) and more “extroverted” and inclusive solutions (that tend to foster relations between the two institutions and encourage synergies).

The experience of the Italian University system has been typically and historically urban, with very few examples of external *campuses*. As a result, the Italian experience would appear to offer little scope for conducting an investigation into “extroverted” universities, though plenty for investigating another level of relations, which assumes particular relevance in contexts in which general planning (as an instrument for orienting and adjusting urban policies and initiatives aimed at territorial transformation) seems weak and where its ability to “organise” has been called into question.

The university has grown over time (due to processes culminating in the improvement of its organisation and the extension of its academic programme, through the “germination”¹ of new faculties and academic studies) and has come to occupy new areas within the city. In recent times, Italian universities have actively participated in projects and processes aimed at re-qualifying and finding new uses for existing space.

Research carried out in a number of Italian cities² in 1997 revealed that it was not enough to simply catalogue the use of urban spaces as part of a general analysis of the city, its structure and functions. Instead, there was a need to redefine the

1. That is to say the parallel creation of new university studies or faculties in other urban centres in order to improve the territorial distribution of opportunities for higher education in Italy – which have traditionally been unevenly distributed – and to help to solve problems of “overbooking” at certain centres.

2. See, SAVINO M. (prepared by) (1997-1998). “Città e Università – Università *vs* Città? Gli effetti delle nuove strategie di sviluppo e riorganizzazione delle università italiane sui processi di trasformazione della struttura urbana” (“City and University - University *vs* City. The effects of new strategies to develop and organise Italian universities based on processes involving the transformation of the urban structure”, published in *Archivio di Studi Urbani e Regionali*, pp 60-61).

political roles involved and to work to change existing relationships between the different tools currently employed to manage the urban system.

It is therefore *the political dimension of relations between the city and the university* to which I would like to dedicate my reflections. In recent years, which have witnessed major transformations, the university has assumed a greater importance within both the city (and its immediate area). The university has come to play a much more active and visible role in the processes of constructing the city than ever before. (However, when I say this, I do not wish to call into question the traditionally observed symbiosis/osmosis between the two realities). One aspect referred to in the previous study was the existence of a *strong antagonism* and indeed competition between the two institutions. In the different case studies proposed by the previous study, certain aspects of the relations between the city and the university came in for criticism. It is precisely these aspects that have tended to be repeated, both in terms of intention and political will: this is a situation that is well-known and that requires urgent action.

With reference to this need for clear, transparent policy, explicitly defined roles for the city and the university, and clear rules for the game which must determine the interplay of forces and the relations between them, I feel that the Italian case presents a number of particularly interesting elements that have not only been brought together by the phase of *administrative reform* that is currently influencing urban policies, but also by the numerous urban re-qualification projects that are currently underway, and which either have been, or are about to be, initiated in the many cities in which the university has already become a major protagonist.

I also believe that the Italian reality is not so “different” from that which is, or has been, found in other European countries: in some cases it anticipates these processes, while in others it appears only as an *epilogue* and fails to suggest ways of correcting the work in hand. Without doubt, a series of recurring themes and questions arise in all places where planning shows signs of “giving way” to the pressures exerted by the market and by societies undergoing far-reaching processes of change.

AT THE GATES OF THE 20TH CENTURY: CHANGES AND THEIR CONSEQUENCES

Over recent years, the development of the Italian university system has not only been characterised by the territorial diffusion of its programmes at the national level, but – above all – by the way in which it has consolidated poles within the city. As already noted, this is one of the particular characteristics of the Italian university system, which has a strongly “urban” connotation with a corresponding lack of interest in alternative locations outside the built up urban area.³

3. The most famous cases are those of Arcavata di Rende – near the city of Consenza in Calabria (work by V. Gregotti), the campus of Fisciano, which houses the new university of Salerno, and that of the University of Rome, which is located in the Tor Vergata area. On the other hand, the urban location of the campus of the University of Bari effectively excludes it from a list of what are generally regarded as examples of campus universities. In reality, many Italian universities have some of their centres, complementary services and/or faculties located outside the city itself. Even so, almost everywhere, the

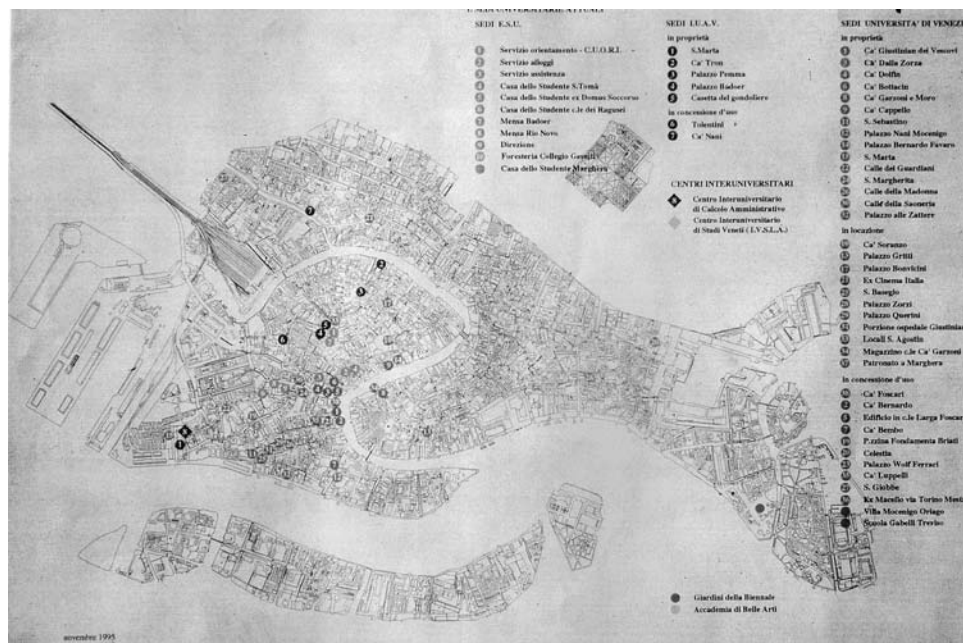


Large areas in transformation: 1. San Giobbe 2. La «Testa di ponte» 3. San Basilio and maritime station 4. La Giudecca 5. Former Junghans Factory 6. L'Arsenale

This system has gradually grown, but not only because of a rise in student numbers (which have suffered certain fluctuations over recent years, but which have generally increased – mainly due to the increased time required to complete these studies). The main reason for this growth has been the development of the complementary activities that the university has cultivated over the last few years in order to improve its administrative and bureaucratic organisation. Apart from its traditional activities and services, there has been a growth in its cultural activities and in such areas as the promotion and provision of general and consulting services. This development process has produced a need for larger spaces and (given the characteristics of the Italian urban system) above all urban spaces.

All of the above is currently taking place at a very special moment in Italy's urbanistic history, and one at which a number of special, new conditions have appeared.

predominant model favours a peripheral but – “despite this” – urban location, either within the first or second metropolitan ring, in provincial capitals or in medium-sized cities in neighbouring provinces. This choice carries with it a series of almost inevitable problems arising from the lack of associated services and infrastructures (particularly transport) that – as has already occurred – reduce both accessibility to the institution and its functionality. Such inconveniences are not only associated with “non-urban” universities, but may also apply in the case of some of the complexes recently located in denser urban fabrics. One such case is that of Bicocca, the old industrial area formerly used by Pirelli, which – after careful restructuring by Gragotti – now houses several departments of Milan's state university and offers a number of degree courses; though it still remains relatively inaccessible.



Distribution of university building in the Historic center.

1. For some time now, Italian cities have stopped growing. Along with the demographic decline, which became apparent in the country's major urban centres in the mid-1970s, there has also been a reduction in physical growth: in other words, recent urbanisation has tended to favour non-metropolitan areas, or non-urban areas with diffused settlement. All of this has created a certain degree of confusion with respect to the most appropriate programmes and criteria for "building the city". At the same time, more time and attention have been dedicated to re-qualifying and re-using not only empty urban spaces, but also large areas of the "modern" city, which have suffered progressive degradation due to the new processes of urban transformation. This has led to the emergence of new types of urban emergency intervention, including the cheaply built, popular housing areas constructed since the 1970s. These have since suffered a rapid economic and structural decline (as seen from some of the most famous and emblematic cases, such as Zen in Palermo, the famous "*Vele*" of Scampia in Naples, *Il Corviale* in Rome and *Il Pilastro* in Bologna).
2. In recent years, urban open spaces have been seen as presenting great opportunities, but also as requiring emergency attention. Their progressive "production" within the constructed city has not been unrelated with processes aimed at capturing the income that the city's development has guaranteed to areas momentarily deemed "interesting" (but which after initial use and interest, have tended to rapidly become

marginal and peripheral). The number of such spaces is on the increase, which demonstrates – as Folini has pointed out – the growing crisis of the city and its functions (which has not only been the product of technological change) as they have renewed, grown, and relocated, and then abandoned the city. This has produced: old factories and obsolete industrial installations, abandoned cinemas, theatres and petrol stations, empty prisons, abandoned slaughterhouses and markets, hospitals which can no longer be used, now-deserted port warehouses and even former churches. Some items of this patrimony are valuable, while others are of little interest. There can be no doubt, however, that the city offers a wide range of buildings that obviously constitute a “resource” (making it unnecessary to consume new land) but also an expense for the local community (which must take action in order to prevent irreversible degradation). This causes a situation of undeniable tension, which – in many Italian cities – has led to a veritable “*terror vacui*”⁴ due to the importance that it has come to assume for those engaged in designing the future city, drawing up plans and projects, and locating the main public facilities and functions demanded by the “modern” city.

3. After many years of supposed “crisis”, urban planning is now undergoing a rapid process of innovation, closely associated with the modernisation of the administrative mechanism. The reform of the local autonomies (Law 142/1990) has been followed by the transformation and strengthening of the powers of local authorities (which have given local mayors a more important role). This should have given the instruments of intervention greater authority (although perhaps not as automatically as the law seems to indicate), particularly in the field of urban planning. But, the most apparent novelties have been the innovations introduced as a result of the legal formalisation of the instruments of concentration (program agreements, service standards, area contracts, bases for negotiations, etc.). These should help to guarantee a minimum speed for decision making, to mobilise society, and to increase the number of urban agents and at the same time provide the flexibility that the traditional urban plans – or at least those applied in Italy – seemed to lack.
4. Recent restrictions on public spending, have led to a reduction in transfers from the state to local administrations. Greater autonomy has been conceded to local authorities for the collecting of local taxes, but this has been applied with extreme caution – mainly in order to maintain a political consensus – and while waiting for a “financial federalism”, which is taking a long time to appear. In the meantime, the State (or rather the Ministry for Public Works – though other ministries have also been involved, as in the case of the direct financing of projects for the social and economic development of depressed regions of the country) has been involved in numerous programs aimed at financing intervention projects within both the city

4. Fear of open spaces.

and its immediate territory. These actions partly follow on from European financing projects (such as the URBAN projects or the regional interventions included in Community Objective 5b) and also, in part, repeat (perhaps rather conventional and unrevised) models for intervention through residential developments (following a tradition that regards the building industry as “the locomotive of the economy” and housing as a recurring need for a population constantly in search of accommodation). Throughout the 1990s, numerous urban intervention proposals were financed and refinanced (often because resources were not assigned due to the lack of projects considered “worthy” of receiving funding). There was a successive “fine-tuning” of the techniques and mechanisms employed for drafting, presenting and evaluating projects, for comparing those presented by different operators (whether institutional or otherwise) and for favouring collaborations between public and private entities (and especially for providing them with financial resources).

5. In the last few years, there has also been a reactivation of the economy and, above all, renewed economic interest in the city. This was made possible (at least on the political level) by the “official closure” of the Tangentopolis⁵ case and the definition of “transparent” mechanisms for adjudicating contracts. This has led to a general mobilisation of the traditional agents involved in transforming the urban environment and has added new agents (including the university – with its renewed role and energy as a source of proposals for certain types of projects) representing some of the new tendencies in the field of urban transformation.

At this stage, it is important to stress the role played by co-operation between institutions (in both the drafting of plans and their execution) and negotiations carried out during the decision making process, as the key tools of the chosen policy. The traditional dilemma between “plan” and “project”, and the predominance of one over the other, can now be considered a thing of the past, with the generally accepted idea of the plan as a group of different projects that gain substantial coherence when combined in line with political will to transform the city. (Though it is not normally necessary to explain what the principles of this urban transformation actually are, or to express these ideas in terms of the – now somewhat conventional – figures of sustainability, integration, solidarity, inclusion, and quality of life, etc.)

In Italian society, there is a general “lack of confidence” in the ability of the plan⁶ to specifically and coherently guide interventions that affect the urban fabric and

5. Tangentopolis was the name of a legal case concerning political parties which received undeclared private financing in return for the granting of various types of “favours”.

6. It should be explained (for the arguments and reasons that follow) that I understand the plan as the moment of “legitimate” and “accredited” collective construction of a shared social and urban scene that may embrace the social and economic development objectives that a given local community seeks to achieve. It may also be defined by the different formulas – the property development project is one of possible, temporary tools of intervention – which range from the authoritarianism and state intervention of a synoptic plan to the participative flexibility of any of the other formulas that the city may wish to impose.

thereby either offset the negative effects of transformations, or even produce positive offshoots that might benefit the city and the local community as a whole. That is to say nothing of the “timings” of the plan, which are very long term and inappropriate for the rate at which modern society changes its plans, its characteristics, and its ways of interacting. There has, therefore, been no lack of criticism of traditional ways of correctly recognising and individualising (and therefore responding to) society’s effective needs, whether these are local, global, fragmented, multi-ethnic, or whatever..

It is not that the *project* offers answers to these kinds of demands, but rather that it has an undoubtedly fascinating form (being both tangible and precise). It also has a language that – in stark contrast to that of the plan – is easily understood and can be converted into the object of discussion and debate. All of this makes it a democratic organism: something that the *technicisms of the plan* (its language, its codes, and its representations) seem to make impossible. The project seems to offer the advantages of rapid production (thanks to its “more immediate” objectives, short duration, less general and more spatial content) and flexibility (due to the reduced number of people involved in the decision making process, and the – perhaps apparently – greater opportunities for debating their objectives).

It therefore comes as no surprise that – precisely because of these very different convictions – recently organised programmes for urban intervention (including those promoted by municipal administrations) have tended to challenge the plan and to reject its connections and associated ideas. In some cases this has served as an excuse for adapting and applying “outdated” rules to new social needs and to changes dictated by the city. In other cases, it has only occurred in order to access funding and take advantage of the presence of private operators (who are willing to risk their own capital in processes of urban re-qualification). Thus change, complexity, and flexibility have become the key factors conditioning the processes of change within the city and the formulation of the policies and strategies that – in precisely this sense – leave the field open for negotiations and co-operative actions⁷ whose limitations are evident, though often denied:

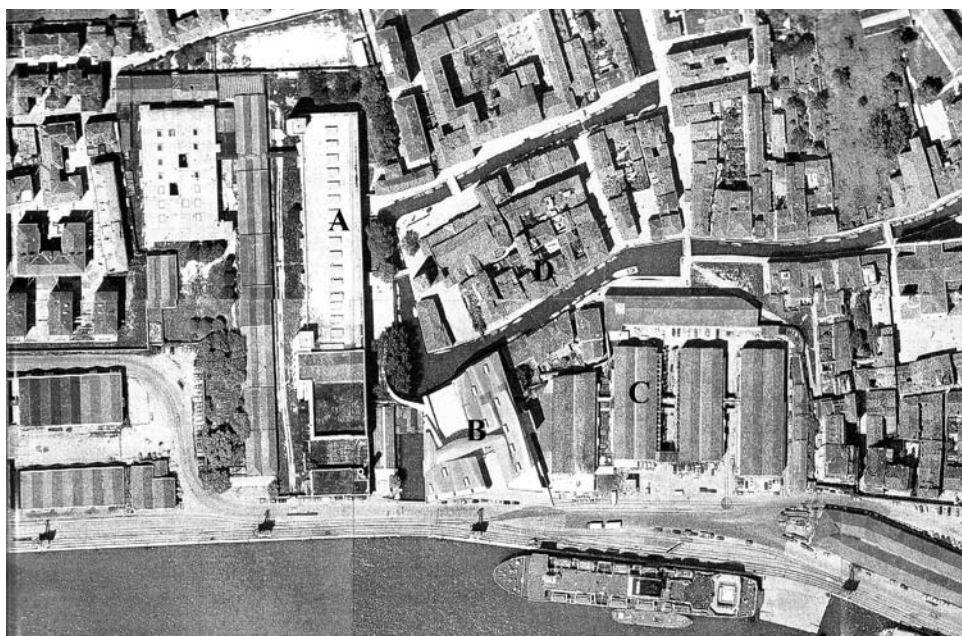
- A. The *time* factor: The time available tends to be short, as a result of the very specific nature of emergency actions (these include dealing with floods and landslides, but also with urban vacuums resulting from rapid physical degradation, or urban re-qualification associated with special funding provided by central government or a particular real estate operation). In Italy, the majority of major urban transformation projects have traditionally been associated with emergencies or urgent action (examples of which include the Umbria earthquake, the organisation of

7. The term “consensus”, which was so popular in the 1980’s, is no longer considered “politically correct”.

the World Cup football championships, the Palermo *Universiada* of 1977, and the modifications to Rome's infrastructure for the *Jubileo*).

- B. The *spatial* factor: Action only brings about the transformation of certain parts of the city. This effectively reduces the formal effects of renewal and also often gives rise to highly publicised “reductions in quality”.⁸
- C. The *political* factor: Actions and interests (of both private operators and institutions) are often quite *opportunistic* in nature. They tend to be linked to the exploitation of temporary funding, a particular set of economic circumstances, or a possible return to consensus in a process that results in fleeting alliances and weak strategies.

Negotiation is nothing new. It has always existed and forms part of urban dynamics. In fact, it is the way to autonomously “move forward” – without a minimum degree of integration or bonding imposed by general tools – in the *ex ante* definition



San Basilio and maritime station area seen from above: A. *Cotonificio Olcese* of IUAV; B. Former cold-storage by E. Miralles-B. Taliabue; C. Former *Ligabue* warehouse, building n° 7, nowadays holding the laboratory and studios of the *Facoltà di Arte e Design* of IUAV; D. Former *Convento delle Terese*, now holding some department offices of the *Facoltà di Arte e Design* of IUAV.

8. I would even dare to suggest that the mechanisms for mobilising citizens also assume exclusively local characteristics, which have no parallel in the processes observed in other districts and zones of the same city. I make this observation in reply to the general conviction that it is possible for just one of these urban processes to generate a generic collective reaction to degradation and thereby foster – an even more illusive – collective sensitisation to the problems of the city.



The seat of IUAV Cottonificio Olcese in the crowds of San Basilio.

of the basic rules of the game (guarantees for both institutions and private operators) that constitute the main novelty in today's national urbanistic scenario. This does not always, however, offer guarantees with respect to the quality of the projects, the soundness of the decisions taken, the duration of the agreements undertaken or their resistance in the face of ever-possible social, economic and political changes. In fact, each change of government brings with it the risk of reopening debate concerning projects that have either been previously approved or that are currently in an advanced phase of execution.

Italy offers numerous examples of (more or less famous and paradigmatic)⁹ "uncertain" forms of urban re-qualification, such as the great transformation of Lingotto in Turin, the Genova Expo, and the Mediterranean Games of Bari. The university has also participated in many of these projects (though in different ways, and to different degrees in various phases of the respective decision making process). It is possible to cite several examples including Milan's La Bicocca, or the vast La Fondiaria operation

9. The following are just a few of the many publications that have turned their attention to this question: See, INDOVINA, F. (a cura di) (1990), *La città di fine millennio*, Franco Angeli, Milano; INDOVINA, F. (a cura di) (1993), *La città occasionale. Firenze, Napoli, Torino, Venezia*, Franco Angeli, Milano; Dente B. *et al.* (1990), *Metropoli per progetti*, Il Mulino, Bologna; MORISI, M., PASSIGLI, S. (a cura di), 1994, *Amministrazioni e gruppi di interesse nella trasformazione urbana*, Il Mulino, Bologna; relating to the subject, PASQUI G. (1998), "Cosa sono (e perché sono importanti) le attese in un progetto urbano. Riflessioni a partire dal caso Pirelli-Bicocca", *Archivio di studi urbani e regionali*, n. 63.

in Firenze – which was undertaken in the Castello quarter of the city but took its name from the building company that carried it out. But, above all, the university has been involved as a promoter in interventions involving the reuse and re-qualification of the many open spaces that have become available within the urban fabric. The most well-known of these include the Gasometro area of Bovisa in Milan, the former tobacco factory and now disused fruit and vegetable market of Bologna, the former sugar factory of Cesena, the old slaughterhouses and some of the port warehouses of Venice, and abandoned army camps and convents in Perugia and Bari.

These are just a few of the many examples to which we could refer in Italian cities. They are not only examples of architectonic restoration and re-qualification, but also of innovative processes associated with the development of urban policies, and the establishment of new types of relationships and forms of co-operation between different types of institutional and non-institutional agents – whether public or private – if, indeed, it is still possible to make such a clear and precise distinction between the two categories.

THE UNIVERSITY AS AN AGENT OF URBAN TRANSFORMATION

In this area, I think that the “political” dimension of urban operations (encouraging *ex novo* settlements in cases of the emergence of new universities) proposed by (or in conjunction with) the university, is quite clear. I hope that the totally unique role assumed by the university as an agent of transformation in the city and the implications of this are equally clear.

From the perspective of the “plan”, it is clearly evident that the university presents itself as a potentially important partner for all the urban and (why not) regional development policies within its territory.

In this case, all possible hypotheses relating to synergies, transfers of *know-how*, the development of new professions, and incentives for creating employment seem plausible. And (to my understanding) they also find in the plan an instrument for their appropriate economic contextualisation, for the creation of positive synergies and for developing virtuous relationships. The plan, with its medium-long term horizon, allows more balanced cost-benefit analyses and more accurate evaluations of effects and possible impacts. Some recently concluded planning projects (and others that are currently underway) seemed to contradict what I am saying (examples include: Turin in the period of the Cagnardi & Gregotti PRG from 1992-1994; the present phase of the renovation of Venice’s old quarter; and Rome’s “*Il Piano delle certezze*”, which began during the first term of office of Mayor Rutelli and whose future has, for some time now, been hanging in the balance). But in all of these planning processes, it has been possible to detect all of the discrepancies and incoherencies associated with construction in a general shared space as well as the opportunities offered by the new urban tools, while many new projects have encountered difficulties in even getting underway.

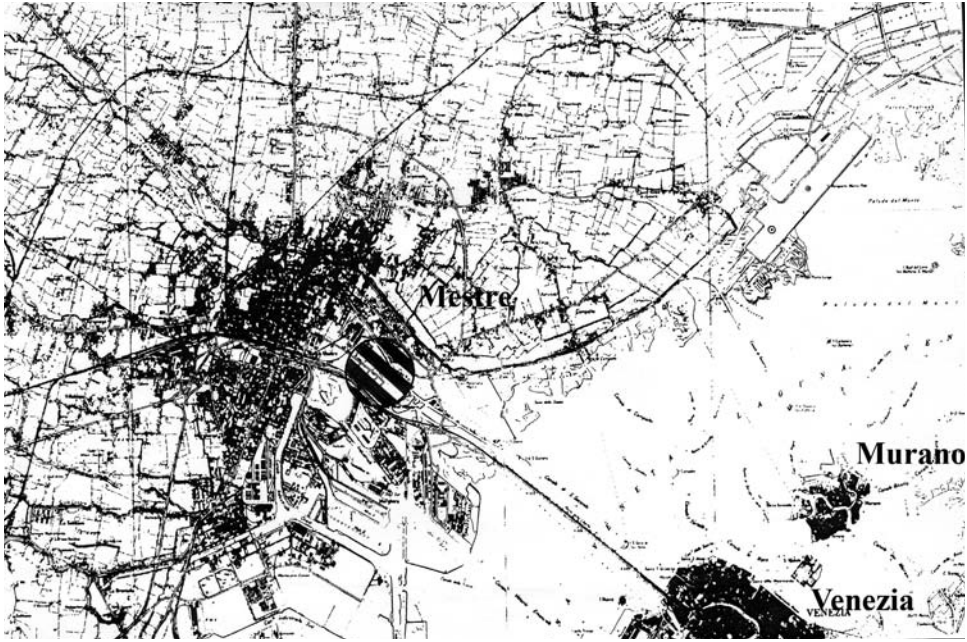
From the perspective of “project” (understood as the moment of activating a complex system involving general and sector-specific policies for urban development, the “fine-tuning” of planning objectives in order to take into account specific context-related factors – whether economic, social, or urbanistic, etc – and relations with the rest of the city), the university should assume a planning function and not seek to differentiate the qualitative aspects that the location of such an important and relevant function could acquire within the urban fabric. However, the planning that can be observed in many university projects for Italian cities seems much more related to certain speculative and housing aspects of these projects than to other more traditional and long recognised characteristics of the Italian system such as the *distortion factors* that govern procedures for building in the city.

1. First of all, we should examine the *emergency* character, as this sense of urgency is clearly felt by university institutions. This is seen in the congestion of the university, the overcrowding of its central offices, the diversification of its functions, the re-organisation of its didactic and research activities, the individualisation of new faculties and new study programs: all of which calls for the occupation of new spaces and for rapid solutions. To these objective factors, it is possible to add another, which – although important – is often forgotten: specific property transactions (which are frequent in cities that “fill empty spaces”). They lead the university to acquire spaces that can be transformed in line with subsequent needs and priorities. It is not always a case of “doing a good deal”: many “urban spaces” are difficult to transform (although they may be specifically earmarked for conservation or protection), above all when their characteristics and distribution – particularly in the case of industrial buildings from the first and second waves of industrialisation – are highly specialised and designed to perform one particular function. In Italy, re-cycling seems to be the most widespread of new building practices, as it often guarantees a less peripheral and de-centralised location with respect to the city centre and central university sites. In fact, many “empty spaces”, run down peripheral areas, and districts that need urban, architectonic, social and economic re-qualification are also regarded as emergency cases by the municipal administrations which (with ever scarcer financial resources) are called upon to administrate this patrimony and to limit the collective costs associated with these “empty spaces” and emergency actions (and their corresponding degradation, removal and substitution, maintenance, and safety).¹⁰

10. For more comments relating to the essential need to reuse areas within old quarters for the location of university functions, see CERVELLATI, P. L. (1997), “*Città e università: verso il riuso urbano*”, Casabella, n. 423, mar. On the other hand “attention to the fact that it is not a case of discovering the university as a driving force for a new “industrial archaeology”, as an analogy to the notion of the “historic centre”, which has so far been proposed and applied in every possible situation to the point of making (particular) extensions to the university (systematically) coincide with the development of historic neighbourhoods (...); it is not a case of manipulating the university in the process of giving a unique character and qualification to old and new guidelines for its growth” CANELLA, G. (1997), “*Il caso dell'area milanese*”, n. 423, mar.

2. There are other types of emergency action, such as the building of residential accommodation for students, though – in fact – this tends to be largely a secondary problem in Italy. On one hand, the demand for accommodation seems to have increased (while its supply has grown much more slowly), the general process of development and diffusion of the economic and social welfare of Italian families has made this investment sector less important within the general institutional equations of universities (with respect to the question of social redistribution and of guaranteeing access to higher level training that cannot be offered within this particular area). On the other hand, it may seem that the property market has largely been capable of offering suitable responses to students' needs, although its ability to evaluate students' demands (for example the supposed competition with residents for rented property) has often been called into question. The university's accommodation policy has therefore rarely been relevant, although Merlin has talked of university-related construction being "the keystone to relations between the city and the university".
3. The nature of the *great opportunity* for the city and its institutions: resiting and replacing become opportunities to confront some of the previously unresolved organisational problems of urban territory (the location of major waste deposits, the reorganisation of traffic and public transport, the re-qualification of some parts of the city, the development of certain services, and the reorganisation of the urban fabric). There is an opportunity for the local administration, the university and local society to talk about the city without initiating that planning process which so often seems "dangerous", counterproductive, and (as already pointed out) antidemocratic, and which is almost inevitably inefficient in terms of both its timing and procedures.
4. There is also an *opportunity* to accept what I have defined as "giving a sense of purpose to the plan". Despite its current crisis, the plan remains a very important document, and one that each administration feels "obliged" to draft, if only to pay lip-service to the law: it therefore comes as no surprise that the guidelines for its design may seem rather vague. Indications that are too precise could obstruct the possible transformation of areas and fabrics whose conditions for modification call for a degree of flexibility (with respect to final uses and urbanistic and building indexes) whose absence might otherwise deter private operators. Occupying the resources of whole areas of the city for indeterminate periods could – in the course of the long term nature of the plan (ten years or more) – constitute a resource for responding to any new needs that might emerge in the city. From this, it is possible to deduce that the plan may often contemplate *destinations for "shady uses"*.¹¹ In the plan, urban "empty spaces" often

11. There are, from this point of view, a number of rhetorical figures associated with urbanistic technique: the "polyvalent building", "multifunctional area", "directional area", "advanced tertiary centre", etc. that, not infrequently, make a poor job of hiding ambiguities and limited capacities for making



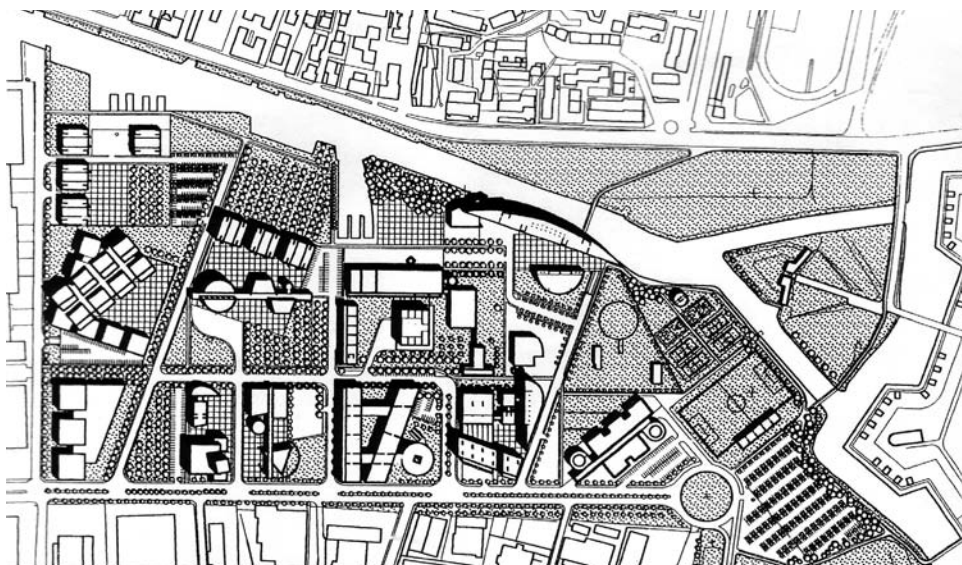
Between Terraferma and Centro storico: the *Baricentro* of the “bipolar” city in the area of via Torino.

remain “empty” and without clear and unambiguous guidelines. In certain cases, this has led municipal administrations (in cities such as Bologna, Milan and Venice) to specifically use the universities’ need for space in order to give these transformations a sense of meaning, a final use and a form of reuse. And as always in this process, some important aspects are thereby left unattended:

- The peculiarity of university space, which often needs well projected and organized space for specific functions; a need that, all too often, is simplistically expressed in terms of the useable surface area;
- The difficulties of transforming the typology of the buildings in question, which do not always adapt to other uses, but rather to the high costs and sacrifices (which are not always authorised by management) of the original characters;
- The location of these spaces within the city and also, in this case, – and leaving aside some of the specific needs of university services – a location which cannot appear to be indifferent to the complex urban system,

proposals. It is therefore no coincidence that these symbols have become increasingly frequent in recent urbanistic plans.

- because the university also needs to consider future progressive expansions, for accessibility and for the complementary services that it needs, etc.
- The effects that the location of the university may have upon the surrounding area, which are not always known, are not easily controlled, and call for “great care”.
5. Finally, the absolutely idiosyncratic character of the particular *operator* in question, presents numerous specific elements and raises many expectations with respect to the traditional context:
 - a. In the construction of urban policies, the university has (according to a somewhat *Manchean* distinction between the public and private) assumed a *substantially hybrid connotation*, which still persists in the decision-making process.¹² Although some doubts (which also stem from the nature of the mission and the public origin of its resources, which come from state transfers) exist with regard to its “public” nature which could justify a substantial participation in the objectives of the municipal administration, it is possible to affirm that its “neutral” character derives from the social role of the university (or rather from the impossibility of giving it a peripheral location).¹³ Mobilising



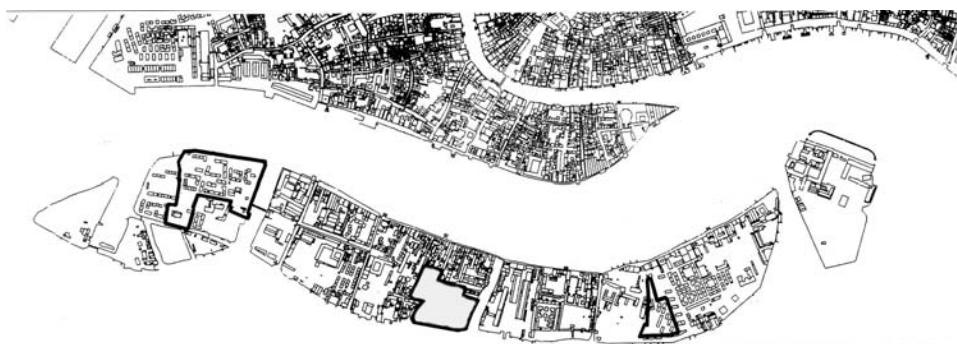
Renewal project for the University in Mestre-Polo di via Torino. Volum project.

12. This is the case despite the fact that several different analyses of policies have shown that the formulation of strategies and objectives would reveal no notable differences between public – even given the specific mission of pursuing the general interest – and private sector initiatives.

13. The arguments relating to the characteristics and roles that the university has assumed in the social and political contexts since the beginning of the twentieth century should not strike us as purely

other (generally distrusting – when not conflictive) private operators to work hand in hand with the public administration would constitute another specific resource. In this case, it is possible to state that the university appears as a possible “*provider of consensus*”, and is therefore an important factor in the development of strategies by public institutions and “in experiencing new forms of interaction between the different types of agent involved in projecting and carrying out urban transformation policies”.¹⁴

- b. The university appears to have *great financial resources* (with the possibility of accessing additional funding from both the state and the European Union) and few committed expenses (in comparison with the obligations of the public administration). It therefore has the capacity (on account of its supposed neutrality) to find other resources in the Ministries and also the possibility of mobilising other (private) funds through policies of “financial engineering” and *project financing* (mechanisms that are foreign to many Italian public administrations)
- c. It is possible for the university to reveal a *great capacity for proposing projects* and its intervention is implicitly regarded as that of a “bearer” of high quality projects (the designing of inert spaces and external public spaces are two examples of this). This vision is a joint product of its natural resource of know-how: the university’s capacity for technological innovation, the knowledge acquired from the structural characteristics of the (university’s, city’s, territory’s and society’s)



Isola della Giudecca. Area ex Junghans

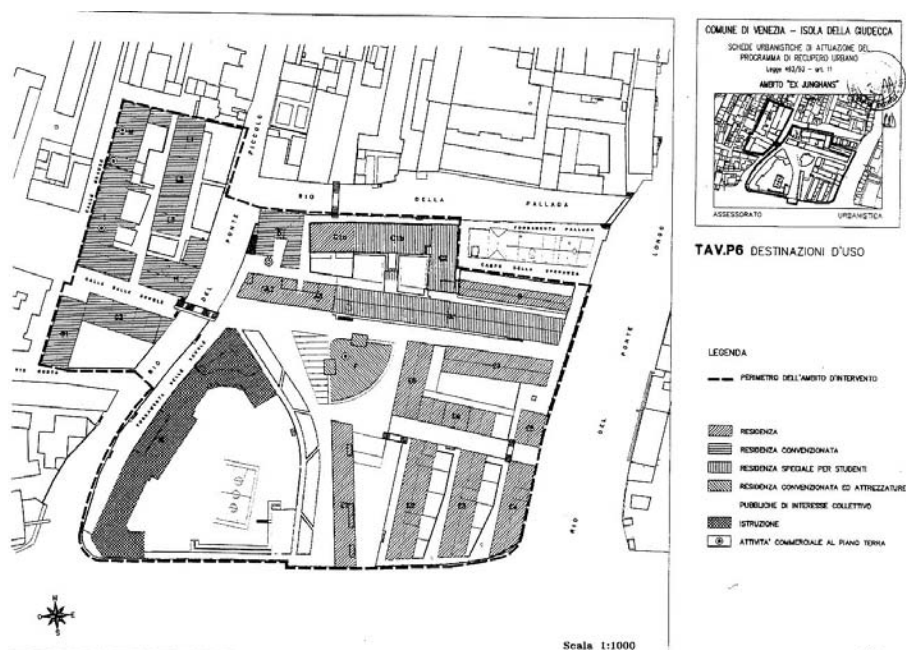
H Source: DINA A., ORTELLI P. (ed.), *Mille alloggi per Venezia. I programmi di recupero urbano e la costruzione della nuova città*, Comune di Venezia – Arsenale Editrice, Venezia, 1997.

rhetorical. In these last few years, in which there has been much talk about reforming the university, changing the means of entry and the nature of its relations with the outside world and with society and the market (with it having to assume the functions and strategies of a private company if it wishes be considered “efficient”), reflections about whether or not the university appears to be public have become important elements that have influenced such considerations as its mission, the distribution of its investments, and the most appropriate ways in which it should conduct its teaching.

14. See PASQUI G. (1997-1998), “Le università milanesi come attori urbani. Politiche, strategie e processi di interazione”, *Archivio di studi urbani e regionali*, n. 60-61, cit., p. 139.

problems, and the possibility of offering (the administrations, for example) a theoretical view and a state of the art analysis of specific problems and providing advanced urbanistic solutions, that contribute to the “renewal of the two institutions”.¹⁵ This is a type of *expertise* that could not be expected from any other urban operator (it is thus no coincidence that on many occasions municipal administrations ask the university for advice about particular aspects of urban problems).

- d. Finally, the university could guarantee the *establishment of collective goods and services for all city uses*. In many cases, the services and facilities that universities create are neither specialised nor extraordinary, but rather just the opposite. The services that they provide that exceed the characteristics of their functional specialisation (sports installations, car parking facilities, green areas, meeting points, libraries, auditoriums and exhibition halls) may therefore contribute to the offer of a complete system of urban services in the same way that they take advantage of certain urban resources (urban transport is used everyday by students).



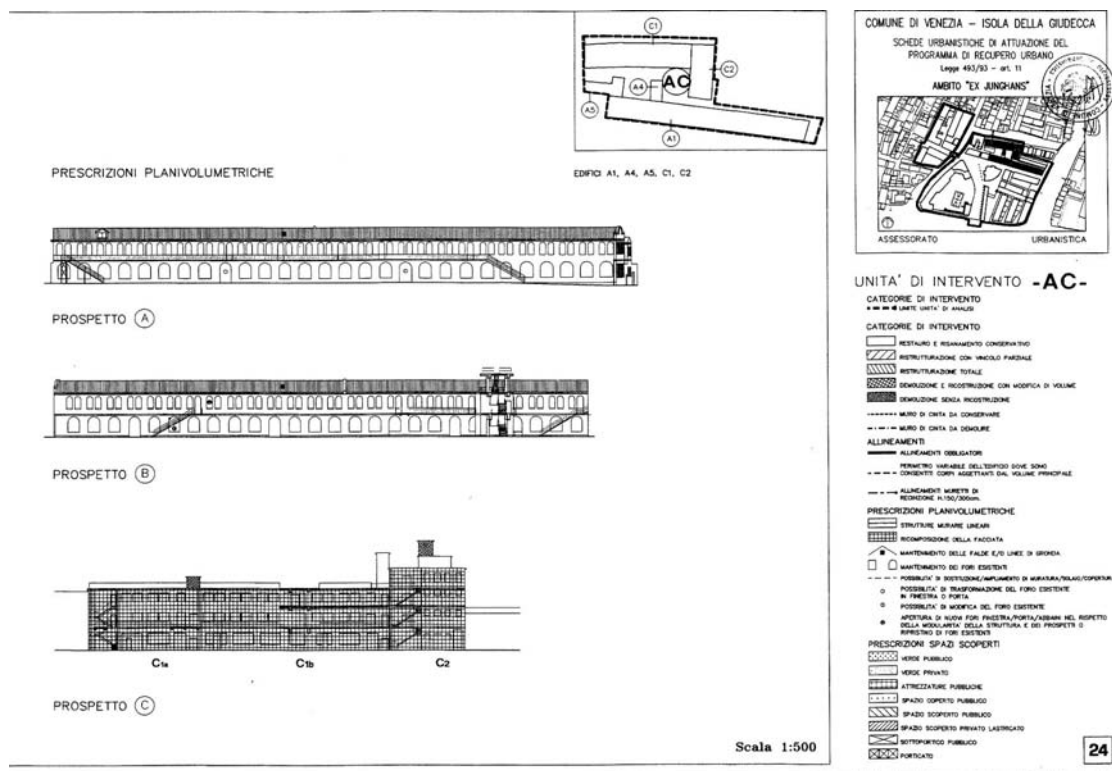
Isola della Giudecca. Project of renewal of area ex Junghans. Source: DINA A., ORTELLI P. (Rds), *Mille alloggi per Venezia. I programmi di recupero urbano e la costruzione della nuova città*, Comune di Venezia – Arsenale Editrice, Venezia, 1997.

15. AYMUNINO, C. (1977), “Riflessioni oltre l’esperienza veneziana”, *Casabella*, n. 423.

And the university also manifests clear expectations with respect to the municipal administration. For example, it demands the clear recognition of its own prerogatives, or rather an open and unconditional acceptance of its proposals and the chance to have a say in the (urgent) priorities that directly concern it, as opposed to the many imposed by the city in its everyday transformation. This implies accepting a general flexibility of the established norms and even repealing some of the main points of the plan, on account of its (real or supposed) "social role".

It is pointless to say that this "game between sides" causes further misunderstandings and conflicts. It is necessary to remember that so far we have treated (in order to avoid entering the labyrinth of public institutions) the university as a single unified, coherent and expert protagonist. But if we look around at reality, we see that such a figure does not exist.

The university is, in fact, a heterogeneous and contradictory universe whose students, teachers and administrative and technical staff coexist without necessarily sharing objectives, strategies, knowledge and techniques. I believe, however, that due



Isola della Giudecca. Project of buildings rehabilitation for students accomodation, Source: DINA A., ORTELLI P. (eds.), *Mille alloggi per Venezia. I programmi di recupero urbano e la costruzione della nuova città*, Comune di Venezia - Arsenale Editrice, Venezia, 1997.

to this particular aspect, the theory of organisations may have made a significant contribution and largely helped to explain the associated problem of conflicts, fragmentation, power of information and informative asymmetries.

The “group of experts” is not always, therefore, *expert* in the matter. At times all of this “knowledge” that the university concentrates, but does not share at different levels, proves insufficient. On the contrary, the group as a whole can lose its legitimacy and be undermined by other members of the same university who do not recognise its role.

Choices of general interest may be blocked by demands from specific groups within the system. The plans of an enterprising principal (often supported by the decisions of the faculty council or other representative organs) can be thwarted by staff opposition to the relocation of university sites, or by student protests.¹⁶

As this is often the case, property-related policies within the university will consequently tend to be prepared by a specific sector of the university administration that is often deprived of any direct knowledge of the real needs of the institution, faculty, teaching staff, students and research centres. Such bodies also tend to be relatively insensitive to the proposals presented by the different *partners* who participate in operations involving urbanistic interventions and are equally insensitive to urban issues in general.

Many of the conditions that supposedly favour the success of processes of urban re-qualification or concerted construction simply do not exist, because:

- The university does not seem to take a single, homogenous position with respect to a particular problem or a particular solution. To the contrary, on many occasions (whether through debates in the press, directly at the moment of defining proposals, or at moments of confrontation with other institutions and operators) the contradictions and conflicts that may arise within the institution become apparent, and these often disorientate the public administration and other associated operators.
- The proposed projects may seem “poor” or may directly conflict with other objectives of the administration, thus giving rise to clashes that cannot always be resolved by a reconsideration of interests and the introduction of limited modifications to projects or other aspects relevant to the project. At times, it seems surprising that, even after finding a good solution, the university remains unable to offer and share a description “of the problem” in question..

16. For example, the Italian student protests of 1994 and 1996 (the protests of the “Pantera” – as that particular process of student mobilisations decided to call itself) clearly revealed the close links between a series of different questions that were equally urgent (ranging from the content of what was taught and the re-organisation of syllabuses, to improvements in classroom conditions and student space and demands for a more efficient administrative system) and that influenced the choice of a particular university model that had to adapt to changes in society.

- The financial resources available may not be sufficiently abundant. Many re-conversion projects (for old factories or other structurally similar buildings), and the simple act of acquiring open spaces, have proven particularly difficult to manage and complete without encountering interruptions, changes in the course of building work, and/or changes in the size of the project. This is exactly what happens with other urban projects that receive no type of “help” from the ministry or from any other public administrations.
- The requested *consulting* or “*expertising*” phase may lead to conflicts within the university institution or cause competition between the university (with respect to companies entering the market, even though they may be specialised providers of “strange” services) and either the professional world outside, or even its own components (in the form of self-employed workers operating in the same markets). Furthermore, it should be stressed that this is a particularly frequent phenomenon, above all in places where faculties of architecture and engineering have been called to solve the urbanistic problems of their respective cities and where – as has occurred in these years of financial autonomy – the university has been impelled to search for new financial resources and to “externalise its own services”.¹⁷
- The *university frequently makes use of the city*, giving little in exchange. Many of its “banal” amenities are effectively closed to other users unless specific agreements, contracts and memberships are negotiated (for example, the CUS - the University Sports Centre). Many university buildings appear “introverted” and, except on rare occasions, remain closed to the city and its general population. It is not therefore possible to defend the argument that the mechanism of building common goods – so often referred to in the case of urban/university services – is both immediate and automatic. It is also easy to find mismatches between the timings of the university (when building its installations) and of the administration (when preparing infrastructures and adapting services; under a “happy agreement”) and

17. Operations that sometimes run the risk of impinging upon established corporate interests (these are present in the Italian case, but also elsewhere). Staying with the specific case of Venice, the IUAV's external offer of a projection and territorial planning *service* (with the constitution of the ISP srl-IUAV Services and Projects) has met strong resistance and opposition (with the corresponding legal actions) from local professional interests, which have forced it to limit its activities to a specific field of action. Even so, the ISP has recently received a contract from the Ministry for Public Works to design the new Mestre by-pass (following the failure of the Venetian Region, the province of Venice, and Venice City Council to provide a project meeting with the consensus of all the corresponding municipal authorities and public bodies). In this case, it can be supposed, that – in addition to the technical preparation of the ISP – there is also a need for “political neutrality” in the projected technical solutions. Another example is provided by the CRU (Urban Research Centre) of Ferrara's Faculty of Architecture, which has succeeded in finding a way to collaborate with local institutions and the Emilia-Romagna region in the areas of training and research and in the drafting of plans and projects within a totally different political climate.

for these temporal differences to result in difficulties for accessibility, the marginalisation of some university structures, or the overcrowding and imposition of functions in other parts of the city.

- Another question which remains to be resolved concerns the supposed benefits (other than simply its prestige) that the university offers to its host city: these are not always unanimously well received, either by the collective consciousness or by political propaganda. The experience of Padova reveals strong competition between the city's "university" and "traditional urban" uses across wide areas of the urban system. This has been particularly noted in the form of an aggressive university policy, which has led to functional specialisation in an area containing a high concentration of university amenities, with processes of residential substitution, rather than "polarisation"; changes in the commercial network; a reduction in the provision of family services; and specialisation for users of the university.¹⁸



Giudecca island. Facade of the students accomodation building in the Junghans factory area.

18. This is what emerges from a recent study of urban degradation which was commissioned by the IUAV, and which centred its attention on the area lying between the belt formed by the walls of 15th Century Padova – which lies in a zone called “*degli Ospedali*” (Via Gradenigo, via S. Massimo) and is characterised by the invasive presence of university clinics and other institutions that form part of the university of Padova. See. Padovani L. Et al (1999), *Social exclusion in European neighbourhoods. Processes, experiences and responses*, Italian report for EC Framework 4, area IV, Venice, Feb.

Bologna, the epitome of a university city, has never hidden the conflicts between its students and residents. These have been constantly reflected in the interventions that have accompanied the changes carried out in the old quarter of the city in recent years, and above all with respect to the burning question of *safety* in the university district of Via Zamboni (this safety was, in fact, the main focus of an electoral campaign that brought about a radical change in the political colour of the city's administration).¹⁹ Other similar, but not so important, situations are clearly evident in many other university cities, including Venice (where the feared and much criticised competition between university students and local residents has never been fully verified – due to both a lack of data and a lack of transparency in the sector), and show that the perceived conflict does exist (if only in the collective imagination). As a consequence the *city-university* partnership is not always a winning combination (from a political and propagandistic point of view) and cannot always be taken advantage of; it is not always possible to pursue a *joint venture* without a certain element of risk.

VENICE: EXAMPLES FROM AN “UNEXCEPTIONAL” CITY

I will take Venice, which in comparison with other more renowned university cities presents an undoubtedly *smaller* dimension of this phenomenon, as an example in order to underline some of these often forgotten political questions:

- The number of students involved is “ridiculously small” compared to other Italian university cities,²⁰ particularly if we compare data with other cities with a longer university tradition, such as nearby Padova or Bologna.²¹ This is a *small* system

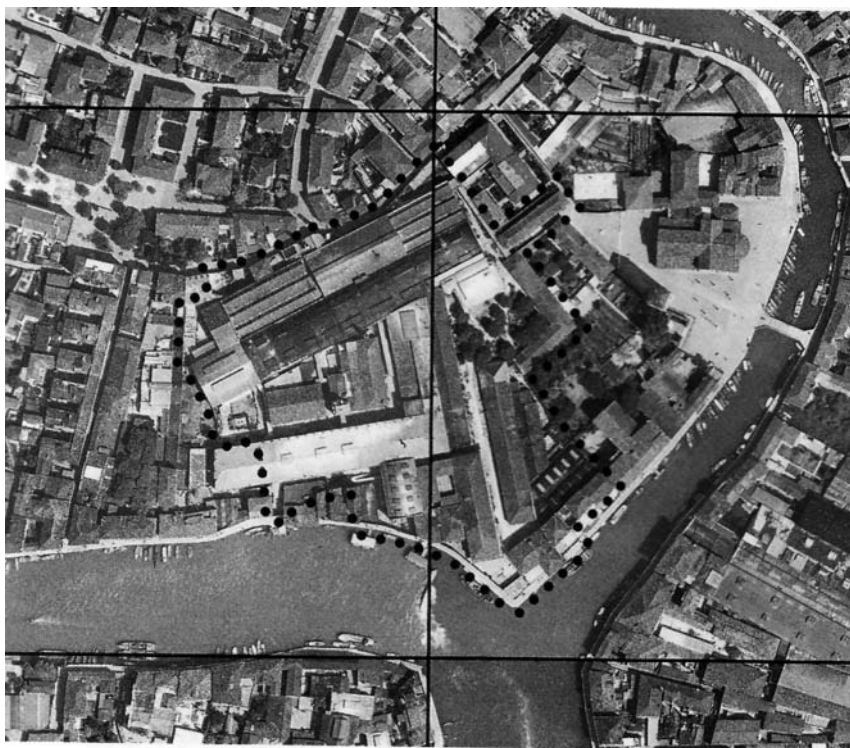
19. In the 1970's Bologna witnessed some of the most violent scenes of youth protest and the memory of those events is still very much alive in the minds of the population that lives in the old quarter of the city –which contains the largest number of centres– particularly in the Via Zamboni neighbourhood –in which university specialisation was actively opposed by local residents. See. Legnani F. (1997-1998), “*La dotta Bologna: da Alma Mater a Città europea della cultura nel 2000*”, *Archivio di studi urbani e regionali*, n. 60-61. A very different idea, speaking of “perfect integration” is presented in CARDELLINO, L. (1995), “*Lo sviluppo dell'università su scala urbana e regionale*” *Appunti di politica territoriale, Politecnico di Torino*, n. 7.

20. In the period 1998-99, Venice's universities matriculated 27,721 students, of whom 17,771 matriculated at the University of Ca' Foscari (with 3,186 enrolling and about 40% with subjects pending from other courses) and 9,950 at the IUAV (with 1,054 students matriculated and 47% of the total with subjects pending); a teaching staff of 707 (with 497 level I and II lecturers and researchers at Ca' Foscari and 210 at the IUAV); a technical and administrative staff of 946 (with 508 at Ca' Foscari and 239 at the IUAV). These data have been obtained from MURST (1999), *Il sistema universitario italiano. La popolazione studentesca e il personale*, 1998-1999, Rome, Oct.

21. At the same time Padova had a university system in which 60,290 students were enrolled (with 16,689 matriculated and 23,619 with exams pending), 2,096 teachers and researchers, and a technical-administrative staff of 1,891. Bologna registered 91,374 students (with 17,065 enrolled and 27,950 with exams pending), 2,622 teachers and researchers, and 2,443 employed as technical and administrative staff.

compared with the best known and most frequent of the *city's users*:²² the tourists, whose presence can imply as many as 10 to 12 million movements a year. It is also small in comparison with respect to the city's resident population - which numbered 292,591 in 1998. Yet its relative weight significantly changes if we base our comparisons on the 68,180 inhabitants who inhabit the old quarter, which is where all of the university activities are concentrated.

- The university complex itself is not particularly big (Ca' Foscari has about 27 centres and the IUAV has 9 – without taking into account the other associated centres that have developed on “dry land” or in other provinces), but it seems “well spread” within its territory, where – little by little – it has gradually occupied more and more spaces (including former palaces, abandoned industrial sites, ex-slaughterhouses and former convents), especially in the neighbourhood of Dorsoduro-Sta. Croce-S. Polo, to the south-west of the Canal Grande, in the area between C.po Sta. Margherita and the port area of Sta. Marta, which has become generally regarded as a “university zone”.



Murano island: rehabilitation and reorganization project for the former area of Conterie.

22. See MARTINOTTI, G. (1993), *Metropoli. La nuova morfologia sociale della città*, Il Mulino, Bologna.

- As an economic mechanism, the University of Venice would not seem particularly important, if it were not for its location next to the old quarter, where – in recent years – there has been a weakening of the tertiary sector-management-administration function (mainly due to such factors as accessibility, congestion, and an increase in the price of housing, etc.) and an increasing specialisation of the economic base in the tourist and visitor sector. Within this context, the development of the university system²³ has been supported by recent municipal administrations as a potential source of diversification and means for revitalising the local productive system.

With specific reference to this context, I would now like to “tell” a few stories about “*normal* construction practices in the city”. Although the university has actively participated in these decision-making processes, I think that it is still necessary to provide a short introduction to this question.

Every time that Venice is used as an example, there is a certain implicit element of risk. There is the risk (for the narrators) of not being *believed*, above all because everyone thinks they know Venice (which is true to a certain extent, as we know what tourism and the market have sought fit to tell us about Venice, and in part, that is what Venice is slowly becoming; a parody of itself); or else we are overcome by the exceptional character of Venice, which makes all the great events associated with it “unique” and impossible to repeat, but which also turns them into everyday events that are carried out in the city. This, however, denies the “normality” which both Venice and its inhabitants seek (which undoubtedly contrasts with the wishes of the international community, which seeks to preserve it, yet also prevent it from changing with time). In the same manner that the ways of life and needs of the citizens seem completely “normal” to us, the municipal urbanistic plan – leaving aside the exceptional urban fabric – also seems “normal” and does not appear to present any exceptional characteristics.²⁴ Just from this initial hypothesis, it is possible

23. A development that has taken place without there being a specific plan or programme for the two Venetian universities. One option would have been to provide them with a 3-year development and growth plan that –although perhaps written and passed by the consultative organs of the two universities– would, in any case, have been suggestive rather than prescriptive with respect to the workings of the two institutions.

24. Venice has been trying to find itself a general plan since as long ago as 1962 and in the meantime it has undergone major transformations without any urban tools. This lack of an action plan has simply postponed the general confrontation between the city and its destiny. The future of the city appears increasingly uncertain: due to the major industrial crisis that has hit Porto Marghera (one of the largest industrial complexes in the country, whose destiny is closely related with the fortunes of the chemical industry which entered a major crisis in late 1970's and which has only survived due to state support); due to the polluting of the bay and the increased frequency of the “high water” phenomenon; due to the rules governing the tutelage of its historical-monumental patrimony and limitations regarding the possibility of transforming its historical typologies; due to the development of tourism; due to the exodus of the original inhabitants and the loss of employment; and due to the ageing of the local population. The debate is ever more complex and controversial and often reveals a very short-sighted

to appreciate the value of these examples, which help us to understand how the university is a contradictory – yet at the same time incredibly necessary – agent of urban transformation: it presents a series of contradictions, yet at the same time is necessary for the development of both the city and its community.

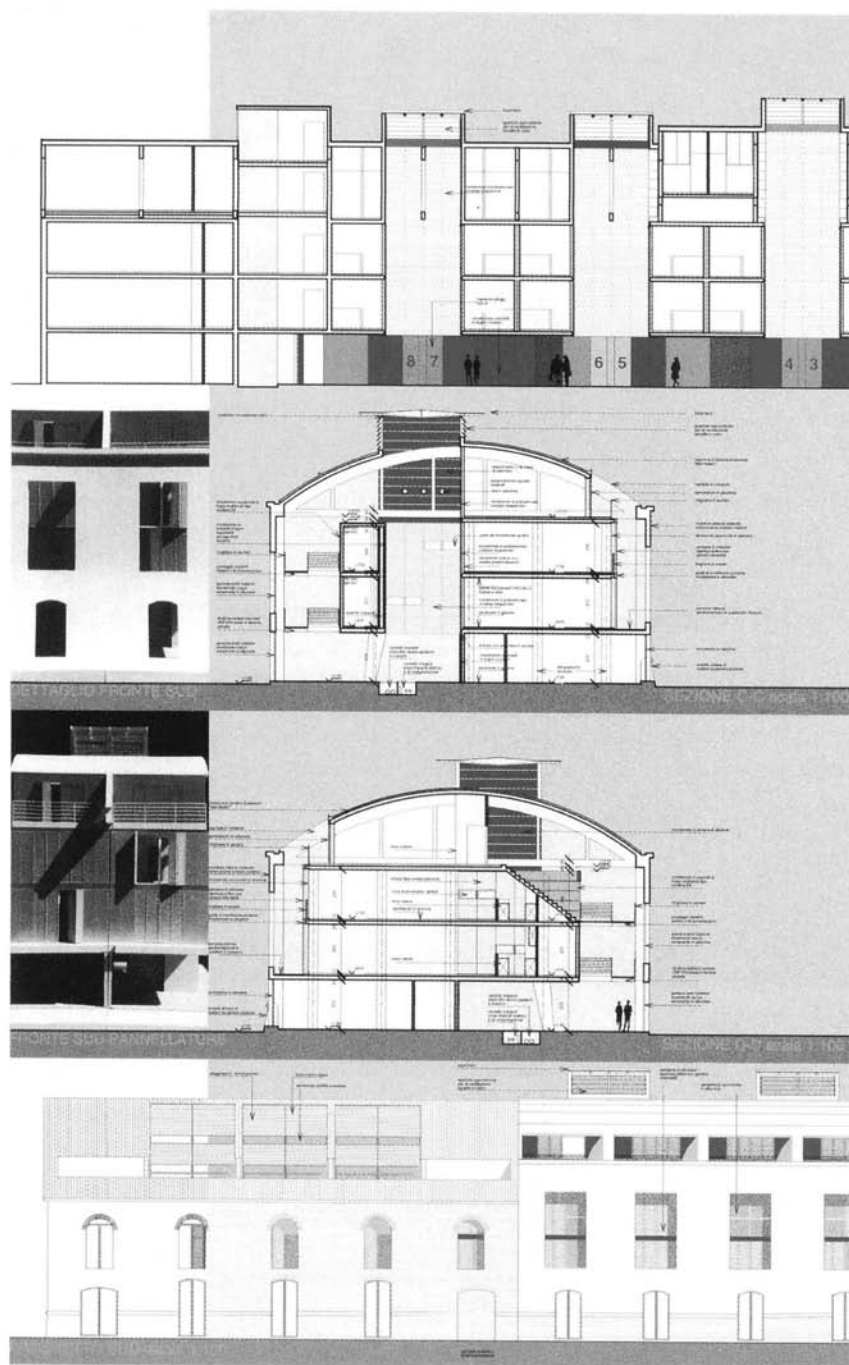
The University of Arsenale

In 1952, the Commander of the Italian navy, and historical heir to the great structures of Venice's naval arsenal, announced the progressive scaling down of the naval base (with the transfer of shipbuilding and ship maintenance facilities and associated personnel to other Italian ports) and the transfer of property rights over the site to the municipal authorities. This area, which lies between four buildings (from different periods, which range from the end of the 14th Century to the 1950's), large and small docks, and unused land, covers a total surface area of nearly 45 hectares (of which 11 are water) in the eastern part of the city. This is a fundamentally important area for Venice's industrial economy. Since the 19th Century, its gradual decline has had a series of repercussions that have not only led to the impoverishment of the eastern part of the city (called Sestiere di Castello) but also to its progressive marginalisation. This has also been exacerbated by the construction of a bridge across the bay, which has led to a concentration of activities in the north-eastern part of the city (called "*testa di ponte*"), which has now become the most readily accessible part of the city and is more attractive and dynamic than the old quarter.

Since the times of the PRG, the debate over the possible uses of the Arsenale has continued amongst doubts, ambiguities, provocations, delays, and promises made, but later unfulfilled.²⁵ The first of these unfulfilled promises was its demilitarisation – which has yet to begin – though the Italian navy does not seem to maintain much interest in the area. It has been particularly inactive in restoring and maintaining historic buildings, despite repeated calls for such action from senior officials

view of the needs of the city and of the possible solutions that could be adopted. The PRG of 1962 is currently being reviewed through two general Variants, one for the mainland area (which currently awaits approval by the Venice Region) and another for the historic centre, which the City Council began to develop in the early 1990's and which has benefited from assessment from L. Benevolo since 1994, though which has not yet been completed and officially presented. For more information, see BENEVOLO, L. (1996) (edited by), *Venezia. Il nuovo piano urbanistico*, Laterza, Bari; AA.VV. (1997), "La costruzione del nuovo piano urbanistico di Venezia", Dossier n. 6, *Urbanistica Informazioni*, n. 155.

25. Amongst those of other types, there has been no lack of speculative and property-related proposals, such as that suggested by the Fiat-Cigahotel group in the late 1980's or those that sought to transform the area into a tourist terminal for cruise ships: a possible "access point" to Venice from dry land, a tourist port, etc. As in the case of the project presented for the Expo universal exhibition, which should have been held in 1997 (ironically marking the bi-centenary of the fall of Serenissima), the project was averted by an international petition signed and presented by intellectuals, economists, actors and VIPs.



Murano: island: elevations and sections of the students accommodation building in the former Conterie area. Source: DE MICHELIS M. (ed.), *Venezia. La nuova architettura*, Skira, Milano, 1999.

and members of the public administration. In recent years, some areas have been reused for fairs and exhibitions (for example, Le Corderie – and not just for the *Biennale d'Arte*). Less attractive areas have been occupied by building activities and advanced research within the same sector. This has renewed the traditional controversy concerning productive activities and their compatibility with the future of the city. There is the old question of whether to launch Venice as a “productive city” (with a vocation for maritime activities or research) or whether to confirm its image as “the city of art” par excellence, and thereby definitively committing it to tourism and preferring fairs and museum exhibitions (which are more compatible with safeguarding its historical patrimony).

In 1995 the IUAV – that at the time was facing the internal problem of an extension and change of location within the old quarter (which was chosen as the centre of activities for all administrative, research and didactic activity) – proposed transferring all of its functions to the Arsenale. The project was very ambitious: a large complex meeting the needs of a complete re-organisation of the institution and the reunification (and co-ordination) of the faculty's different activities. From an architectonic point of view, the land available at the Arsenale offered more than enough space for conventional activities and also a highly suggestive environment (especially for the faculty of architecture). Furthermore, with its own financial capital (that in part came from a law expressly passed to help Venice and that set aside specific funding for Venice's universities) and *know-how* (for some time now the Arsenale has been a research centre specialising in restoration techniques and a practical workshop for testing the urbanistic and architectonic projects of the faculty's students) the institution can participate in the recovery and restoration of a number of different sites and thereby open the area up to the citizens who, even today, are effectively denied access to it other than on special occasions and under very specific conditions.

The reaction of the public administration seems to have been quite reserved, we could perhaps even say cautious, but it has generally been in favour of intervention. The old and difficult problem of the final functional use of the area seems to be moving towards a solution and the university seems to inspire “confidence”. However, as has always been the case in Venice, there is no strategic document or program for the future organisation of the city to allow a logical and objective evaluation of the main aim of the project: as a result, this move could be interpreted in many different ways.

On one hand it is believed that the change of location from the IUAV to Castello could revitalise the area, bringing new economic activities, and stimulating the property market through an increase in demand for accommodation (from students and teachers). On the other, there are fears that the neighbourhood could lose even more of its original inhabitants (expelled by the new student residents, who are only temporary residents, who tend to have few roots in the city, and whose stays are linked to other temporary activities) and that the few traditional crafts and commercial activities that

still remain will be replaced by relatively “unskilled” activities (such as snack bars and photography shops, etc.). The local press recognises the positive side of locating the university in one of the most important parts of the city and giving it recognition as an important function within the city’s economy. However, other economic institutions are opposed to this distancing of the Arsenale from the traditional functions (traditional crafts and shipbuilding) with which Venice’s fortunes have long been associated and which they think should be supported and strengthened in order to guarantee the use of the Arsenale. The municipal administration has chosen a neutral role and adopted a stance that seems increasingly complex, but in this way it has avoided having to make a more general reflection upon the social and economic future of the city.

Opponents have also emerged within the academic institution itself. Some of the teaching staff – who had initially voted in favour of the change of location – have since decided to oppose a project which they now see as too expensive, too difficult, and above all, not sufficiently functional. In local newspaper articles, they agree with some of the more recent proposals that have emerged from public debate, but which are not, however, supported by any official institution. There is no lack of criticism from the university’s technical and administrative staff. They oppose the concentration of activities at just one location and the move to a site which they consider too peripheral and which would imply a longer daily journey to work for most employees, who tend to live in Mestre or in other parts of the metropolitan area. The guarantees offered by the public transport company (that for the first time has found itself faced with questions related with a special type of client that is not one of its two traditional types of service users – tourists and local residents)²⁶ and its willingness to study possible solutions in order to improve its services do not seem sufficient.

The position of the IUAV seems less certain, and particularly weak in the face of public opinion.

The main subject of discussion is the same as ever; the project presented by the university itself. The administration has not put forward any proposals and no new guidelines seem to have emerged since the beginning of the general modification to the PRG – which is still underway. There has been increasingly clear opposition from the heads of the municipal government, who oppose moving the university to the Arsenale as they believe that such a move would do great damage to the typological and structural characteristics of the buildings and would alter the organisational stability of the whole area.

26. Since 1999 the ACTV (a public company that manages and provides local public transport for Venice’s metropolitan area) has introduced the *CartaAteneo* – a specific series of facilities and special tariffs for modes of public transport in the historic centre, which is aimed at university students who do not live in either Venice or Veneto (who can obtain the *CartaVenezia* that allows them to use the public water transport network at “social” rates, paying a quarter of the ticket price charged to tourists and non-residents using the same transport network).

The issue, which progresses amid favourable indications (based on the recognition of the economic and life-giving role of the university in the eastern part of the city) and the adoption of precise positions against the project (on account of the incompatibility of any “modern” function – other than a museum – with such particular monumental sites) was interrupted in 1996 when, following demands from the heads of the municipal administration, the Minister for Cultural Heritage intervened and definitively suspended the project with the justification of maintaining architectonic integrity and respecting the existing monumental complex.

Despite its emblematic nature, this development has yet to become common knowledge. It does, however, provide an example of the city’s incapacity to discuss its own future and to find a solution that satisfies both the functional uses of its spaces and its future organisation. We are talking about the future of a large urban area, about relations between different institutions and between these and local citizens (who are generally excluded from proceedings), about difficult interactions between government entities, economic institutions and cultural bodies, and about an explicit reflection upon the importance of the university for the city’s economy. We are talking about the future of the city, its productive structure and its economic base.

However, the “exogenous” nature of the interventions that characterise many of the decision-making processes that concern the city²⁷ remains a determining factor for the future of Venice and, if we agree to regard decision-making processes as *social learning* processes, of “collective learning”: this prevents the city from deciding its own future, due to its ambiguous relationship with its tourism.

Sta. Marta and S. Basilio: a pole of excellence for re-qualifying the periphery

There is a periphery in the old quarter of Venice that is so conventional that it seems almost impossible. It is conventional in its origins and location and also in terms of its degree of degradation (its main characteristics). It has grown up on the “fringes” of the old quarter since the fall of the Republic. The *waterfronts* obtained have improved the general image of the area by reflecting the waters and creating new islands at a time when Venice saw no other residential alternative and sought its future in industry and commerce. The area continued to expand, above all in the eastern sector, following the construction of the railway bridge, and gradually grew with the addition of different types of building and, above all, the development of new port facilities, the duty free zone, warehouses and docks. These were later joined by new technological and industrial facilities (the old gas works and the aqueduct complex) and also relatively cheap residential neighbourhoods.

27. For an intervention justified by the “mechanism” for safeguarding Venice, as its “World Heritage Site” status brings the city 2,000 million lira in state financing for its tutelage and upkeep, as well as considerable international funding, which it uses to recover and restore its monuments.

This gave rise to a new periphery with an unequivocally Venetian character, which technological innovations, limited accessibility and the decentralisation of production have – since the 1950's – converted into a problem area in need of re-qualification. The planning instruments of that time only partially foresaw a possible change in the use of this area; a rationalisation of its port activities and the possible location of the university (the IUAV had bought a 17th Century building called the *Cotonificio Olcese* and the University of Ca' Foscari used some industrial warehouses as centres for some of its courses).

In the late 1980's, the survival of Venice's commercial and industrial port was closely associated with its transfer to a dry land location. Porto Marghera (which offered suitable areas and facilities meeting modern logistical requirements for the movement of merchandise) and the passenger port (for cruise liners with ever greater capacities) were definitively transferred to the western-most part of the old port area. The whole S. Basilio Sta. Marta area (the old naval station and the free port area) needs a new use and, above all, needs to be "reincorporated" into the urban fabric. It has been separated from it by years of functional specialisation and by a high brick wall, which has also effectively isolated the Sta. Marta neighbourhood, and has previously had to develop behind this barrier.

From 1987 onwards, a number of different projects have been drawn up for the area,²⁸ and as the years have passed, the idea of the IUAV-Ca' Foscari university pole – with all the necessary complementary facilities, university residential accommodation, etc. – has gradually gained more and more supporters. This idea has become consolidated in the collective consciousness and in administrative practices, though none of the projects – some of which have been prepared by the municipal authorities – has been formulated as an urbanistic tool.²⁹ A formal decision would allow the concentration of the university centres and would remove the need for subsequent

28. For a more complete review of the urbanistic history of Venice and details of other recent projects, see. Savinno M. (1993), "Progetti per una Venezia tutta da inventare" in Indovina F. (edited by), *La città occasionale. Firenze, Napoli, Torino, Venezia*, Franco Angeli, Milan. For an idea of more recent projects, see. DE MICHELIS, M. (1999) (ed.), *Venezia. La nuova architettura*, Skira editrice, Milan.

29. From the few documents that provide an insight into the choices involved in the General Variant plan, we know the terms of the rigorous tutelage of the historic built tissue (through the "philosophically correct" evaluation, recovery and restoration of the historical typologies, which with their minimal propensity to change, have once more become a model for intervention in the existing patrimony). With reference to the large areas of transformation, it seems that the Variant seeks to coherently take into account the agreements and interests of recent years (in a pretence to show the unity and continuity of political and urbanistic interventions) having approved many interventions. The same has occurred in the case of the university (and has been included in a general chapter entitled "major services"). "The regulating plan will confirm the programme agreed upon by the Municipal authorities and the two universities (...) thus, seats in the old part of the city, movements and cases of new settlement continue to be regulated by the compatibility of the partial Variant and will be made ready for the subsequent development of the agreements", see. BENEVOLO, L. (edited by), "*Venezia. Il nuovo piano...*", cit., p. 59 (cap. VII)".

university sites to be scattered across the old quarter or located on the mainland³⁰ (as would be the case if the Economics Faculty were moved from Ca' Foscari to the former slaughterhouse of S. Giobbe).³¹

While waiting for the area to be released by the local administration and privatised by the port authorities, Venice's two universities have begun work on the reorganisation and restoration of the old cotton factory and other abandoned annexes. The suspension of the project to move to the Arsenale has led the IUAV to strengthen its presence in the area and to purchase new spaces (including refrigerated warehouses) in the S. Basilio area. In 1998, an international competition was organised to find a solution for these new spaces. It invited designs for a building that would house a library, auditorium, classrooms, exhibition halls, etc. After a few months, this had been transformed into a special plan for the S. Basilio area. It was prepared by the municipal authorities and by technicians from the IUAV and passed in September 1999.

There are different ways of judging and interpreting the operation.

On the one hand, despite the far-reaching financial efforts made by the two official institutions in the transformation of the area, the effects of locating the university have never been the object of evaluations and verifications either by the City Council or by the university itself (even at the draft stage of the main Variant for the old quarter) accepting the principal that the university function cannot, in itself, have a "revitalising" effect. The presence of flows of students who have come to what had been a relatively isolated and marginalised neighbourhood, with respect to the main part of the city, has contributed to the general revitalisation (including,

30. An evident resistance (or "lack of interest") by the two universities with respect to the idea of decentralisation had already been noted in programme documents belonging to the municipal administration and dating back to the second half of the 1970's. These documents clearly reveal a minimal propensity for programmed decentralisation (as seen in other areas of the historic centre, where the municipal administration made numerous buildings available in an attempt to achieve a better "use of public property" and with which a strategy was developed to "recover parts of the city by finding uses for urban areas that had been abandoned by their traditional productive activities"), and for a model involving increased growth, which had already been attempted in the past (see. Comune di Venezia – Assessorato all'Urbanistica (1979), *Introduzione allo studio della pianificazione universitaria in Venezia*, Venezia). The document also records all of the different groups (trade unions, associations of neighbours, etc.) that opposed the siting of university activities in other parts of the city than those in which the institutions and teaching facilities had gradually emerged over time.

31. The slaughterhouse (built in the middle of the 19th Century) is located in the northern part of the old quarter, near the railway station, in an empty area with no university tradition, which has always been residential (all recent industrial activity closed down after the Second World War), which explains why many political powers strongly opposed the project; they were worried that the residential nature of the neighbourhood might be undermined. These are the same reasons for the rejection, in 1974, of Le Corbusier's project for a large hospital complex in the same area. They also explain why the area was left without any designated function until 1991, when the City Council approved the Variant to the 1962 plan and allocated the area to the university. The agreement to cede the area to the university for a period of 99 years had, however, already been signed the previous year.

for example, the improvement of public transport) and an overall improvement in the “quality” of the neighbourhood, which – following the renewal – will once again have a view over the Canale della Giudecca.

On the other hand, there has been no lack of complaints from residents who claim that traditional commercial outlets have been replaced by shops that exclusively target the needs of students. People also complain about increases in rentals and property prices (public residences – most of which have been “rescued” over the years by their old occupants and later sold).³² Surprisingly, it has been quite clearly evident how both teachers and students have opposed and resisted the university’s move to what are perceived as marginal sites (such as Sta. Marta and S. Giobbe) and considered far from the city centre and distant from other university facilities (including the rector’s office, libraries, and secretaries, etc.).

The competition was well organised and successful, and produced a number of positive results. Above all, the publicity generated had a positive effect in improving the image of the IUAV and renewing its prestige (within the institute itself, in the local press and at the international level). Leaving aside the quality of the projects,³³ it proved a great opportunity to return to the debate concerning the undoubtedly complex question of “building in Venice”, but also provided an excellent “political” opportunity, which has extended from the end of the competition to the presentation of the plan of action. Without a doubt, it is necessary to add to all of the factors mentioned above, the wise idea of involving the main public powers affected by the transformation of the area (the City Council, the port authority and the authority responsible for fine arts) at all stages of the competition (from the initial outlines to the work of the jury) and thereby creating the necessary pre-conditions to assure a “general” consensus on the initiative (and it is no coincidence that “in a somewhat ambiguous manner” the authority responsible for fine arts abstained in the final vote – a decision that could – as has often been the case – have important bureaucratic consequences for the intervention,).

32. Similar complaints were recorded in the S. Giobbe neighbourhood, which (thanks to the presence of students) has seen an increase in the number of evictions and the introduction of short-term rentals by property owners. In this area there has been a registered growth in processes of recovery and in the restoration of properties which had mainly been abandoned and left to decline. Yet in neither one case nor the other is it possible to clearly affirm the nature and quality of relations between university accommodation and changes in the urban structure (a process over which municipal urbanistic planning does not seem to have much control, particularly in questions relating to functional changes and the final uses of the properties concerned).

33. With respect to the projects resulting from the competition, the local and national press has echoed the criticisms voiced by Gregotti (centring on the reconstruction of two peripheral buildings destined to provide services and facilities for Ca’ Foscari), that in certain ways (and although Gregotti generally supports “innovative” interventions in the old quarter) bring back memories of the controversies associated with F. L. Wright’s ill-fated project for a building on the Canal Grande, which was rejected in the 1960’s, the hospital projected by Le Corbusier (in the same Camaregio area that now houses the Faculty of Economics), or L. Kalm’s project for a pavilion in the Giardini della Biennale.

Despite the fact that the formal language of architecture talks of an opening and an extroversion towards the city in the case of the building foreseen by the winning project, generally speaking, none of the projects presented in the competition gave very much attention to the urban context within which they were to be located and (as always happens) the total “re-qualification” of Sta Marta was entrusted to a generic “diffusion” of benefits that would pass from the architectural to the urban context “by a process of osmosis”. It is the urban context (the Canale della Giudecca, the revisited industrial architecture, the traditional transport routes – canals and streets) that provides the starting point for the project. The evident “opening” to the city, which is also treated in fine detail in the recent Plan, seems little more than a rhetorical call, and the integration of the new area within the city is presented in terms of pedestrian streets and the re-conquest of the *waterfront*, rather than in a real combination of new functional uses that interact with the rest of the surrounding area.

The question of its functions has been mainly forgotten. As always, the main controversies have centred on the debate concerning the confrontation/clash between “the old” and “the new”: between “what is typically Venetian and the introduction of apparently foreign elements”, the form of the architecture, and whether the “innovating” forms of contemporary architecture are compatible with Venice.

The fact that there may be a problem with respect to the relations between the city and the university (involving a greater or lesser degree of conflict, relating to reciprocal valuations, and concerning economic re-qualification and re-vitalisation, which may be necessary or could perhaps be avoided, and that could perhaps be automatically induced or may require stimulation) is a question that has not been considered in recent reflections upon architecture and policy.

Via Torino: the neighbourhood centre of a “bipolar town”

One of the main objectives of the new urbanistic plan for Venice is, without a doubt, to heal the rift between the old quarter and the part of the city on the mainland, which over the years has gradually opened wider and wider. The bridge that crosses the bay seems like a weak *link* between the old quarter (with its monuments, mainly tertiary sector and tourist activities, concentration of the main local, provincial and regional administrative institutions and the daily coming and going of between 23,000 and 25,000 people) and the mainland area, which seems to be fully introduced within the metropolitan *regional centre* system, which is no longer just residential (as planned by most of the urbanistic options of the past), increasingly less tied to the great productive system of Porto Marghera, and increasingly less dependent upon the old quarter, having developed its own productive system based on advanced tertiary sector services and on small and medium-sized companies that are increasingly integrated with the rest of the region.

One symbol of this major social and economic separation can be seen in the autonomy sought by Mestre, which seeks to become an autonomous city, separate from Venice. I am simplifying what is a very complex situation, and one which Venice's public administration has been trying hard to deal with for many years now, by creating major elements capable of physically and formally "sowing together" the two territorial entities. The neighbourhoods created through social housing projects in the 1950's and 1960's (Campalto, Viale S. Marco) were built with this objective in mind. Today, within the process of progressive de-industrialisation of Porto Marghera and the environmental recovery of the areas which look towards the bridge (S. Giuliano, Forte Marghera), the area between the "head of the bridge" (Piazzale Roma and the railway station) in Venice and the centre of Mestre-Marghera has been proposed as the possible focal point of a "single" though "bipolar" city. According to the City Council's urbanistic plans, this area is to be transformed and will become the "central" organising zone for the activities and functions of Venice's metropolitan area.³⁴

The promotion of the public transport system (by wheel, rail and water) and the creation of a "functionally strong" area (in the form of a pole offering metropolitan services and facilities) as the system's unifying factor, has become the central linking mechanism for an urbanistic policy that has conditioned some of the choices made by the administration. This process involves the creation of a science and technology park (in a zone initially dedicated to industrial uses that has now been abandoned); the creation of a public park (financed by the European Union); parking zones and transport exchange areas; and also the location of the university in the Via Torino area, with faculties and research centres to give greater "urban importance" to the new neighbourhood centre, complementing (and acting as a counter-weight for) all of the functions concentrated at the head of Venice's bridge.

All of this also helps to explain the agreement between the municipal administration and the University of Ca' Foscari to cede both the S. Giobbe and Via Torino slaughterhouses to the academic institution. The agreement foresees a concerted intervention on the part of the university to recover a run down and marginal area (closed off by part of the railway and relatively inaccessible by road) that would also involve the IUAV, which has been invited to develop a series of activities in areas adjacent to the Via Torino slaughterhouse.

In this case, the university is destined to play an important role in putting the plan into action, because its presence also adds weight to the science and technology park and gives an impulse to the transformation of part of the old industrial zone,

34. See TONIOLO, M., "*Il progetto preliminare al nuovo PRG di Venezia*", and MANCUSO, F. "*Il progetto preliminare del nuovo PRG di Venezia: un primo commento*", both of which are published in *Urbanistica Informazioni*, n. 147, 1996.

through the development of service activities. The university services will also complement the S. Giuliano Park in the provision of further public amenities.

Almost confirming some criticisms of the plan (and of the university) that regard the university functions as “weak” (and perhaps relatively “unrepresentative”, with respect to the symbolic and rhetorical plan of the urbanistic project), the response to the plan from the two academic institutions has, in any case, been rather disappointing for the municipal administration.

Although a recovery Plan has recently been adopted, it seems that there is a lack of interest and commitment to investment in the area on the part of the university. Honouring the agreement it signed for the cession of the slaughterhouses, Ca’ Foscari started to locate some activities in the area in the early 1990’s. With the progressive re-structuring of some buildings in the area, a degree course in Computer Science was finally initiated, though with only 199 students registering for the course in the academic year 1998-1999.³⁵ In light of the evidence, the Ca’ Foscari’s commitment to the area seems rather relative and this tends to cast initial doubt over the development of the university’s Via Torino site, where work by the municipal administration to improve accessibility (by rail and car) continues to run behind schedule.

The IUAV, for its part, has failed to undertake any relevant investment in the area. Building work on the *Laboratorio Prove Materiali* – the only installation initially foreseen by it – has been planned, yet has not been afforded any special importance. All the attention of the architecture faculty seems to have centred on locations within the old quarter and on promoting the Sta. Marta pole. As a result, the Via Torino university pole has become an increasingly remote option amongst the locational strategies of the university. On the other hand the lack of relations and synergies between this area and the science citadel of Porto Marghera provides further evidence of the weakness of urbanistic guidelines in the absence of a common will to act.

The recovery plan (drafted by two lecturers from the IUAV and adopted by the municipal authority) presents no special features that are worthy of mention from an urbanistic or architectural point of view, other than the formal reaffirmation of the university function. While on one hand, it effectively makes a new proposal for a university pole, on the other, it is very much weakened by the “diffusely peripheral nature” of the area, the potential difficulties in reorganising it due to the presence of a “communication dead-end”; the “excessively slow” rate at which old economic activities that are not compatible with new functions have been abandoned; and, above all, by the indecisiveness of the administration with respect to undertaking interventions to provide the required levels of infrastructure and accessibility. The projected

35. Despite the prospects for development, this degree course still remains one of the university’s academic options with the lowest levels of demand. Ca’ Foscari owes its fame – above all – to the disciplines of economics and statistics (which account for more than 7,300 matriculated students) and linguistics and literature (with more than 9,000 students matriculated in the years 1998-99).

solutions appear to be extremely “weak” and are incapable of stamping character on the area; though on the other hand, given the indications of development for the university pole, that are now emerging from the two universities and relate to activities that should be undertaken, the functional uses (residences, sport activities, classrooms and research centres) seem to be *compulsorily* flexible and generic, as do the inescapable relations with the rest of the city.

In this case, the project explicitly highlights the doubts held by the two main protagonists and above all underlines the lack of coincidence between the university programme and municipal planning, which (for the moment, at least) have failed to find common ground on which to agree and thereby guarantee the execution of what is an ambitious and difficult project, but one which will have numerous positive implications for the development of the city.

“Full of meaning”: student accommodation

I have already briefly mentioned the different interpretations that have generally been made with respect to the presence of students in the city. This is perhaps the most important phenomenon governing relations – whether sociological, economic or urbanistic – between city and university. It is the students who we find in the streets; it is their flows that give life to some parts of the city and their presence that justifies commercial activities that would perhaps not otherwise be found in a city that otherwise has too few residents and too many tourists.

This interpretation is purely subjective; as subjective as the evaluations of the characteristics and habits of the population in question.

How many of the students who are matriculated in Venice’s different academic institutions form part of the daily flow that moves in and out of the old quarter, remaining there for only a few hours?

How many live there for 4 or 5 days a week and participate in different university activities? And how long do their respective studies last?

How many stay there longer, taking on the appearance of potential future fixed residents and, as such, use the services, shops, cinemas, sports installations; the city and its spaces?

In a quantification of the services that a city needs to provide in order to be functional, should students be considered part of the “critical mass” that justifies maintaining a network of services and facilities that would otherwise – due to the limited number of local inhabitants – have to be reduced and re-organised with all the associated inconveniences for the local community (understood in the widest sense of the word)?

Is there, as has so often been suggested, a specific category that isolates and identifies “the university students”? Or perhaps even better, are they mistakenly afforded significance without actually playing a relevant role in the life of the city?

None of these questions has an unambiguous answer, and even less so in Venice, where the processes of progressive “regionalisation” of university studies³⁶ should (according to a generally held conviction that is not however supported by specific statistics) have contributed to a reduction in the number of resident students. If we then add such factors as increased economic well-being and traditional income limits that still limit student grants and the allocation of student accommodation, we discover that it is hardly possible to find credible data – even relating to the demand for student accommodation – amongst the information that this source should be able to provide. At present, there is no means of evaluating the effect of the students’ presence in the city and even less of calculating the extent of unsatisfied demand within a property market that is particularly expensive. It is not possible to register momentary preferences for particular locations (such as proximity to university centres, vehicle access – which would lead people to choose the Mestre and Marghera areas, which do not now present such important price differentials in terms of student accommodation as to justify students living in areas distant from these centres – or the presence of services, etc) or to make an accurate evaluation of possible interventions.

Interventions involving the building of student residential accommodation in Venice seem, therefore, to be signs of a shared (yet unconfirmed) emergency solution,³⁷ rather than the result strategic design by the university (and in particular, by Ca’ Foscari) and underline how the university’s competitiveness should be increased through a better provision and offer of services. Yet despite this clear design, neither the two univer-

36. Without going too deeply into the whole question, we refer to the process of reduction and contention of the university’s reference neighbourhood. The process began with the multiplication of university centres, which interrupt or reduce interregional flows of students, and progressively bind the universities ever-closer to their own local systems and to certain of their social characteristics (such as a greater or lesser propensity to continue their studies. In regions like Veneto, the majority of young people abandon compulsory education at the age of about 15 in order to find a job in a system that is particularly in need of labour and which – even though it may not be specialised – is particularly generous in its payments – usually beyond the normal limits. Just to give an example, in the years 1998-1999, out of 10,665 students were matriculated at the IUAV. Around 69% of these were from the local region, living between 30 and 120 minutes from the old quarter by train. It is also – theoretically – possible to add to this group some of the students from Friuli-Venice Giulia and Emilia Romagna (regions which account for 8.8% and 4.9% – respectively – of the total number of matriculated students)

37. The supply of student accommodation in Venice is really limited. At present, 20 beds are available at the *Casa dello studente* in Calle dei Ragusei and 182 beds in hostels that operate according to special agreements. A further 84 beds will soon be available in student houses that are currently being restored (the *Casa dello studente* of S. Tomà and part of the ex-convent of Sta Maria Ausiliatrice, in Castello). Amongst other ventures, the ESU foresees a series of economic contributions (to students) and agreements (with property owners) in order to individualise other accommodation opportunities for students within the old quarter. With respect to demand, municipal documents (and also those from the “*Osservatorio casa*” – which was set up in order to analyse housing conditions in the old quarter), refer to the only research based on questionnaires, which was carried out by Ca’ Foscari in 1996 (see. Savino, 1997-1998, *op. cit.*).

sities, nor the ESU,³⁸ have played an active role in recent interventions undertaken in Venice:³⁹ these have had an exclusively municipal nature and involved the construction of housing in two areas that have been subject to recovery interventions.

- On the island of La Giudecca, there have been numerous interventions to recover the now unused, former industrial areas, of the Junghans complex. So far, fewer than 160 student flats have been completed within the urban recovery programme (PUR) which aims to provide 300 new beds and to transform the ex-factory site into a residential district. Funding for this venture was granted under law 493/1993 and through a protocol agreement between Venice City Council, the Venetian region, and the Italian Ministry for Public Works: a public-private joint venture programme was signed in March 1997.
- On the island of Murano, there is a project involving the Le Conterie industrial building (which dates from the end of the 19th Century and was where beads and artificial pearls were manufactured). 56 housing units are projected for the complex, as well as public and collective facilities (including a museum), traditional craft and commercial activities, and accommodation including 280 beds destined for university students (the total gross surface area is 9,918 m²).

The introduction of such a particular function is also important given the type of ministerial funding, which foresees (art. 3 and 11, 1457/1978) specific funding for building student accommodation.

For the island of La Giudecca, the introduction of student residential accommodation has been justified by the argument that “such a typology may serve to set in motion a process of renewal and may also help to attract new inhabitants into the area”.⁴⁰ The case of Murano is just the contrary, it is predicted that the “new student residences will free some of the privately owned flats which are currently occupied (in the old quarter), thereby establishing – to a certain extent – the public price for the flat rental market and – for many months of the year – introducing a younger population into certain areas and thereby redressing the balance with respect to a constantly growing older population”.⁴¹

In the first case, the great proximity of La Giudecca to the old quarter, and to the location of the IUAV pole on the opposite bank of the Canale della Giudecca, causes no surprise other than that stemming from the weakness of the public

38. ESU –the Organisation for the right to University Studies– a regional organisation set up to promote the use of universities and the provision of related services.

39. The same studies of student accommodation typologies that have accompanied the intervention in the Junghans area have been drafted by OIKOS; a company from Bologna.

40. See. DINA, A., ORTELLI, P. (1997) (ed.), *Mille alloggi per Venezia*, Arsenale Editrice, Venezia, p. 24.

41. BENEVOLO, L., *Venezia. Il nuovo piano...*, cit., p. 46.

transport system and from the rather eccentric location of student accommodation in the middle of a mainly private residential zone.

In the case of Murano, on the other hand, the creation of a student residential zone on an island that has always (since the 14th Century at least) specialised in the manufacture of glass (but has now become peripheral due to the industrial crisis and the emigration of its population towards the mainland and which is only partly affected by tourist flows) poses a number of questions. Despite the different proposals that have been put forward, the public transport network does not seem capable of guaranteeing the required levels of access and speed of movement between the island and the different university centres in the old quarter. But above all, the location (although apparently complete in the project and offering all essential services) seems rather like a complement that is separated by an urbanistic and social context within which providing student accommodation appears to be difficult due to the lack of any university activity there. This situation would not encourage students "to live in the neighbourhood" but rather to use their flats as simply places to sleep. Furthermore, in this case, the lack of studies relating to the behaviour, "life styles", and demands of students (including their preferences in terms of where to study, meet, and enjoy themselves, etc.) prevents a meaningful evaluation of this last hypothesis. Indeed, it is possible that students have other "places" of reference (for example the university itself) for their activities (studies, meetings, leisure, etc.) and that, as a result, "centrally" located accommodation may not, perhaps, require any other function.

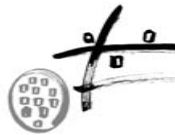
What seems to be most difficult is the task of creating a general logic that justifies such a kind of intervention, yet does not appear to be too "informal". Both the revision of the plan and the urban recovery projects provide weak justifications for this type of specific urbanistic intervention. They also reveal a substantial lack of rigour in the methods used to evaluate the phenomenon of the student presence within the city, in both considering it capable of producing a structural dynamism with respect to the resident population and supposing that it induces a revitalisation of marginal and run down urban areas.

It must be recognised that the urbanistic interventions undertaken in Venice in recent years have consisted of a "possible shock treatment" for combating "the resignation to degradation" that seems to have prevailed in certain run down urban areas. In a city which is dominated by emigration and mass tourism, this has pushed people into recognising the university students as a transient "source of dynamism" and urban transformation. It seems important to understand this component well and to get to know their daily habits and demands and also the nature of relations between local residents and students, so that urban re-qualification does not become a substitute for conflict.

From this point of view, student accommodation located far from university activities and divorced from the urban reality that surrounds them, does not tend

to represent “a place to live”, but rather appears as “a new property product”⁴² that “gives meaning to” certain urbanistic projects that could otherwise seem rather conventional and out-dated. The case of Venice (which hidden behind a mask of rhetoric simply views the student population as a “strategic resource” to help with re-qualification and to keep the city alive) also reveals a rather banal attitude (or perhaps simply indifference) to this special kind of client or “resident”: this type of attitude is widespread in Italy (and I think also in other European countries). Yet this is a resource that, from both the political and urbanistic angles, should merit a different approach, including a rich variety of inter-disciplinary and inter-sector reflection and a great capacity for innovation.

This is, without a doubt, the reason for the renewed interest in relations between the city and the university: it is a case of discovering the potential opportunities that may be profitably harnessed and used in processes for re-qualifying both the city and society.



42. I have made improper use of the terms used by ZETLAOUI, J. (1996), “Le Maisons de L’Étudiant: future lieu de vie universitaire ou nouveau produit immobilier?”, *Espaces et sociétés*, n.80-81

THE UNIVERSITY AT BARCELONA MORE THAN 400 YEARS OF RELATIONS

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The relations between universities and their corresponding cities constitute a relatively new topic for study, but one which is currently assuming increasing importance, particularly in the field of urban policy strategies. The city of Barcelona, which has been a university seat since the year 1450, logically offers many possibilities for conducting an excellent case study.

This paper, which presents an initial introduction to relations between the city of Barcelona and its universities,¹ is divided into three separate parts. The first part briefly analyses the historical evolution of relations between city and university. The second part examines how the city views the university. The third and final part looks at how the university regards the city. The conclusions presented here are regarded, above all, as topics that should form the basis for future study and reflection.

HISTORICAL EVOLUTION

European cities have generally opted for a predominantly urban university model. Despite certain differences deriving from its particular political, social and economic history, Barcelona—which is not a very old university compared with other members of the Coimbra Group or even some of its fellow Catalan universities—has largely followed this European model.² The Estudi General³ de Barcelona was created 550 years ago, in the year 1450, following a royal decree issued by Alfons el Magnanim. This university project emerged long after that of Lleida, which had been founded in the year 1300, and those of several other *estudis generals*, which were already relatively

1. A first reduced version of this communication was presented and debated within the seminar “University and Town: a dynamic symbiosis”, which was organised by the Coimbra Group at the Katholieke Universiteit of Leuven in February 2000 (Coimbra Group Seminar, 2000; pp. 69-72).

2. This is certainly not intended to be a history of the Universitat de Barcelona: others have already produced such work (Termes *et al.*, 1991). Here we wish to limit our analysis to the most interesting geographic and urbanistic aspects.

3. Original Catalan title given to what later became universities.

well established at different points throughout Catalonia by that time. The newly founded institution incorporated the teaching of Theology, Civil and Canon Law, Medicine, Philosophy and the Arts. The university was definitively established in the year 1536 and located at the top of Les Rambles, occupying a site to which it still gives its name. This occurred under the reign of the Emperor Carles d'Habsburg, and within 23 years the site had concentrated all of the city's university activities.

The first major break with tradition came as a result of the situation created by Catalonia's defeat in the Guerra de Successió.⁴ Following the Decret de Nova Planta⁵ of 1715, a single centralised university was created and located at Cervera: two years later the Universitat de Barcelona was effectively moved there in its entirety. This first operation of centralised territorial organisation of the university might, from a modern perspective, seem like an attempt to achieve a certain degree of territorial re-equilibrium. It could be interpreted as a move to promote the medium-sized city of Cervera, located in the centre of Catalonia, which had remained loyal to the Borbons, and to provide it with the capacity to counterbalance the already overwhelming weight of the capital. But this was not the intention, and in spite of the possible prestige associated with Cervera's university period,⁶ the privileged classes of Barcelona strived hard to replace the academic functions that the university could not offer with other higher educational institutions that were better suited to the economic and social needs of the time. In addition to the intended, but unsuccessful, decongestioning of Barcelona, the centralised administration allowed a greater degree of flexibility. This proved very positive in terms of adapting higher-level education to the great ideological, technical, social and economic changes that were to come with the 18th century.

This process could be observed in the development of a series of different institutions. One of these was the historic Col·legi de Cordelles, which had belonged to the Jesuits since 1662 and was also located on the Rambles, next to the Betlem church. In 1764 the Col·legi de Cordelles created the Conferència Físico-Matemàtica Experimental. This was the forerunner of the Acadèmia de Ciències i Arts de Barcelona,⁷ which is still located on the same site. Another such institution was the Col·legi de Cirurgia de Barcelona,⁸ which was established in 1760, within the grounds of the Hospital Santa Creu. But of all these institutions, pride of place must go to the Junta de Comerç de Barcelona, which was created in 1758, and was the predecessor of today's Cambra de Comerç,⁹ which acted as the veritable mouthpiece of Catalonia's

4. The Spanish Succession War (1701 and 1714).

5. A series of harsh conditions imposed on Catalonia by the Borbon monarchy.

6. For more information, see Soldevila, 1938.

7. An organisation created in the 18th Century that was dedicated to conducting scientific research and spreading its findings.

8. College of Surgery.

9. An organisation that grouped together companies from different economic sectors and which played a similar role to today's Chambers of Commerce.

new industrial bourgeoisie. As an example of this institution's cultural mission to make up for the absence of a university, it is important to show how it encouraged scientific investigation by providing prizes and study scholarships. Yet above all, it is necessary to emphasise the role played by the Junta de Comerç in founding a whole series of technical schools. In 1769 it created the Escola de Nàutica; in 1775 it founded the school of stenography and also the school of drawing and fine arts, which became known as the Escola de Llotja because of the medieval building it occupied. In 1805, the Junta de Comerç founded the school of chemistry; in 1808, that of mechanics; and in 1814, those of physics and economics. The Junta de Comerç disappeared in the year 1847 and three years later the majority of these schools passed under the jurisdiction of the provincial administration, under the denomination of industrial schools. Many of them were finally integrated within the Universitat de Barcelona when it was officially restored.

The more or less definitive consolidation of the liberal state in Spain, and above all the formal recognition of the existing system of provinces, consolidated an urban system that was based upon just four cities in Catalonia. It also, amongst other things, left the way open for the restoration of the Universitat de Barcelona in 1837. Thus, the city replaced Cervera, and, for the first time, became the only university centre serving the whole of Catalonia. Five years later it also became the university for the Balearic Islands too. In 1863 the architect Elies Rogent (1821-1897) began constructing the main building of the new university on two plots located in Barcelona's new Eixample quarter. This development, which was relatively near the historic site of the original Estudi General, occupied not only the square of the same name, but also a whole sector of the new part of the city that developed in the 19th century, becoming both its symbol and its driving force.

Thus university and city recovered their syntony just at the time of the greatest impulse towards industrialisation, in the second half of the 19th century. A clear example of this new circumstance was provided in 1877, when the new university building hosted an exhibition of the products of Catalan industry. This set a clear precedent for the universal exhibitions of 1888 and 1929, and paved the way for future relations between the university and local industry. At the same time, the university also became both a centre of diffusion and attraction within its sphere of influence; teachers and students were drawn to it from all parts of Catalonia, and often from even further afield. Josep Maria de Sagarra (1894-1961) described this situation well, in his own lively and satirical style, when he referred to his university years in his memoirs:

"Young lads from all four Catalan provinces, and from who knows what other provinces, met there. They came from beyond the river Ebro, and even from the other side of the Atlantic (...) Apart from those who we knew well, the boys who met there were from all sorts of different origins, had all sorts of different skin colours, and dressed in all sorts of different ways. There was a tanned Peruvian who was as brown as a berry and two Argentines of Catalan descent, who had

been made conceited and slick by the material progress of Buenos Aires. There were three Valencians. One who wore decorative ribbons and a tie by Delfi immediately let me know how he had gained the affections of the most important duchesses and marquises of his town. Another, who came from an excellent family, was extremely agreeable. The third, who was hairy and made a pitiful sight, seemed like a sheepdog. There was a tubby boy from the Balearic Islands, whose trousers were forever falling down, and who talked in a dialect from Alcúdia mixed with Spanish from Costa Rico. There was a fragile looking lad from Mao with a nasal voice, who always maintained the mournful air of one of the Germans de la Pau i de la Caritat.¹⁰ The Spanish and Andalusian contingent comprised the sons of state bureaucrats who lived in Barcelona. They could have been the sons of magistrates or high-ranking police officials. The majority of these boys wore spats and blood-coloured ties. They were forever polishing their shoes and were compulsive readers of short stories. There were many among them whose political sympathies lay with the Radical Party. Lleida and Tarragona were represented by a group of young lads who were aristocratic by provincial standards and positively addicted to rural carobs. Girona provided some of the offspring of illustrious property owners and the plain of Vic gave us a set of anthological beards and moustaches. Thirty-five percent of these young men boarded in guesthouses and the rest lived in private homes. Leaving the exotic aside, it was the blood of Barcelona that predominated in a considerable proportion, and included that of several well known and respected families.” [Sagarra, 1954; 359-362]

This function of being the academic capital of a territory that extended beyond the boundaries of the Principality of Catalonia was very important and reinforced not only the cultural, but also the economic and social roles of the city of Barcelona. Guest houses, restaurants, cafes, places offering entertainment and leisure pursuits, bookshops and libraries, and a whole range of different types of shops were supported by this “foreign” student population and by periodic visits from members of their respective families. Moreover, for many, studying in Barcelona simply represented a first step before settling there definitively and exercising their profession in the city. Thus the university effectively acted as a filter and selected the best brains in a form of regional “brain drain” operation. As a result, at the same time that the university reinforced the role that the city had traditionally interpreted within its territorial sphere of influence, it continued to expand and encouraged urban growth in what might best be described as a symbiotic manner. First, between 1895 and 1900, the architect Josep Domènech i Estapà (1858-1917) built the Hospital Clínic and the Facultat de Medicina,¹¹ on another two plots in the Eixample. They were located very close to the Escola Industrial and the Mercat del Ninot, and this aided the development of the new neighbourhood that lay to the left of the Eixample.

10. A religious order, which looked after the poor.

11. Medical Faculty.

While still a student, Josep Maria de Sagarra, went there in order to take part in brawls and to fight against the radicals.

Yet in those years in which Sagarra was a student, the official university, which was always strongly associated with the centralist state, had begun to become almost completely divorced from the general social and political dynamic of Catalonia. It is therefore almost possible to speak of a new époque in a Barcelona effectively without a university. This explains why the Catalan bourgeoisie, majestically led by Enric Prat de la Riba (1870-1917) began to create a whole new series of centres that were required by a modern industrial society and that the centralist bureaucracy had been unable to develop. The Institut d'Estudis Catalans,¹² which was created in 1907, and the Mancomunitat de Catalunya,¹³ which marked the maximum cultural achievement, unquestionably paralleled the force of the Junta de Comerç of the eighteenth century.

The second republic and the war, and above all their dramatic end, did little to heal the rupture between the university and the city, despite the social, political and economic watershed that they represented. The new Francoist state sought to rationalise the location of the university within the city, but the bureaucratisation of the old organisation and a lack of money put paid to such plans. The most important sacrifice involved turning down the buildings that had been used for the Montjuïc exhibition and thereby renouncing the chance to build a true university campus; at that time, the Plaça d'Espanya still seemed too peripheral and dangerous a location.¹⁴ As a result, the historic buildings of the Plaça Universitat and the Carrer Casanovas continued to play host to higher-level studies in Barcelona. They were soon frequented by the first female students, as excellently portrayed in the famous novel *Nada* by Carme Laforet (1921), published in 1944, which narrated the vicissitudes of a girl who was a university student and a smoker. She lived in a guesthouse in Carrer Aribau at a time in which, as the novel's title suggests, nothing ever happened.

It seems that the university's expansion within the city followed the path dictated by the public works carried out in association with the celebration of the Congrès Eucarístic¹⁵ of 1952. This was particularly true of its expansion towards the Diagonal, as a Junta d'Obres de la Ciutat Universitària was created just two years before

12. An organisation created with the objective of promoting the use of the Catalan language, spreading Catalan culture, and encouraging scientific research by Catalans.

13. The first attempted form of autonomous self-government for Catalonia at the beginning of the 20th Century.

14. For the university authorities of that time, the danger lay both in the proximity to the working class areas of Sants and Hostafrancs, and in the pleasure zone of the Paral·lel and the Plaça d'Espanya, with the famous bar La Pansa.

15. An ecclesiastical congress jointly organised by the Vatican and the Spanish state in order to support a confessional regime.

this date. A plan to constitute a campus on land that had belonged to the Güell family, and which still contains vestiges of Antoni Gaudí's work,¹⁶ dates from the year 1956. However, only the buildings of the Facultat de Farmàcia¹⁷ and the Sant Raimon de Penyaforat and Verge de Montserrat "col-legis majors",¹⁸ designed by the architect J. Vilaplana in 1957, were finally built according to the original plan. The Escola d'Alts Estudis Mercantils was constructed between 1955 and 1961, following a project developed by the architects F. Javier Carvajal and Rafael García de Castro: it was more rationalist in style and was located on the opposite side of the Diagonal. Finally, in 1958, the architects Guillermo Giráldez, Pedro López Iñigo and Xavier Subias i Fages¹⁹ planned the Facultat de Dret,²⁰ the first university building that showed a clear implication with the new architectonic currents of the time, and which included a mural by the sculptor Subirats. The Schools of Arquitectura, Aparelladors²¹ and Belles Arts²² were built in the early 1960's, once again on the south side of the Diagonal. Other faculties progressively filled in the spaces in a more or less ordered fashion as the Avinguda Diagonal gradually became the main entrance to, and exit from, the city and the main channel for communication towards the Baix Llobregat, inland Catalonia and the rest of the Iberian Peninsula.

In the meantime, the Escola de Magisteri,²³ and its associated annexes, had been created in the Sants neighbourhood, near to the railway station. Meanwhile, in the Avinguda de Vallvidrera an 18th century farmhouse had been restored, complete with orchards and gardens, and was bequeathed to his university by the chair of Medicine, Doctor Agustí Pedro i Pons (1898-1971).

The second great break with the past occurred in the second half of the 1960's, when the university began to fragment and along with it, its territories. Following the precedent of the sit-in at the university's central hall in 1956, the Sindicat Democràtic d'Estudiants de la Universitat de Barcelona (SDEUB)²⁴ was formally constituted at the

16. According to the book *Arquitectura de Barcelona*, the land in question cost 150 million pesetas (Hernández-Cros, Mora, Pouplana, 1972). The Facultat de Farmàcia houses two doors from Gaudí's Güell work, which date from 1884 and 1887, and there is another at the Facultat de Dret.

17. The building of the Facultat de Farmàcia was also originally destined to be a *col·legi major*.

18. Student residences.

19. These same architects were responsible for the Facultat d'Econòmiques, between 1964 and 1967.

20. The Facultat de Dret was incorporated into the plans for the new university city in a rather precipitated manner. This was apparently a reaction to a student sit-in, which was mainly attributed to law students, which took place at the central hall in the Plaça Universitat in 1956. This student meeting and the sit-in that followed it originated, to a certain extent, from the populist movements that crystallised from the tram strike of 1951 and, to a certain degree, signified a reestablishment of relations between the city and its university.

21. Quantity Surveyors or Architect's assistants.

22. Fine Arts.

23. Teacher Training College.

24. A clandestine students' union opposed to the Francoist regime.

Convent dels Caputxins de Sarrià on 9th March 1966. The student revolt that broke out in Paris in May 1968 had repercussions that reached far beyond the frontiers of the French State. These two events were just two milestones that heralded an international university crisis that, albeit in very different ways, affected cities such as Madrid, Berlin, Berkeley and Sao Paulo. Though in the case of Spain, it became increasingly impossible to hide the fact that the Francoist state had effectively begun its decline. In a global context, this all took place at the same time as a change of values that marked the end of the stage of developmental capitalism and also supposed the overcrowding of the universities. This was a key basic element in the crisis that fostered the end of Fordism and the beginning of the new global economic and political system of the 1990's.

With the appearance of a series of conflicts involving university students, many political authorities, both democratic and dictatorial, proposed moving students and teachers and their conflicts and protests away from the urban centres and to new peripheral locations. This line of thought was greatly influenced by the perceived prestige of the university campus models that were so popular in the English speaking world. One result of this fragmentation was the appearance of new universities and new university districts, though this trend was perhaps most evident in the number of new universities that appeared in Paris and throughout the rest of France.

In Spain, the year 1968 saw the creation, by official decree, of the Universidad Autónoma de Madrid (UAM) and the Universitat Autònoma de Barcelona (UAB), which were located at Tres Cantos, Madrid and Bellaterra, Barcelona. The new UAB, with its American style suburban campus, received some of the teaching staff from the Universitat de Barcelona (UB) —many of whom had had problems with the authorities on account of their democratic convictions— together with many of their younger graduates. This situation also did much to foment the image of the somewhat ambiguously denominated “Autònoma” as an “alternative university”. On the other hand, the Universitat Politècnica de Catalunya was created in 1971, through the separation of some of the old technical schools from the Universitat de Barcelona. It shared a campus stretching from one end of the Diagonal to the other, and also had some centres on land belonging to the Escola Industrial and others that were located in the Vallès area.

Of even greater importance was the fact that at the same time that the university fragmented, the base was also being laid for the fragmentation of the university district, with the creation of a series of “col·legis universitaris”²⁵ and duplicate faculties in Palma de Mallorca (belonging to the UB), Tarragona (UB), Girona (UAB) and Lleida (with centres from both the UB and UAB), which were to become indepen-

25. These were sub-centres designed to decentralise the UB and the UAB. Though they initially remained dependent upon them, they later became independent universities in their own right.

dent universities in their own right within a short period of time, taking advantage of the 1983 "Ley de autonomía universitaria"²⁶.

This process of fragmentation was completed by the creation of two new public universities in Barcelona; the Universitat Pompeu Fabra (UPF) and Universitat Oberta de Catalunya,²⁷ and the emergence of the private universities Ramon Llull and Universitat Internacional de Catalunya²⁸. Thus, in just over a century, the Universitat de Barcelona had gone from being the only university centre in the geographic area made up of Catalonia and the Balearic Islands, to being just one of ten universities, and having no clear catchment area. On one hand it was open to the whole European Union, but on the other, it was threatened by Spain's single university district.

As far as relations with the city are concerned, it should be stressed that six of the ten universities that serve this territory are still located within the city of Barcelona and have an important symbiotic relationship with it. It could be said that the development of the universities has clearly paralleled that of the city and that they have made a key contribution to its growth. In this sense, it is possible to talk of the city's university project, although it has not, at least until recently, been possible to speak of the university's city project.

The Universitat de Barcelona opened a new campus at the former Llars Mundet, in the Vall d'Hebron area of the city. This campus was managed by the Diputació de Barcelona, and housed the faculties of Psychology, Pedagogy and Teacher Training, and also the Les Heures centre for further education. Very close to this site, in the Pavelló de la República Española, which was reconstructed by the architect Josep Lluís Sert, were the Centre d'Estudis d'Història Internacional, created by Jaume Vicens Vives, and the Biblioteca Figueras. At the same time, the Ciències de la Salut²⁹ campus was divided, with part of it being situated at the Hospital de Bellvitge, in Hospitalet de Llobregat. The UB eventually attempted to consolidate its position in the centre of the city with the creation of the Facultat de Biblioteconomia i Documentació at the old Escola de Magisteri. This was complemented by a centre for staff training, and the location of the faculties of Filosofia and Geografia i Història in the Raval district, while the science faculties were expanded with the creation of a new science park in the Diagonal area, the Institut d'Educació Física remaining at the Olympic ring in Montjuïc.

The Universitat Autònoma de Barcelona has now opened its school of modern languages at the Hospital de Sant Pau, and there are also plans for some other form of expansion on land situated in the Diagonal-Mar area. The Universitat Politècnica de Catalunya (UPC) has undertaken an important expansion of its campus towards

26. Law that established the organisation and workings of Spain's universities under a democratic government.

27. Catalonia's version of the Open University for distance learning.

28. Another new private university was created in Vic in 1997.

29. Faculty of Health Sciences.

the north of the Diagonal, where together with the UB it has been active in re-defining the whole of that urban sector. The UPC has built a student residence at the Raval and is also developing a campus in the Llobregat delta. The Universitat Pompeu Fabra (UPF) had been originally created with the intention of decentralising Barcelona's university function, but following a great debate about its possible location in either the Baix Llobregat or Maresme regions, the UPF was finally located at such a central urban site as the intersection between Carrer Balmes and Carrer Corsega. It has since expanded towards Les Rambles, the Estació de França, and the former barracks of Poble Nou. The Universitat Ramon Llull is housed in properties that originally belonged to the church, at the Seminari Conciliar³⁰ and in Sarrià, and has since expanded again towards the Raval district. The Universitat Oberta de Catalunya, which is the leader in the field of distance learning, has its main centre in Avinguda del Tibidabo, while the Universitat Internacional de Catalunya, which is spread across several sites, has its main centre in Carrer Iradier. There are also a whole series of other different types of schools (including those of Tourism, Nursing, Business Studies and Design) dotted all around the city: they have links with the different Catalan universities and even with some foreign universities.

After the period of fragmentation that marked the last 20 years of the 20th century, it seems that there has been a return to a tendency for rationalisation and for the integration of centres. This phenomenon can be observed in the internal reorganisation of some universities³¹ and in the development of joint plans involving several universities, such as that detailed below.

FROM THE CITY'S PERSPECTIVE

As has already been explained, the role of the city in the development of university activities has been very limited. This has been largely a consequence of the highly centralised model employed for organising higher education in Spain. A few examples have already been cited, which were taken from two different points in time (the 18th century and the first decades of the 20th century) at which educational centres were created in Barcelona in order to meet the economic and political demands of Catalan society. However, relations between the city and its universities have changed markedly since the passing of the Ley de autonomía universitaria in 1984,³² and various opportunities have arisen for the two to mutually influence each

30. Seminary for training future priests.

31. One well-known example is that of the UB, which has been organised in five sections in an attempt to introduce a certain degree of logic into its territorial distribution.

32. It would not go amiss to stress the delaying effect that this law managed to place upon Spanish constitutional reform. The 16 years between one date and the other give an indication of the difficulty and lack of interest that the regulation of higher education has tended to suffer throughout the course of Spanish history.

other. We can find examples of this in the testimonies of two of the city's democratically elected mayors.

We shall begin by quoting Pasqual Maragall, a former mayor of the city, who held office from 1982 to 1996, and is best known for his role in organising the city's Olympic Games in the summer of 1992. In his presentation to a book about the Universitat de Barcelona in 1991, Maragall wrote:

"The relationship between the City and its University is one of the deepest and most heartfelt between similar institutions and their urban environment anywhere in Europe. No other institution can have so many reasons for being located in a city, nor such a need to be wrapped up in a city, than the University. There are universities which bestow prestige upon the cities that house them, and there are cities that act as indispensable frames for their respective universities. The symbiosis produced between them probably represents one of society's most natural interdependencies.

At times – all too often during the long course of history – relations between the University and the public authorities have also been tense and conflictive, and it must be admitted that on many occasions, it was the civil and religious authorities who created the conflict and limited the university's scope for action, and forced it to give backward in what is the most genuine of its liberties: the use of intellectual and moral criticism. (...)

But the relationship between City and University is also one that needs to be reconsidered from time to time so that, at any specific moment in time, each can offer the other the best of what it has. (...)

The City offers the University services and an urban context, while the university, apart from being a service in its own right, provides the human and cultural activity that gives life to its immediate surroundings, and to the neighbourhoods that are graced with its presence" (Termes *et al.*, 1991, pp. 27-28).

These words, so full of meaning, served as a curtain raiser heralding a new period of collaboration between the Ajuntament de Barcelona³³ and the Universitat de Barcelona prior to the reintroduction of the faculty of Geografia i Història in the historic centre of the city, that was planned to encourage and accompany a process aimed at gentrifying the Raval district (Martinez, 2000).³⁴ This serves as an excellent example of co-operation between two institutions such as the city and university, which decided to work together in pursuit of urban, economic and social development. This initiative has since continued with the location of other university centres, including some of the faculties of the state run Universitat Pompeu Fabra and the private Universitat Ramon Llull.

A few years later, the present mayor of Barcelona, Joan Clos, played a leading role in formulating one of the basic ideas for a new project that saw Barcelona as a city of learning; this idea is presented in the third line of the Tercer Pla Estratègic

33. Barcelona City Council.

34. It should be added that nine years after this declaration the building of the new faculty remained little more than a plan, while the central square in the Raval district, which had been designed by Cerdà in 1859 but in a different format, had finally been inaugurated.

Econòmic i Social de Barcelona (for the period 1999-2005).³⁵ This line of thought seeks to establish a new urban design for the 21st century, with special attention being given to the city's human resources, to the provision of a solid infrastructure for technological transfer, and a clear orientation towards the company and increased support for new economic activities. The proposals contained in the plan that relate to the university are as follows:

“7. To establish a political and social pact in order to foment the modernisation and efficiency of the universities that lie within the Regió Metropolitana de Barcelona with particular reference to the services that they provide and the optimal management of their resources.

8. To increase, to the levels deemed necessary, the availability of public and private resources (financial, corporate and business institutions) destined for R&D so that the resources used within Barcelona's metropolitan region would be equivalent to the average level for the European Union.

9. To commission the drawing up of an action plan aimed at attracting institutions from the fields of science and technology that are considered as leaders in their respective areas on a global scale.”

As a concrete way of applying some of these proposals, the City Council is taking a leading role in drawing up plans for the celebration of the Fòrum Universal de les Cultures, which is to be organised in collaboration with UNESCO, and will be held in Barcelona in 2004. This Forum will call for the construction of a new area specialising in technology, which will be located in the easternmost part of the city. This area, together with the reinforced university zone in the western part of the city³⁶ (located along either side of the Diagonal), will serve as the two great doors to learning in Barcelona. These plans are not only concerned with questions of infrastructure,³⁷ but also consider such specific objectives as how to increase the number of laboratories and researchers across a wide range of areas of learning.

FROM THE UNIVERSITY'S PERSPECTIVE

Finally, it is necessary to make an initial balance of the social and economic impact that the normal working of today's universities has supposed for the city. This should not be undertaken on a purely theoretical level, responding to the

35. The author represents the Universitat de Barcelona as a member of the Segona Comissió Tècnica d'Innovació i Coneixement, which is presided by Dr. Josep M. President, former Rector of the Universitat de Barcelona and former president of the Association of European Universities.

36. The author is one of four members of the team from the universities of Barcelona and the Politècnica de Catalunya who were commissioned by the Ajuntament de Barcelona to draw up a general development plan for the university city. This group has not yet finished its work.

37. The most important result to date has been the conversion of area 21's industrial uses in the Diagonal-Mar area to what is now referred to as 21@, and the subsequent incorporation of centres of engineering and design belonging to a number of large international concerns.

propagandistic fashion of the city of learning, but should instead respond to quite practical considerations, and have repercussions for cultural infrastructure, services, the housing market, consumption and life in general. It may even include initiatives for the promotion of international tourism within the city.

An accurate evaluation of the economic and social repercussions of Barcelona's universities for its metropolitan region would be very complex and therefore difficult to provide. Such evaluations have been much easier to undertake in other cities, such as Salamanca (Garcia Zarza, 1986) or more recently Vic (Bricall *et al.*, 1999), in which the university accounts for a very high percentage of the urban centre's activity. Work currently underway will soon reveal the magnitude of the combined activities undertaken by the faculties and schools that the Universitat de Barcelona and the Universitat Politècnica de Catalunya possess in the area around the Diagonal. For the moment it is sufficient to note that 7,000 people work in this area, almost 60,000 people study there, and in 1999 its sports facilities and libraries respectively registered 294,876 and 6,798,453 users.

As far as the international image generated by university-related activities is concerned, evaluation is once again a complex task. There has, however, been one important initiative; Barcelona Centre Universitari.³⁸ This initiative has managed to bring together all of the city's universities, the Ajuntament de Barcelona and the Generalitat de Catalunya³⁹ in a single project, and has played a very important role in receiving foreign students (and above all in finding them places at which to stay and promoting their cultural integration) and promoting the city in order to attract new university students, through the creation, confection and diffusion of a range of different materials.

But the universities do not only consider the city as a physical location, but also as an object of reflection and, on many occasions, as a privileged object of reflection. In the first place, it is important to point out that the city itself is a very important educational resource and that its universities can help it to realise its full educational potential and to reappraise its many resources. Such forms of reflection are normally developed in centres dedicated to pedagogy or those that analyse tourism. Two very different examples of this, with which the author has had a certain degree of contact, are presented below.

The first example, relating to the first approach, concerns an ambitious project on "educating cities". The part of this project relating to universities is directed by Dr. Jaume Trilla, Chair of Teoria i Història de l'Educació,⁴⁰ at the Universitat de Barcelona. In general terms, this project seeks to apply in Barcelona, and other Catalan cities, the main ideas proposed by the Italian pedagogue Francesco Tonucci.

38. The address of the BCU is: <<http://www.bcn.casa.es>>.

39. Catalonia's autonomous regional government.

40. The Theory and History of Education.

ci and contained in his well-known book about the city of children (DD.AA.VV 1999). Dr. Trilla has developed a practical methodology based on three main ideas: learning in the city, learning from the city and studying the city. An international network of educating cities has been created in association with this project, and they hold regular meetings to exchange experiences. As a specific application of this general project, and in collaboration with local teachers and geographers, Dr. Trilla is currently drawing up an educational map of Santa Coloma de Gramenet. Once finished, this will allow important advances to be made in the field of the ideas connected with the study.

The second example, relating to the other approach, concerns the elaboration of a first *Inventari dels elements d'interès paisatgístic de Barcelona*, between the years 1998 and 1999, and was directed by the author of this paper. The conceptual background to this study had its origins in the conception of the city as an enormous, dynamic palimpsest that contains a large number of different layers that provide information about its present and past social, cultural, economic and political life. Through a combination of the conventional analysis of bibliographical and photographic sources and a long, patient process of direct observation, coupled with the evaluation of suggestions put forward by various different citizens and involving a campaign conducted by several different mediums of communication,⁴¹ a university team managed to catalogue 154 different elements of Barcelona's landscape. Measures were taken to assure that these elements were relatively well distributed throughout the city's urban space, however, as a consequence of their longer period of accumulation, the oldest part of the city and that dating from the 19th century were found to possess a relatively greater number of urban landmarks. Generally speaking, these included fragments of facades, old or special shops, statues, rare trees, and other different types of urban symbols that had not previously been included in the official catalogue of the city's architectonic patrimony. Once these elements had been identified and documented, they were submitted to a process of debate and selection involving representatives from the city council and its universities, in order to reduce the degree of arbitrariness within the inevitable subjectivity. This subjectivity was seen, above all, in the way in which citizens perceived or identified themselves with each of these elements, which receive no form of protection, and which only became known in their own right on account of their significance for common citizens.⁴²

INITIAL PROVISIONAL CONCLUSIONS

The question of relations between cities and universities is one that is just beginning to attract attention, yet one that offers a great range of possibilities for

41. The citizens' campaign was developed by Barcelona Televisió (BTV) and El Periódico de Catalunya, and suggestions were transmitted with the collaboration of the postal services (Correus).

42. The main results of this work may be consulted at the following address: <<http://www.ub.es/geohum/inventari/inici.htm>>.

interdisciplinary analysis. Here we have looked at the case of Barcelona which, along with other case studies presented in the course of this week, may help to clarify certain aspects that perhaps merit further examination in even greater detail.

The clearest conclusion to be drawn is that there is a veritable dynamic symbiosis between universities and cities. Even the largest of cities, which have a complex economic bases, cannot disregard the benefits associated with the presence of centres of higher education; and still less the smaller cities, whose universities may represent their largest single source of income.

In the light of the process of decentralisation and fragmentation experienced by universities during the past 30 years (at least in Spain), a new debate has emerged with respect to the benefits of concentration and the possible perils of excessively small and fragmented universities. The first decades of the 21st century, which will see the consequences of the restructuring of the world economy and the opening of new forms of international competition through the application of the university agreement of Bologna, will surely show how to solve a series of longstanding mysteries.

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IN SEARCH OF LOST TIME: GENESIS AND RECENT EVOLUTION OF THE CANTOBLANCO UNIVERSITY CAMPUS (MADRID)

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THE CANTOBLANCO CAMPUS AND ITS TERRITORIAL ENVIRONMENT

The so-called *Universidades Autónomas*, which came into being towards the end of the 1960s, were the first new universities to be established in Spain since the 1920s.¹ They were formally created through the passing of a modern law and were meant to become the flagships of a proposed restructuring of university institutions and supposed pedagogic renewal. These changes were promoted by the then *Ministro de Educación*, Villar Palasí, who seemed willing to solve the main problems facing Spain's universities, which had largely remained stagnated in the past. But, in fact, the creation of these new universities, at the three major poles of modern Spanish development (Madrid, Barcelona and Bilbao), owed much to political considerations. This solution was largely a response to problems related with excessive concentrations of students, which supposed a permanent focus of conflict for the political authorities of that time. This also helps, at least in part, to explain the totally premeditated eccentric location of these universities. Cantoblanco, Bellaterra and Lejona are all relatively isolated locations, which are some distance from the main built up areas of their respective cities, and even from those of their respective secondary urban nuclei.

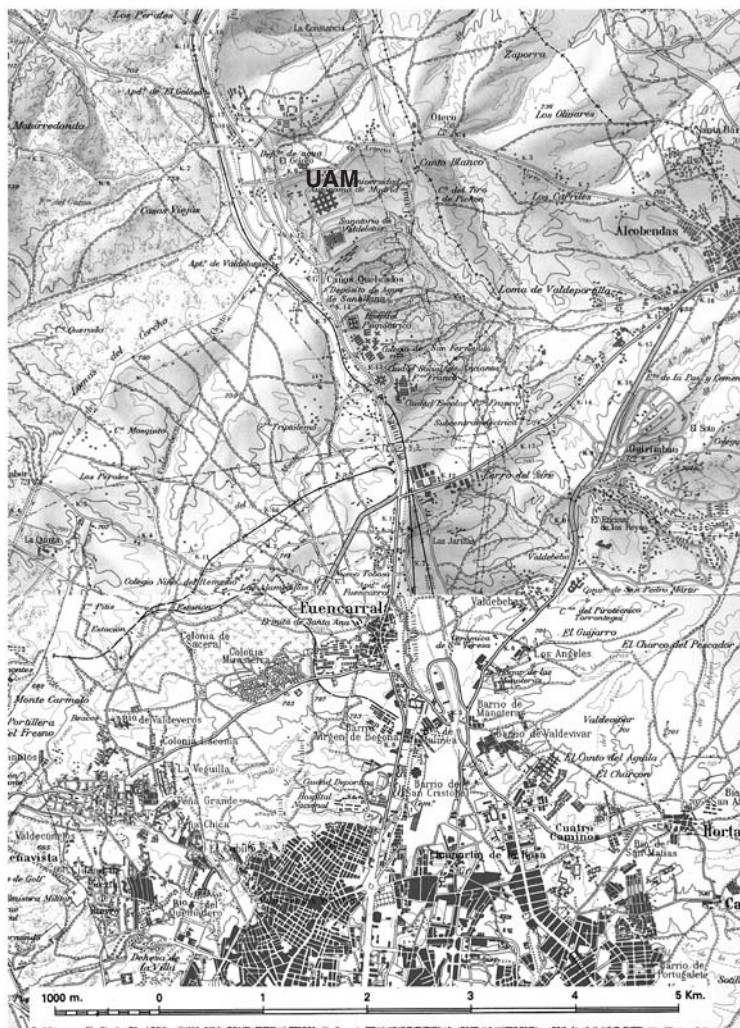
The Cantoblanco Campus of the *Universidad Autónoma de Madrid* is located fifteen kilometres to the north of the capital's centre. It was the first of a new generation of university sites and set the trend for a system of peripherally located universities, hitherto unknown in Spain. Furthermore, at least in this particular case, the lack of care with which the whole process was conducted was to condition the future evolution of the university and, until very recently, to hinder the execution of its daily functions.

Leaving aside the somewhat thorny, and much debated, question as to whether or not to integrate universities within their respective cities or whether, on the con-

1. The *Universidades Autónomas* (created following approval of *Decreto-Ley* 5/1968 of 6th June) were, in effect, the first new universities to be created since the founding of the *Universidad de Murcia* in 1917 and the renovation of that of Laguna in 1922.

trary, to disseminate them in peripheral campuses. It soon became clear that once this model had been adopted, it would persist and things would continue to be done in a haphazard way. From the very start, the choice of location was a hasty and confused process.² Various different options were considered, but as (for strategic

FIGURE 1. 1970s: Isolation and poor integration within the surrounding area.



2. A much more detailed account of the complex, error-prone process involved in siting the university can be found in the book published over a decade ago by the geographers Josefina GÓMEZ MENDOZA, Gloria LUNA RODRIGO, Rafael MAS HERNÁNDEZ, Manuel MOLLÁ RUIZ-GÓMEZ and Ester SÁEZ POMBO: *Ghettos universitarios. El Campus de la Universidad Autónoma de Madrid*, Madrid, Ediciones de la Universidad Autónoma de Madrid, 1987, particularly pp. 79-100.

reasons) it was considered essential to keep the new university away from the city's industrial belt, a northern site with services and equipment was preferred to a more proletarian southern location. Thus support grew for the Cantoblanco option, which eventually became definitive. The question was finally resolved from a helicopter in the most improvised of fashions. Little importance was given to the need to first impose this solution upon a swarm of small property holders, which led to a slow, complex battle for expropriation which dragged on until the end of the 1980s, nor to the fact that the university was to be located in a hollow which only offered views to the east. These inconveniences were also exacerbated by the fact that the area chosen was isolated and lacked urbanisation; factors which greatly hindered accessibility and contacts with the main city (fig. 1).

Thus the *Autónoma* became part of the *corredor Colmenar*, a linear grouping of educational, health care and service facilities. Paradoxically, although the development followed the line of the original planning strategy, it did so without even taking advantage of existing opportunities to connect up with other contemporary urban development projects, such as the new town of Tres Cantos, situated only 5 km away.

The result was that the *Universidad Autónoma de Madrid*, which like many university campuses in countries of the English-speaking world was finally set up on the outskirts of the urban nucleus. Even so, it was left devoid of any of the features that tend to characterise university cities elsewhere. It could not even boast the desired integration of educational, residential and service functions that would have allowed it to be practically self-sufficient and would have reduced the need for internal displacements to the minimum.

However, in spite of the initial difficulties, it must be recognised that today the Cantoblanco Campus finds itself located in the midst of a privileged natural environment (surrounded as it is by well-conserved and densely populated woods and the hills of El Pardo, Viñuelas and Valdelatas). Also, thanks to communications developments, its relations have progressively improved both with its immediate urban environment (Alcobendas, San Sebastián de los Reyes and Tres Cantos) and with the city of Madrid and its latest residential developments (fig. 2).

Although its initial infrastructures and transport provisions were insufficient, even after the construction of the *Autovía de Colmenar Viejo*³ (a few years later) and the prolongation of the railway network to reach the university facilities, there are now (except in the "rush hour") several alternative ways to reach the *Autónoma* relatively rapidly and comfortably. The great volume of traffic that travels to the university is channelled along two main road axes: the *Autovía de Colmenar Viejo* (M-607), which has direct connections with the M-30, the M-40, and the *Castellana y Herrera Oria*;

3. Colmenar Viejo dual carriageway.

and the *Autovía de Alcobendas* (M-616). The nearest metro stations (Pitis, Herrera Oria and Fuencarral) still unfortunately remain quite distant from the campus. Even so, there are other public transport solutions, in the form of four intra-urban bus routes, which offer frequent and numerous services (that are complemented by nine

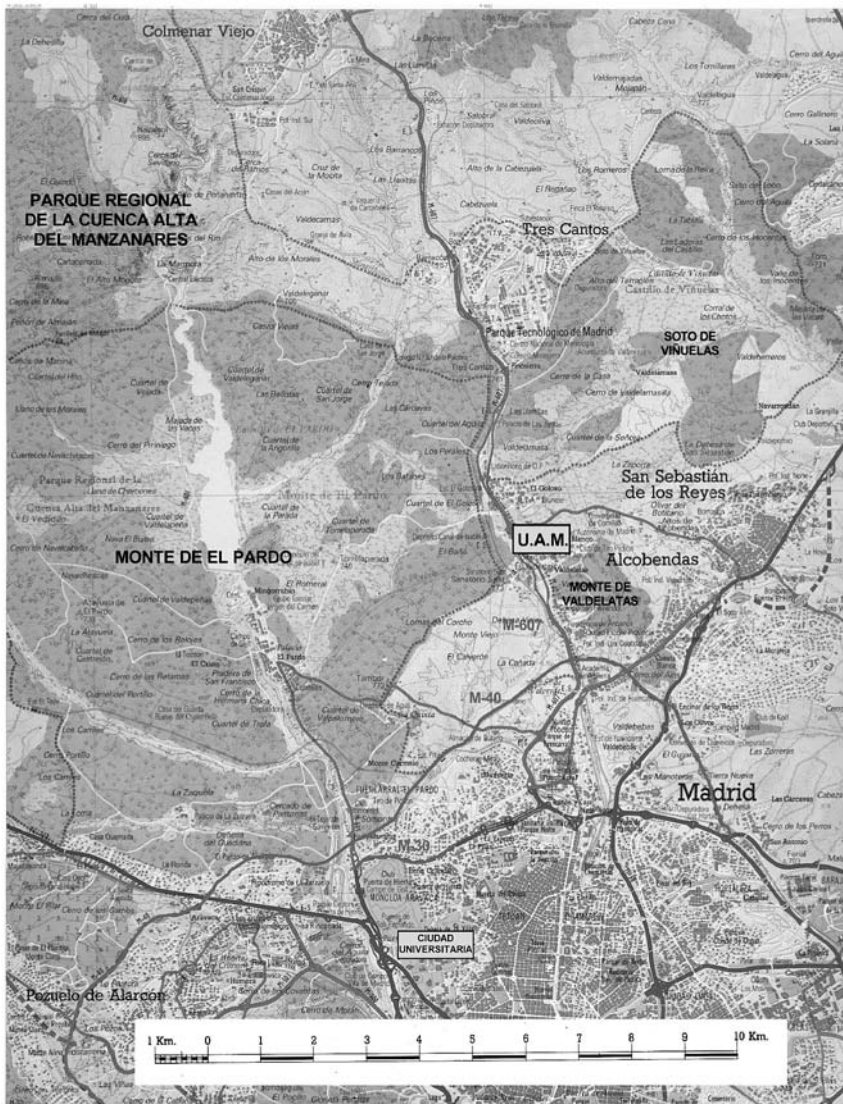


FIGURE 2. Today: Closer to the city as a result of urban expansion and improvements in communications.

FIGURE 3: *Original faculty building, dating from the 1970s.*

others with bus-stops in the vicinity of the university premises) and two local train services.⁴

Although the present situation still leaves much room for improvement, there can be no doubt that relations and exchanges between the university and its immediate urban environment have been reinforced. This is illustrated by the growing number of students and teachers who live in the surrounding area and also by various agreements and collaborations established between the university and local companies for carrying out research projects.

URBANISTIC EVOLUTION AND LAND USES ON THE CANTOBLANCO CAMPUS

Having examined the genesis of the Cantoblanco campus and seen how its relations with its surrounding area have been transformed, we shall make a succinct

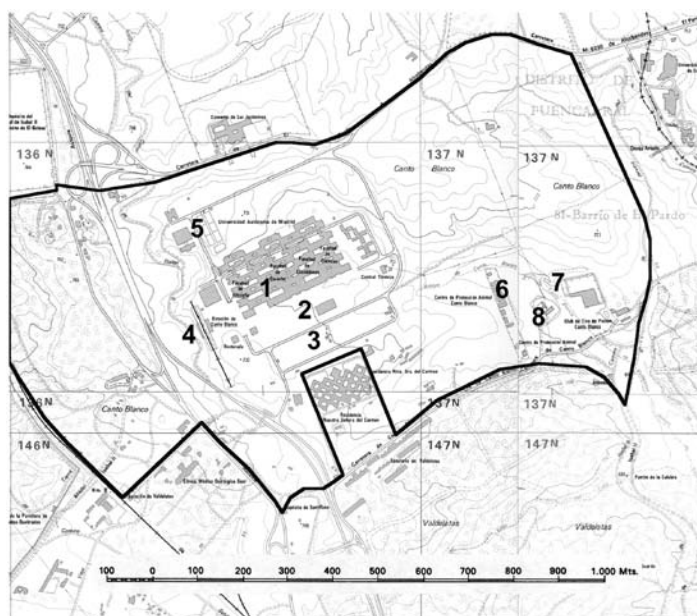
4. The bus lines that run directly to the university campus are the 714 (Plaza Castilla-UAM), the 715 (UAM-Universidad de Comillas), the 827 (Canillejas-Alcobendas-UAM-Tres Cantos) and the 827A (San Sebastián de los Reyes-Alcobendas-UAM), with services at intervals of between 10 and 20 minutes. As far as local train services are concerned, apart from lines C-1 (Alcalá de Henares-Tres Cantos) and C7b (Príncipe Pío-Tres Cantos), with services every 15 minutes at peak hours and every 30 minutes off peak, work is now in progress to prolong line C-1 as far as Colmenar Viejo and for the construction of a branch line from Cantoblanco to the dormitory cities of Alcobendas and San Sebastián de los Reyes.

analysis of its internal evolution, placing special emphasis on urbanistic considerations and land uses.⁵

Generally speaking, the urbanistic evolution of the *Autónoma* can be divided into three different periods. The first phase corresponded to the 1971 premises, which resulted from modifications made by the *Ministerio de Educación* to the draft project (the work of the Borobio family) which was designed to accommodate around 12,000 students and won an international design competition. Thanks to an enormous budgetary commitment, in little over a year, three of the largest construction companies of the time (Entrecanales y Tavora, Dragados y Construcciones, and Huarte y Compania) rapidly constructed a great rectangular mega-building made of around 95,000 m² of reinforced concrete. This building was to house the university faculties

FIGURE 4. 1980s: *Minimal urbanisation and continuity of uses unconnected with the university.*

1. Faculties 2. Green belt 3. Parking places 4. RENFE (railway station) 5. Sports hall 6. Municipal dogs' home 7. Shooting Club 8. Building/area ceded free of charge on a provisional basis.



5. Apart from the previously cited book by Josefina GÓMEZ MENDOZA et al. (1987, pp. 120-128 and 175-185), further useful information concerning these questions is presented in articles by Ángel URRUTIA NUÑEZ, lecturer in Historia del Arte: "La arquitectura de la Universidad de Cantoblanco (Madrid)", *Boletín del Museo e Instituto Camón Aznar*, vol. XXVII, 1987, pp. 67-89 and "La nueva arquitectura de la Universidad Autónoma en Cantoblanco (Madrid)", *Anuario del Departamento de Historia y Teoría del Arte*, N. 2, 1990, pp. 229-245. Due to the limited space available, we have had to omit a series of other very interesting questions such as those dealt with in the doctoral works presented last year by Ana Pilar GONZÁLEZ ALONSO, Araceli HUERTA BARAJAS, M^a José LOZANO DE SAN CLETO and Daniel MARÍAS MARTÍNEZ: *Uso de equipamientos y servicios, estructura funcional y calidad ambiental en el Campus de la Universidad Autónoma de Madrid*.

(Philosophy, Law, Economics and Sciences, photograph 1) and also offered separate offices and areas for the *Rectorado*,⁶ the *Instituto de Ciencias de la Educación*⁷ and complementary services (Central Library, Dining hall, and Sports Centre). During this period, and until well into the following decade, the *Autónoma* —far from being a model of an integrated campus— was a poorly urbanised area, which was cut off from the surrounding uncultivated land by a neighbouring highway. It had no other uses than those related with education; in short, it was devoid of “urban life” (fig. 3). As if that were little, it was not long before the gross insufficiencies of its infrastructure and the precariousness of its facilities began to manifest themselves.⁸

FIGURE 5. *The new Law Faculty in the southern ensanche.*



The second phase began in the 1980s, when the UAM finally took full possession of the campus. With a view to attending to a series of new demands and necessities, the *Equipo Ferrán* projected three *ensanches*⁹ (two adjacent to one another in the south, for various CSIC Institutes and new faculties, and another in the north, for new

6. Vice-chancellor's office.

7. Teacher Training Institute.

8. This was immediately evident in the deterioration of the open-air parking facilities and the appearance of cracks in buildings, but the most lamentable occurrence of all was subsidence in the lobby of the *Facultad de Filosofía y Letras* at the end of September 1976, which caused important personal injuries and material damage.

9. Wide avenues.

sports facilities) that were not completed until the mid-1990s. The new constructions that were added to the system of central boulevards were, at least in principle, functionally appropriate. However, they did not constitute a homogenous block and clearly contrasted in both quality and design with the prefabricated greyish appearance of the part of the *Autónoma* that had been built in the 1970s (photograph 2).

FIGURE 6. *Aerial view of the campus in 1999. Explanation of lay out and construction of new buildings in the north-east sector of the grounds, which also incorporates previously unknown uses (residential and commercial).*



The third and final phase, comprising current and future developments, is being put into effect in the north-east sector of the premises (where landscaping and the construction of new buildings have already begun, fig. 4), following guidelines laid down within the *Plan Especial* which was drawn up by the *Equipo Bardají*.¹⁰ The Plan foresees an important extension of the existing university that —for better or worse— would have important repercussions for the university complex's future. It is based around two perpendicular axes (one longitudinal, established as a continuation of the central area currently used as parking space, and the other traversal, connecting the northern and southern accesses) closed in a ring structure. It is characterised by a mixture of uses and functions, and by the permeability of the different spaces that constitute it: new faculty buildings, research centres, student housing and buildings and space turned over to complementary activities (such as sports areas, gardens, commercial

10. It remains somewhat surprising that the mentioned *Plan Especial* developed from of an initiative begun by the now defunct housing co-operative PSV. See the study directed by Enrique BARDAJÍ ÁLVAREZ: *Plan Especial SG-1 de la Universidad Autónoma de Canto Blanco*, Madrid, Social Housing Promotion (PSV), February 1992 (approved 22-7-1993).

centres and auditoriums). With these proposals —that take into consideration the demands of the university's users— it is sought to break away from the image of the *Ghetto universitario*, and to provide the university with those characteristically urban elements that were initially denied to it when it was first established.

FINAL REFLECTIONS AND PROPOSALS FOR THE FUTURE

Almost 30 years have passed since the Cantoblanco campus was built, and during this time almost all aspects of its day to day life, have undergone profound changes, including its educational context. This period has, amongst other changes, seen the transition from Francoism to democracy, the passing of the *Ley de Reforma Universitaria* of 1983, the proliferation of private universities, the transfer of administrative functions to the Autonomous Communities and the appearance of new degree courses. The university itself has also been transformed, both internally and with respect to its relations with the outside world.¹¹ Much has changed over the last three decades, and during this time the *Autónoma de Madrid*, which is a medium-sized university by Spanish standards (with 30,000 students, 1,600 teaching staff and 800 non-teaching staff in the academic year 1998-1999 and a budget of 21,000 million pesetas)¹² has gradually gained academic prestige for both its teaching and research, not only in Spain, but also in Europe. This is therefore a suitable moment at which to put the physical reality of the campus on the same level as other aspects of the institution.

Thinking along these lines, it seems opportune to remember some of the main ideas that have been considered in the course of this document and, having carefully considered them, to select a series of lines of action that will allow us to reach our final goals.

The university was created for reasons that were more political than educational in nature and owed much to a desire to maintain public order. The university initially neither created nor formed part of the city, nor was it connected with the any of the new residential developments of its time. Yet despite these circumstances, it was not created as a *Ciudad Universitaria* with even the most minimal degree of "autonomy", but rather formed a completely isolated mass of buildings dedicated to educational uses. Only time, the unrestrained growth of Madrid, the appearance of new housing estates and the development of associated transport infrastructures have been able

11. A recent exhibition to commemorate this anniversary, supervised by the historian Manuel Pérez Ledesma, placed considerable emphasis upon these mutations. See: *Tres décadas de vida universitaria*. Catálogo de la exposición "Autonomía, treinta años", Cantoblanco, Universidad Autónoma de Madrid, 1999.

12. Data taken from the Vicerrectorado de Coordinación: *Guía de la Universidad. Curso académico 1999-2000*, Cantoblanco, Universidad Autónoma de Madrid, 1999, pp. 33-38 and 42-43.

to connect and partially integrate the university with the socio-economic reality of its territorial environment.

Due to the basic characteristics of the university premises, such as the relative absence of non-educationally related facilities and there being little more than classrooms and research centres at the university site, campus life is effectively limited to the class timetable and to the possibilities available to its users for studying and doing research there. This deficit in the provision of urban facilities has been somewhat offset by large amounts of investment, but certain problems remain unresolved, whether due to a lack of will, lack of means, or because things have not been done correctly. From an urbanistic perspective, the passing of time has seen the university's centre of gravity gradually move towards the south and east of the campus. Even so, it should not be forgotten that most of the university community —two thirds of it, to be precise— is still concentrated around the original nucleus that was built in the 1970s. It is precisely there that the greatest problems are to be found: sub-standard construction; the inappropriate orientation of buildings resulting in unequal exposure to the sun; infra-utilised interior spaces; a proliferation of stairways that noticeably hinder the transport of materials and restrict access for disabled people, etc.¹³ Furthermore, the campus as a whole lacks any personal sign of identity. This is because it is the result of various different interventions which were carried out without any form of general co-ordination and at different points in time. As a result, on the same premises, it is possible to find university and research facilities that have very different architectural characteristics. These exist alongside other older uses that still continue to exist on the periphery of the premises, despite the fact that they have no connection at all with the university or university life.¹⁴

To be fair and taking everything into account, there are some infrastructures and services that do facilitate campus life; schools (nursery, primary and secondary schools), an ever wider offer of sports and cultural facilities for complementary leisure activity, and some basic service facilities (bookshop, tobacconist's, bank, travel agency, etc.). These mainly help to serve day to day needs and, along with the housing that will soon be built on campus in order to accommodate students and visiting teaching staff, will help to achieve a further approximation to the initial concept of a *Ciudad Universitaria*.

Although the results of accumulated errors still remain more noticeable than the efforts made to remedy them, a point has now been reached at which the problems of the past have largely been mitigated. Even so, at the same time, other problems

13. Although this is patently obvious, Geography students studying doctoral courses under the supervision of Ana Olivera Poll have undertaken the task of corroborating the fact that the majority of buildings on the campus clearly fail to comply with *Ley* 8/1993, 22nd June, which refers to improving accessibility and suppressing architectonic barriers.

14. To be precise, these uses are a Shooting Club, a Centre for the Protection of Animals and a sub-station belonging to Hidroeléctrica Española.

FIGURE 7. *Landscaped gardens opposite the faculties.*FIGURE 8. *Intensely occupied “beach” parking.*

have emerged that are inherent to the new realities of the location and the university. It is our desire for the campus on which we carry out our professional activity to continue improving and for this to happen, we feel the necessity to make a few modest final reflections that we would like to serve as proposals for new interventions in the immediate future.

On one hand, it would seem opportune to take advantage of open spaces of great natural and landscape value in the university's immediate vicinity and to seek greater integration between the campus and its surroundings. In order to achieve this, it will be necessary to adopt appropriate measures for the campus's border fringes whose current lamentable state (including abandoned areas and waste dumps) contrasts sharply with the green spaces of its interior, which are dear to the university students though expensive to maintain (photograph 3).

On the other hand, the UAM has become a place where private transport is used to excess (photograph 4). Private cars are used not only to get to the university, but also increasingly to move around within its grounds. This practice causes a series of environmental problems and of coexistence with pedestrian traffic: the answer could be to restrict this road traffic and to encourage people to walk from place to place.¹⁵

To close this discussion, it is necessary to define a coherent model for urbanisation that will appropriately attend —as far as possible— to the university's real and future needs and rectify current problems such as the complex's deficiencies in internal communications and the heterogeneity of its buildings.

The road to definitively transforming the current campus into a true *Ciudad Universitaria* seems to have been started, there is —however— still a long way to go.

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15. For many years now there have been several interesting proposals to deal with this problem that have unfortunately never completely materialised. One example is that suggested by Alfonso SANZ: *Accesibilidad y medio ambiente en el Campus de Cantoblanco. Problemas y soluciones para el tráfico y el transporte*, Cantoblanco, Universidad Autónoma de Madrid-Vicerrectorado de Alumnos y Medio Ambiente, December 1996.

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PLANNING THE *LA ASUNCIÓN* CAMPUS OF THE *UNIVERSIDAD DE CÁDIZ* IN JEREZ DE LA FRONTERA

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GENERAL INTRODUCTION

Objective of the project and project designers

The planning proposal for the *Campus de la Asunción de la Universidad de Cádiz* in Jerez de la Frontera takes into account the need to provide the area with a single site that houses all of the university facilities that are currently scattered throughout different parts of the city. It also seeks to improve the educational facilities themselves and to establish the services required for the smooth running of the academic facility but which have not yet been provided (which include a library, a sports centre, a general assembly hall, and a services building). It is also necessary to rationalise academic uses in line with the *Ley de Reforma Universitaria* (LRU)¹ and to introduce the Department model, which supposes a radical change from the existing model based on Faculties and Schools. This also offers the possibility of introducing new academic qualifications and specialities.

All of this has been undertaken from the perspective of a globalising urban model, which not only seeks integration with the immediate environment, but also looks to improve it. Furthermore, it represents an “area of new opportunities” for the eastern part of Jerez and indeed for the whole of the city.

The proposal also seeks to qualify spaces, though this time with respect to the internal workings and structure. It tries to do this from the perspectives of architecture and image, in the belief that the campus can bestow prestige upon the university function, because —as we should not forget— in a country that recognises the value of being socially advanced this constitutes the basis of the cult of learning.

Given the extraordinary complexity of this proposal, we will proceed to individually examine the different components developed within the Basic Project:

1. General planning of the complex
2. General urbanisation

1. University Reform Law.

3. Building containing offices and seminars
4. Building containing lecture halls and classrooms
5. Library
6. Services building
7. General assembly hall
8. Campus parking and storage facilities
9. Sports centre.

The project has been drawn up by the *Gerencia Municipal de Urbanismo del Excmo. Ayuntamiento De Jerez*² following instructions provided by the *Area de Infraestructuras* of the *Universidad de Cádiz*, and under the supervision of its architect and director, don José María Esteban González.

The following technicians formed the design team:

General co-ordination of the work and drafting of proposals for the General Planning, Urbanisation, Library Building and Sports Centre:

Benito García Morán. Architect, *Gerencia Municipal de Urbanismo*³

Preparation of the Basic Project for the Legal and Business Studies building (external team):

Francisco Paints Port. Architect

Miguel Angel Som Ruiz. Architect

Federico Montaldo Merino, Architect

Juán José López Carreño. Technical architect

José Ignacio Montaldo Merino. Technical architect

Preparation of the Basic Projects for the Lecture Halls and Classrooms, and Parking and Storage Facilities (external team):

Carmen Stingy Basáñez. Architect

Miguel Angel Berges Houses. Architect

Jacobo Berges Torres. Architect

Preparation of the Basic Project for the Services Building:

Juán Ramón Díaz Paints. Architect, *Gerencia Municipal de Urbanismo*

Preparation of the Basic Project for the General Assembly Hall building:

Gonzaga Delage Darnaude. Architect, *Gerencia Municipal de Urbanismo*

General co-ordination of Drafting and CAD:⁴

2. Municipal Department of Urbanism of Jerez City Council.

3. Municipal Management Group for Urbanism.

4. Auto Cad design programme.

Juan Córdoba Moreno. Draftsman, *Gerencia Municipal de Urbanismo*

Drafting for the G.M.U.:

Manuel Fernández Espinosa

Antonio Moreno Manzano.

Drafting collaborators:

*Departamento de Planeamiento, Obras, Proyectos e Informática de la G.M.U. of Jerez*⁵

Geo-technical study:

Vorsevi s.A.

Location of the area

The project for the new Campus is located in the part of Jerez de la Frontera known as *La Asunción*. *La Asunción* lies in the eastern part of Jerez's urban nucleus. Its northern limit follows *Avenida de Arcos* and its southern border is established by *Avenida de Las Delicias*. It is only 500 metres from the city's old quarter and is located in an area into which the city has expanded since the 1950's.

Until recently, this area housed military barracks, but these have now been de-commissioned and demolished. Following an agreement signed with Spain's *Ministerio de Defensa* this area became municipal property and was placed at the disposition of the *Universidad de Cádiz*.

It has a total surface area of approximately 114,000 m², with about 25,000 m² forming a green belt zone. The area is fully equipped with all necessary urban services.

The first phase of the project deals with the planning and development of the northern part of the plot. This part borders on *Avenida de Arcos* and has a total surface area of 58,413 m².

The following questions have to be borne in mind with respect to the city's model for *Movilidad Local y Metropolitana*.⁶

- The decentralisation of the *Universidad de Cádiz* raises the problem of student movements to and from educational centres. Accessibility and mobility should therefore be afforded high-priorities when drawing up a model for new university premises.
- The advantages associated with having a university in the province are undermined if students are not provided with the necessary means to freely move to these centres from their places of residence. This problem needs to be addressed through joint and co-ordinated action involving all the local municipal and administrative authorities.

5. Department of Planning, Works, Projects and Computer Science of the G.M.U. of Jerez.

6. Local and Metropolitan Mobility.

- From the point of view of road links, the *La Asunción* area is well connected to the city's main road network and therefore communicated with the Metropolitan Network. There is direct access from the new *Ronda Este de Jerez*⁷ (currently under construction) which connects up all of the main roads outside the city.
- It is important to bear in mind the importance of rail transport, and especially so once the Airport —Jerez— Cádiz line has been completed. This will lead to significant reductions in travel times and an increased frequency of services. The *La Asunción* area enjoys a privileged location, as it is only three hundred metres from the present Railway Station. In the near future, this is destined to become a Transport Interchange Centre, with the addition of an adjoining Bus Station, which is foreseen in the *Plan de Integración del Ferrocarril en el Medio Urbano de Jerez*⁸.
- With regard to its Urban Bus service, Jerez offers an extensive and high quality service. It has air-conditioned air buses and vehicles with special low platforms providing accessibility for the handicapped and guaranteeing mobility for everyone within the city.

As far as the area's relationship with areas dedicated to green belt and sports uses is concerned, it should be pointed out that sport has become an increasingly important part of university life, and that more and more students participate in sports activities on a regular basis.

In this particular case, the *La Asunción* area lies just 100 metres from the Chapin Municipal Sports Complex, which is a possible centre for university sports and is able to cater for a multitude of sporting specialities.

Apart from the green belt areas already foreseen in the plan (a minimum of 28,000 m²), there is also the neighbouring *Parque González Hontoria*, with its 290,000 m² and plans for the future *Parque de La Canaleja*, with a further 122,000 m².

*Resolutions in the P.G.M.O.*⁹

According to the *Normativa Urbanística del Plan General* and stemming from its *Modificación nº 4*, the area has been qualified as a *Sistema General de Equipamentos*,¹⁰ dedicated to Educational uses.

This qualification is regulated in Chapter Six of the previously referred to *Normas Urbanísticas, (Uso de Equipamientos y Servicios Públicos)*.¹¹ This chapter makes it clear how flexible Planning can be when there is a need to admit different solutions that provide answers to the different requirements and needs presented by each particular case.

7. Eastern Jerez ring road

8. Plan for Integrating the Railway into the Urban Environment of Jerez

9. The Municipal Plan (Plan General Municipal de Ordenación)

10. General System of Facilities

11. Use of public facilities and services

To be more precise, the use associated with university education is covered in Section E2, Group V, (Higher Education). Section 6 of Article 230 is significant in that it establishes that the Development Potential cannot exceed $1.5 \text{ m}^2/\text{m}^2$ per undeveloped plot, without establishing any limitations on volume, occupation or height.

Needs programme

This needs programme is a compilation of various different documents that have been sent to the editing team by the *Area de Infraestructura* of the *Universidad de Cádiz*. We have worked with them in a co-ordinated effort to draft the current proposal and to seek solutions for the different needs that were outlined to us.

As previously mentioned, the needs programme presented here has been subjected to constant revisions and modifications over the time in which the current proposal has gradually taken shape. This should be accepted as logical, given the large and complex nature of the project that we are involved in. Furthermore, the premises should be the subject of detailed analysis by the University, as this institution is none other than the promoter and final user of the end product.

Be that as it may, we must also stress that the possibilities for constructing on the building plot and the aspirations for creating new centres and studies exceed those presented in the programme that we have presented here. As a result, the planning proposal presents the programme outlined below as simply a first phase. It should be understood, however, that the rest of the site—which is not covered by the present project— could offer much greater building potential than that proposed in this document.

The initial information provided by the University with respect to potential users is as follows:

Degree in law	1500 students
Second cycle legal studies	300 students
Degree in business studies	1500 students
Department of public administration management	600 students
Second cycle business studies	300 students
Total students.	4200 students

Foreseeing a continuous use of the buildings and two separate shifts of classes with a peak hour capacity of 4,500 places, we can calculate spatial requirements on the basis of a maximum of 3,000 students.

Urbanistic planning needs

Parking Facilities: An area the size of the one outlined has a peak capacity of 4,200 students (in the first phase). We must therefore make provision for parking places for a minimum of 325 cars, in addition to those that may be created as a consequence of improvements to the neighbouring road network. Basing our calculations on a minimum required surface area of 20 m² per parking place, it would be necessary to reserve 6,500 m² for parking. Such an area is clearly excessive, and more in line with the image of the car park of a large hyper-market. As a result, the best solution would seem to be that of providing underground parking, at least to the extent of avoiding converting the area into an enormous car deposit.

Green zones: Keeping to the previously mentioned requirements, it is possible to exceed the total 25,000 m² of green zone currently earmarked for the area in the General Plan on just the present plot alone (first and second phase). It is necessary, however, to foresee a design that permits its use as both an open space and, alternatively, as a meeting place. The inclusion of an outdoor “amphitheatre”, which might also serve as a venue for concerts, plays and other mass-participation events—not necessarily related with the university, but with the city itself— would also be favourably regarded.

Other actions: Apart from these major requirements, we should also add two other features that need to be borne in mind when planning this area:

The perimeter of the complex should be sufficiently open so as to make it fully visible from the exterior, yet sufficiently open so as to permit effective control and surveillance from its interior.

Provision of the necessary facilities to ensure the smooth operation of the Campus.

CRITERIA FOR ACTION

Bearing in mind the previously outlined needs programme, and after an urbanistic and functional analysis of the target area, we have produced the following list of basic criteria for planning the whole area into which we will integrate the first phase of the current project:

These criteria will be as follows:

- The proposed image for the *Campus Universitario de La Asunción* is an Integrated one and is based upon Departments.
- The general focus when planning the area revolves around the idea of a large enclosed—and therefore controlled— site with a main surface traffic of pedestrians and bicycles. Motor transport is preferably limited to emergency services.
- The main accesses are located in previously existing side streets so as not to exacerbate the dense traffic of the *Avenida de Arcos* and the *Paseo de las Delicias*.

A number of secondary pedestrian accesses and bus stops for urban services will also be located along both these transport routes.

- The routes of a series of pedestrian and/or cycle paths separate the different "plots" or areas of homogeneous uses within the complex. (The proposal outlines two parallel east-west and two north-south axes, with the westernmost axis framing the green area designated by the P.G.M.O.).
- The definition of a series of internal "plots" or areas of homogeneous use that spatially and functionally zone the area, which is based on these transit arteries and respect for the green area strips established by the General Plan.
- An answer to the great foreseeable demand for parking space, based upon a large central area located at a basement site, with covered or partially covered accesses via passages connecting these areas. As a complement to this solution—and making use of the same subterranean communication axes—it would be possible to envisage individual basements for the faculties that require them.
- An extension of the existing lateral roadways that run between *Avenida de Arcos* and *Paseo de las Delicias*, with a traverse section of 3-2-7-2-3, and with lines of parking spaces along both sides of the road and the hard-shoulder. Also the possibility of two-way traffic, which would guarantee access to and from both of these major streets.
- Special attention will be given to the proposal and to the way in which the citizens of Jerez perceive and understand "the place".

We believe that if we take these ideas into consideration, it will be possible to create a complex that would meet the following requirements:

- It would be a planned complex and give the impression of forming part of a city, rather than being just a group of unconnected and isolated buildings separated and surrounded by random and unusable open spaces.
- It would be an accessible complex, combining pedestrian traffic—which would be the only form of surface transit—with the planning need to satisfy demand for places in which to park private vehicles.
- The complex should offer the population pleasant open spaces that are easy to use and maintain. The central area could serve as a meeting space for the Campus, and combined with the functional buildings around it, this would give an impression of continuous use. It is also necessary to plan the inner area and to afford the same importance and care to the design of open spaces as that afforded to the built environment.
- The complex would promote contact with the neighbouring densely populated area (located to the west) through a green area that could be used, planned and regulated by both the university and its neighbours.
- The complex would highlight the most representative of the many uses contained in its interior and especially the buildings dedicated to educational uses. It would

also serve as a showcase for the institution along the main streets that border it (*Avenida de Arcos* and *Paseo de las Delicias*).

- It would be a complex that could be easily constructed in different phases, with each of the component parts being able to function on its own until the rest of the buildings had been constructed.
- The complex should be capable of incorporating the most modern university uses and building concepts, including integrated and intelligent buildings.
- The quality of the architecture should match and consolidate the quality of the urbanistic planning and design.
- The final Campus product must conform to the established Urbanistic image. The different architectural components will adapt to their urban environment and become part of the general development of this area of the city.
- The proposal must take into consideration the value of the new Campus in Jerez. It must gain general acceptance and also establish its importance both within the surrounding area and as a generator of new activities that will influence its level of activity.

GENERAL PLANNING OF THE COMPLEX

Description of the proposal

The general planning proposal presented in this section is based upon ideas advanced in the previous section, but also takes into consideration how the whole plot—located between *Avenida de Arcos* and *Avenida de las Delicias* and including the area previously occupied by the *La Asunción* military barracks— would work once it assumes its university function.

Once a functional scheme had been outlined and initial planning completed, the project went on to develop the finer details of what has come to be called the “first phase” and deals with the northern part of the area.

Basic lines of the overall planning proposal

The proposed structure for the whole surface area destined for university use begins—as we have seen from the previous section—with the premise of the General Plan and respects the open space next to *Avenida de Arcos* and the *Barriada de la Vid*.¹² One of the first project decisions was that of completing this margin by creating a similar area next to the *Avenida de las Delicias*, and thereby establishing a U-shaped green zone around the development area, which would facilitate contact with the nearby city.

12. A residential quarter.

Taking these green areas as a starting point, it was decided to create a series of internal communication axes:

- Two pedestrian axes running from north to south (*Avenida de Arcos-Avenida de las Delicias*), with the one to the west coinciding with the limit of the green margin and the one to the east running through the middle of the plot.
- Three pedestrian axes running from east to west (*La Asunción-La Vid*), with the limits of the central route coinciding with the limits of the first phase. These axes —although meant for pedestrians— will be sufficiently wide (10 metres) and have appropriate covering to permit their use by emergency service vehicles.
- Two roads passing at a depth of 4 metres below ground level in an east-west direction and running parallel to the outer pedestrian routes. As a result, the first phase seems to be enclosed by a semi-submerged road situated to its north. These road axes will provide access to the different underground parking areas that will be located either under the buildings themselves or in special open and semi-covered areas.

With this communications structure and set of green areas, we have a grid pattern similar to that of a Roman military city, with its “*Cardo*” and “*Decumanus*” defining a series of blocks or “squares” with sufficient surface areas to house the different buildings required.

One final and no less important general planning decision concerns the location of a large open space within one of these “squares”. This space, which is on *Calle Nuestra Señora de la Consolación* (located to the east of the plot), would be bordered by an arcade in the style of a monastery cloister.

Description of the proposal developed for the project

Once decisions have been taken as to the relative positions and trajectories of the green areas, footpaths, routes for motorised transport and large open cloisters, decision making for the first phase comes down to allocating the uses of the different resulting “squares”. This is resolved as follows:

Open cloister: As already mentioned, this is the large open space for meetings and social interaction on the Campus. It is located on the side of the site nearest the *La Asunción* quarter and is surrounded —on all four of its sides— by an arcade with two rows of pilasters of two different heights, with the smaller, more domestic, ones on the inside, and the larger, more monumental ones, on the outside. The inner part of the cloister is completed by a clump of trees and a “hard” base that is given an artificial slope in order to accentuate the view of the trees, and a central area with different tiered terraces that house a space earmarked for a strip of water. In this way, there is a space with qualities for hosting daily activity —under the trees and on the terraces that are covered by a pergola— and the major mass events associated with academic life.

A series of buildings have been located around the cloister as if this was an urban square and they were its interior facades:

Services Building and Library: They are located as two independent volumes in the area opposite the entrance to the cloister that gives onto the road, which shares perimeters with one of the cloister's rows of side arches and with the central north-south and central and upper east-west footpaths.

These are two independent blocks occupying a surface area of 40×40 metres and which are separated by a 20 metre wide space that serves as a lobby for both units and also for the classrooms located behind them.

The library, which is housed in the highest of the buildings (with four floors according to the proposal), forms the south-west corner of the cloister and converts the row of arches into a double façade that is as high as the building itself and forms a very special angle. As it occupies a position that "divides off" the second phase of the university complex, it could be used as a common building for the whole complex and could be extended in the future, as and when required.

The services building has been located at what is both the geometric centre and also the centre of gravity of the whole complex. This has been done because for functional reasons; it needs to be equidistant from the other buildings and uses and also needs to be located in an area near both the pedestrian (above all from the central footpath that leads to *Avenida de Arcos*) and road (as the planned exit from the subterranean parking areas is just at the confluence of the central north-south and upper east-west axes) accesses.

Building Containing Offices and Seminar Facilities: This is located with facades facing the open cloister, *Calle Nuestra Señora de Consolación* and *Avenida de Arcos* (and is separated from them by strips of green zone). The building's perimeter is constructed with a double row layout, opening out onto a very large central patio. This rigid layout is broken at one of the corners of the patio in order to allow larger spaces. The three storey building partly incorporates the cloister arches and its lower level has a patio that connects with the cloisters. The underground part of this building has parking facilities for university lecturers and non-teaching staff, with access from the covered road.

General Assembly Hall: This has been located in such a way as to close the angle created by the previously described building (the library, with the services building on one side and the offices and seminar facilities on the other). Its location corresponds to the functional effect of its possible independent use separated from the university complex, and for this reason it is located in an area near the central entrance to the complex from *Avenida de Arcos*.

Building Containing Lecture Halls and Classrooms: In terms of its size and functions, it could quite safely be said that this is the central building of the university complex. It is located so as to be supported by three communication axes; the two

running north-south and the east-west axis lying further to the south. This layout allows integrated access to the library and services buildings (the three buildings most used by university students). It also provides a communications axis which runs from the open cloister, passes between the library and services buildings, and opens into the heart of the classroom section. In this way, it also emphasises the U-shaped form of the classroom building. The classroom building also constitutes a fundamental part of the parking system, as its basement houses the largest surface area dedicated to this particular use. This basement is also connected to the surface just to the north of the classroom section and is separated from the classroom building by an underground road, while further space is dedicated to semi-covered parking. As in the case of the library, the building borders on the second phase of the development: this will facilitate its use by the whole complex and allow its possible future extension. The building is two storeys high.

Sports Centre: This building faces the *La Vid* neighbourhood and adds the finishing touch to the axis created by the cloister, services building-library and classroom blocks. Its position has been partly determined—as in the case of the general assembly hall—by the consideration of facilitating its use by groups from outside the Campus and allowing them access to it without having to pass through the Campus itself.

Campus Parking and Storage Facilities: As already mentioned, these are located in the block positioned to the north of the classroom building. They are directly connected to the road network and constitute a continuation of the other basement parking facilities.

An open sunken-level system has been chosen that spatially enriches the whole complex without having to confine vehicles to a basement with a corresponding “hard square” above it.

The campus storage facilities are located in the south-east corner of the block. They are situated just below ground level, have direct road access, and support an upper level square that houses the ramps and lifts that communicate the surface level and parking facilities. This unit also serves as a lobby for the services building, library and classroom block.

Closing off the Campus: Both the university and the city council have preferred a closed complex with accesses to different individual areas that can readily be controlled. For this reason, the complex has a closed perimeter with two gates on the north side (*Avenida de Arcos*), two more on the *La Vid* side, and a further two in *Calle Nuestra Señora de Consolación*, all of which coincide with internal footpaths.

Likewise, it is possible to control entry and access to the parking facilities and underground traffic.

Finally, we must mention that access controls have been introduced in order to limit the access of people from outside the university, who use the sports centre and the general assembly hall, to the rest of the Campus complex.

USE OF SURFACES ACCORDING TO THE GENERAL PLANNING PROPOSAL

The general surface areas resulting from the planning proposal are as follows:

Surfaces occupied by the built environment:

Outlying green areas	11,967 m ²
Open cloister	6,830 m ²
Area of covered cloister.....	2,800 m ²
Footpaths	11,967.50 m ²
Ramps and open spaces over roadways	1,492 m ²
Covered paths and roads.....	2,700 m ²
Parking and storage space.....	4,123 m ²
Total area destined for open spaces.....	38,730 m ²

Surface areas occupied by buildings:

Offices and seminar facilities.....	3,362 m ²
Library	1,647 m ²
Services building	1,600 m ²
General assembly hall.....	1,650 m ²
Classrooms.....	7,502 m ²
Sports centre.....	3,920 m ²
Total area occupied by buildings.....	19,681 m ²
Total project surface area (1 st phase)	58,411 m ²

BUILT SURFACE AREAS RESULTING FROM EACH PROPOSAL.

LAW AND ECONOMICS FACULTY BUILDING

Surface above ground level – 7,609 m²

Covered public spaces – 910.09 m²

Surface below ground level – 3,250 m², (118 parking places for cars and 40 for motorcycles).

Library

Built surface above ground level – 6,713.00 m²

Covered public spaces - 905 m²

Surface area below ground level – 2,560.36 m²

Classrooms

Built surface areas below ground level – 8,242.17 m² (parking for 250 vehicles).

Built surface areas above ground level – 8,425.12 m²

Common services building

Built surface above ground level – 3,088.50 m²

Built surface below ground level – 199.55 m²

General assembly hall

Built surface area above ground level – 2,609.34 m²

Parking area and storage space

Total parking area – 3,338.31 m²

Total built surface area for storage and loading bay – 721.35 m²

Sports Centre

Built surface area – 3,468.4 m²



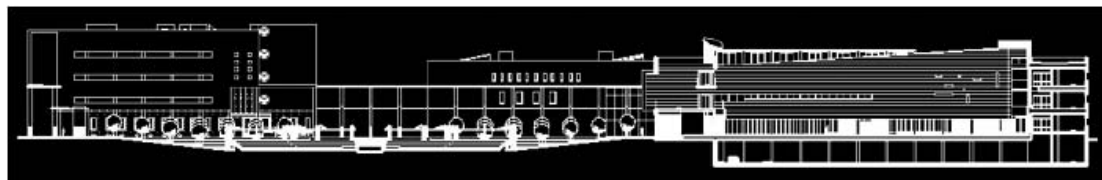
Plan of the plot and for the first phase of action.



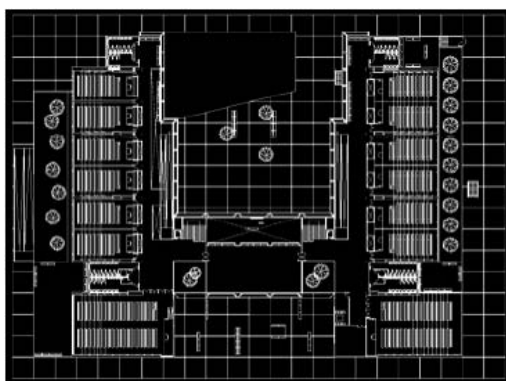
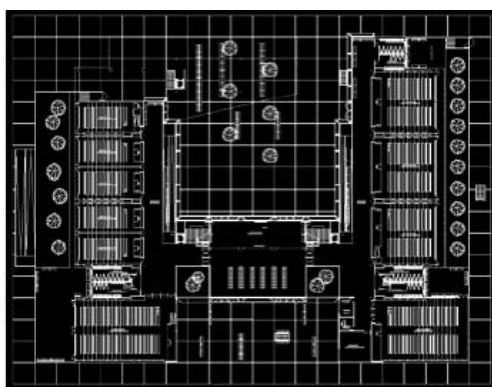


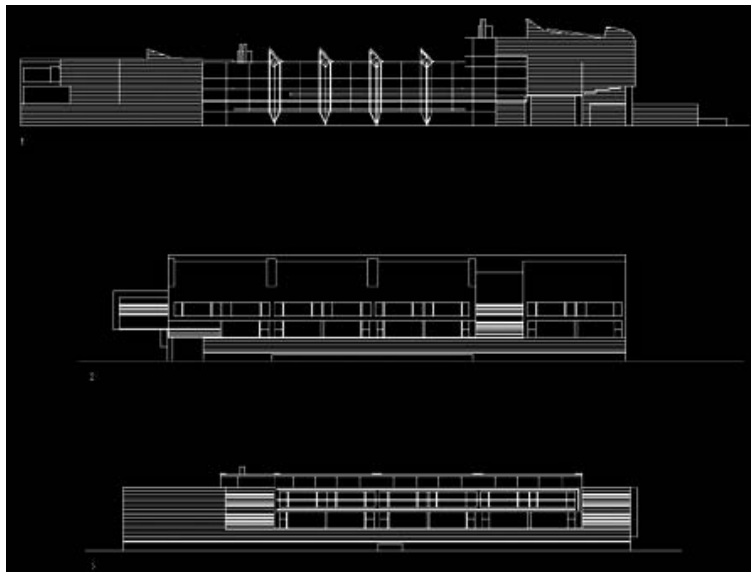
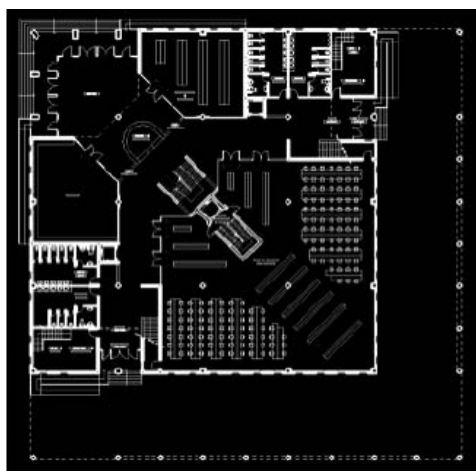
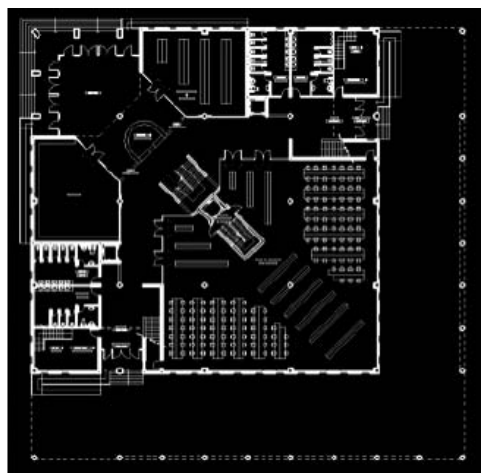
View of the cloister

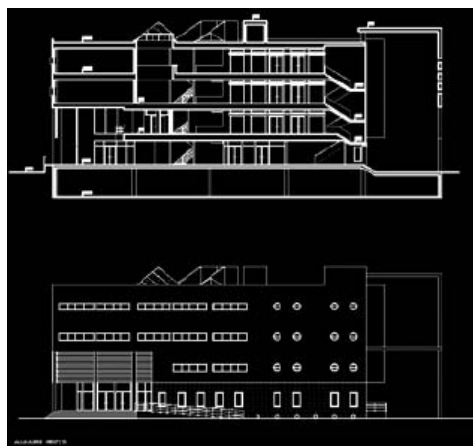
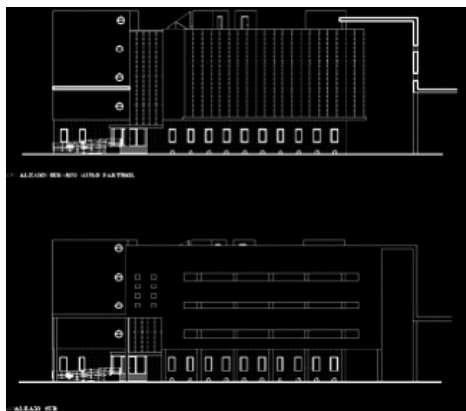
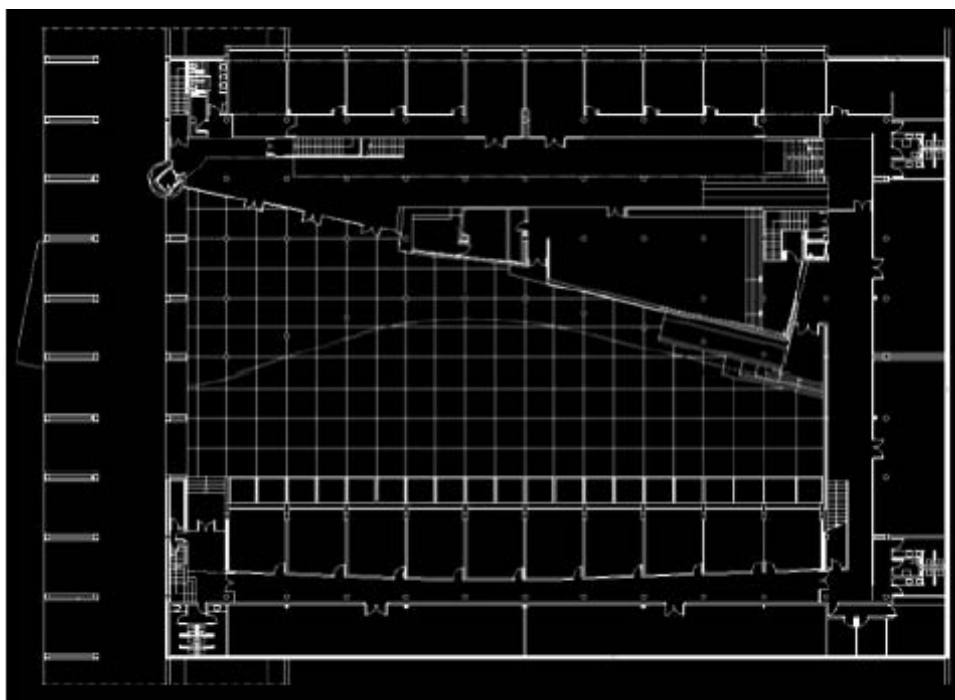
Cross section of the cloister

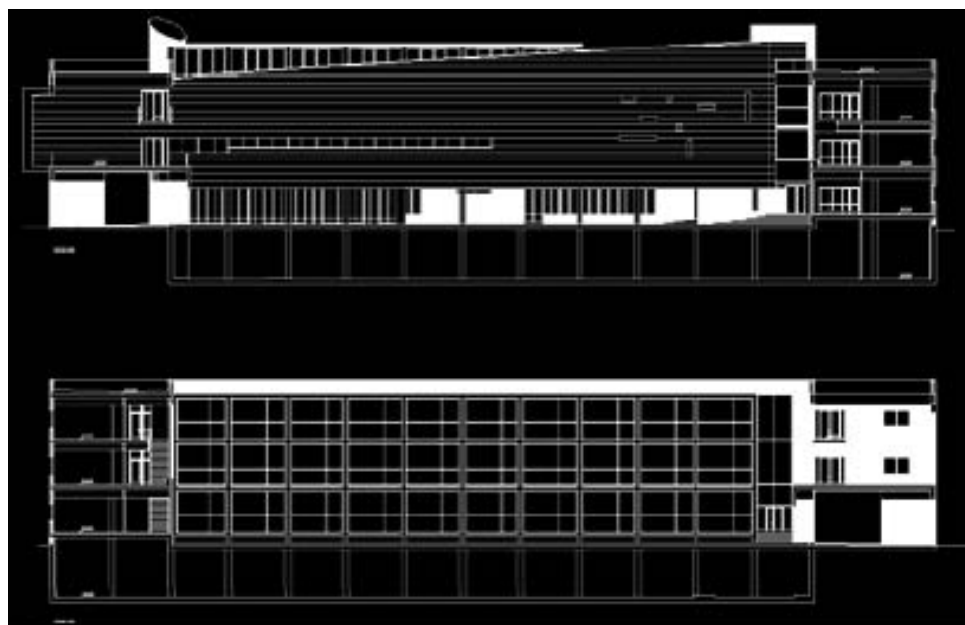


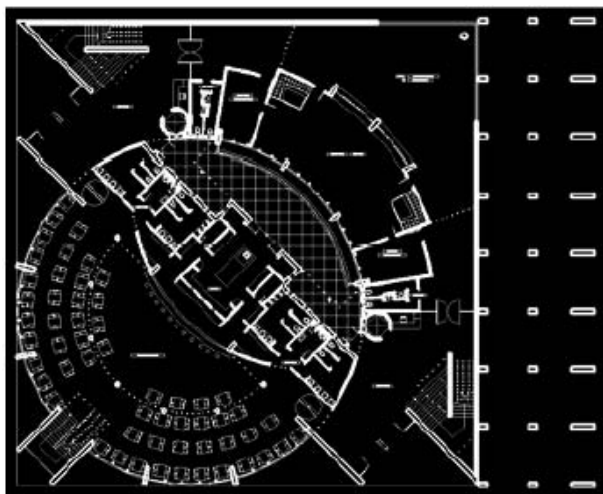
Classroom building – ground floor and first floor



Aulario, cross section*Library – ground floor and first floor*

Library – frontages*Offices and seminar facilities – ground floor*

Offices and seminar facilities – frontages



Services building – ground floor



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