

American *Streamline* and European Modernism

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For all similarities and differences between Europe and the USA in the 1920s and 1930s, main trends in American art focus around three phenomena: Art Déco, Streamline Moderne and forms created within the Federal Art Project, a programme for employing artists promoted by President Roosevelt. The latter two were directly connected with economic and social processes occurring during the Great Depression.

In order to analyse these issues more thoroughly, researchers try to distinguish some slight, yet evident, differences between *Art Déco*, *Streamline*, *Modern*, *Modernistic*, etc. It is generally believed that Streamline forms are the most American; they were commonly created in the USA in 1927-1940, particularly in industrial design. They were inspired by aerodynamics of streamlined shapes, of which the teardrop was regarded as the ideal.

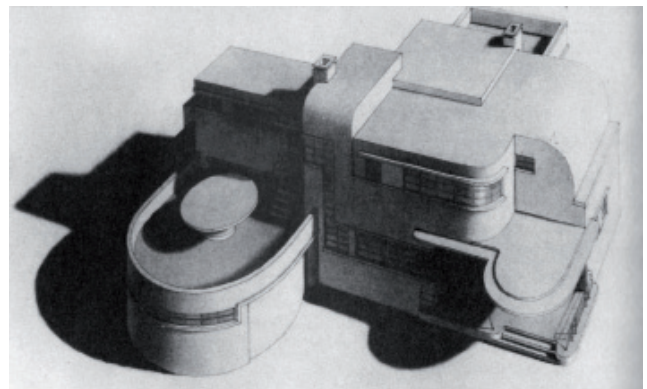
Designers, constructors and architects inspired by streamlined, aerodynamic shapes, designed liners, aeroplanes, locomotives and car bodies, but above all, daily necessities like refrigerators, vacuum cleaners or dishes. The most eminent Streamline designers were: Norman Bel Geddes, Walter Dorwin Teague, Henry Dreyfuss, Raymond Loewy and Richard Buckminster Fuller.

Norman Bel Geddes was a scenographer and author of posters. In 1927, he started designing cars, buses, ships and trains. He wrote a book entitled *Horizons: A Glimpse into the Not Distant Future* (1932) and an article *House of Tomorrow* (1931). In 1929, together with German engineer Otto Koller, he designed a huge aircraft *Airliner Number 4*, and at the

beginning of the 1930s – a liner, locomotives and cars of a perfect teardrop shape. Although they were never actually realised, these designs embodied the form and the idea of aerodynamics. Therefore Geddes is regarded as the “father of Streamline”, because he *popularised a new aesthetics of dynamic, functional forms, smooth organic shells comprising the knowledge of the principles of aerodynamics. His <teardrop> became something more than just an ideal form, it became a symbol of progress forged from the application of knowledge and aesthetics onto design problems*¹.

Henry Dreyfuss was a scenographer, too. In 1929, he took to industrial design, from perfume bottles and domestic and office appliances (a phone *Model 300*) to locomotives: *Mercury* (1936), *Engine 5450* (1938), *The 20th Century*

1. Bush, Donald J., *The Streamlined Decade*, New York 1988, p. 26.



1. Norman Bel Geddes, *The House of Tomorrow* 1931. Bush Donald J. *The Streamlined Decade*. George Braziller, New York 1975 p. 134



2. Robert V. Derrah, *The Coca Cola Bottling Company*, Los Angeles 1936-37. Photo by A. K. Olszewski

Limited (1938)². Walter Dorwin Teague was engaged in poster design and scenography. From 1927 on, he designed various containers, packaging and appliances, e.g. for *Eastman Kodak*. Raymond Loewy was an immigrant from France. He was an illustrator for *Vogue* and *Harper's Bazaar*. In 1930, he opened his own design studio in New York, where he designed ships: *SS Panama* (1936), *Princess Anne* (1933), cars like *Hupmobile* (1934), and theoretical studies of the teardrop-shaped *Car of the Future* (1938). The *Coldspot* refrigerator was also his design³.

A textbook example of Streamline architecture is the above-mentioned design of the *House of Tomorrow* by Geddes, 1931. Its form is a synthesis of the achievements of Modernism, and in a way is representative of the 1930s architecture, both American and European. According to Bush, the house was designed in the "spirit of the times" and (...) included an open, asymmetrical plan of Frank Lloyd Wright's *Robie House*, the magnificent detail of *Bauhaus in Dessau* and *Le Corbusier's* passion for flat roofs⁴. The widely curved front wall includes the garage and the living room overlooking the garden. Rounded corners and right-angled elements were perfectly balanced. The interiors were mostly rectangular, with no stuccowork or cornices. Curves added life to simple furniture. The kitchen with its stainless steel elements, curved cupboard corners and built-in appliances was fully Streamlined. These forms include essential elements of Streamline architecture, with some modifications, naturally. Three lines encircling both buildings and tableware items were in common use⁵.

Richard Buckminster Fuller carried out studies on the form as economical and aerodynamic as possible, in designing both vehicles and architecture, e.g. several versions of *Dymaxion Cars* made in 1933-34. According to the

2. *ibid.*, p. 19.

3. *ibid.*, pp. 20 and foll.; Alastair Duncan, *American Art Déco*, New York 1988, pp. 267-278.

4. Bush, Donald, *op. cit.* p. 135.

5. Gebhard, David, von Breton, Harriette, *Kem Weber - The Moderne in Southern California 1920-1941*, Santa Barbara 1969, p. 12.

rule of "dynamic and maximum efficiency" (*Dymaxion*), Buckminster Fuller designed the models *Dymaxion 4D House* and the *4D tower*. They were structures made of aluminium and plastic, erected around a central mast⁶.

In architecture, some Streamline buildings were evidently inspired by shapes of liners. *The Maritime Museum* (formerly *The Aquatic Park Casino*) in San Francisco designed by William Mooser Jr and erected in 1935-39 is a building (...) streamlined and moderne in every inch ... with its rounded corners, set-back upper floors, circular windows ["portholes"], and railings resembling those on a ship, showing a surprising similarity to a luxurious liner⁷. The building of *Coca Cola Bottling Plant* in Los Angeles, in 1936-37 converted from three Spanish-style buildings into one ship-like building by Robert R. Derrah, was even more famous. "Architect Robert Derrah did not skimp on sailing motifs like circular windows, rounded doorways, hatchways, and mast-like finials"⁸. Ship- or aeroplane-like shapes enable broad deliberations on Streamline. The examples of structures directly inspired by the aeroplane are the *Control Tower* at Birmingham Airport (Norman & Dawbarn, 1938-39) and *Methley Senior School* in Rothwell (Oliver Hill, 1938-39), the latter considered to be manifesting the architect's cynicism or sense of humour⁹.

In practice, Streamline buildings were those closest to Geddes' *House of Tomorrow*, i.e. full of curves. Many architects introduced these forms in their designs in various ways, e.g. Frank Lloyd Wright's *Johnson's Administration Building* in Racine, or buildings erected in

6. Bush, Donald, *op. cit.* pp. 104-108, 129-131; Józef Andrzej Mrozek, *Teoria i praktyka wzornictwa przemysłowego w latach 1930-1970*, Warsaw 2005 (typescript), p. 106.

7. Bush, Donald, *op. cit.* p. 149.

8. *ibid.* p. 150.

9. Stamp, Gavin, *Introduction*, [in:] *Britain in the Thirties, Architectural Design, Profiles 24*, [no date], pp.40-41.

3. Mackay & Gibbs, *Sherbrooke Hotel*, Miami Beach 1947. Photo by A. K. Olszewski





4. Henri Hohauser, *Commodore Hotel, Miami Beach 1939*. Photo by A. K. Olszewski

California in the 1930s by European immigrants to America like Kem Weber, Rudolph Schindler or Richard Neutra¹⁰.

While reviewing forms in architecture and visual arts of the 1920s and 1930s, we must say a few words about the 1939-40 New York World's Fair, the second largest exhibition after the 1937 Paris International Fair. Certain similarities in architectural forms – both the modern and the more moderate ones – could be noticed there. Top American designers, i.e. the above-mentioned Norman Bel Geddes, Donald Deskey, Walter Dorwin Teague, Henry Dreyfuss and Raymond Loewy, were among those who designed

10. Gebhard, David, von Breton, Harriette, op. cit., passim; David Gebhard, Robert Winter, *Architecture in Los Angeles. A Complete Guide*, Salt Lake City 1985, passim.

the Fair. Streamlined forms, symbolising their functions often literally, were most visible in architecture related to transportation and industry. The *General Motors Pavilion*, a complex of four buildings with its streamlined, rounded, "sculptural" forms, called "Motorways and Horizons", was designed by Albert Kahn and Norman Bel Geddes. The space between the buildings was filled with streets running crisscross. The *Ford* buildings were designed by Walter Dorwin Teague with his team: C.C. Colby, R.R. Kilburn, Albert Kahn. The main feature of the layout was the *Road of Tomorrow*, running above the roof, down in a form of a spiral ramp and encircling the whole site. Inside, model cars and the Ford system of assembly line production were exhibited. Gebhard and von Breton thought that the New York Fair and the Golden Gate San Francisco Exhibition (1939-40) "(...) were the final establishment of Streamline Moderne as a new national architecture"¹¹. Economical, simple, machine-made forms, plus materials like glass, stainless steel and plastics were in a way a kind of "national style" in 1930-1940. Martin Greiff even suggested that the American arts of that time should be called *Depression Moderne*¹².

Irrespective of the names used, there is still a difficult problem of interrelations between Streamline Moderne and Art Déco; anyway, they both fell into broad terms of "modern" or "modernistic". Most extensive specialist literature considers Art Déco and Streamline equatable, or regards Streamline as a variant or continuation of Art Déco. Many researchers regard them as close to each other, yet separate.

11. Gebhard, David, von Breton, Harriette, op. cit. pp. 31-32.

12. Greiff, Martin, *Depression Moderne. The Thirties Style in America*, New York 1986.

5. L. Murray Dixon, *Adams Hotel, Miami Beach*. Photo by A. K. Olszewski





6. Clarke Ellis, Roland Atkinson, Owen Williams, Daily Express Building, London 1932. Photo by A. K. Olszewski

According to David Gebhard, *American Moderne* derived from the Paris International Fair 1925; in USA, however, it developed in a different way than in Europe, by reference to transport machines. In the 1920s they were liners and automobiles, in the 1930s – aeroplanes. Another distinctive feature was the predominance of the industrial design. *American Moderne* can be easily divided into two stages: the 1920s *Zig-zag Moderne* (predominance of triangles and squares) and *Streamlined Moderne*

(French curves and roundness) of the 1930s¹³.

Modern and *Modernistic* in the architecture of tower blocks are distinctly differentiated by Ada Louise Huxtable. *Modern* buildings are characterised by radicalism, reductiveness, reforming, austerity, abstraction, elitism of the avant-garde of the international style. On the other hand, *Modernistic* was the last decorative style, an exotic combination of old and new materials and traditional craft, typical of the Paris Fair 1925¹⁴.

The issues of these subtle yet obvious differences run through the texts written by other authors. Eva Weber quotes historians' opinions about variants of Art Déco: 1. a conservative variant, i.e. *Classical Moderne* peaking in the 1930s; 2. *Zig-zag Moderne*; *Streamline Moderne* of the 1930s¹⁵. These differences were discussed by Patricia Bayer: *Such Streamline Moderne elements as rounded balconies, curved railings, ship windows, which often occur in fundamental Modernistic works, are the reason why many people are inclined to call them Art Déco. They do not take into consideration the fact that the most essential features of Art Déco architecture are the ornament and colour, though the latter to a smaller extent*¹⁶.

It is true that – irrespective of different disputes on stylistic or terminological subtleties – similar streamlined, rounded forms, apart from various forms of “modernised Classicism”, were used in European architecture in the late 1920s already, being a kind of antidote to rigor-

13. Gebhard, David, von Breton, Henriette, op. cit. pp.11-12.

14. Huxtable, Ada Louise, *The Tall Building Artistically Reconsidered. The Search for a Scyscraper Style*, New York 1984, p. 39.

15. Weber, Eva, *American Deco*, Wigston 1992, p. 8.

16. Bayer, Patricia, *Art Déco Architecture*, London 1992, p. 22.



7. Roman Piotrowski, Social Insurance Company Office-Residential Complex, Gdynia 1935-36. Photo by R. Hirsch



8. Zygmunt Zyberk-Plater and team, Horse Racing Course, Warsaw 1938-39. Photo by A. K. Olszewski

ous geometry of Functionalism. These rounded corners, railings and jetties were a reaction to right angles and straight lines of Modernistic avant-garde. In the 1930s, they became widespread, more than that – they determined the style of that time, being equivalent to American Streamline. Bush wrote: *Moderne is a variant of the International Style, its austerity and involvement in the processes and aesthetics of machine age. However, while the works of Bauhaus and Stijl masters were uncompromising in their faithfulness to the canons of geometrical Functionalism, Streamlined Moderne was less gaudy and its forms were attenuated by organic lines. This was manifested by a combination of flat and curved walls, slightly toned down and often finished with metal terrace railings. Glazed bricks were commonly used, mainly in curved walls and entrances. Sometimes circular windows balanced rectangular segments. Streamline Moderne buildings did not incorporate the principles of aerodynamics, but their curved roof lines and rounded corners had the same smoothness of visual sensation as the DC-3 and Hiawatha [planes] did. This sensation determines significant forms of the period*¹⁷. As for the forms of buildings, European architecture, whether we use the term *streamline* or not, has similar structures: the *Trois Quartiers*

17. Bush, Donald, op. cit., p. 133.

department store (Louis Faure Dujarric, 1932) and the Ford House (Michel Roux-Spitz, 1929) in Paris; *Mount Royal Hotel* (Lorne, Tait and Burnet, 1932-33), the *Daily Express Building* (Clarke, Atkinson, Williams, 1932) and the *Ibex House* (Fuller, Hall and Foulsham, 1937) in London; the department stores *Petersdorf*, (Hans Poelzig, 1927) and *Wertheim* (Hermann Dernburg, 1928) in Breslau (now *Kameleon* and *Renoma*, respectively, in Wrocław), and the *Hans Scharoun Hotel* (1929) there. At the Paris Fair of 1937, the pavilions of Belgium, Uruguay and Larousse Bookstore were designed in a similar way.

Streamline forms were very common in Polish architecture. Antoni J. Kosecki, the author of the unpublished monograph on Gdynia, regards two buildings as the first examples of the style in Poland: the pavilions of "Centrocent" Company (Lachert and Szanajca) and the Bogusław Herse Company (Bohdan Pniewski) at the Poznań PEWUKA (National Fair) in 1929¹⁸.

Among Polish cities, Gdynia takes the first place. It was as early as in 1937 when Henryk Chudziński used the term "nautical style", writing: *In Gdynia, brick and cement ships are being built on land*¹⁹. The best examples are:

18. Kosecki, Antoni J., *Domy jak okręty*, „Spotkania z Zabytkami”, 5/1991, p. 20.

19. Chudziński, Henryk, *Domy – ludzie – architekci*, Gdynia 1937; quoted after: Sołtysik, Maria, *Gdynia – miasto dwudziest-*



9. Bogdan Kulczyński and team. Saski Business Park, Warsaw 1998-2000. Photo by A. K. Olszewski

the *Social Insurance Company Building* (Roman Piotrowski, 1934-36), the *Polish Yachtsman's House* (Bohdan Damięcki and Tadeusz Sieczkowski, 1936-39), and others²⁰. There are also fine examples in other Polish cities: *the Polish Railways Residential House* (Tadeusz Machejda, 1930) in Katowice; the building of the *State Horse Racing Course* (Zygmunt Zyberk-Plater, 1939), the house at 26, Puławska in Warsaw (Juliusz Żórawski, 1935-36); and numerous houses in Łódź. Obviously, what matters here is the similarity of forms and not looking for direct influence. The fact is that these forms, together with different variants of "simplified Classicism" are comprised by the term I have coined *The Style of 1937*²¹. On the one hand, they manifested the continuation of Modernistic architecture, and on the other, they "smoothed" its "box-like" geometrism typical of the European International Style. Such analogies can also be found in streamlined shapes of liners, cars and trains constructed in Europe, e.g. the legendary French liner *Normandie* (1932), the

telesia międzywojennego. Urbanistyka i architektura, Warsaw 1993, p. 311.

20. Sołtysik, Maria, op. cit., pp. 329-331 and 342-343.

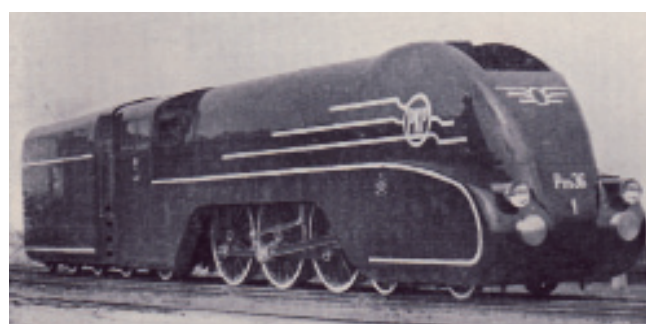
21. Olszewski, Andrzej K., *Styl 1937 w świetle krytyki i historii*, [in:] *Myśl o sztuce. Proceedings of a conference marking the 40th anniversary of the Stowarzyszenie Historyków Sztuki (Polish Society of Art Historians)*, Warsaw, November 1974, Warsaw 1976, pp. 205-227.

cars *Tatra V-8* (1938) and *Tatra T97*²². A fine example here is also the Polish steam locomotive *PM36-1*, manufactured in Chrzanów, with its body designed by Adam Xięzopolski and Kazimierz Zembrzuski, exhibited and awarded in Paris in 1937²³.

There are many more such analogies that could be mentioned. In today's architecture, generally called "Post-Modernistic" and commonly making references to various traditions, echoes of the Streamline forms are most visible.

22. Bush, Donald, op. cit., pp. 123-126.

23. Kozłowski, Bartłomiej, *Złoty medal dla parowozu PM36-1 na wystawie w Paryżu*, <http://wiadomości.polska.pl/kalendarz/kalendarium/article.htm?id=230688>, 2007-08-13.



10. Steam locomotive PM 36-1. Adam Xięzopolski, Kazimierz Zembrzuski, 1936. *Official Catalogue of Polish Department at the International Art and Technology Exposition, Paris 1937*

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