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# The Place of Architectural Design Studios in Portugal in Response to the Bologna Agreement

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**ABSTRACT:** The curriculum harmonization of European university courses, converging for a *European Higher Education Area* by the so called *Bologna Process* (1999-2010), relocated the debate about the specificity of education in architecture, and its traditional methodology of learning by design, within the University environment. This paper approaches the structural, organizational and curricular developments of a group of Portuguese architectural schools, describing the changes driven by the *Bologna Process* and inquiring to what extent they present a change to the organization, the contents and the significance of traditional teaching of architectural design.

## 1 ARCHITECTURE AT THE UNIVERSITY

In Portugal architectural education achieved "higher education" status with the 1950-57 artistic education reform, leading the way for a new social and economic recognition, nevertheless still far from the status of "stronger" disciplines like engineering. Within the only two schools in the country, the fine-arts schools of Lisbon and Porto (ESBAL and ESBAP, since 1836), it was a moment of institutional transition, from the old "beaux-arts" system to a "modern" model of education, in which the vocational and artistic issues were mitigated in favour of social and exact sciences, more alike "modern" ideals of social, technological and economic progress.

Just before that, in 1948, the 1<sup>st</sup> *National Congress of Architecture* had criticized the concept of "architect-artist", demanding a change in education towards the principles of a "modern" conception of architecture: technical knowledge; the spirit of collaboration; the spirit of research and the cult of an autonomous discipline.

With the 1950 reform, the two schools experienced the "implementation of a method of analytical design in the pedagogical act" (Silva, 2011:30), developing an interest for design methodologies and "real context" exercises, introducing real local problems, in which the traditional conservative and formal culture could give way to a more experimental and methodological culture, advocating the need for research (Fig. 1) and for trans-disciplinary collaboration to ensure the assertiveness of the "why and how" (Le Corbusier, 1938).

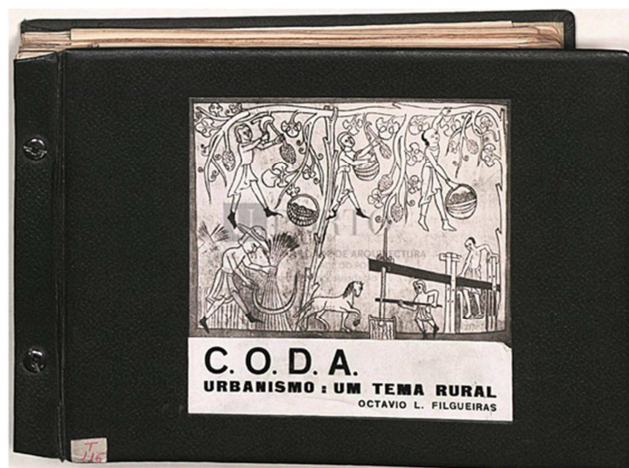


Figure 1: Octávio Lixa Filgueiras (1953). First mainly written research graduation thesis. Porto: ESBAP

In the sixties, pro-democracy movements increased and gained growing expression, mobilized by the post-war environment and the overall rejection of the Colonial War in Africa (1963-1974), but also by the consolidation of an expanding middle class and the rise of the consumer society. The students turmoil of the sixties since 1963 with the war in Africa lead to curricular autonomy, the so-called "Experimental Procedures" (1970), allowing a certain self-determination among both schools of Lisbon and Porto, both in curriculum composition and staff composition. Therefore the school of Porto proclaimed the objective of "development of the student's personality, their critical capacity, autonomy and responsibility through working groups, participation in school management and control over their own education" (Moniz 2011:10). It was also time

for a distrust in all scientific and analytical contents separated from the disciplinary tradition, growing the need for an epistemological clarification of the "territory of the architecture", defending a disciplinary autonomy against any technocratic derive that would weaken the traditional humanistic dimension of architecture.

With the democratic revolution in 1974, Lisbon and Porto became independent schools (FAUTL and FAUP in 1979), losing their connection with fine-arts schools of both cities. These new institutions would go on to "teach the basic education leading to bachelor" and "conduct and stimulate scientific research" (statutes, 1979), but again, not without fear of losing identity, as the passage of the old "beaux-arts" regime to an "over-technical" context could "impose a technocratic logic over an educational heritage" (Silva 2011:43).

In the 1980s the Portuguese university system opened up, expanding the number of institutions and students. In Lisbon this was the decade of postmodern incursions and "didactic dispersion", while Porto confirmed its historical and methodological legacy, strongly instrumental, "without any theoretical losses" (Alves Costa, 2013, pers. comm.) and gathered around the work of Álvaro Siza (Silva 2011:74).

In the 1990s Architecture gained a new social recognition, as the country was transitioning into democracy, circumstances like the UE admission (1986) or an enormous investment in infrastructures, simultaneously regulated and expanded the profession. It was also time for international recognition (Alvaro Siza obtained the *Mies Van der Rohe Award* in 1988 and the *Pritzker* in 1992), leading architecture to a visible place in the social, economic and political agendas.

Therefore, in the 1990s, the number of architecture students rose from 1800 to about 9000 (*Jornal Arquitectos* n.º 201, 2001:8). New schools opened, both public and private, ending the exclusivity of the two "historical" schools of Lisbon and Porto. The vast majority of schools and courses was now university level, and the new framework for teaching career (ECDU, 1979) required a PhD to access the highest rungs of the career. Thus, university research arose slowly, and at Porto (FAUP) and in the new public school at Coimbra (d.ARQ-FCTUC, 1989) the final graduation evaluation switched to a theoretical work (1994), reinforcing the written component in the architect's basic training.

However, the massive expansion of architectural education raised a concern within the profession. Hence in 2000 a system of courses accreditation and graduates admission were implemented by the Portuguese Institute of Architects (*Ordem dos Arquitectos*, OA), therefore finishing the regime of direct access from the academia to the profession, and creating the first overall evaluation procedures.

With the Bologna process and *European Higher Education Area* (EHEA) adequacy beginning in 2006, the evaluation of all higher education would be congregated into a national *Assessment and Accreditation Agency* (A3ES), leaving to the OA the process of admissions into the profession, in the shape of a post-graduate internship and a few more pre-professional training through thematic seminars. Consequently, just a few years after finishing the direct admission to the profession, the mismatch between university education and the traditional professional training and practice was somehow institutionalized.

In parallel, the national legal framework of the Bologna adequacy confirmed the "binary" nature of the Portuguese higher education system, separated in universities and polytechnic institutes, where the first ensured a "solid scientific training, joining efforts and skills of teaching and research units," and the second focused in "vocational training and advanced technical training, professionally oriented" (RJIES 2007, Article 3). As for the faculty, universities required a minimum PhD / pupil ratio of 1/30, while the polytechnics would fill up to 35% of its faculty with professional "experts". Therefore the ECDU was reset (2009), with the PhD becoming the "basic-grade" for universities, and exclusive dedication became the "regime-rule", accompanied by a periodic compulsory evaluation of teaching, research and other academic activities. As the preamble of the ECDU states, the faculty devotes itself to "scientific research as a central element of the university career."

The development of research, required by the profession in the fifties in order to support the conversion from the "architect-artist" into "technical-architect", appeared now to gain autonomy in itself, mainly due to the professionalization of the teaching-research career.

The great economic crisis of 2008 further exacerbated the condition, dramatically reducing the practice among an overcrowded profession and exposing a scenario of two decades of built uselessness. Hence, there was an increasing attractiveness in the academic career and a new demand upon the necessity of the "how and why".

And yet again the debate: how can architecture be useful in a situation of crises? Can it survive without building? What to do with the disciplinary heritage? How to react to different expertises within the profession? Do the traditional design classes still maintain their pedagogical centrality? And, how can the project – design courses, as an empirical practice, representing architecture as material culture, be taught and investigated away from the material conditions of their own production? Given the productive imperative of research, within the "research-university" domain, architects questioned if "research in design means the passage of the field of

architecture from a physical, real and pragmatic world, to an academic one, working on itself" (Jorge Figueira, 2013:205).

Back in 2004 the "architecture area" preparation report towards Bologna (Domingos Tavares, 2004), portrayed an architectural education focused on training to design practice. But, that was not totally reflected in the schools' adequacy (2006-2008), the circumstances of change were bigger. Underpinned

by the curricular structures and design programs of five public schools of architecture in Portugal – Minho (EAUM); Porto (FAUP); Coimbra (d.ARQ-FCTUC) and two schools in Lisbon, FAUL and ISCTE-IUL (see Table 1) – we may perceive the changes operated by the schools facing the overall observed circumstances, trying to foresee the place of the design studio culture within these set of changes.

Table 1: 5 Portuguese schools of architecture – Structural data

	University	School		Students	Faculty	Products – Courses
	Students	Since	Type			
EAUM	18.490	1997	School	374	53	3 Bachelors / 1 Master / 1 PhD
FAUP	31.352	1836	Faculty	990	100	1 Master / 1 PhD
d.ARQ-FCTUC	22.741	1988	Department	548	39	2 Bachelors / 3 Master / 1 PhD
FAUL	48.147	1836	Faculty	2.700*	140	3 Bachelors / 8 Master / 3 PhD
ISCTE-IUL	8.600	1999	Department	330	34	1 Bachelors / 1 Master / 1 PhD

\* The FAUL Integrated Master in Architecture has about 1167 students. There are different Bachelors, Masters and Integrated Masters, all data gather in subsequent tables relates only to courses in Architecture. In 2014-2015 there were 22 different schools of Architecture in Portugal (*Journal Arquitectos* nº252:2014).

## 2 TRANSITION TO THE BOLOGNA AGREEMENT

### 2.1 Curricular changes

The "architecture knowledge area" report, coordinated by Domingos Tavares in 2004, proposed a double cycle reorganization for Bologna, articulated in a first 5 years cycle, giving access to the profession, and a second one of 2 to 4 semesters, intended "to strengthen the professional preparation and training, leading to the disciplinary investigation" (report, p.2.3).

This division maintained the distinction between general professional training and expertise or research, according to the traditional progression of bachelor-master. It also viewed the profession as it was specified by the OA statutes of 1998, mainly divided into designers and public administration technicians. Also noteworthy, the report was silent about the concerning international debate, and although consistent with the EAAE 2001 Declaration of Chania, it was not related to the ACE Report/CEA of 15 October 2003 or the defined since 1996 by the UIA/UNESCO architectural education charters.

Nevertheless the profession was changing. It was recomposing and specializing at a rate apparently unaccompanied by its institutional representation. Maybe given its strong professional *ethos*, mainly focused on the material and symbolic resources around families and networks of traditional practitioners, making it hard to face the dynamics of transformation (Villaverde Cabral & Vera Borges, 2006). At the same time, recent graduates showed a relative

satisfaction with the courses, enhancing their ability to present a cultural *ethos* but also criticizing the scant preparation for professional practice (idem, 2006). So, expressing a growing difficulty in deciding between a more professional training profile or a more general and cultural one, leaving the university unsure between the poles of teaching a pure science or professionalizing its teaching.

The Portuguese legal reform towards the Bologna Agreement acknowledged that training in architecture should be an "integrated cycle", accomplishing both two cycles in basic training, with an overall duration that could go through a six-year work course. But it persisted in determining a first cycle with six semesters, making it impossible to maintain the pre-Bologna models and the recommendations of the Domingos Tavares report (see Table 2).

The public schools of Minho, Porto, Coimbra and Lisbon (EAUM; FAUP, d.ARQ-FCTUC; FAUL) launched informal contacts between 2005 and 2006 to devise an integrated curriculum with 11 to 12 semesters (Pedro Pinto, 2014). At least FAUL (format 3+2+1 years) and EAUM (format 4+2 years) succeeded in producing documents for accreditation. Nevertheless this effort was rather fruitless, given the speed with which other schools advanced to the double cycle of 3+2 years and given the apparent government unwillingness to accept any curricular arrangement longer than a total of 5 years. Therefore, rapidly between 2006 and 2008 all courses adopted the format of 10 semesters and 5 academic years, in 3+2 years curricula, giving rise to a hegemonic model in Portugal.

Table 2: Courses and Learning Cycles in Lisbon (L) and Porto (P). 1837-2014

	Admission	1st Cycle		2nd Cycle		Internship
		Designation	Years	Designation	Years	
1837-81	10 Years old	Drawing Course	4-5	Civil Architecture Course	5	-
1881-1911	12 Years old	Preparatory Course	3	Civil Architecture Course	5	2 Years
1911-31	12 Years old	Preparatory Course	3	Civil Architecture Course	5	2 Years
1931-39	7° Grade	Special Course	4	Superior Course	2	-
1957-69*	7° Grade	-	2+4	-	-	6 Months
1969-83 (P)**	High school	Bachelor	1+3+1	-	-	6 Months
1984-91 (P)	High school	Bachelor	1+3+1	-	-	1 Years
1968-75 (L)	High school	Bachelor	-	-	-	-
1975-90 (L)***	High school	Bachelor	5	-	-	-
1991-08 (P)	High school	Bachelor	5+1	-	-	-
1990- 08 (L)	High school	Bachelor	5	-	-	-
2008- (...)	High school	Bachelor	3	Master	2	-

\* In 1957 ceases the preparatory and special courses sequence, yet there was an implicit division inside de learning sequence (Silva, 2011), reflected in the format "n+n+n" years. \*\* The curricular differences between Porto (P) and Lisbon (L) increased from 1968, with both schools having curricular autonomy. \*\*\* From 1975-90 the Lisbon school had 9 curricular plans, but the overall 5 years formation without internship would persist.

## 2.2 Architectural design teaching

The Bologna Agreement adequacy also accompanied a crucial mutation in the mission of universities, as they refocused on the production of knowledge and in a growing financial autonomy (Neave & Amaral, 2012:2). Factors such as the knowledge fragmentation and specialization, the hyper-transformation of production conditions and the weakening of the political and social context, for the benefit of growing and expanding economic markets, provided a broad sense of indeterminacy, in which individuals perceive adaptability as a condition for survival. This instability pressed the traditional model of education, centred in the unitary transmission of a set of technical and professional knowledge, to a more differentiated and diversified offering, that could emphasize the development of individual and systemic skills.

In their curricular adequacy reports (2006-2008), the schools defined their ends in preparing the future architects for a profession that was spanning into a range of activities from planning, building design, construction and maintenance works, urban and real estate management, and, it should be noted, the ability to develop "disciplinary scientific studies" (FAUP adequacy report, 2008:8). Yet, despite the identification of expertise profiles and the explicit incorporation of research in the architect's basic training, teaching "by design" would remain central to many adapted curricula (see Table 3). This centrality reflected the methodological persistence of "learning by doing", but also the persistence of a seminal dialectic between the overall training finality and its main pedagogical tools, the architectural design courses. Although the mutation of both grad-

uating profiles and institutional structural framework question the conditions of this centrality.

Table 3: Curricular areas (2008)

Areas	Intervals	Average
Design	31,6% (FAUL) - 37,8% (ISCTE)	35,1%
Urbanism	3,5% (FAUL) - 12% (FAUP)	7,8%
Theory / History	8,6 (ISCTE) - 24,6% (FAUP)	16,8%
Final Thesis	5,0% (FAUP) - 14% (ISCTE)	8,58%
Representation	8,0% (FAUP) - 13,1% (FAUL)	10,3%
Building Tech.	11,0% (FAUP) - 22,6% (FAUL)	16,9%
Human Sciences	0,0% (FAUP) - 6,8% (FAUL)	3,4%
Exact Sciences	-	-
Optative's	3,0% (FAUL) - 6,6% (EAUM)	5,6%

Including both cycles (bachelor and master). The Final Thesis is diversely organized in different areas; therefore it could have further interpretation.

A major structural change was the compression of the academic rhythms: since one of the Bologna Agreement paradigms was of learning as an active self-driven construction, in which individuals were able to contextualize theoretical and expertized knowledge with practical work, therefore opening and breaking the vertical, one-way, curricular structures, benefitting individual choices and different interconnections. Thus, the direct teaching load was reduced for the benefit of individual work and research, forcing a compression of individual units and correspondent curricular time (see Table 4). There was consequently a double curricular compression: the total years of learning and the weekly hours load, transferring time of direct tutoring, often in design and drawing classes, to the overall student's independent work, with a much greater distribution by various units. This pressure can however be consid-

ered equivalent to the compression experienced in professional practice, reflecting a sign of the times, which influences both the conditions of the profession and its teaching.

Moreover there has been a change in the academic calendar. Even considering that in Portugal the Bologna Agreement adequacy framework did not explicitly determine a single temporal model, rather

noting that the organization of different "units" could be annual, half-yearly, quarterly or other. However, the semester regime was widely implemented, allowing an increase of rhythms and enhancing the flexibility of curricular pathways. Not coincidentally, the semester regime was originally the standard unit for elective courses (see Table 5).

Table 4: Curricular Weight – transition to Bologna

	Pre-Bologna		Post-Bologna (2006-2008)	
	Units / Years	Hours / week	Units / Semesters	Hours / week
EAUM	6	32	5	26 (1 <sup>c</sup> ), 20 (2 <sup>c</sup> )
FAUP	5,5,6,6,8	32, 36 (4 <sup>o</sup> , 5 <sup>o</sup> y)	6	26 (1 <sup>c</sup> ), 23 (2 <sup>c</sup> )
d.ARQ-FCTUC	6	32, 30 e 22 (4 <sup>o</sup> , 5 <sup>o</sup> y)	6	27 (1 <sup>c</sup> ), 27 (2 <sup>c</sup> )
FAUL	-	-	6	28 (1 <sup>c</sup> ), 24 (2 <sup>c</sup> )
ISCTE-IUL	9,10,10,10,10	34, 36, 36, 34, 31	6 (1 <sup>c</sup> ) – 5 (2 <sup>c</sup> )	26 (1 <sup>c</sup> ), 23 (2 <sup>c</sup> )

(y) years; (c) cycle.

Table 5: Curricular rhythms and precedence after Bologna

School	1st Cycle	2nd Cycle	Precedence
EAUM	ANNUAL Design, Drawing, SEMESTRAL	SEMESTRAL	Design I to Design V; Design II to Design VI Research Project to Research Lab (final thesis)
FAUP	ANNUAL, except electives	ANNUAL, except electives	All Design and Drawing courses. Need to complete all units from the previous year.
d.ARQ-FCTUC	Design, Drawing, Geometry, History, Theory, ANNUAL Others SEMESTRAL	Design, History, ANNUAL Others SEMESTRAL	There is no official precedence regime, although a hierarchical sequence is strongly advised in Design
FAUL	SEMESTRAL	SEMESTRAL	Design
ISCTE-IUL	SEMESTRAL	SEMESTRAL except Thesis	Design. 24 ECTS are needed to change year.

The schools have therefore semi-adapted the old curricular structures to a semester regime, adjusting themselves to the general academic calendars. While the design classes would be a bastion of annual temporality, either by maintaining the annuity or imposing curricular precedence between subsequent design units, unifying paths in double semesters, the "integrated master" dual-cycle would maintain a hierarchical curricular path. This "almost-annual" order would be pressured by the "half-yearly" pace of the academic calendar, which led to regular interruptions in the examination periods at the end of each semester, reducing the semesters from 12 to 14 weeks of classes, thus with 3 and 4 months of effective duration.

These conditions resulted in an accentuation of the pedagogical nature of the evaluation, either by the imposition of end-semester examination periods or through the generalization of public presentations at the end of each design unit. Some say that the appreciation of autonomous work by the Bologna learning paradigm matches the traditional teaching method of learning-by-design. However, facing the

pressures of time compression and shorter academic rhythms, the Bologna Agreement adequacy triggered a debate about the need to change the pedagogical conditions and didactics of design classes (Spencer 2012:120; *Joelho n.º 4*, 2013).

This debate was extended to include the lecturer's competence for tuition in design classes, a debate which had been intensifying with the twofold effect of professionalization of the faculty and mass limitation of the teaching conditions (Graça Dias, 2001). This is a still an ongoing debate, which accompanies a rapid change in the faculty profiles (see Table 6). Yet, this change did not necessarily correspond to the abandonment of practitioners, having also given rise to a category of teachers that are both academic and practitioners, thus entangling this framework. At the same time, the centrifugal effect of the ECDU (teaching statutes) combined with unemployment in the profession increased the attractiveness of the academic career and created a momentum for academic production that is progressively encompassing the area of architectural design, encouraging multiple expertise in architectural design teaching: the practi-

tioner, the theoretical and pedagogical specialist and the researcher.

With respect to the content of the design units, one can find a relationship between the curricular organizational structure variants and a range of pedagogical principles. Such a situation also reflects a certain position facing Bologna, i.e.: differences concerning the pedagogical structures: (a) Hierarchical and continuous programs, organized in a growing sequence of programs and scales, that one can entitle as a "canonical approach", whose most significant example

is the school of Porto (FAUP); (b) Semi-flexible and two-cycle programs, organized either in a sequence of programs and scales or by different themes, which can be called an "experimental approach", whose main example is the school of Minho (EAUM).

Nevertheless, there are similarities between the courses, such as the weight, significance and centrality of the design studio, and the overall organization of the design classes, with regard to conditions like the ratio lecturer/students and the layout and material conditions of the working spaces.

Table 6: Architectural design teaching profiles (2008-2015)

	2008			2015		
	PhD Career	No PhD Career	No PhD Invited	PhD Career	No PhD Career	No PhD Invited
EAUM	3	4	7	10	3	6
FAUP	4	21	6	19	1	10
d.ARQ-FCTUC	5	10	4	13	1	4
FAUL	-	-	-	-	-	-
ISCTE-IUL	4	1	6	8	1	4

There is no consistent data available from FAUL

As for the curriculum sequence, there is a common structure of learning as well as the general adoption of a final graduation thesis, with a strong theoretical nature, which recently tends to incorporate, or somehow relate to, the design classes, i.e.: (i) There is a common legacy in the design studio: (a) There is a general sequence that somehow all courses follow; (b) Emphasis on methodological aspects and housing programs in the 1st cycle; (c) Emphasis on complexity, equipment and urban design in the 2nd cycle. (ii) Design is being introduced in the final graduation thesis: (a) Testing a relationship between design and research.

The abovementioned "canonical approach" corresponded also to a vertical hierarchical sequence with

an identical program for all design classes within the same curricular year or semester. This sequence started with introductory and conceptual issues and developed in a hierarchical sequence of progressively complex programs, scales and levels of achievement, gradually reaching the practice protocols.

Otherwise, the "experimental approach" admits some curricular fragmentation, including the possibility of different curricular paths and choices, as well as a more diverse organization of the design units around specific design, urban or technological subjects or questions, related to research issues followed by the faculty, rather than the traditional homogeneous sequence of design programs (see Tables 7-8).

Table 7: Curricular contents in the Design Studio - FAUP vs. EAUM

FAUP			EA-UM		
Semester	Unit	Content	Semester	Unit	Content
1	Project I	Propaedeutic, Abstract	1	Project I	Propaedeutic, Abstract
2			2	Project II	Methodological
3	Project II	Consolidated Urban Area	3	Project III	Dwelling, city
4			4	Project IV	Dwelling, city
5	Project III	Dwelling, Repetition	5	Project V	Equipment, city
6			6	Project VI	Equipment. city
7	Project IV	Equipment, Exception	7	Atelier 1	Design as Research
8			8	Atelier 2	Design as Research
9	Project V	Urban Design	9	Atelier 3	Design as Research
10			10	-	(Thesis)

In Porto (FAUP) the final thesis runs in parallel with "Project V" in the second semester of the 5<sup>th</sup> year.

Table 8: Sequence of major issues by “curricular area” at EAUM

	Semester				
	1+2	3+4	5+6	1+2+3	4
Design	Propaedeutic, Abstract. Program, Context	Dwelling, City	Equipment, City	Options	Thesis
Urbanism	-	-	Urbanism	Seminars	
Theory	Culture, language	Methodologies	Methodologies	Seminars	
Form Visualization	Manual expression. Geometry	Conventions. CAD		Seminars	
Building Technologies	-	Tectonics, Materials	Processes. Structures	Seminars	
History	Contemporary Theory and History	Antiquity and Modern times	Portugal	Seminars	

In any case, there is an implicit specification of each learning cycle: the first being more instrumental, methodological and general; and the second being more professional or exploratory, introducing the subject of research related to architecture, even if it is mainly a pedagogical tool rather than an end in itself. This change is represented by the final thesis format and a set of preparatory units. Although there are more exploratory courses – like in Minho and Coimbra (since 2015) –, the structure of the design units mostly remains cohesive and continuous between cycles, and there is not, nevertheless, a clear assumption of inter-cycle learning outcomes related to the design classes sequence.

As a whole, with the general compression of the curriculum there is a depuration of the core learning contents, which are interrelated more closely (theory-history-technology-representation-design). There is also an urge for methodological and theoretical contents inside the design units, enhancing pedagogical aspects of design practice, accelerating the learning outcomes (Spencer, 2012). Design classes therefore gain a dimension that is no longer a simple extension of ordinary practice. Also against a scenario of temporal compression the issues concerning the organization of the teaching space gain more expression. Concerns such as the average size of the design units and the equipment of the educational spaces arose. Altogether these issues are once more related to the type of lectures in the design classes, contributing somehow to a mosaic of relationships that would “tune” the schools identities.

### 3 CONCLUSIONS

In Portugal, the changes driven by the Bologna Agreement adequacy framework gave continuity to the continuous adjustment of architecture as a discipline within the “university”, following a line of epistemological delimitation which arose from the transition from the “beaux-arts” system to a “modern” model of the architect as a professional, with a technical and researcher profile. These changes also

followed the recent upgrade of the university’s mission into research and “managerialism”, which simultaneously recycles the discipline heritage, including its very own generalist and humanistic syncretism as a cultural act, as an artistic whole, in which the material culture and design as methodology are traditional references. Factors such as the curricular compression, the fragmentation of the academic calendar, the valuation of the teaching productivity and research, or even the drive into specialization within the profession, all exerted pressure on the traditional conditions of learning-by-design and increased the gap between academia and the material tradition of architecture and its practice. The response of the Portuguese schools of architecture to this scenario was somehow ambiguous, as epitomized by the format “integrated-master”. The curricular changes introduced in the Bologna Agreement adequacy rehearsed (again) the reconciliation of vocational training and research, linking methodological, instrumental and general contents with more thematic and speculative contents, particularly at the 2nd cycle level.

A resistance against the fragmentation of learning cycles and curricular dispersion was observed, particularly in design courses. Struggling to maintain a core of generic education, the schools not only held out against the curricular dispersion but also maintained the design courses as connectors, bringing together different subjects, disciplines and individual interests, thus rebalancing the compressed and fragmented theoretical units around the design, still understood as an operative tool of knowledge application and recognition.

Therefore the design studio is simultaneously a learning tool and an expertise, as well as a sort of disciplinarian translator, which methodologically allows an architectural specificity (and disciplinary heritage). This leads us to the idea of architecture as being both autonomous and contingent. Autonomous in its own mechanisms and propositions, dependent on the set of knowledge areas that helps to give sense and evaluate the complexity of the real on which architecture intervenes as well as the impact



of architecture on the built environment. Hence one condition of autonomy lies in the design as a methodological approach to architectural problems, a guarantee of syncretism, since the humanistic wholeness of the built architectural object can only be projected by the methodological totality of the design process.

Nevertheless, the basic requirements of the design studios faculty have also changed and the pedagogical and didactic issues have gained increased relevance, facing the abovementioned structural constraints. Teaching practices are somehow more academic and likewise the architectural design rehearses its own autonomy and relevance within the university.

The relationship with the practice became more complex, in keeping with the complexification of the profession in itself. The recent professionalization of the faculty is paradigmatic. Therefore, the very distinction between "theoretical practices", "critical practices", "architectural practices" and "material practices" is blurred by the advent of both "practical" and "academic" individuals. The balance between academic, practical and guests-scholars could be achieved according to different strategies and school cultures.

Inside the "research university", the traditional learning-by-doing is also a field of knowledge and research. Hence design could be a dual device of learning and research, whose methodologies and applicability are still to be explored and "tuned" (Providência, 2013). The breakup of the "integrated-master" format, which changed the pedagogical environment of design units between cycles, as well as the combination of theory and practice in the final graduation thesis are signs of change.

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