Crossing Frontiers:International Networks of Spanish Architecture (1939-1975),edited by A.Pizza,E.Granell,78–94,291–94.Madrid:Asimétricas,Iniciativa Digital Politècnica, 2021.

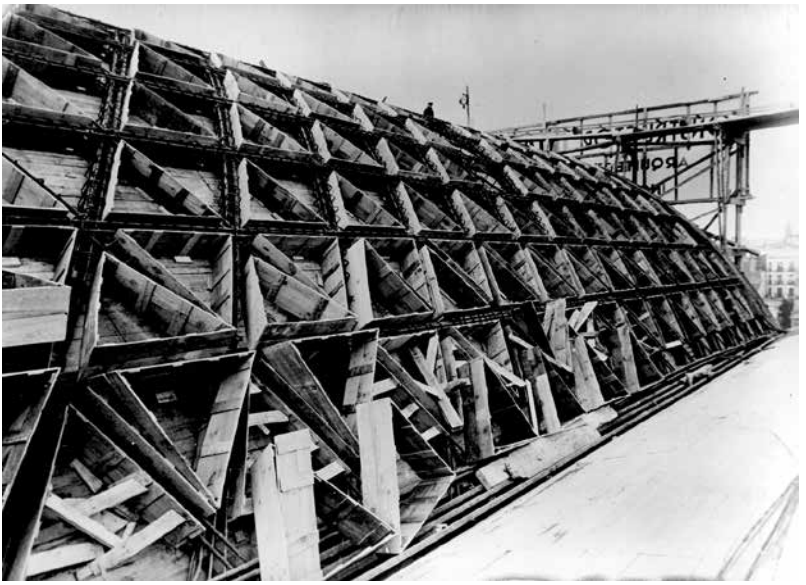
Modern icons of the «calculated risk»: Candela and Torroja in international key (1936-1973)

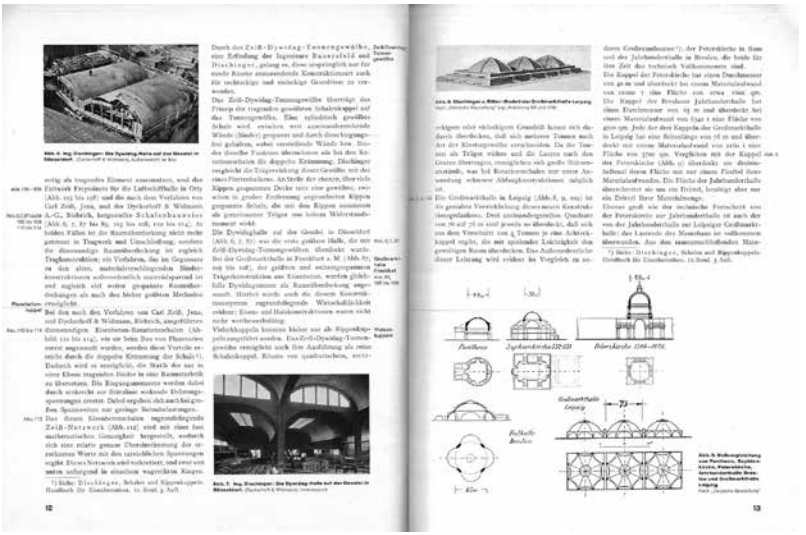
Ramon Graus, Teresa Navas-Ferrer

1936. Madrid, before the flood

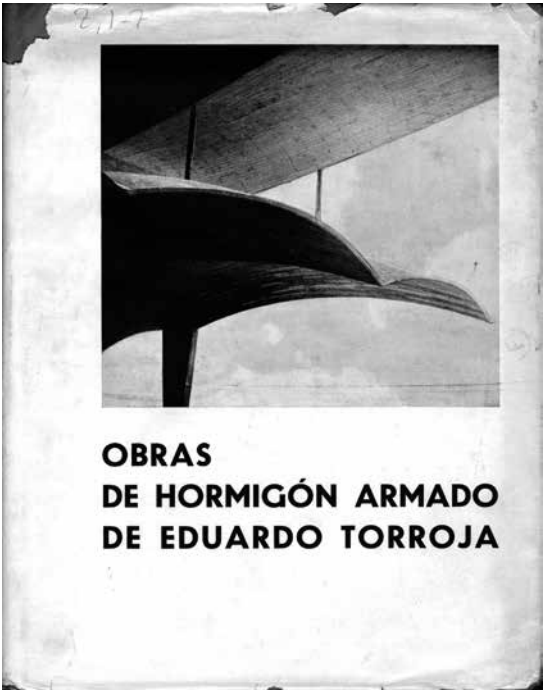
> When I was finishing my studies Torroja was building his Frontón and his Hipódromo; I had a small part to play in the Hipódromo project. When it was being finished and before it was presented, they called upon a few of the students in the School to draw perspectives and such like. Obviously, I was interested in the subject! Journals were publishing certain things of this type so I began to gather information together (1).
>
> I found Torroja on top of the formwork and asked him to explain in general terms how the enormous barrel vault would function. He did not answer me very affably, which hurt my feelings. Later he gave a conference in which he described with a grand array of equations the calculations he had made, but like most of the audience, I could understand practically nothing (2).

Félix Candela (1910-1997) thus described his initial contacts with the work of Eduardo Torroja Miret (1899-1961): first at the studio of Arniches and Domínguez, at the end of 1934, when they were preparing the contest for La Zarzuela Racecourse with





[Fig. 1] The Recoletos Pelota Court in Madrid during the assembly process of the formwork of the skylight (Eduardo Torroja Miret Archive, ES.28079.CEHOPU/1.02, I-ETM-125-01_01).
[Fig. 2] Double page of *Beton als Gestalter* (1928) on which are shown two buildings by Franz Dischinger, the Dywidag-Halle in Dusseldorf (1926) and the Grossmarkthalle in Leipzig (1927-29).



[Fig. 3] Dust jacket of Eduardo Torroja's book in 1936 with the photograph by Sibylle von Kaskel of La Zarzuela Racecourse. (Biblioteca de la Reial Acadèmia de Ciències i Arts de Barcelona).

Torroja, and later in his failed attempt to establish conversation with the engineer on a visit to the roof of the Recoletos Pelota Court, still under construction. (Fig. 1)

In the inter-war Europe the construction of thin shell concrete structures was becoming popular and the German functionalism praised and appropriated the power of reinforced concrete as creator of forms. Thus, in *Beton als Gestalter* the pioneer work of the engineer Franz Dischinger was exalted and the vaults of the Dywidag-Halle at the GeSoLei Fair in Dusseldorf (1926) were shown, while the Grossmarkthalle in Leipzig (1927-29) was compared to the great classics of architecture: the Pantheon in Rome, the Hagia Sophia in Constantinople and Saint Peter's basilica in the Vatican. (3) (Fig. 2)

This favourable atmosphere encouraged Torroja and Candela to take decisive steps in that direction. Torroja self-published a monograph about his most recent work at the beginning of 1936 (4) (Fig. 3). The book was profusely illustrated with photographs by Sibylle von Kaskel (1905-2005) which glorified her three best collaborations with architects: the Algeciras Market Hall with Manuel Sánchez Arcas, the Recoletos Pelota Court with Secundino Zuazo and the La Zarzuela Racecourse with Carlos Arniches and Martín Domínguez. Besides, Candela, eleven years younger than Torroja, won the Conde de Cartagena grant of the San Fernando Academy to carry out studies in Germany with the best specialists in the construction of thin shells. (5) But the coup d'etat in 1936 left Torroja's book in a closet and Candela had to cancel his travel at the last minute.

1939. Madrid, year zero

Once the Spanish civil war was over, in 1939, Torroja was appointed professor of the School of Civil Engineering of Madrid and in November 1940, director of the Central Laboratory for Testing Construction Materials (6). This appointment was essential for his international projection. When the Second World War had finished Robert L'Hermite, director of Laboratoires du Bâtiment et des Travaux Publics in Paris, made contact with him to participate in the foundational event of the RILEM in June 1947 (7). There the doors of European engineering started to open for him. Shortly after, in March 1948, Torroja was invited to the preparatory meeting in Zurich for the Liège IABSE Congress. Surely with his 1936 book under his arm, Torroja presented in Switzerland and Liège his trio of works from the period of the Republic (8). It would take forever to describe one by one the numerous conferences and articles that the engineering world dedicated to him from that moment. However, we must highlight, as seminal, the inclusion of his works in a text by Jacques Fougerolle in 1949 (9), which we could consider an early historization of the reinforced concrete technique.

Rediscovering La Zarzuela Racecourse

Several visitors who came to Spain at the end of the 40s suddenly noticed La Zarzuela Racecourse; to their minds it seemed the only modern building in the country. Stephen Wilkinson, professor of the Liverpool University School of Architecture at the time, outlined a description of the Main Square and the New and Old cathedrals of Salamanca, the cathedral of Valladolid, the Ciudad Universitaria in Madrid and of La Zarzuela Racecourse during a trip to Castile in September 1948.

> I found that Spanish reinforced concrete engineering was in a more advanced stage than in England, especially in the field of pre-stressing concrete. [...] Shell concrete had been used for roofing many of the stands at the New Hippodrome, Madrid. The form-work, however, must have been extremely poorly erected, since many of the shell forms were not perfectly true (10).

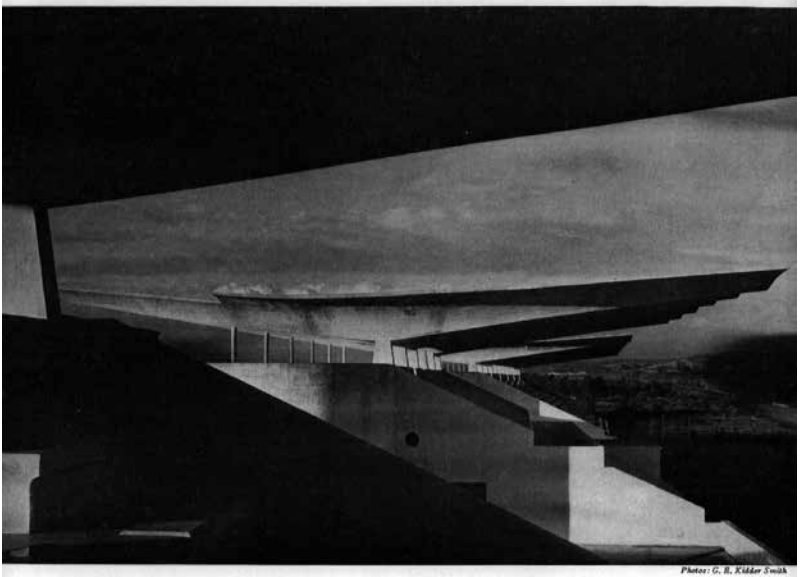
So, for Wilkinson the only modern thing to be highlighted of what he had visited was the racecourse, despite its more or less poor finishing in relation to British standards. During the spring of 1949 Hans Hauri, assistant professor in the ETH Zürich, made a trip with twelve students around the Peninsula and on his return he commented:

> Professor Torroja personally welcomed us in Madrid, and under his excellent guiding we had the pleasure to know some of its most prominent buildings, some of which are fantastic. The stands in La Zarzuela Racecourse, with extraordinarily daring structures, are an impressive example of modern thin shells (11).

Even more explicit was the American photographer G. E. Kidder, who visited Madrid between the end of 1949 and the beginning of 1950 and wrote in *Architectural Forum* and in *The Architectural Review*: «With one brilliant exception, which will be discussed later, the architectural visitor to the Iberian Peninsula

SOARING CONCRETE CANOPIES shelter the Madrid Hippodrome

EDUARDO TORROJA, Engineer

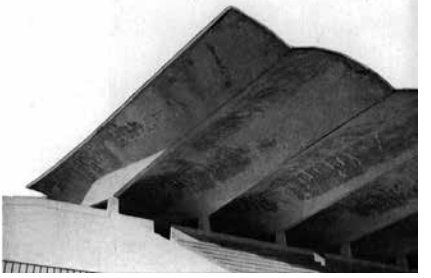


Photos: G. E. Kidder Smith

It is difficult to look at the reinforced concrete canopies of the Madrid Hippodrome and still remember that they are static structures. The shells, their repeated barrel forms rippling the length of each shelter and their great cantilevers reaching out 42 ft. to shade remarkably large areas without support, are more like birds which have lighted on the top of the grandstand in that instant before they fold their wings.

The strength of these beautiful cantilevers is an inspired application of the principles of shell concrete design. Each long scallop of concrete can be thought of as an independent projecting beam. The stresses are tension at the crown and compression at the lower edge, connected by shear in the barrel of the shell.

Designer Eduardo Torroja is the man who has been called the greatest living engineer by no less an architect than Frank Lloyd Wright. His Madrid Hippodrome is good evidence. For a further discussion of Engineer Torroja's work, see "Report from Spain and Portugal," by G. E. Kidder Smith, page 72.



130 Architectural FORUM May 1950

[Fig. 4] Page of *Architectural Forum* (1950) dedicated to La Zarzuela Racecourse, with two photographs by G.E. Kidder Smith.

is not apt to find much modern work of interest» (12). Naturally, the brilliant exception was the racecourse, of which he took excellent photographs. The most stunning photograph published in *Architectural Forum* had been taken so that the stands' profile could be seen frontally and the fragile balance which the great canopy bathed by the western light created (13) (Fig. 4).

Gio Ponti, director of *Domus*, who had established bonds with Spanish architects after 1949 and had personally met Torroja through the engineer Arturo Danusso (14), published the building in the April issue in 1952 with the expressive title: «Forme vere in architettura». Ponti wrote: «I wish, above all, to highlight the stands of La Zarzuela Racecourse in Madrid, by Torroja, Dominguez and Arniches, because they represent true shapes defined by reinforced concrete, really, the true shapes of reinforced concrete» (15).

This is nothing but an indication of the disconnection of autarchical Spain that a building designed in 1934, and practically completed in 1936, became hot news in the 50s.

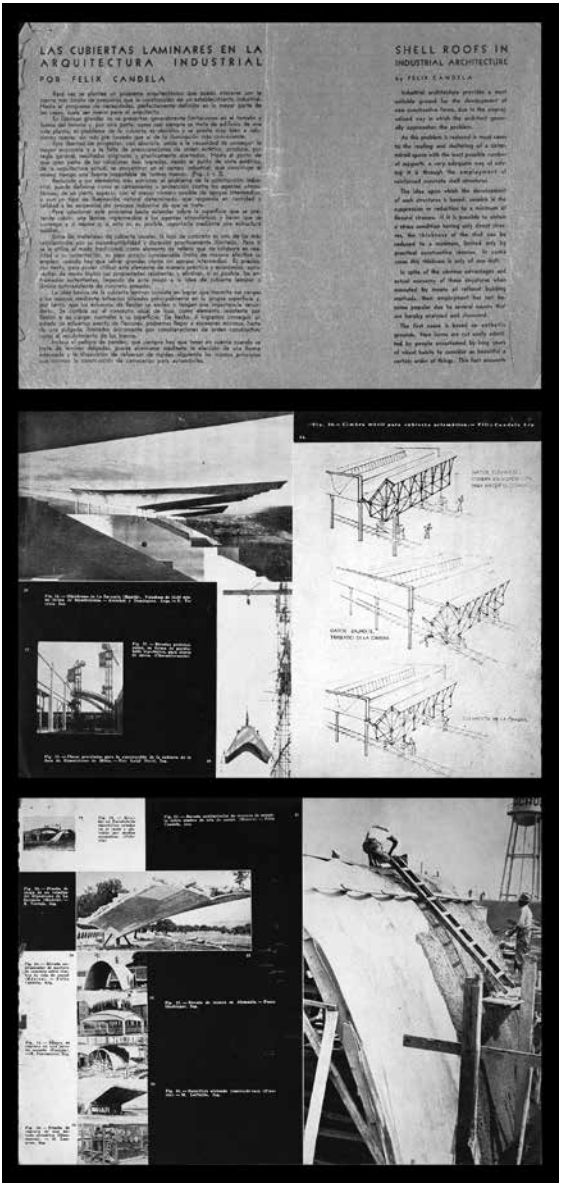
1950. México, D.F., exile

Félix Candela had been part of the group of Spanish republicans accepted by Lázaro Cardenas' Mexico. There, he started to work as an architect and, approximately at the end of the 40s, he revived his attraction for thin shells. It is possible to reconstruct this renewed interest through different sources. Colin Faber noted that Candela had read an article about folded plate shells in the *American Concrete Institute Journal* (16) which «rekindled his youthful interest in construction» (17). Candela himself remembered how he belatedly discovered Robert Maillart's work: «I discovered him in Giedion's Space, Time and Architecture; and then I got Max Bill's book with its invaluable collection of Maillart's essays. I devoured his articles [...]» (18). Also Maria Garlock and David P. Billington have described how Candela took advantage of the chance that Mexi-

co would house UNESCO's Scientific and Technical Documentation Centre from 1950; here Candela was able to research in depth the current knowledge of thin shell structures (19). In this process of self-learning, in a developing country, Candela ventured to build a first experimental vault in San Bartolo during the summer of 1949, inspired by the Ctesiphon vault tested in the United Kingdom and its colonies by J.H. De W. Waller and Kurt Billig (20). Waller had patented a construction system of light double curvature shells that used hessian as formwork, set between centrings in the shape of catenary arches, easily usable in a war economy (21). Shortly after, in 1950, Félix Candela founded the company Cubiertas Ala S.A. with his brother, Antonio Candela, and the brothers Fernando and Raúl Fernández Rangel, both of them architects (22). From that moment Candela would start an intense advertising campaign for the company in Mexico and beyond. With this objective he gave his first conference on the 23rd November 1950 in the Mexican Architects Society. Soon after he wrote to his old study fellow Alejandro Herrero, who at the time was municipal architect in Huelva, to tell him about his new projects:

> The conference was part of the advertising plan for the company «Cubiertas Ala» which Antonio and I have founded along with three Mexican architects [...]. As I have begun the path of writing, I have written an article for a national magazine called *Espacios* [...]. Combining both things and giving it a more technical tone I have written the article for the American Concrete Institute, which I am sending today and I hope will cause some stir if it is published. Of course, it can be very important because it has great international circulation; there are 5,000 members in all the countries around the world (23).

The article published in the magazine Espacios, titled «Las cubiertas laminares en la arquitectura industrial», disclosed the sources of his architectonic proposal (24) (Fig. 5). It is a text published in English and Spanish and profusely illustrated with im-



[Fig. 5] Three pages of Félix Candela's article for the Mexican magazine *Espacios* (1951), which include two photographs of La Zarzuela Racecourse, one by G.E. Kidder Smith and the other by Sibylle von Kaskel.

ages that sought to qualify his constructive and project design. In its pages were photographs taken from *Space, Time and Architecture,* from Max Bill's monograph about Maillart and works by Wright, Ove Arup or Pier Luigi Nervi. Amongst them is included a photograph of La Zarzuela Racecourse by Kidder Smith published a few months before in *Architectural Forum*. And this was not a coincidence, Candela had tried to take advantage of the open forum which gave name to the magazine to publish his opinion as president of Cubiertas Ala, in the October issue in 1951, claiming that «The architect must regain his lost role of master builder» (25), one of the leitmotifs of his theoretical position about structural design.

Discovering the Cosmic Rays Pavilion

The construction of the Cosmic Rays Pavilion at the campus of the Ciudad Universitaria de Mexico was the leverage for Candela's international reputation. The strict determinants of permeability to radiation required a solution of an extremely thin roof. The architects Jorge González Reyna and Rafael Arozarena had initially designed the building's roof with a barrel vault. Candela worked with them to successfully reduce the thickness of the shell through a shape of double curvature. Finally three parabolic arches would support two hyperbolic paraboloids.

At the same time, from September 1951, the American architectural critic Esther McCoy (1904-1989) had settled in Mexico as correspondent of the magazine *Arts & Architecture* (26). One of her tasks was to document the architecture of the Ciudad Universitaria along with the photographer Erwin G. Lang (a.k.a. Ed Lange). Not all the works were finished but she discovered there the small Cosmic Rays Pavilion. In her preparatory correspondence with John Entenza she already indicated her surprise:

> I'm working up on the use of concrete: Mexico has made a virtue of this necessity, and has turned this contractor's material into

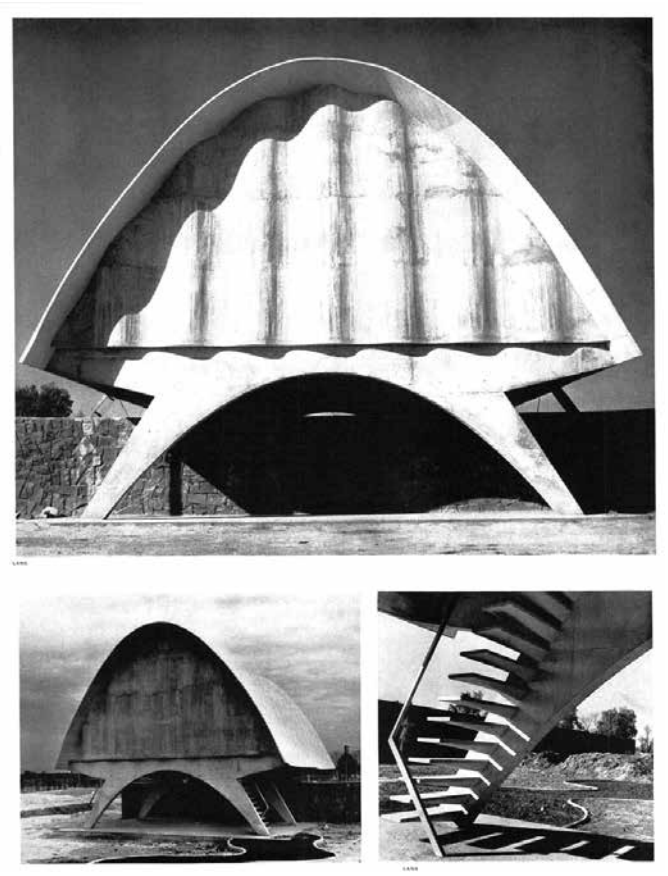
> something delicate and flexible. They use extremely thin slabs of it in a surprising variety of places (27).

In her op-ed article of the monograph about the Ciudad Universitaria, McCoy carefully described the building and published some of Candela's words that come from his article in *Espacios*, about which we have commented:

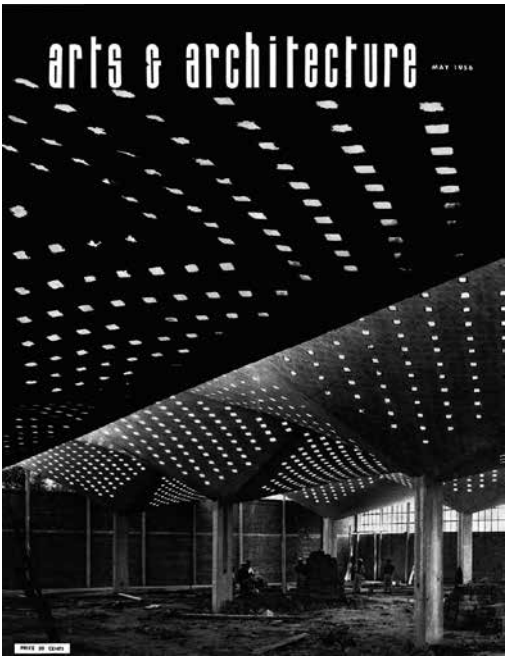
> The designer, Felix Candela, architect and engineer, says that the general objection to shell structures «is based on the common confusion between massiveness and strength. Massive structures are not necessarily stronger than the lighter ones. On the contrary, the former are more subject to deformation and failure».
>
> The dignity which characterizes the work of the Mexican architect does not prejudice him against new forms. Although he is limited by the concrete frame of his building, he has been able to push out its limits and endow with greater plasticity the material that is his to use (28).

Lang's photographs reinforced the lightness of the roof (Fig. 6). The first frontal photograph pairs the parabola formed by the inclined *pilotis* and the parabola outlined by the very thin roof in cantilever, the second photograph displayed the back façade with a slight foreshortening, enough to show the double saddle which is configured by the two hyperbolic paraboloids. These were not the first photographs of the pavilion that American readers might have seen. We have already understood Candela's interest in publishing in the American Concrete Institute's magazine from the letter to Herrero, if his first article had been rejected in April 1951, (29), Candela insisted and managed to publish another article in the December issue which already included two photographs of the pavilion under construction (30).

We must dwell on this article because it showed the referential world by which Candela legitimised his design proposals. In the text he argued that the difficulty of calculating these types of



[Fig. 6] Page of *Arts & Architecture* (1952) dedicated to the Cosmic Rays Pavilion of the Ciudad Universitaria in México, with three photographs by Erwin G. Lang.



[Fig. 7] Cover of *Arts & Architecture* (1956) dedicated to the textile factory High Life in Coyoacán, with a photo by Erwin G. Lang.

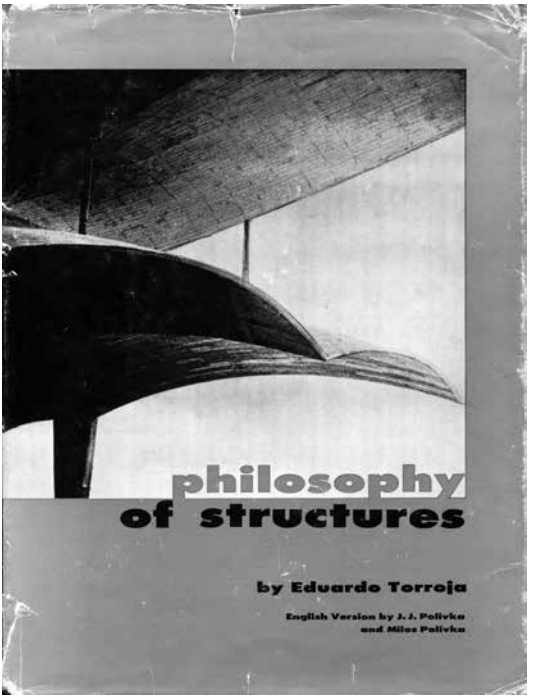
shells used to limit their use in big structures but he was referring to the use of brick in the traditional Mediterranean tile vaulting as a reality that was still in practice in Spain after the Civil War —he published an opinion extracted from Luis Moya's book and mentioned Rafael Guastavino's work in the USA which the same author had also analysed— (31) and he suggested that the substitution of brick with reinforced concrete seemed to him the most adequate way to improve it technically. It was, in the first place, a gesture to ascribe himself within a tradition. The text finished by presenting the Cosmic Rays Pavilion and gave account of the study by Fernand Aimond into hyperbolic paraboloids through which he had supported his ideas (32). In this case, it was an approximation gesture of scientific methods, necessary for acceptance in the ACI.

This article, and the one published in 1953 (33), also in ACI, caught Reyner Banham's attention and he dedicated an article to his first works in *The Architectural Review* (34) which was devoted to Candela's argumentations: establishing the roots of the technique in the old tradition of tile vaulting, now improved and the use of simplified calculations to design the structures. Banham reproduced Candela's words in his articles for ACI: «It is better, he says, to use simpler procedures which, in most cases, are sufficient when the designer is a constructor» (35).

With this strategy, Candela continued with his company during the 60s, while his position also allowed him to intensify his compromise for a democratic Spain (36). Esther McCoy kept making known Candela's works through the pages of *Arts & Architecture* (37), especially in a monographic exhibition held at the University of Southern California in 1957 (38), and opened the way for Colin Faber —soon to be Candela's biographer— with a captivating photograph by Erwin G. Lang of the hypar twinkling parasols of the High Life textile factory (39) (Fig. 7). However, he left the company in 1969, when orders had already dwindled. In 1971 he moved to the USA, and in 1973 Cubiertas Ala, then headed by his brother, would definitively go bankrupt (40).

1950. Taliesin West

Eduardo Torroja would also be quickly known in the USA in the same years. Diego Martín-Sáiz (41) was the first to demonstrate that the Czech Jaroslav J. Polívka (1886-1960), a member of Frank Lloyd Wright's team in his late period (42), knew about Torroja's 1936 book, and that he had shown it to Wright. He recorded in some autobiographical texts how the «amply illustrated book on Torroja's work impressed Frank Lloyd Wright very much and he became interested to meet Professor Torroja» (43). The impact was sufficiently important so that in a conference in front of architecture students at the Carnegie Institute



[Fig. 8] Dust jacket of *Philosophy of structures* (1958) by Eduardo Torroja with the 1936 photograph by Sibylle von Kaskel of La Zarzuela Racecourse.

of Technology, Wright stated that Eduardo Torroja «has expressed the principles of organic construction better than any engineer I know» (44). Shortly after, Polívka contacted Torroja and prepared a visit to Wright in Taliesin West for the 21st April 1950. Polívka, proud of the meeting, published in *Architectural Forum* an already very well-known photograph of Wright and Torroja walking through the streets in Phoenix (45). Naturally, without this meeting Torroja's success in the USA cannot be understood, making regular visits to give conferences (46) or to participate in congresses and, even more importantly, publishing the American edition of two of his main books: *The structures of Eduardo Torroja* (47) and *Philosophy of structures* (48) (Fig. 8). The latter was the translation of *Razón y ser de los tipos estructurales,*

published in Spain only the year before, done by Polívka himself, and with Kaskel's photograph that he had already used for his book in 1936. However, Torroja had no more time as he died in 1961. Zevi would remember him in an article about the Valley of the Fallen with the confrontational title: «Franco mostruoso malgrado Torroja» (49).

Modern icons of the «calculated risk»

Here we are only interested in outlining the professional trajectories that made possible the initial international acknowledgement of Torroja and Candela from the 50s. It is paradoxical that, despite their disagreement about the roof of the Recoletos Pelota Court in 1936, both were internationally recognised at the same time in the 50s. We will not continue listing their work but we thought a global assessment of their circumstances was necessary. Without doubt it was the peak moment of thin shells, as the numerous monographs dedicated to them corroborate. We thought of the educational articles by Mario Salvadori (50), Jürgen Joedicke's careful approximations (51), the monograph by Manuel Sánchez Arcas written in exile (52) (Fig. 9) or David P. Billington's interest in studying these type of structures in depth (53).

Therefore, their recognition was not a coincidence. Their talent and creativity were in harmony with the debate for «organic» architecture, the architecture that wished to overcome functionalism, from Wright to Aalto, and with the neo-expressionist «fashion» of covering large-span buildings with thin shells concrete structures, from Saarinen to Utzon.

Nevertheless, that search for forms, more and more impregnated with the logic of spectacle, entailed a mistrustful look by critical history towards them. Let us remember how Manfredo Tafuri and Francesco Dal Co, when reviewing the international panorama in the 50s and 60s, referred to them with a touch of distrust:

[Fig. 9] Dust jacket and two inside pages of the book *Form und Bauweise der Schalen* (1961) by Manuel Sánchez Arcas, with the Recoletos Pelota Court and the Palmira Chapel in Cuernavaca.

> The structuralist current includes others [...] who are committed to making technological experimentation the occasion for formal audacities, for modern icons of the calculated risk; for example, the slablike structures with umbrella and membrane by Felix Candela in Mexico, the shelters of the Madrid hippodrome by Eduardo Torroja, and the experiments by Joseph Polivka collaborator with Frank Lloyd Wright on some projects or Frei Otto (54).

Modern icons of the «calculated risk» they were called. Perhaps even Félix Candela himself was aware of it when he wrote his uncompromising article about Sydney Opera House (55), the two sides of the genealogy we have outlined.

(40) SOLÀ-MORALES, Ignasi. 'Arquitectura y semiología: después del simposio de Castelldefels'. *Tele/eXpres*, 28-3-1972; SOLÀ-MORALES, Ignasi. 'Las aventuras de la semiótica arquitectónica'. *Arquitecturas Bis*. 1974, n. 2, pp. 14-15.

(41) SOLÀ-MORALES, Ignasi. 1972. *Op. cit.*

INDIVIDUAL TRAJECTORIES

Modern icons of the «calculated risk»: Candela and Torroja in international key (1936-1973)

(1) THORNE, Martha; MATEO, Josep Lluís; GAUSA, Manuel. 'Memories of a constructor: Interview with Félix Candela'. *Quaderns d'Arquitectura i Urbanisme*. 1986, n. 171, p. 59.

(2) FABER, Colin. *Candela, the shell builder.* New York: Reinhold, 1963, p. 12.

(3) VISCHER, Julius; HILBERSEIMER, Ludwig. *Beton als Gestalter: Bauten in Eisenbeton und ihre architektonische Gestaltung: ausgeführte Eisenbetonbauten.* Stuttgart: Julius Hoffmann, 1928.

(4) TORROJA, Eduardo. *Obras principales de hormigón armado proyectadas y dirigidas por Eduardo Torroja de 1926 a 1936*. Madrid: Talleres de Unión Poligráfica, 1936.

(5) CUETO, Juan Ignacio del. *Arquitectos españoles exiliados en México.* México, D.F.: Bonilla Artigas, Universidad Nacional Autónoma de México, 2014, p. 141.

(6) SÁENZ RIDRUEJO, Fernando. *Una historia de la Escuela de Caminos: La Escuela de Caminos de Madrid a través de sus protagonistas.* Madrid: Colegio de Ingenieros de Caminos, Canales y Puertos, Fundación Juan-Miguel Villar Mir, 2016, pp. 429, 456.

(7) L'HERMITE, Robert. 'Préface'. In: TORROJA, Eduardo. *Les structures architecturales: leur conception, leur réalisation.* Paris: Eyrolles, 1969, p. 9. TOBIAS, Roland. *Les trente années de la RILEM = The thirty years of RILEM: Paris, 1947; Budapest, 1977.* Budapest: RILEM, 1977, pp. 3-10.

(8) TORROJA, Eduardo. 'Rapport sur les voiles minces construits en Espagne'. In: STÜSSI, Fritz; LARDY, Pierre (ed.). *IABSE Congress Report: Third Congress = Rapport du congrès AIPC: Troisième Congrès = IVBH Kongressbericht: Dritter Kongress.* Liège: International Association for Bridge and Structural Engineering, 1948, pp. 575-584. DOI 10.5169/seals-4122.

(9) FOUGEROLLE, Jacques. '[Cent ans de béton armé: 1849-1949] L'évolution du béton armé'. *Travaux*. 1949, n. 194 bis [supplément], pp. 62-77.

(10) WILKINSON, Stephen. 'A Spanish Journey: Some Architectural Impressions'. *Bulletin of Hispanic Studies.* 1949, vol. 26, n. 104, pp. 225-226. DOI 10.3828/bhs.26.104.225.

(11) HAURI, Hans; KRÄNZLIN, K. 'Technische Spanienfahrt'. *Schweizerische Bauzeitung.* 5th June 1949, vol. 67, n° 32, p. 434-436.

(12) SMITH, G.E. Kidder. 'Report from Spain and Portugal'. *Architectural Forum*. May 1950, vol. 92, n° 5, p. 72. SMITH, G.E. Kidder. '[World] Grandstand at Madrid'. *The Architectural Review*. October 1950, n° 646, p. 263.

(13) SMITH, G.E. Kidder. 'Soaring concrete canopies shelter the Madrid Hippodrome: Eduardo Torroja, engineer'. *Architectural Forum.* May 1950, vol. 92, n° 5, pp. 130-131.

(14) PONTI, Gio. 'Eduardo Torroja: Gio Ponti dice...'. *Informes de la construcción.* October 1961, vol. 14, n° 134, p. 3-4.

(15) PONTI, Gio. 'Forme vere in architettura: E. Torroja ing., L. Dominguez e C. Arniches, arch.tti'. *Domus*. 1952, n. 269, pp. 1, 67.

(16) WINTER, George; PEI, Minglung. 'Hipped Plate Construction'. *ACI Journal Proceedings.* 1947, vol. 43, n. 1, pp. 505-532. DOI 10.14359/8756.

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(20) BILLIG, Kurt. 'Corrugated concrete shell structures'. In: STÜSSI, Fritz; LARDY, Pierre (ed.). *IABSE Congress Report: Third Congress = Rapport du congrès AIPC: Troisième Congrès = IVBH Kongressbericht: Dritter Kongress.* International Association for Bridge and Structural Engineering, 1948, pp. 545-551. DOI 10.5169/seals-4040.

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From *Paris avec amour*: Corrales and Molezún in three French publications (1958-1970)

(1) ARZA, Pablo. *'L'Architecture d'Aujourd'hui*, testigo del desarrollo moderno español (1950-1986)'. *Bitácora arquitectura*. 2019, n. 43, pp. 12-25.

(2) «La Seconde Guerre mondiale affecte considérablement *L'Architecture d'Aujourd'hui* : les membres de la rédaction se dispersent en zone libre, certains sont déportés. André Bloc se réfugie à Clermont-Ferrand et cède la revue en 1940 à Georges Massé, architecte parisien, qui la rebaptise *Techniques et Architecture,* titre proposé par Auguste Perret. À la fin de la guerre, André Bloc reprend la publication d'AA, ainsi que la maison d'édition du même nom. Les deux revues coexistent désormais, malgré un conflit de propriété entre les deux hommes, qui durera jusqu'en 1947. Pierre Vago prend la direction du comité éditorial, qu'il dirigera jusqu'en 1975». «En la Segunda Guerra Mundial, los miembros del equipo editorial de L'Architecture d'Aujourd'hui se dispersaron en la zona libre, algunos fueron deportados. André Bloc, fundador de la revista en 1930 -con la ayuda de Marcel Eugène Cahen- vende la revista en 1940 a Georges Massé, arquitecto parisino que la renombra como Techniques et Architecture, título propuesto por Auguste Perret. Tras la guerra, André Bloc se hizo cargo de la publicación de L'Architecture d'Aujourd'hui, así como de la editorial del mismo nombre. Las dos revistas convivirían, a pesar de un conflicto de propiedad entre los dos hombres que duró hasta 1947. Pierre Vago asumió la dirección del comité editorial, que dirigió hasta 1975». See: '80 ans d'Architecture avec AA'. *L'Architecture d'Aujourd'hui* [en línea]. [fecha de consulta 01/04/21]. Available at: https://www.larchitecturedaujourdhui.fr/histoire/.

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(5) Possibly because of the presence of their correspondent in Spain or for their contacts with architects and editors of Spanish publications, these projects came to the notice of the magazine. See: ARZA, Pablo. *'L'Architecture d'Aujourd'hui*, testigo del desarrollo moderno español (1950-1986)'. *Bitácora arquitectura.* 2019, n. 43, pp. 12-25.

(6) The study focusses specifically on four publications: *Revista Nacional de Arquitectura-Revista Arquitectura, Hogar y Arquitectura* y *Nueva Forma*, as the most representative in Madrid circles in those years.

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(8) See: 'Bruxelles 1958. Exposition Universelle et Internationale. Les techniques au service de l'homme'. *L'Architecture d'Aujourd'hui.* 1958, n. 76, pp. 97-103.

(9) *Ibidem*.