8. Circumstances. From the inception to the establishment of the Design System at Politecnico di Milano

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8.1 Dichotomies: teaching within a territory with fluid boundaries

Among technical, artistic, and humanistic cultures.

Between practical-professional and speculative-intellectual cultures.

Between cultures of creativity and subjective expression, and cultures of creative constraint.

A constellation of antinomies characterizes the extensive history of design as a profession tasked with exercising a social function, transforming people's lives by reshaping material life contexts. Once again, it's positions of antinomy that define the significant teaching tradition and its institutions dedicated to designer education.

Between dogma and arbitrariness.

Between self-directed and other-directed learning.

Between practical and theoretical knowledge.

Between the independence of training projects from industry and its needs and establishing an adequate relationship with production contexts.

Between experimental and anticipatory design research and the practical exercise of the trade, with essential practical skills bringing designers closer to the concrete demands of the economy and society.

Between teaching methods that construct the initial phases of planning from theory, basic knowledge, codified knowledge, enhancing a deductive approach, and teaching methods that promote observation, experience, learning by doing in an inductive manner (Swift, 2005, p.73).

Even if they originate from different cultural backgrounds and assign educational objectives with varying emphases to didactic courses, these constellations of antinomies, in the historic schools of design, which emerged in Europe already between the 19th and 20th centuries and developed in the 1930s in the United States, represent a constant presence (Burkhardt & Nelles, 1986; Lindinger, 1988; Droste, 2003; D'Amato, 2005; Souleles, 2013; Jewison, 2015; Bertilorenzi, Ruano-Borbalan, & Le Coq, 2017). Problems continually renewed by contextual contingencies shift, from time to time, the disciplinary center of gravity; the nature of design – closer to cultures than to the sciences of the artificial – fosters multiple streams of thought; technological constraints and opportunities, in continual evolution, signal a history marked by ongoing experimentation. Changing needs, lifestyles, and consumption patterns demand the strategic dimension of design.

These are just some of the characteristics from which the open and transformative nature of the knowledge, tools, and methods of this field of knowledge, both reflective and operational, can be derived (Schön, 2017). The disciplinary status of design itself certainly cannot be defined as monolithic and, in fact, presents itself, in its historical evolution, with fluid boundaries and cores of knowledge that, from time to time, shift focus to different problematic issues.

Even today, the dialectic between different polarities makes it misleading to discuss the stability of training programs in institutions dedicated to designer education. After all, as Bonsiepe puts it,

> **it is the very nature of this profession – not quite art, nor science, nor technology although related to all three – that doesn't easily adapt to the disciplinary fragmentation of educational paths and requires an educational process with a continuously experimental character. (Bonsiepe, 1993, p. 117)**

8.2 Antecedents: Industrial Design at Politecnico di Milano

When the Degree Course in Industrial Design was established and activated at the Faculty of Architecture of the Politecnico di Milano in 1993, it drew upon a rich background. This background was informed by mature reflections on design education, teaching methods, the nature of design experimentation, the boundaries of project disciplines, and the necessary intersections with other disciplinary knowledge.

This backdrop, while significant, didn't find a conducive cultural environment within the Politecnico di Milano during those years for a curriculum aimed at training industrial designers as distinct from architects. And this is partly due to the historical presence of emblematic figures such as Gio Ponti (at the Politecnico di Milano from 1936 to 1961), Carlo de Carli (at the Politecnico di Milano from 1961 to 1986, where he also served as Dean), Franco Albini since 1964, just to give some examples of teachers committed to interpreting the idea of the architect as a holistic designer.

Design Convivio. Narratives →

Without the tenacious will of the historian ↘ to spotlight and distinguish reflections on small-scale design, it's challenging to discern, within the university activities of these remarkable teachers, theoretical arguments that separate the design of objects from that of architectural spaces. This is despite their rich intellectual and planning contributions on industrial products and the societal role of industry[1]. The project, across different scales – a distinctive trait of the milanese school – is conceived as a unified discourse[2].

In the realm of education, particularly in engaging in discussions regarding the challenges of industrializing products, the role of designers in society, and the forms and methods of project-based teaching, there's a distinct inclination towards design that encompasses various fields such as *architecture, urban planning, restoration, set design, interior architecture*. This cultural approach, embodied by architects who extend their design scope from the smallest objects to entire cities, bears the influence of Ernesto Nathan Rogers, whose impact on teaching content and methods is profound. Rogers is not alone among architect-teachers of that era

Note 1.
In this regard, refer to Giancarlo Consonni's recent book on Piero Bottoni (1903-1973), a brilliant representative of that generation of architects whose work spans urban design, architecture, interior design, furniture design, and furnishings, already exploring the potential of mass-produced furniture in the mid-1930s.

Note 2.
Refer to Renato De Fusco's *Storia del Design* for insight into the significant role played by industry and key product sectors in shaping educational pathways toward design in Germany, France, the United States, and Italy.

inclined towards theoretical discourse. The inclination to contemplate the designer's role as a *global* architect finds articulate representation in De Carli's work.

His writings aim to «transcend the theoretical divides between *interior* and *exterior*, *large* and *small*, *Urban Planning*, *Composition*, and *Interiors*», to convey the «complexity and unity of the architectural phenomenon across various scales» (ibidem). In this theoretical framework, the design process never isolates space from the objects within it but consistently considers the formation of spaces and objects and their interrelation (ibidem).

In a similar theoretical perspective, it's difficult to grant independence of methods and approaches to the design project and the training of professionals focused on object-scale design. Objects – often furnishings – are viewed here as natural complements to architectural spaces rather than distinct realms with unique characteristics. The simplicity of production technologies, straddling craftsmanship and industry, further supports this approach. In addition to this, much of the cultural activity of these emblematic figures of teacher-designers also operates outside of the academic world in professional practice. Furthermore, especially the culture of the object finds widespread dissemination thanks to sector magazines such as *Stile Industria* and thanks to cultural and professional associations such as the newly established ADI, of which Alberto Rosselli (at the Faculty of Architecture of the Politecnico di Milano since 1963) is the first Director. Finally, it should be noted that, for various reasons, many of these personalities held the role of professor at Politecnico di Milano for too short a time to be able to develop a comprehensive reflection on design as an independent field of study, for various reasons. These are some of the reasons why, despite the fact that the *Progettazione artistica per l'industria* [Artistic Design for Industry], led by Alberto Rosselli, has been active since the 1960s, the dissemination of a design culture distinct from architectural design doesn't find its driving force at Politecnico di Milano.

Unlike international academic traditions where specialized study programs exist, Italian universities lack a degree program aimed at training individuals who work at the scale of objects, addressing the challenges of industrial production (Frateili, 1989). Moreover, the

courses available at that time tend to equate industrially produced objects with furnishings.

Milan, internationally renowned as the global capital of design, previously lacked a university-level design school. Design thrives outside academia, emerging from master craftsmen's workshops and becoming a widespread experience. It sustains a functional satellite system, a socio-technical network connecting all stages of design, production, sales, and consumption of products. It also nurtures a cultural ecosystem that generates and disseminates innovative forms capable of shaping a sort of semiosphere. It draws upon the ideas, cultures, philosophies, visions, images, and imaginaries of an era, transforming them to produce new ones and generate new meanings.

The pioneers of Italian design, whose mastery in shaping form has elevated Made in Italy products to greatness, were nurtured within this dense cultural fabric of Milan, a city long regarded as European. Here, conditions were ripe for a fruitful convergence between a class of entrepreneurs inclined toward experimentation and singular design intellectuals (Politecnico, 2000-2001).

8.3 The 1980s: the beginning of an educational history

Despite this vibrant context, it wasn't until the early 1980s that Industrial Design began to emerge as a focal point of the Degree Course in Architecture at the Faculty of Architecture of the Politenico di Milano. The Decree of the President of the Republic (D.P.R.) 806/82, which amended the University Teaching Regulations, served as the regulatory framework allowing the architect's monolithic training to transition towards specialization, aimed at defining specific skills. This decree stipulates that degree courses in Architecture are to be divided into *Progettazione architettonica* [Architectural Design]; *Tutela e recupero del patrimonio storico-architettonico* [Protection and recovery of historical-architectural heritage]; *Tecnologico* [Technological]; *Urbanistico* [Urban planning]. It also allows individual faculties to propose additional specializations. In 1983, the Politecnico di Milano implemented this new structure, introducing an experimental specializa-

tion alongside the more traditional ones outlined by the Presidential Decree, named *Disegno industriale e Arredamento* [Industrial Design and Furniture].

Within a study plan consisting of 30 disciplines – 15 compulsory for all students, 9 chosen by students within specified disciplinary areas, and 3 free choices – the curricula are characterized by only three courses. This limited presence, further compounded by the flexibility to substitute these disciplines with others within the same disciplinary area ↘, weakens their potential impact on student education and their ability to cultivate a mature and conscious interest in course topics. For the *Industrial Design and Furniture* curriculum, the Fundamental Teachings include *Furnishings and interior architecture*, *Furnishings and interior architecture* (2nd year), and *Industrial design*. The combination of Industrial Design and Furnishings teaching reflects a distinctly Italian approach, where the scope of design interest for the design object aligns with that of the furniture object ↘.

Piano di Studi e Indirizzi del Corso di Laurea in Architettura, A.A. 1988-89, Facoltà di Architettura, Politecnico di Milano.
Document→

Interview with Gianni Ottolini.
Document→

In the Industrial Design and Furniture specialization, the appeal to students lies in the reputation of some teachers and the novelty of proposed topics, as well as exposure to diverse cultural models and approaches to education. In the early 1990s, the inaugural year of the PhD program in Industrial Design (V cycle) saw Raffaella Crespi as Coordinator (later becoming a Senior Professor), succeeded by Tomás Maldonado as Coordinator. Other members of the PhD Board included Giovanni Anceschi, Achille Castiglioni (who retired the following year), Eugenio Bettinelli, Ezio Manzini, Francesco Mauri, and Francesco Trabucco. Despite the absence of an independent Degree Course in Industrial Design at that time, the PhD program attracted a growing number of candidates, surpassing the available spots in a short span. This PhD program became a nurturing environment for students who would later become the inaugural faculty of the emerging Degree Course in Industrial Design. It also served as an incubator for themes that revitalized and contextualized design practice, reshaping its focus in response to contemporary challenges ↘.

Ezio Manzini, Professore Onorario del Politecnico di Milano.
Document→

8.4 The PhD in Industrial Design: research informing education

The late 1980s and early 1990s marked a pivotal moment for the Politecnico di Milano. Indeed, the Industrial Design PhD became a breeding ground for future educators in the emerging degree program, with training closely aligned with themes such as objects, material culture, visual communication, and new industrial and environmental dynamics. At the same time, the core group of professors who had long taught Industrial Design at the Faculty of Architecture – including Marco Zanuso, Achille Castiglioni, Raffaella Crespi, and, later, Maldonado – retired, ceasing their teaching activities and participation in the PhD Board. Moreover, «none of the professors in this discipline believed that an entire line of studies could be built upon this initial founding nucleus» within the University, except for Maldonado (Seassaro, 2001, p. 16), who had already engaged in extensive cultural and theoretical work on the education of industrial designers and held significant institutional roles in international schools dedicated to training this professional figure (Lindinger, 1988) and except Raffaella Crespi, who expressed concerns about the University's lack of disciplinary coverage to develop designer training (Crespi, 1984, pp. 3-9)↘. It was through the collaborative efforts of Tomás Maldonado and Cesare Stevan (then Dean of the Faculty of Architecture) that the institutional groundwork was laid for the establishment of the new degree program (Riccini, 2013).

Contributi alla formazione dell'Indirizzo di Laurea in Disegno industriale e arredamento
Document→

The starting point of the long process leading to the establishment of a comprehensive System (Faculty, Department, PhD, Consortium) dedicated to design education and research begins, as mentioned earlier, with the PhD.

The PhD in Industrial Design Research is established at the Department of Planning, Design, and Construction Production (PPPE), a department that, at that time, consists of a small group of industrial design teachers (nearly all retired by the time the PhD was activated), alongside a substantial contingent of faculty and scholars specializing in technical cultures, new materials, industrialization of building components, and production process transformation. The Furniture professors collaborated with the Industrial Design teachers on the

courses defining the Industrial and Furniture Design curriculum, and conducted their research activities at the Department of Architectural Design. On the research front, the PhD in Interior Architecture and Exhibition provided a catalyst for reinterpreting the connection between furniture design culture and architecture, fostering a renewed emphasis on interiors and habitation. This reshaping, occurring predominantly at a cultural level, marked a departure from industrial design and a definitive integration with compositional disciplines .

As these dynamics unfolded in the realm of research, through disciplinary placements within the Departments, on the educational front, these approaches were encouraged by Table XXX attached to the aforementioned D.P.R. 806/82[3].

Table XXX introduced the concept of *Disciplinary Areas*, grouping together courses with similar content. Interior Design and Architecture instruction fell under the Architectural Design Area, alongside Architectural Design and Architectural Composition. Meanwhile, Industrial Design was categorized within the Technological Area, alongside Environmental Design, Building Techniques and Economics, Building Unification and Prefabrication, Production Organization, and others.

During that period, new faculty members joined the PPPE (later renamed the Department of Industrial Design and Architectural Technology – Di.Tec), bringing with them fresh interests and content that enriched the landscape of Industrial Design. Ezio Manzini introduced a new awareness regarding environmental issues and their influence on design culture. Francesco Trabucco continued Marco Zanuso's *technological* legacy. Giovanni Anceschi introduced the concept of visual communication for the first time at the Politecnico. Medardo Chiapponi upheld and advanced the Maldonado tradition. Francesco Mauri sparked new interests in the product system and the strategic dimension of design.

The establishment of the PhD in Industrial Design and the development of the identity of the future degree program were significantly shaped by the divergence from furniture cultures and the alignment, instead, with a context – technological culture – that, at that time, was addressing issues of new industrialization, the redesign of traditional processes, actors, innovation policies, and the emergence of

Note 3.
***D.P.R. 9 settembre 1982, n. 806*.**
[D.P.R. 9th September 1982, no. 806]
Link→

environmental consciousness in design and production. This initial circumstance particularly positioned product design towards a much broader spectrum beyond just *furniture products*. Through the PhD in Industrial Design, it delved into themes strongly linked to ongoing industrial, technological, material, and social transformations, sometimes even foreseeing future research trajectories.

Examples of these include interest in communicative artifacts and their evolution towards digitalization and multimedia; shifts in product design in response to environmental crises; innovation processes and systems in artificial systems and the blending of natural and artificial elements; the expansion of product design into service design; exploration of interfaces and interaction processes with objects; discussions surrounding the social role of companies and strategic design; and management of various forms of project knowledge[4].

Note 4. The book *Design Multiverse: Notes on Design Phenomenology,* edited by Paola Bertola and Ezio Manzini, collects the key-words arising from the initial doctoral research, forming an initial conceptual glossary of themes that will characterize teaching and research in Design in the years to come. These themes include design for innovation, design and complexity, design and strategy, design and sustainability, design and sensoriality, design and visual trends, design and product-system, service design, material design, experience design, scenario design, food systems design, packaging design, interface design, and more.

8.5 Industrial Design and its technological framework/focus

As the PhD program laid the cultural groundwork for the future Degree program in Industrial Design, internal debates within the Faculty of Architecture were shaping the political and institutional prerequisites for its establishment. The debate has a long history within the Faculty, and students have made significant proactive contributions, advocating for closer connections with the evolving professional lanscape and the practical demands of the job market[5].

During the Faculty Council meeting on January 22nd, 1990, as part of the discussion on the Faculty's three-year development plan, the Department of Planning, Design, and Building Production (PPPE), represented by Guido Nardi – then Head of the Department – presented a document proposing the establishment of a Degree program in Industrial Design (Pugliese, Serrazanetti & Bergo, 2013 p. 243). This document sparked a debate on the cultural autonomy of designers in relation to architects.

Note 5. See, in this regard, the extensive collection of documents contained in the text *Sperimentazione o dell'Architettura politecnica. Origini e sviluppi della cultura moderna dell'architettura nella ricerca e nella didattica al Politecnico di Milano*, by Raffaele Pugliese, Francesca Serrazanetti, Cristina Bergo. Particularly noteworthy are the programmatic documents and minutes of the Faculty Council meetings found on pages 242-270.

The inception of the Industrial Design Degree within the PPPE Department, a department associated with architectural technology themes, deserves a brief discussion. The technological framework that fueled the launch of the new PhD and the emerging Industrial Design Degree is not solely linked to Milan. On the contrary – perhaps this is an aspect that has not been sufficiently reflected upon – the majority of educational initiatives in the field of Industrial Design in Italy originate outside the disciplinary sector of Design. Many of these initiatives are nurtured within the Departments of Architectural Technology, and the initial protagonists and instigators of these initiatives are professors – either ordinary or associate – belonging to the Scientific Disciplinary Sectors H09B and H09A (later ICAR/11 and ICAR/12) – Architectural Technology and Building Production Technologies: this is the case in many Italian universities where, initially, it is the group of *Technologists* that lays the cultural and institutional groundwork for the commencement of academic education in Industrial Design: Nicola Sinopoli in Venice (Bulegato, 2019); Pierluigi Spadolini in Florence (with Klaus Koenig, architectural historian) (Tonelli, 2007; Tonelli 2020), Eduardo Vittoria in Rome and later in Camerino, Roberto Mango in Naples (a hybrid figure, bridging technology, design, and composition)[6].

The technological framework not only educated the pioneers who fueled this endeavor at its beginnings, but also served as the foundation within which the following generation was nurtured – the generation that would be responsible for building the institutional structures that would disseminate Design education in many Italian universities.

By the mid-1990s, there were indeed academic figures within the Disciplinary Sector of Industrial Design H09C (later ICAR/13), but the Sector was very young and consisted of a small number of professors. With the exception of Annamaria Fundarò, who held prestigious institutional roles at the University of Palermo (Head of the Institute of Industrial Design and Building Production; Head of the Specialization School in Industrial Design, established in 1989; Coordinator of the PhD in Industrial Design, Figurative and Applied Arts), and Eduardo

Note 6.
It is necessary to specify that the organization of knowledge into Scientific Disciplinary Sectors was introduced only in 1990 with Law No. 341 - Reform of University Educational Systems. Article 14 of the mentioned law, Scientific-Disciplinary Sectors, established the institutional and approval processes by which teachings were grouped into scientific-disciplinary sectors based on criteria of scientific and didactic homogeneity. However, the grouping of disciplines into thematic areas had already existed since 1973 and was introduced with Law No. 580 - Urgent Measures for the University (converted into Law No. 766/1973), which in Article 2 introduced the principle that university professor competitions had to be announced for disciplines or groups of disciplines instead of single subjects. Through this sequence of laws, the transition was made from competitions aimed at covering individual vacant teaching positions to those referring not to a single discipline but to the disciplinary sector. This clarification is necessary to avoid simplistic comparisons between the individual knowledge of some figures we are analyzing here in their historical and cultural context, which are rich and intertwined with broad interests that cannot be resolved within the system of disciplinary knowledge whose organizational evolution has often represented a response to the management of competition-related issues.

Vittoria (a key figure in the foundation of Architectural Technology and its recognition as a discipline in the university system; founder and Head of the Institute of Architectural Technology at the Faculty of Naples; member of the National University Council, founder of the School of Architecture and Design in Ascoli Piceno at the University of Camerino), these were primarily professors trained between profession and university teaching and were not strictly academic figures in the conventional sense. Due to this characteristic, they were not accustomed to the institutional practices and competencies necessary to build what would become, formany years, an educational construction site, resulting in the establishment of Degree Courses, Schools, and Departments within all Italian Universities.

However, by the end of the 1990s, the landscape of the SSD H09C saw new figures, many of whom had transferred from the sectors of Architectural Technology and Building Production Technologies (H09A and H09B)[7].

Among the professors who transferred from SSD H09A and H09B to SSD H09C were Alberto Seassaro at Politecnico di Milano, Carla Lanzavecchia and Luigi Bistagnino at Politecnico di Torino, Massimo Ruffilli at Università di Firenze, Benedetta Spadolini at Università di Genova, Tonino Paris at Roma – la Sapienza, Ermanno Guida at Università di Napoli Federico II, Patrizia Ranzo at Università della Campania Luigi Vanvitelli, Roberto Perris at Politecnico di Bari, who contributed to building the institutional infrastructure that led to the dissemination of the educational reality of Design in Italian Universities. The list could go on to include more recent initiatives such as Ferrara, led by Alfonso Acocella, and Bologna, animated by Flaviano Celaschi, graduated with a PhD in Architectural Technology at Politecnico di Milano.

Note 7.
In 1998 the Cineca system saw the following among the full professors of the academic sector H09C - Industrial Design: Raffaella Crespi in Milan, Massimo D'Alessandro in Rome, Anna Maria Fundarò in Palermo, Ezio Manzini in Milan, Attilio Marcolli in Milan, Antonio Quistelli in Reggio Calabria, Massimo Ruffilli in Florence, Alberto Seassaro in Milan, Roberto Segoni in Florence, Francesco Trabucco in Milan, Andrea Vallicelli in Chieti, Eduardo Vittoria in Rome and, among the associates, Giovanni Anceschi in Milan, Luigi Antonucci in Chieti, Giorgio De Ferrari in Turin, Mauro De Luca in Camerino, Ermanno Guida in Naples, Cecilia Polidori in Reggio Calabria, Corrado Terzi in Rome, Alessandro Ubertazzi in Milan and 19 researchers.

8.6 Connections: the Degree program and the construction of cultural networks

One significant aspect characterizing the context within which Degree program in Industrial Design originated is the rich history of education-

al institutions established outside of universities. Beginning with the *University of Decorative Arts* in Monza (later ISIA di Monza) already active since 1922, which, along with numerous Schools of Arts and Crafts, Institutes of Art, and Academies of Fine Arts, had nurtured the Italian tradition of design for industry (Pansera, 2015; Furlanis, 2016).

Furthermore, the presence, especially in Milan, of private training courses dedicated to industrial design is noteworthy. Indeed, while it is true that Politecnico di Milano was among the first Italian universities to establish a course in Industrial Design (the first to establish a Degree program in Industrial Design), Milan had also long seen the emergence of private schools such as the Scuola Politecnica di Design founded in 1954 by Nino Di Salvatore; the Istituto Europeo di Design established in 1966 by Francesco Morelli, and in the early 1980s, the Domus Academy, led by Andrea Branzi, the first private school to offer postgraduate design courses.

Beyond the university walls, a rich educational system generated by the flourishing of industrial art institutes, art schools, and professional institutes for industry and craftsmanship had trained a heterogeneous professional community with a broad range of skills capable of jointly determining the success of products and enterprises. Alongside private schools, these secondary schools had contributed to shaping a system with a widespread capacity for design production (Pansera, 2015).

Together with organizations such as ADI (Associazione per il Disegno Industriale), Triennale, Salone del Mobile (including Eurocucina and Euroluce at the time), these schools had prepared the ground for Milan's design scene, a challenging environment for a public institution like Politecnico di Milano, within which it was necessary to embrace a study program dedicated to training a profession categorized among the *minor arts* and considered until then as a *technical profession*. Educational projects are shaped by the ideas underlying cultural objectives, but they are also influenced by the intellectual heritage of the institutional system to which they belong and by the human and material resources available, as well as by the interaction with the cultural and productive environment in which they are immersed.

These contextual elements immediately appear as potential value generators in defining educational objectives and the educational

structure itself. This includes the selection of teaching disciplines, the articulation into study programs, and the types of teaching methods (Monodisciplinary Courses, Multidisciplinary Integrated Courses, Project Laboratories)[8]. Furthermore, there is a strong emphasis on practical application in project activities carried out within the Laboratories, supported by a powerful system of *Technical Laboratories*, the *DI.Labb system*. Unique in Europe for its size and state-of-the-art equipment, the Laboratory system includes Digital Media, Virtual Prototyping, Movie Design and Image Production, Photography, Models, Merchandising, Display, Color, Graphic Techniques, and Lighting.

Inaugurated at the new headquarters of the Faculty of Design on the Bovisa Campus, the system of Technical Laboratories for Education is designed to offer all students the opportunity to use the tools necessary for projects and for technical and production verifications ↘.

The involvement of the teaching staff necessary to support the educational project is another defining element. From the beginning, the educational program is characterized by its ability to anchor itself to the concrete themes imposed by the institutional and socio-cultural context, combined with a forward-looking perspective owing much to the cultural antenna role played by the PhD program and the foundational themes elaborated within it.

Amidst the profound shifts in production and market landscapes characterizing the late 1980s and 1990s, the foundational challenge lies in shaping new professional profiles capable of navigating the increasingly intricate dynamics of the production and consumption sphere. Yet, alongside this, there arises a need for new conceptual and operational tools suited to address the spectrum of design tasks within the environment of industrial design.

In this regard, the Degree program serves as an interpreter of the emerging cultural, technological, productive, and professional issues, marking the beginning of a rapid and continuous transformation. Furthermore, it sets out a cultural objective: to cultivate an ability to interpret the immediate context through ongoing dialogue with the city of Milan. It is noteworthy that the culmination of the first five years of this new polytechnic academic path is marked by the comprehensive

Note 8.
The Decree of February 24th, 1993, Modifications to the university teaching system, regarding the degree courses in industrial design and architecture, with attached Table XXX is the regulatory instrument to which the Architecture and Industrial Design degree courses must adhere. It is thanks to this decree that new types of teaching, such as Integrated Courses and Laboratories, are introduced in the Faculty of Architecture.
Link→

Progetto didattico del Corso di laurea in Disegno industriale.
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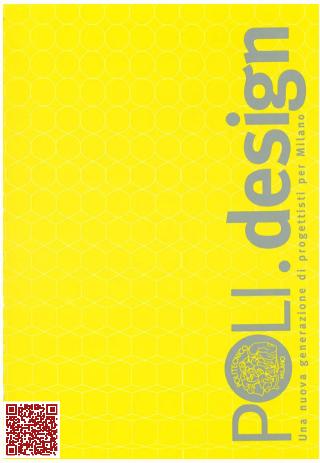
dedication of thesis projects to topics of significant relevance to the city and its territorial and productive hinterland ↘:

- School. Education, Teaching, Learning.
- Healthcare. From material care to personal well-being.
- Urban ecology. New connections.
- Cultural Heritage. The entrepreneurial museum.
- Employment. Milan: design for employment.
- Transportation. Spaces of movement as urban living places.

The understanding of the external professional and productive environment also comes through the involvement of professionals in teaching, extending programmatically to the broader community of architects, designers, entrepreneurs, artists, historians, cultural figures, process technicians, photographers, critics, and journalists upon which the design system has built its cultural and professional foundations.

POLI.design. A new generation of designers.
Event→



The opportunities presented by the rich array of external expertise have contributed to defining the distinctive features of the emerging Degree program, allowing the incorporation of knowledge residing within the realm of designers, professional practice, and, along with them, the influences and impetuses originating from the social and industrial context.

The continuous renewal of the teaching staff, both in project laboratories and in the design experiences carried out within workshops, and the constant adherence to emerging issues are indicative of a commitment to continuous experimentation. This commitment extends to a plurality of models, methods, viewpoints, and educational approaches to design, fostering a pluralism of experiences to train students in engaging with a variety of ideas, perspectives, and approaches to design. This methodology allows each student to find their own path to design by confronting the diversity of ideas, opinions, and inspirations encountered during their educational journey.

The most polar position of this model is theorized by Andrea Branzi ↘: the student is shaped within a school as a self-taught individual; through dialectic interaction with the teacher, they discover their own methods and tools, their personal path to design. The School nurtures the student by providing

Andrea Branzi (1938-2023), è stato Professore Ordinario del Dipartimento di Design, PoliMI.
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a reservoir of ideas, stimuli, problems, interlocutors, and knowledge. The school represents a cultural space where the exchange between students and teachers, and among students themselves, becomes a generator of new individual and collective knowledge.

Certainly, the permeability between internal and external, between the world of design culture and profession, and the world of education has conferred a peculiar imprint that has characterized the approach to design education at Politecnico di Milano. This approach has facilitated contact with continuously evolving emerging issues driven by new social demands, technological advancements, and industrial challenges.

The ability to establish connections with the external context is complemented by the extensive effort made to forge cultural ties with most Departments of Politecnico di Milano, invited to contribute to the richness of the educational offering. The Degree program in Industrial Design immediately positions itself as an interpreter of a *polytechnic culture*, welcoming and enhancing both the artistic, humanistic, and architectural component, as well as the technical and engineering aspect. This multidisciplinary vocation, the dominant feature of the new degree program, simultaneously creates opportunities to involve many professors from other universities, enriching the teaching offerings.

This attitude of combining university education with the pragmatism of professions becomes one of the distinctive features of the educational project. The history of the relationship between industrial design and other universities also deserves to be framed within this desire to forge relationships, to engage with educational models shaped by their connection with cultural and territorial resources, and thus to value diversity. The importance of *networking* with other university entities is another way in which the nascent Milanese reality demonstrates its vocation to build systems of relationships, engaging with external cultural realities.

In this regard, it is important to note that at the launch of the Degree program in Industrial Design at Politecnico di Milano in 1993, Diploma Courses in Industrial Design, Specialization Schools, and a Research PhD were already active in some Italian universities, such as Palermo, under the leadership of Anna Maria Fundarò, preceding the one in Milan.

Even earlier, starting in the 1960s, in Rome, Urbino, Florence, and Faenza, design education had found its initial roots in the ISIA (Higher

Institute for Artistic Industries), the first specialized design institutes that offered training paths parallel to academic programs.

8.7 The birth of an Italian Design System

The establishment of the Bachelor's Degree in Industrial Design at the Politecnico di Milano served as the catalyst for the rapid proliferation of this educational reality at the university level.

In February 1999, Alberto Seassaro, then President of the Degree program in Industrial Design and soon-to-be Dean of the newly established Faculty of Design at Politecnico di Milano, convened a first *Assemblea nazionale dei docenti operanti nell'ambito del Disegno industriale* [National Assembly of Teachers operating in the field of Industrial Design] in Milan. The participants, representing Italian universities offering design education programs, documented the following situation ↘:

Verbale dell'assemblea nazionale dei docenti operanti nell'ambito del disegno industriale.
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- *Corso di Diploma in Disegno Industriale* del Politecnico di Torino [Diploma Course in Industrial Design at Politecnico di Torino];
- *Corso di Diploma in Disegno Industriale dell'Istituto Universitario di Architettura* di Venezia [Diploma Course in Industrial Design at Istituto Universitario di Architettura di Venezia];
- *Corso di Diploma in Disegno Industriale* dell'Università di Genova [Diploma Course in Industrial Design at Università di Genova];
- *Corso di Diploma in Disegno Industriale* dell'Università di Camerino [Diploma Course in Industrial Design at Università di Camerino];
- *Corso di Diploma in Disegno Industriale* dell'Università La Sapienza di Roma [Diploma Course in Industrial Design at Università La Sapienza di Roma];
- *Corso di Diploma in Disegno Industriale* della II Università di Napoli [Diploma Course in Industrial Design at II Università di Napoli];
- *Scuola di Specializzazione in Disegno Industriale* dell'Università di Firenze [Specialization School in Industrial Design at Università di Firenze];

- *Scuola di Specializzazione in Disegno Industriale* dell'Università La Sapienza di Roma [Specialization School in Industrial Design at Università La Sapienza di Roma];
- *Scuola di Specializzazione in Disegno Industriale* dell'Università Federico II di Napoli [Specialization School in Industrial Design at Università Federico II di Napoli];
- *Scuola di Specializzazione in Disegno Industriale* dell'Università di Palermo [Specialization School in Industrial Design at Università di Palermo];
- *Corso di insegnamento in Disegno Industriale nel Corso di Laurea in Architettura* dell'Università Federico II di Napoli [Teaching Course in Industrial Design in the Architecture Bachelor's Degree at Università Federico II di Napoli];
- *Corso di insegnamento in Disegno Industriale nel Corso di Laurea in Architettura* dell'Università di Chieti [Teaching Course in Industrial Design in the Architecture Degree at Università di Chieti];
- *Dottorato di Ricerca in Disegno Industriale* del Politecnico di Milano [PhD in Industrial Design at Politecnico di Milano];
- *Dottorato di Ricerca in Disegno Industriale, arti figurative e applicate* dell'Università di Palermo [PhD in Industrial Design, Visual Arts, and Applied Arts at Università di Palermo].

The university reform, introduced by Minister Ortensio Zecchino with Decree 509 in November 1999, which, as is known, led to the issuance of the Bachelor's degree and the Master's degree, sets the regulatory conditions for the transformation of Diploma and Specialization School programs into courses structured according to the 3+2 model. Milan – thanks to the work of Alberto Seassaro – will be the one promoting, at other university sites, this conversion operation, also leveraging the relationships built by the newly established research network Sistema Design Italia – SDI (established in 1998, bringing together various Italian university sites, around research funded by the Ministry of University *Il ruolo del disegno industriale per l'innovazione di prodotto. Sviluppo delle risorse progettuali del Sistema-Italia, tra risorse locali e mercati globali* [The role of industrial design for product innovation. Development of design resources of the Italian System, between local resources and global markets]. This action of establishing the network

of design entities is sealed in 2004 by bringing together university sites where first and second level courses in Industrial Design are active in the *Conferenza dei Presidi e dei Presidenti dei Corsi di studio in Disegno industriale* [Conference of Deans and Presidents of Industrial Design study programs] – CPPD ↘. It is also in 2004 that the University Association of Italian Design – A.U.D.I. is born ↘, an association that brings together professors and researchers of the Scientific Sector Discipline ICAR/13.

Regolamento della Conferenza Nazionale dei Presidi delle Facoltà di Design.
Document→

Atto costitutivo AUDI.
Document→

Within the few years of application and experimentation of the 509/99 law, design within universities experiences another *boom* (as defined by *Il Giornale dell'Architettura* in 2006, in an article reporting numerical data on the supply and demand of Italian university Design courses: *Design, is always boom*). The transition from the existing five-year Degree Courses and three-year Diplomas to the 3+2 courses is indeed seen by various Italian university sites as an opportunity to shape new educational identities that reflect the themes cultivated in the Courses and Diplomas. These themes often remained poorly articulated externally due to the hardly communicable formula of *specializations*. On the other hand, these themes reflect the dynamics of the real dialectic between the production structure and the cultures of the territory.

In the Milanese university, for example, alongside the training lines born from the previous thematic specializations (Product Design, Communication Design, Interior Design, Fashion Design), other educational branches emerge, particularly at the level of Specialist Degrees. Alongside the *continuity* Master Degrees, lines of highly specialized work are activated, such as Naval and Nautical Design (an inter-university program between the Università di Genova and Politecnico di Milano), Design & Engineering (inter-faculty program with Mechanical Engineering and Materials Engineering), and Product Service System Design (the first Master Degree course in English). But other Italian universities also take advantage of this possibility to specialize the second-level Degree Courses. Examples include: Mediterranean Design in Palermo, Design for Industrial Districts in Naples, Event Design in Genoa.

After the initial universities, where five-year Degree and Diploma Courses were already active in the Faculty of Architecture, others

are added, even in locations where the prerequisites were previously lacking (for example, Bolzano, which establishes a Design program at the Free University of Bolzano), or in non-national locations (such as San Marino), or within Engineering faculties (such as at the University of Brescia), or even in new territorial areas (an example being the Alghero campus of the University of Sassari). In November 2006, on the eve of the implementation procedures of Minister Letizia Moratti's D.M. 270/2004, there were 16 Italian universities with 25 Bachelor's Degree Courses and 16 Master Degree Courses offering 3,500 seats in response to approximately 10,000 applications.

8.8 Challenges of the early steps

Normative and institutional reforms have facilitated the birth and accompanied the evolution of the Degree program up to the establishment of a system entirely dedicated to design research and the education of designers ↘.

Offerta formativa per il design. Document →

The entrepreneurial and design-focused milieu of Milan has provided a network of knowledge and expertise, along with a supportive cultural environment. Politecnico di Milano has contributed to shaping the educational project towards a multidisciplinary direction. The interaction between universities, with active study programs and research projects in Design, has allowed the advancement of numerous requests for growth and institutional infrastructure development at the ministerial level for this emerging reality.

Despite these favorable conditions, partly built thanks to the tireless political and institutional weaving efforts of Alberto Seassaro, the launch of this experience was counterbalanced by the absence of a Department of Design and a teaching staff belonging to the disciplinary sector of Industrial Design, in sufficient numbers to support the initiated educational projects. Many professors belong to the disciplinary sector ICAR/13 (formerly H09C), mostly coming from the field of Architectural Technology; some from the sectors of Design and Interior Architecture. This created a hybrid SSD (Scientific-Disciplinary Sector) where multiple approaches and cultural contents converge, capable of influencing educational and research themes.

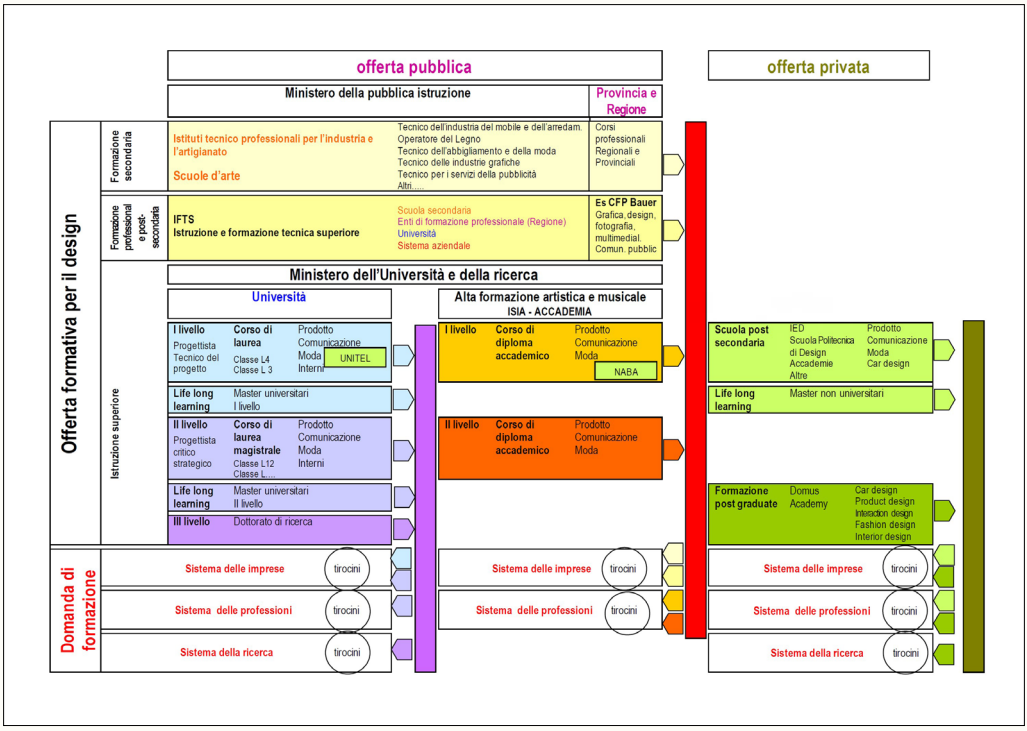

Figure 1.
University Educational Offer System in Design, 2004. Edited by the Dida Office of the Faculty of Design (2004).

Even the study plan, which is strongly multidisciplinary, required continuous refinements over time in an attempt to guide professors from other disciplines such as engineering, architecture, and humanities to realign their teaching programs from their original degree courses to the specific educational objectives of the Industrial Design degree, preparing specific educational projects accordingly.

The effort required of each professor in this initial phase of implementation configures educational design as a laboratory of continuous experimentation. The involvement of teaching staff from professional practices proves to be both a resource and a critical element that must be managed from the outset. It is well known that the issues and themes brought by external actors (industries, professionals, institutions), while immersing students in the realism of the problems to be addressed, also risk tying the design focus to the here and now, to predefined project questions that may limit the project to mere problem-solving activities. The contingent issues brought from outside also have the disadvantage of steering the educational process toward

outcomes strictly anchored to the specificity of the proposed problem, making it difficult for students to reuse what they have learned in other problematic contexts.

It is for these reasons, summarized here extensively, that in terms of strategies for integrating externally recruited teaching staff, the teams of professors in the project laboratories are composed of both academic and external professional instructors. This blends deductive and inductive knowledge transmission methods, codified knowledge, and knowledge acquired from practice.

However, there is an element immediately characteristic of the teaching approach in the project laboratories, which lies in the research-teaching relationship. Bringing the contents of one's own research into teaching; deepening and valorizing the results of educational experimentation in terms of critical reflection become the watchwords.

It should be emphasized, once again, the important role of the PhD program, in which theoretical reflections on broad issues emerge, acting as an interpreter and harbinger of phenomena and dynamics of change. Keywords and concepts emerge from the PhD, redefining areas of intervention, practices, and methods, theoretical perspectives of disciplinary knowledge that are continuously redefined and brought into teaching through new *manifesto-concepts*.

It is within the PhD program that the discussion on the structural phenomena characterizing the cultural, social, and economic dynamics of the 1990s unfolds, which are, from many perspectives, years of pivotal change.

8.9 The vocabulary of the 1990s and the transformations of Design practices

The vocabulary of the late 1980s and the early 1990s is symptomatic of the profound changes about to transform industry, modes of production and their organizational forms, as well as the very places and actors of innovation. Alongside them, design emerges as a lever capable of initiating transformative processes at both social and productive levels.

This glossary captures and codifies change, making it visible. Terms such as «cognitive society» (European Commission, 1995), «digital

and networked society», «communication era» (Negroponte, 1995; Castells, 1996), «service society», «access cultures» (Rifkin, 2000), and «globalization cultures» (Sassen, 1997; Bauman, 1998) recur to describe the main features of this transformation.

Economic disciplines introduce terms like *network capitalism*, *post-industrial, hyper-industrial,* and *neo-artisanal*, as well as *knowledge economy* and *learning economy.* Cyber-economics transforms traditional jobs into «placeless jobs» and «bodiless jobs» (Gallino, 1999). The distribution of knowledge in the workforce changes fundamentally: the technical division of labor, based on a clear separation between decision-makers and executors, and thus between those who know and those who operate in a poverty of knowledge content, is dismantled. Operational tasks blend with creative tasks; alongside the ability to configure, the ability to prefigure becomes increasingly necessary. The complexity of the problems to be addressed requires highly interdisciplinary work among groups of professionals with complementary knowledge, who share experiences, languages, and different knowledge. Thanks to the network, knowledge becomes collective.

Microelectronic technologies pervade across productive sectors, influencing both traditional ones and giving rise to new ones. At the product level, components are miniaturized, making room for interfaces. Products evolve into increasingly complex systems, enriched with new informational and service-related aspects. Object typologies, preserved virtually unchanged over a century-long history, undergo radical transformations.

These new technologies are also characterized by their short life cycle: their rapid pace of innovation disrupts process and product development cycles, as well as learning dynamics. Knowledge forms evolve; models, timings, and learning environments change: the technological system's obsolescence rate significantly outpaces the time required to fully grasp its potentials and plan its utilization.

Consumer habits shape product demand; knowledgeable users become part of companies' decision-making processes, pushing for product innovations stemming from user experience. The act of *experiencing product use* introduces new knowledge forms and, consequently, new innovation circuits, disrupting the linear process logic that originated from research and ended with market placement.

One of the new challenges facing design lies in the altered knowledge circulation that must be incorporated into the project. This knowledge is no longer necessarily upstream to flow deductively along the production chain; instead, it is widely distributed across all process phases.

And so knowledge and know-how are no longer managed in a linear and logical sequence, nor are they conceptualized in a dichotomous logic.

The notion of knowledge as a *distinctive resource* and the issues of access and knowledge transfer in various application contexts prompt educational institutions to rethink their education and training models. Many processes of theoretical elaboration accompany these transformations in the fields of cognitivism, learning psychology, knowledge sociology, economics, and innovation theories.

The discipline of Industrial Design itself is engaged in redefining its statutory notions and boundaries, project contents, methodological-operational limits, and specific tools. The professional market, the tasks of designing, and the concrete areas in which design intervenes also change in nature. The strategic scale of design intervention also changes. Design activities progressively expand their scope, encompassing not only the product but also the overall system that introduces it to the market. Design strategically infiltrates corporate strategies, contributes to building scenarios, assuming strong proactive value. It becomes an interpreter and guides, along desirable trajectories, the evolution of techniques and the system of stakeholders with interests.

In the 1990s, many authors, in defining Design as a discipline with ever-changing boundaries, began to propose replacing attempts to define design with the descriptive practice of naming the tasks and objects of design. During the same period, the very definition of industry also changed its more traditional coordinates: tracing its boundaries, describing its tasks; sharply separating industry from evolved forms of craftsmanship increasingly appears anachronistic.

Research and Innovation. Timeline→

The PhD program in Industrial Design ↘; SDI research (awarded the *Compasso d'Oro* by ADI in 2001); the observatory on professions, which, through internships and relationships with companies, connects the Industrial Design Degree Course with the concrete practices that, at that time, defined the universe of design, are the tools that, in terms of theoretical research and con-

crete monitoring of professional practice, allow us to trace the continuous departures from traditional disciplinary schemes to materialize in new professions. These are often professions that are built in practice, outside the boundaries defined by the academic world.

The knowledge necessary to manage design and innovation processes becomes manifold and falls into different disciplinary domains; their rapid obsolescence poses the problem of developing new acquisition methods.

Each of these dynamics is closely related to design teaching: the study plan designing process reflects not only on traditional issues of the relationship between theory and practice and the relationship between method and creative action, but also on new issues. Among these, for example: the processes of anchoring and grafting new knowledge onto what has already been learned; the role of experience in incremental innovation processes and radical innovation processes; the processes of recombination and integration of fragmented knowledge resources among multiple process actors; the reuse of knowledge acquired through forms of learning by experience and their transfer to other contexts of use.

In addition to institutional entities responsible for education (schools and universities), new training subjects emerge such as companies, and there is talk of lifelong learning and continuous training and updating. It is this underlying scenario that sees the birth of Politecnico di Milano's Design System: the Design Faculty, the POLI.design Consortium, and the Indaco Department ↘.

Design System. Timeline→

8.10 The Design System: Faculty, Department and Consortium

The proposal to establish a Faculty of Design at the Politecnico di Milano ↘ (initially named the III Faculty of Architecture) was put forward in May 1997 to the then-Rector Adriano De Maio. It was endorsed by a group of faculty members led by Alberto Seassaro, who at the time served as the President of the Industrial Design Degree Program. The proposal was also supported by professors Emilio Bartezzaghi, Head of the Department of

Proposta d'istituzione della Facoltà del Design. Document→

Economics and Production; Pietro Pedeferri, Head of the Department of Industrial Chemistry and Chemical Engineering; Antonio Scoccimarro, Head of the Department of Industrial Design and Technology of Architecture; and Sergio Sirtori, from the Department of Mechanics.

The proposal arose from reflections on educational profiles developed within the extensive debate surrounding the experimentation conducted by the Industrial Design Degree Program. This occurred within the context of industrial, economic, and social changes outlined above. The following year, the program would grant its first degrees in Industrial Design. The opportunity to propose new institutional structures to enrich the educational offerings of the Industrial Design Degree program was provided by the possibilities opened up by the institutional redesign initiated by Politecnico di Milano through the *Ateneo-rete* [University-network] project.

The law of December 23rd, 1996, No. 662, *Misure di razionalizzazione della finanza pubblica* [Measures for the rationalization of public finances] stared, within Art. 1 comma 90:

> **The Minister of University and Scientific and Technological Research is authorized to provide, within a period of five years, by means of his own decrees to be adopted, also derogating from the provisions of Law No. 245 of August 7th, 1990, for the gradual organic separation of universities, even preceded by divisions of Faculties or Degree Courses, according to modalities agreed with the interested Universities, where the number of students and teachers exceeded will be determined on a site-by-site basis, with a specific ministerial decree, following the opinion of the Observatory for the evaluation of the university system.**

The Observatory for the Evaluation of the University System, in 1997, prepared two reference documents for the organic separation of universities, defining the criteria and objectives to be achieved with decongestion projects ↘.

Valutazione del progetto di decongestionamento del Politecnico di Milano. Document→

The ministerial decree of March 30th, 1998, *Criteri per l'individuazione degli Atenei e delle Facoltà sovraffollate, per numero di studenti e di docenti, e criteri per la graduale separazione organica degli stessi* [Criteria for the identification of over-

crowded Universities and Faculties, by number of students and teachers, and criteria for their gradual organic separation] defined the objectives, criteria, and modalities of the interventions to rebalance the relationship between supply and demand for education and identified the university structures to be considered overcrowded. Among these were the universities in Milan.

The decongestion project at Politecnico di Milano had already been initiated earlier as part of a more general transformation process aimed at developing the university's presence in the territory and expanding and better articulating research activities and educational offerings.

This project led the historic Milan Leonardo campus to transfer part of its educational and research activities to the large metropolitan campus in Bovisa. This campus provided adequate space for teaching and the establishment of Europe's largest instrumental laboratories in support of education. The same project also led to the creation of large decentralized campuses in Como, Lecco, Mantua, and Piacenza. At that point, the aim was not only to decongest the historic Leonardo campus on a territorial basis but also to renew, through a specialization project, the two generalist faculties of Engineering and Architecture. As envisaged by the law, the Academic Senate of the Politecnico di Milano established several investigative commissions tasked with exploring new lines of development for the traditional framework consolidated in the faculties of Engineering and Architecture. Among these commissions, the Senate Commission for Industrial Design was established: *Gruppo di studio per l'istruttoria delle problematiche relative ai progetti didattici di Disegno Industriale* [Study Group for the Inquiry into Issues Related to the Educational Projects of Industrial Design] ↘ (with D.R. no. 218/AG of July 3rd, 1997 and subsequent addition D.R. 253/AG of September 10th, 1997). This commission, chaired by Alberto Seassaro, was composed of representatives from disciplinary areas, corresponding to the main departments of the university, who supported the project of the new faculty from the outset: Emilio Bartezzaghi from the Department of Economics and Production; Gian Francesco Biggioggero from the Department of Mechanical Engineering; Alberto Cigada from the Department of Applied Physical Chemistry; Pierluigi Della Vigna from the Department of Electronics and Information; Ezio Manzini

Verbali della Commissione di Senato per il Disegno Industriale. Document→

from the Department of Industrial Design and Architecture Technology; Gianni Ottolini from the Department of Architectural Design; Maurizio Vogliazzo from the Department of Territorial Sciences; Gabriella Belotti as a Senate representative; and Tomás Maldonado as an invited expert.

Table 1. Establishment of the Faculty of Design at Politecnico di Milano: Institutional Steps.

Proposal to the Academic Senate by the President of CCS plus a promoting group	May 5th, 1997
Establishment of a Senate Commission for Industrial Design to evaluate the proposal	Established with D.R. n° 218/AG of July 3rd, 1997 and D.R. 253/AG of September 10th, 1997
Ministerial Decree - Criteria for identifying overcrowded universities and faculties based on the number of students and faculty members, and criteria for their gradual organic separation	March 30th, 1998
Decongestion Project for Politecnico di Milano (including the proposal for the establishment of the new Faculty)	February 10th, 1999
Opinion of the Regional Coordination Committee for Lombardy	April 1999
Report of the Observatory for the Evaluation of the University System (now called the National Committee for the Evaluation of the University System)	September 1999
Approval by the Academic Senate (following a favorable opinion from the Commission)	January 2000
Approval by the Board of Directors	January 2000
Ministerial Decree	February 18th, 2000
Publication in the Official Gazette	March 7th, 2000

In *Politecnico. Rivista del Politecnico di Milano* Alberto Seassaro, the driving force behind the construction of the Design System project, described the significant transformations that were affecting the university system as a whole during those years:

> **Two *Politecnico* events run parallel, one being the adventurous growth of the Design Studies Course within the Faculty of Architecture, and the other being the radical process of structural reforms initiated at the University by the Rector [Editor's note:**

> De Maio], which converge and integrate into the broader narrative of the epochal transformation of the University promoted by the Autonomy reform, which, by 2002, within the next two years, is expected to be fully implemented.
> Two more years of experimentation, transition, and transformation, both for the Italian University system as a whole, with the complete implementation of the Reform, and for the University with the achievement of the objectives of revising the departmental structures, Thematic Faculties, and Centers, as well as for our newly established Faculty with the full assumption of its configuration as a Faculty of Design in all its thematic and problematic spectrum and in all its educational and organizational articulations. Within this timeframe, the Faculty Council has planned to achieve a complete structure with the articulation of the Faculty into four Degree Courses: Industrial Product Design; Architecture and Interior Industrial Design; Communication Industrial Design; Fashion Industrial Design; along with the further development of the Como Campus. (Seassaro, 2000-2001, p. 18)

And, in that same writing, the programmatic objective underlying the project of the new Faculty of Design was outlined:

> The path we have taken can contribute to reform and renew, more generally, studies oriented towards design and innovation management at Politecnico di Milano, building an innovative model that fits between Engineering and Architecture as a third force to concretely realize that idea of polytechnic education interpreted and practiced in a sectoral and sometimes oppositional manner between two lines of thought – the culture of design on one side, and technical and scientific knowledge on the other – without accessing a true interdisciplinarity that only the method of comparison in the field of design can allow. (Seassaro, 2000-2001, p. 19)

But, Seassaro continues,

> Even outside of school and beyond the University and the Academy, the *School of Design* of Politecnico di Milano can become a

> resource for research, for innovation, for advanced training also for the productive and business world[9]. And, not only for those so-called design-oriented sectors that have historically developed this relationship, but for all those sectors that still do not know the role of *design leverage* in the strategies of global competition. (Seassaro, 2000-2001, p. 19)

This connection with the external productive and professional context beyond the University and operating in the territory had already been initiated a few years earlier by the POLI.design Consortium. Established in 1999 based on Alberto Seassaro's project, the Consortium, with Flaviano Celaschi as its first Director, will function in its early years as a substitute for a Department of Design that will be established a few years later. At the birth of the Department, the Consortium will become a hub for connection with professional associations; with category associations of industrial designers; as a facilitator of applied research; as an activator of continuous education; as a promoter of editorial products, and so on.

While the Consortium and the School of Design were being established, in parallel, Alberto Seassaro was working on the project to build a Department of Design and, in those years, he was overseeing the institutional steps necessary for its establishment. In 1999, Antonio Scoccimarro was re-elected Director of the DI.Tec Department. In his electoral program, among the programmatic points, was the articulation of the Department ↘ into two autonomous Sections that would define the future structure of the Department: the Technology Section primarily linked to the teaching of the Faculty of Architecture in the Architecture and Building Engineering degree courses, and the Industrial Design Section primarily linked, in terms of teaching, to the former Faculty of Architecture (later the Faculty of Design), in the Industrial Design degree courses in Milan-Bovisa and Como ↘. The Design Section was immediately structured into Research and Teaching Units which, together with the PhD, became the incubation spaces for themes explored in research and then developed and applied in teaching ↘.

Note 9.
The assessment of the outcomes of Politecnico's decongestion process is presented in the document: *La valutazione dei risultati del Progetto di decongestionamento del Politecnico di Milano al termine del primo quadriennio di attività* [Evaluation of the Results of the Decongestion Project of Politecnico di Milano at the End of the First Quadrennium of Activity] compiled by the National Committee for the Evaluation of the University System.
Link→

Dipartimento Di.Tec - Docenti in ruolo al 1 novembre 2001.
Document→

Convocazione assemblea costituente, 13 nov 2000.
Document→

Tabella con articolazione della Sezione Disegno Industriale in Unità di Ricerca e Didattica.
Document→

The structure of the DI.Tec Department articulated into two sections will be a transitional one.

In fact, with the Council of the Industrial Design Section on December 4th, 2001 ↘, the Scientific Project ↘, the Development Plan, and the Regulations of the new *In.d.a.co Department – Industrial Design, Arts and Communication* ↘ were presented.

The initial construction phase of the Design System at Politecnico di Milano can therefore be considered concluded.

Convocazione del Consiglio di Sezione (4 dicembre 2001) con le firme dei presenti.
Document→

Progetto Scientifico del Dipartimento Indaco.
Document→

Documento istitutivo del Dipartimento INDACO, Registrato 12/06/2006.
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