

# **Economics and Architecture**

by

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When it comes to discussing the relationships between economics and other disciplines, the latter that are spontaneously considered are other *sciences*, either pure or applied. However, the fine arts are also disciplines whose relations to economics might be considered, even if only for the sake of mutual clarification. And among the fine arts, architecture is the one which is most closely related to economics for various reasons that I will discuss below, for it is this relatively unexpected kinship between these two disciplines that I intend to explore. While I will emphasize the significance of these relations, I am quite aware that, since architecture is an art and economics is a science, or, at least, aims to be science, any similarity between them must be interpreted with this important difference kept in mind.

## **Two ways of discussing the relationship between economics and architecture**

In fact, a *rapprochement* between two disciplines can be thought of in two quite different senses. In the *first* of these senses, the point is to consider the ways according to which any one of these disciplines, through its normal activity, is concerned with the domain of the other. On the one hand, architecture is a business whose professional members use various marketing devices to obtain contracts and to promote their buildings and their ideas about the proper way to build. This economic activity, like any other, needs to be studied with the help

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of economists' tools<sup>2</sup>. On the other hand, economic activities are carried on in buildings, like banks, stock exchanges, office towers, factories, commercial centres and various kinds of market-places, which are designed by architects who normally manage to accommodate economic requirements in an elegant fashion, sometimes by producing some of the most impressive architectural masterpieces.<sup>3</sup>

This type of inquiry, whether economics of architectural business or architecture for economic activity, characterised by the attention that one of the disciplines involved bears to the domain of the other, can be highly interesting and fruitful. Such inquiries should be developed further, but since they do not directly concern the *methodology* of economics, it is rather in the *second* sense alluded to above that I want to discuss the relations between these two disciplines. In this second sense, the point will be to analyse the internal *similarities* between their respective objectives, principles and historical developments. The existence of such similarities rests on the fact that, in contrast with other artists, architects — and urban planners who are architects of larger sectors of the inhabited world — design and configure a sizable part of our everyday world itself or, if one prefers, of the very framework in which human activities take place. Consequently, they have to cope with constraints which force them to raise questions requiring solutions which, since they are based on rational calculations, are not dissimilar to the solutions commonly met in economics, or at least in applied economics. Moreover, in

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<sup>2</sup> As an interesting illustration of this kind of research done by a sociologist, see Blau, 1987.

<sup>3</sup> The wonderful Trajan's Market in Rome shows that this fact is far from being new, but more modern buildings like Amsterdam Stock Exchange designed by Berlage, Fagus factory by Gropius or a few banks designed by Sullivan or Wagner exemplify the fact that great architecture can serve economy just as it can serve religion, education or politics.

contrast with most other artists, architects cannot build without selling their ideas to customers ready to finance their costly projects. Still more importantly, these ideas concern ways in which these potential customers will have to live. These circumstances explain the fact that architecture is an art much less gratuitous and much more tightly bound with the everyday world than other arts; from this point of view, it is much closer than other arts to economics and, as we will see, the respective historical developments of these two disciplines have been astonishingly parallel<sup>4</sup>. However, since architects are artists — otherwise they could hardly be distinguished from engineers —, they are faced with a constant dilemma, because they must pursue artistic achievements while complying at the same time with their customers' requirements. Moreover, since they must be guided in their work by rational considerations, similar to those which are taken into account and analysed by economists, they are subject to another kind of tension because, as artists, they should be mainly guided by their sensibility and their creativity, and what derives from these faculties is not always compatible with the requirements of rationality. Thus, while being praised for finding a rational (and economic) solution to a social problem, they can be blamed if this solution remains aesthetically unattractive, and vice versa.

### **Before the 20<sup>th</sup> Century**

In fact, these tensions were much less serious when architecture was a matter of building for God or for kings. When magnificence was the unique measure of success as evaluated by the “customer” and rationality consisted in nothing but the most efficient way to achieve this magnificence, very little room was left for significant manifestations of such a tension. Naturally, the architects of castles and cathedrals had to solve complex technical problems in order to achieve the grandiose artistic result that was required of them, but usually they did

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<sup>4</sup> I have discussed this parallelism in a somewhat different context in Lagueux, 1992

not have to systematically defend their aesthetic convictions against overly insistent requirements of an economic type of rationality. Matters might have changed with the early developments of capitalism, but the practical instincts of the bourgeoisie were largely overwhelmed by emphasis put on rising national states' power that was closely associated with gold and other manifestations of wealth. In this context, mercantilists were as much devoted to suggest ways to increase the wealth of their respective states than baroque architects were involved in building highly ornamented palaces and churches that made ostensible the wealth of their state. This situation changed radically during the 18<sup>th</sup> Century. After the luxuriance of baroque and rococo styles, architects progressively turned towards the more sober neoclassic style<sup>5</sup>. Economists, for their part, more and more criticised the mercantilist obsession for accumulation of wealth through international trade, and insisted instead on the fundamental role of more basic economic activities like agriculture and manufacturing<sup>6</sup>.

In this context, Adam Smith, in a rather critical mood, took care to point out that architectural decisions should be understood as an economic affair: "A great bridge cannot be thrown over a river at a place where nobody passes, or merely to embellish the view from the windows of a neighbouring palace: things which sometimes happen, in countries where works of this kind are carried on by any other revenue than that which they themselves are capable of affording."<sup>7</sup> Guided by similar economic considerations, the philosopher Jeremy Bentham

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<sup>5</sup> In United States, a parallel evolution at a smaller scale happened with the passage from Georgian to Federal and Greek revival styles.

<sup>6</sup> It is typically the case of François Quesnay for agriculture, and of Adam Smith for manufacturing.

<sup>7</sup> Smith, 1937, p. 683.

developed his original view of utility, which Stanley Jevons was to apply to economics much later, but which he applied himself to ethics, but also to architecture. Indeed, aided by his architect brother, Bentham spent a large part of his life promoting the *Panopticon*, a model of prison whose bold circular and concentric structure had been designed not so much to satisfy aesthetic considerations but to maximise social utility. Given that it was of importance "that for the greatest proportion of time possible, each man should actually *be* under inspection", Bentham concluded that the circular form was the optimal solution for a prison since it is "the only one that affords a perfect view, and the same view, of an indefinite number of apartments of the same dimensions...".<sup>8</sup> The determinant role of economic factors when it comes to architecture was more surprisingly heralded by J.-N.-L. Durand, one of the most respected and influential professor of architecture of the early 19th Century. In the lectures on architecture he gave at the École Polytechnique of Paris, he claimed that the search for the greatest advantage at the lowest cost was the only principle which should guide the architect in the practice of his art (Durand 2000: 84). According to him, "in architecture there is no incompatibility, and no pure compatibility, between beauty and economy: for economy is one of the principal causes of beauty" (Durand 2000: 86). These principles brought him as well as Bentham to recommend the circular plan as the most efficient and the most economic (Durand 2000: 85) — the kind of economic considerations, incidentally, which was to incite the American Shakers to build their beautiful circular barns. Be that as it may, it is interesting to note that, as soon as the early 19<sup>th</sup> century, this kind of cost-benefit analysis was strongly recommended to architects in order to guide them in their aesthetic choices.

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<sup>8</sup> Bentham 1843, Book IV: 44. One may find a few others of the scattered Bentham texts concerning the *Panopticon* in Mack 1969: 189-208.

Throughout the 19th century, liberalism, which was born in the midst of a general opposition of the rising bourgeoisie to the lavishness of the aristocracy, became progressively associated with the lavishness of the bourgeoisie itself. This fact has stimulated the rise of a socialist economics, which put emphasis on a better world made possible by the emancipation of the labour class, the advantages associated with sobriety and the development of new techniques. One of those socialist thinkers, Charles Fourier, did not hesitate to draw the architectural plans of the kind of building that he christened *Phalanstère* and considered appropriate for the community life that the emancipated workers were supposed to find particularly attractive<sup>9</sup>. The tension between a taste for a rather superficial ornamentation, more and more appreciated by the rising bourgeoisie, and the preference granted to the use of new technologies and the display of raw materials like iron, which was associated with machines and workers' life, was central in 19<sup>th</sup> Century architecture. Whereas most architects involved in "noble" architecture were designing public buildings and bourgeois housing according to the rules of highly ornamental historical styles, engineers and the most innovative architects were experimenting with the use of new materials and new techniques of construction on factories, warehouses and other commercial buildings, whose owners were involved in fierce economic competition. When governments had to respond to the special needs of the private industrial sector, as was typically the case with the construction of railway stations, this tension was even manifest inside single buildings. Indeed, if the problem is to provide an efficient shelter for trains inside the station, why not use the very materials and techniques that made the railway system possible? But, as such stations are among the most visible of the services provided by the State, why not emphasize the State's prestige by using materials and forms more appropriate

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<sup>9</sup> Fourier 1966: 123. Fourier's *Phalanstère* has never been built, but a housing scheme (named *Familistère*) with glass-covered central court inspired by its plan has been erected by one of Fourier's disciples, Jean-Baptiste Godin, at Guise in Northern France.

for such a role? Thus, at St-Pancras in London, for example, like in many 19<sup>th</sup> Century railway stations, a bold, spectacular and efficient metallic structure is hidden behind a stylish façade, looking, in this case, like a gothic castle<sup>10</sup>. However, since new techniques and new materials, which were rapidly developing since the industrial revolution, were particularly cost-efficient, the history of architecture from the mid-19th Century to the mid-20th Century, was, for a large part, the history of the slow generalization of their use in architecture.

### **Modernism in Architecture and Neoclassicism in Economics**

In spite of such timid uses of modern techniques in architecture throughout the 19<sup>th</sup> Century, it is only with the last decades of that century, in particular with the multiplication of the first skyscrapers in downtown Chicago, that we can unequivocally refer to architectural modernity. It is noteworthy to observe the extent to which economic factors were determinant in this development. According to Lewis Mumford, "the skyscraper [...] was an almost automatic response to land speculation: mechanization was subservient to the desire to achieve profitable congestion."<sup>11</sup> Architecture was never so close to Adam Smith's views. Indeed, it is clear that, by the end of 19<sup>th</sup> century, buildings in Chicago were being erected not "merely to embellish the view from the windows of a neighbouring palace". However, since commercial and financial competition is also a matter of prestige, a brand new type of architecture and decoration took shape to fit the new requirements of commerce and finance in a genuinely rational and economic way. This rationality was not based on abstract aesthetic

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<sup>10</sup> This two-way solution was underscored by some theoreticians of architecture; for example, see Frampton, 1985, pp. 33-34.

<sup>11</sup> Mumford 1972: 20; Mumford presented Montgomery Schuyler (1843-1914) as an early proponent of a similar view.

principles; architects of Chicago built some of the most respected architectural masterpieces of their time by strictly adapting means to ends, by providing solutions designed to *maximize their clients' utility* by elegantly satisfying their need for both efficiency and prestige. And because most architects of this period were convinced that formal aesthetic requirements should be derived from a rational conception of architecture, Louis Sullivan, possibly the most aesthetically minded among them, claimed that "form follows function", a phrase which was to become the slogan of the functionalist trend (which is based on the idea of rationally adapting means to end) in modern architecture. Be that as it may, what I want to emphasise here is the fact that *economic* considerations became a determinant element in the *aesthetic* decisions affecting architecture.

With the 20<sup>th</sup> Century, the opposition to the pedantic ornamentation associated with various historical styles adopted in the previous century grew harsher, especially in Europe where the commitment to traditional architecture was more profoundly anchored. As early as 1908, Adolf Loos, a Viennese architect whose buildings and writings are both still highly respected, launched a typically modern charge against traditional architecture and especially against complacency in ornamentation in architecture that he characterized as nothing less than "a crime against the national economy". It is a question here of national *economy* because Loos invokes explicit economic arguments in his plea for rejecting ornamentation, which, according to him, would "result in a waste of human labour, money, and material". (Loos 1970: 21) After claiming that ornamentation "inflicts serious injury...on the national budget and hence on cultural evolution", Loos formulated his views with typically *economic* reasoning based on the idea that the taste for ornamentation characterizes cultures of the past: "If two people live side by side with the same needs, the same demands on life and the same income but belonging to different cultures, economically speaking the following process can



be observed: the twentieth-century man will get richer and richer, the eighteenth-century man poorer and poorer...The twentieth-century man can satisfy his needs with a far lower capital outlay and hence can save money....The one accumulates savings, the other debts." (Loos 1970: 21-22) It is important to understand that Loos' economic considerations were tantamount to an aesthetic analysis and that this came from an elitist architect particularly proud of his cultural refinement. For him, ornamentation was a mark of infantilism comparable to tattooing. Primitive people can be excused for enjoying this kind of entertainment, but civilized people who indulge themselves in such ridiculous practices, instead of adopting a behaviour more in keeping with the level of their civilization, could literally be accused of a depravation that Loos characterized as criminal. According to Loos, what is true of tattooing the body is equally true of ornamenting facades in a country whose people should be civilized enough to appreciate the sober beauty of a flat wall. Moreover, ornamentation is doomed to change with every shift in fashion, but unadorned façades, perfectly well built with high quality materials, like any unadorned useful object of good quality, never go out of fashion, according to Loos; therefore, such façades have another economic advantage: "If all objects would last aesthetically as long as they do physically, the consumer could pay a price for them that would enable the worker to earn more money and work shorter hours". (Loos 1970: 23) Consequently, for modern people who have "grown finer" and "more subtle" (*Ibid*: 24), economy and valuable art (and especially architecture) go hand in hand.

Loos is usually perceived as an architect who was ahead of his time, but by the same period in Germany, an association of artists, the *Deutsche Werkbund*, promoted an alliance between art and industry in the name of ideas about art similar to his own, associated with a conception of design emphasizing standardization and objectivity (more evocatively *Sachlichkeit* in

German). Here again, this convergence of artistic and economic values was not seen as the surrender of art to the economic requirements of industry, but rather as a remarkable opportunity to rescue German art from its degenerate condition and from the “lack of culture” of this epoch.<sup>12</sup> After World War I, these trends were intensified by avant-gardist artists and architects. “Modernism” is the name of the somewhat utopian architectural movement which promoted a revolutionary kind of architecture characterized by the will to radically transform the life of people with the help of an architecture based on the rejection of applied ornamentation, the adoption of geometric forms with flat and usually white (clean) walls, and the maximal use of modern science and techniques in order to liberate people from the servitude that was associated with the traditional way of life. Modernist architects considered their mission to be the transformation of this way of living, thanks to saner buildings designed according to rational and even scientific principles and not according to the rules associated with the current style *à la mode*.

It is important to understand that this movement was part of what, in the nineteen-twenties, was going on in almost every area of social life. Many social thinkers, including some economists, were seduced by the version of Marxism which proposed to transform societies with the help of “scientific” analysis. The idea of planning, which was closely associated with Marxism, was understood as the affirmation of Reason imposing an order to replace wild competition and laissez faire policies in economic matters. Mainstream economists remained more moderate in their claims about the construction of a better society, but many of them nonetheless estimated that State interventions were required to improve the working of the market. The idea that it is a mission of economists to improve the state of societies progressively made its way throughout the 19<sup>th</sup> Century, but, as is well known, it is with *The*

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<sup>12</sup> See, for example, the chapter on *Deutsche Werkbund* in Frampton 1985 :109-115.

*Economics of Welfare*, published by Alfred Pigou in 1920, that a programme of research was developed that was oriented towards the systematic improvement of the capitalist society, progressively becoming a whole branch of neoclassical economics. Incidentally, Pigou encouraged government intervention in architecture and urbanism in order “to limit the quantity of building permitted to a given area [and] to restrict the height to which houses may be carried” (Pigou 1920: 194). For Pigou, such interventions were based on aesthetics (or at least on valuable urbanism) as much as on economics: “It is as idle to expect a well-planned town to result from the independent activities of isolated speculators as it would be to expect a satisfactory picture to result if each separate square inch were painted by an independent artist.” (*ibid.*: 195). More precisely, in the context of the early twenties, reason must take command of human activities and look after their global orientation. “No ‘invisible hand’,” Pigou continues, “can be relied on to produce a good arrangement of the whole from a combination of separate treatments of the parts”.

In fact, for most economists of these days, the market economy remained the most efficient structure when it comes to satisfying the needs of a population largely because perfect competition on markets corresponds to a situation where each firm produces at an optimal level, where each factor of production is paid according to its contribution and where the prices of commodities are just equal to what is required to pay the factors that have produced them. However, for more and more among them, perfect competition could not be reached automatically in a world that is too unstable; therefore, actual markets were seen as handicapped by a lot of imperfections that have to be corrected or compensated for. For example, certain situations facilitate the development of monopoly, which means the destruction of the advantages of competition. Therefore, many economists of the period claimed that legal interventions to break monopolies should greatly improve the working of

economic societies. Moreover, it was manifest that commodities were not all fitted for being smoothly exchanged through the market. They were not all perfectly identifiable, finely divisible and easily appropriable as commodities referred to in economic models are supposed to be. This situation initiated a long debate about market failures associated with what was later called “externalities.” Roughly speaking, an externality arise when a commodity, instead of being traded on a market, directly affects someone’s utility function by benefiting or by harming this person without normal compensation. Because such a situation is antithetic to perfect competition, neoclassical economists, from the twenties to the sixties, from Alfred Pigou to Paul Samuelson, have proposed various more or less ingenious ways to overcome the problem either by providing appropriate compensations or by creating more encompassing markets<sup>13</sup>.

With John Maynard Keynes’ *General Theory* and with Keynesian economics in general, the case for substituting rational intervention for laissez faire, whose “end” had been proclaimed by Keynes in 1926 (Keynes 1963: 312-322), was pushed a decisive step further. The Keynesian way of thinking indeed implied that it is the duty of the economist, thanks to his knowledge of the global determinants of economic production, to propose to governments a plan capable of ensuring the most harmonious development of national economies.

Incidentally, Keynes insisted on the importance for societies of governments generously subsidising the arts, and especially the construction of monuments, architecture being “the most public of the arts”.<sup>14</sup> Thus, Keynes and most neoclassical economists of the period were

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<sup>13</sup> On this question, see Lagueux 1998.

<sup>14</sup> Page 345 of Keynes, John Maynard, “Art and the State”, *The Listener*, 26 August 1936, reproduced in Keynes 1982: 341-349; see also the paper in its entirety. I thank Gilles Dostaler who drew my attention to this text.

promoting the idea that it was a responsibility of economists to improve the working of the economy by guiding state intervention in a way that can be compared to the way modernist architects of the period were promoting the idea that it was a responsibility of architects to improve the living condition of citizens with the help of the state.<sup>15</sup>

It is not surprising that, in this enthusiastic climate, architects, who are planners by profession, were naturally inclined to plan buildings rationally fitted to satisfy the needs of people *as they saw them*, with the help of the emerging social sciences, and to propose for a number of towns brand new plans guided by similar rational principles and revolutionary spirit. Le Corbusier, who was particularly active during these years, was so convinced of the necessity of starting anew that in 1925 he proposes the destruction of a substantial part of central Paris in order to

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<sup>15</sup> Given this similitude between the policies associated with the modernist movement in architecture and the neoclassical economics of this period, one could characterise Keynes and Keynesian economists as “modernist”. It is interesting to note that Keynes is also presented as a modernist on the basis of his close association with “modernism” as understood in another art, namely literature (on this point, see Klaes 2006: 263-266). As for the possibility (claimed by Amariglio and Ruccio 1995, whose thesis is more or less endorsed by Klamer 1995: 332, alluded to by Klamer 2006: 220-221, and briefly discussed by Klaes 2006: 261-262) of characterising Keynes as a *postmodernist* as well, given his views about uncertainty, it is based on a quite interesting analysis of Keynes’ thought, but it crucially rests on a discussable characterisation of modernism by the negation of “true uncertainty” and on the possibility of making room for contradictory moments more or less scattered inside general movements like neoclassicism and modernism, a position that would risk diluting the theoretical interest of identifying such movements; however, it would be out of context to discuss this question here.

replace it by more rational and “well-planned” group of eighteen giant cruciform skyscrapers correctly arranged along two perpendicular axes.<sup>16</sup> When it came to architecture as such, his ideas for the design of “living machines” were inspired by the most rationally designed products of modern technology such as motorcars, steamboats, airplanes and American grain elevators. (Le Corbusier 1986) This is not to deny the high aesthetic and poetic quality of the wonderful houses that this architect built during the twenties, but rather to show how close his interventionist and rationalist views were to those of economists of the same period. As for German modern architects who had been strongly influenced by the ideas of the *Werkbund*, it looked still more evident to them that architecture, and even other arts, should be closely associated with industry and consequently should satisfy some economic requirements.

Whereas the *Werkbund* was simply an association of artists who worked independently all over the German world, the Bauhaus, an institution founded by Walter Gropius, was a group of artists acting as tutors of students which gathered together in Weimar and later in Dessau. According to Gropius, these people were trained to be designers, “able, by their intimate knowledge of materials and working processes, to influence the industrial production of our time.” (Gropius 1943: 25) Once the Bauhaus was installed in Dessau, where the famous Bauhaus building was erected by Gropius and his students, the place of architecture became more central in its activities, and artistic considerations became more and more subordinate to economic ones. For example, in keeping with this approach, Gropius developed a theory to optimize the height of buildings in order to apply it to those being mass constructed by that

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<sup>16</sup> Le Corbusier frequently referred to this bold project; for the set of his relevant drawings, see Le Corbusier 1983: 381-393. Arjo Klamer 2006: 219 implicitly refers to this fact and compares it to Samuelson’s attitude towards “old frameworks” in economics, both illustrating the “break with history” typical of modernism.

time in Germany. With the help of basic analytical tools familiar to economists, he carefully examined which height either maximizes sunlight when *costs of land* are held fixed or, alternatively, maximizes the number of beds when the *amount of sunlight* is held fixed, and he arrived at the conclusion — which he presented to an international meeting in 1930 — that high-rise housing can be seen to be much preferable to medium-height housing.<sup>17</sup> Such approaches oriented towards maximization of efficiency and minimization of cost were particularly popular among architects and designers during this period. To a large extent, articles of great aesthetic quality produced at the Bauhaus — like the Wassily chair of Marcel Breuer or the tea-infuser of Marianne Brandt — were inspired by a philosophy according to which type-objects designed for industry should maximize utility and efficiency given budget constraints or, if one prefers, to maximally satisfy consumers' needs while minimizing costs. In Frankfurt, the city architect Ernst May pioneered the research for maximizing efficiency in housing which resulted, among other things, in the famous *Frankfurter Küche*, a minimal kitchen with maximal efficiency.<sup>18</sup> In various other European Countries, like Nederland, Switzerland, and the U.S.S.R, such references to dually interrelated maximization and minimization were perceived as normal within the standard language of architects. For most of their adherents, these considerations so familiar to economists were also perceived as an essential component of a functionalist aesthetics according to which the most beautiful forms of buildings and other objects are derived from their functions.

However, the most extreme step in this trend was taken by the architect Hannes Meyer, the second director of the Bauhaus, who emphatically downplayed art and architecture in favour

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<sup>17</sup> Gropius 1965: 103-107; see also Frampton 1985: 140.

<sup>18</sup> Designed by the architect G. Schütte-Lihotzky; see Frampton 1985: 138.

of real life and building techniques. According to him, all those things (“industrial fairs, grain silos, music halls, airports, office chairs, standard goods”) that architects and designers had to produce in the modern world “are the product of a formula: *function multiplied by economics*. They are not works of art [...] Building is a technical not an aesthetic process.”<sup>19</sup> And the case is the same even for housing: “The new house is a prefabricated unit for site assembly and, as such, an industrial product and a work of specialists: economists, statisticians, hygienists, climatologists, industrial engineers, standards experts, heat engineers...and the architect?...he was an artist and has become a specialist in organization!” (in Schnaidt 1965: 97) After listing thirty materials used in modern buildings, Meyer explains that “we organize these building materials on economic principles into a constructive whole.” (Schnaidt 1965: 95) These radical conceptions were inimically received by the German society of this period, and Meyer, who was a communist, was dismissed as director of the Bauhaus in 1930, to be succeeded by Mies van der Rohe. As for the Bauhaus as such, it was virtually reduced to silence, moved to Berlin and finally closed by the Nazis in 1933.

In brief, during the interwar period, both economists and architects had insisted on the importance of interventions aiming to radically transform and improve the way of life in Western societies, by granting priority to rational organisation over the valorisation of traditions. It is precisely such trends that Friedrich Hayek was to criticise under the name of “constructivism”. During the thirties and following decades, the respective histories of architecture and of economics were developed in lines whose parallelism is still more evident. With the rise of Nazism, the most creative minds of German countries, architects as well as

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<sup>19</sup> Meyer, Hannes, “The New World”, 1926; reproduced in Schnaidt 1965: 93. (emphasis added). Note, however, that Meyer’s architectural works were much more aesthetically designed than his economically oriented theories might lead one to believe.



economists, migrated to England and to a greater extent to America. After World War II, the “constructivist” ideas, which in the interwar period had germinated in the minds of a minority of pioneers, were accepted by almost all members of the profession, in architecture as well as in economics. The few decades following the war were characterized by the triumph of a “Keynesian” brand of neoclassicism (particularly well illustrated by Paul Samuelson) in economics and of the *International Style* in architecture. In both cases the revolutionary ideas of the interwar period were de-radicalized — some would say emasculated — in a way fitting the requirements of a booming capitalism and a rapid expansion in international trade. The Samuelsonian type of neoclassicism, which associated welfare measures, moderate Keynesian interventionism and equilibrium analysis, was, for a few decades, a synthesis apparently apt to reconcile the interests of governments, finance and other sectors of society. The *International Style* in architecture, which in the masterful hands of Mies van der Rohe was an adaptation of modernist principles to the architectural requirements of finance and of the public sphere, was quickly diffused throughout the world.

### **Postmodernism and Neoliberalism**

After a few happy decades, however, it became clear that these syntheses could not hold for very much longer. The Samuelsonian type of neoclassicism began to disintegrate: the social welfare function turned out to be impossible to construct, especially when the wide variety of tastes for which a society makes room is taken into account (see Little 1957: 11), and, in the context of the stagflation, which prevails in the nineteen seventies, fine-tuning could no longer be practiced by Keynesian economists. Moreover, welfare programs often turned out to be counterproductive for the groups targeted, minimum wages policy heightening some types of unemployment and rent-control policies for housing discouraging improvements and generating slum conditions. Roughly in the same period, the *International Style* came under

increasing criticism: most financial, commercial, and public office towers which had transformed the centre of Western cities were far from being as carefully designed as those of Mies van der Rohe, and in any case, the accumulation of such impersonal skyscrapers was increasingly perceived as aesthetically boring and antithetic to human relations. Even the “well-planned” urbanistic schemes, so highly praised by Pigou, were harshly criticized, in particular by Jane Jacobs, for being much less suitable than traditional layouts of cities for providing security to citizens and for facilitating communitarian relations between them. (Jacobs 1961) Moreover, many multilevel housing units, which, according to the principles of modernism, were designed in order to provide fresh air and greenery for people, turned out to be spaces more favourable to the development of slum conditions and criminality.

It is for such reasons that, in a humoristic but thoughtful fashion, Charles Jencks emphatically declared that “Modern architecture died in St Louis, Missouri on July 15, 1972 at 3.32 p.m. (or thereabouts)” (Jencks 1984: 9) because, at this precise moment, some slab blocks of Pruitt-Igoe, a habitation plan that suffered from the predicament described above, were dynamited after a decision that acknowledged the failure of such schemes to provide the kind of happy consequences that their construction had promised. It is not clear that such a symbolic event could be easily chosen and precisely dated to determine when occurred the “death” of what I have called the Samuelsonian brand of neoclassical economics, but it is clear that at some point, also located in the seventies, as many economists would agree, the dream that was born with Pigou and Keynes, which in the sixties had seemed to be on the road to realization, was nothing but a dream.

Naturally, in both cases, such a dating is purely symbolic, since some economists more or less faithful to Keynesian and even Pigovian tenets were still active in the last decades, as were

architects considered to be modernist (or at least “late modernist”). Nonetheless, with the eighties, most economists of the mainstream progressively adopted a neoliberal approach, which was itself quickly rechristened “neoclassical”<sup>20</sup>, but which no longer made room for the interventionist and “constructivist” agenda of the Keynesians and the Pigovians. For those economists, the free market was seen as much more reliable than the interventions purportedly guided by a more rational view of social needs. Similarly, in the eighties, the so-called “postmodern” architecture invaded our cities, substituting baroque shapes and unexpected colours for the flat and sober forms of the *International Style*, when it came to providing offices towers for financial, commercial and industrial companies’ headquarters. With this new style, the regularity and austerity which was inherited from the heydays of modernism were totally rejected and architects found themselves free to take their decorative inspiration from the historical styles which had been so violently condemned by modernism. Consumers of architecture, like consumers of other goods, tend to rebel against the choices made by specialists claiming that they will optimally satisfy their needs. It was in this context that the theoretician of architecture Martin Pawley claimed, without, however, really substantiating this intuition in his one-page paper, that “Post-Modernism is the architecture of Friedman and Thatcher as unmistakably as Modernism was the architecture of Keynes and Atlee.” (Pawley1984: 63) It is true that both architectural postmodernism and neoliberal economics were rejecting the responsibility of making a better world with the help of the state that architectural modernism and Samuelsonian neoclassical economics had promoted; it is true that both were less reluctant than the latter two to serve purely commercial interests and popular fashions; it is also true that both do not hesitate to revitalise approaches associated with the past like baroque ornamentation and free liberalism respectively.

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<sup>20</sup> To avoid any confusion, from now on, I will use the phrase “Samuelsonian neoclassicism” to designate what I have up to now called “neoclassicism”.

These common characteristics of architectural modernism and of Samuelsonian neoclassical economics are closely akin to some (break with history, endorsement of Enlightenment) of those that Arjo Klamer (2006: 218-219; see also Klamer 1995: 319-320) attribute to modernism in both art (including architecture) and economics. Two other of his eight characteristics might, but perhaps less convincingly, be invoked in the same context : the tension between science and therapy (that Klamer associates respectively to the square and the circle) seems to be largely dissolved in neoliberal economics and in postmodern architecture; and the “invariant structure of reality” is no longer looked for in neoliberal economics nor in postmodernist architecture, which does not aim to be based on fundamental principles. However, it would be excessive to force much further the parallel between architecture and economics. The self-evident differences between an art and a science would make such an attempt unconvincing. Both architectural postmodernism and economic neoliberalism were criticized on various grounds in the nineteen-nineties and, in both cases, the development of highly diversified trends took place. However, in most cases, these reorientations were brought about by problems not necessarily similar, which were internal to each of these disciplines.

It is clear that the turbulences in the respective histories of architecture and economics did not seriously alter the fact that they have both increasingly exploited available techniques and technologies. In architecture, the new techniques and materials were experimented with in spite of their rejection by traditional architects in the nineteenth century. Later, they were acclaimed by modernism, and were still largely exploited by postmodernist and even by so-called deconstructivist architects; concurrently, the most recent developments of high technology have been adapted to architecture by a “high tech” current which has produced

spectacular buildings since the nineteen-seventies. Moreover, the use of computers is radically transforming all trends in contemporary architecture. In a roughly parallel fashion, mathematical tools have been developed in spite of their rejection by most economists in nineteenth century, before progressively conquering neoclassical economics in the early 20<sup>th</sup> century. These techniques have been no less resorted to by neoliberal economists and by adepts of new classical economics and rational expectations, and recent developments in econometrics push still further this exploitation. Moreover, as is well known, all these researches of recent decades have been radically transformed by the use of computers. This situation largely explains that postmodern architecture did not have a very long life and that “postmodernism” turns out to be a rather unsatisfactory concept for characterising the developments of both architecture and economics that have followed the demise of the modernist ideal. Klammer refers to Charles Jencks who uses the label “late modernism” to characterise many significant architectural works of this recent period and he exposes Jencks’ view by saying that late moderns “may have lost the original faith of moderns, but still practice much of what the moderns preached”. (Klammer 2006: 222) On this basis, Klammer convincingly argues that new classical economics, for example, can fairly well illustrate what can be described as “late modernism” in economics. (*Ibid*: 223-224). In fact, when one associates modernism with *problematization of representation, predilection for formalism, machine metaphor and self-referential work* as Klammer does in his four characteristics that I have not mentioned above, it is difficult to decisively dismiss modernism when referring to *mainstream* economics and to contemporary architecture<sup>21</sup>. Even when they seem to dissolve

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<sup>21</sup> I do not deny that these four traits were present in what is usually called modernism; my only point is that, depending whether we take them into account as decisive traits or not, what we will consider as postmodernism will dramatically differ both in economics and in architecture.

modernist principles, both of these movements look like late manifestations of modernism if the latter is defined through these four characteristics. The latter might be attributed to Samuelsonian neoclassical economics indeed, but could hardly be used to oppose this approach to the one derived from neoliberal economics, which *from this point of view* is not clearly antithetic to neoclassical economics. It is only with heterodox critical economic theory (rather than with neoliberal or new classical economics) that *such* characteristics of modernism have been directly challenged. Even if these four characteristics of modernism were more or less put aside during the evanescent manifestation of the most popular version of the architectural postmodernism, it is difficult to clearly identify an equivalent architectural heterodoxy — which would surely not be the “deconstructivist” architecture — that could similarly challenge them<sup>22</sup>. In any case, it is not surprising that the appropriate way to put forward the parallel development of economics and architecture in the 20<sup>th</sup> Century depends on the characterisation of modernism and consequently of postmodernism.

A last observation related to the parallel evolution of economics and architecture can be added. It concerns the new sensibility to ecological (or conservationist) questions, which most architects and economists of the 19th century would have found negligible. Such questions were occasionally raised by a few prophetic figures in the first half of the 20<sup>th</sup> century before being progressively taken into account by some respected members of most concerned disciplines in the second half of this century. As is well known, ecological questions concern both the conservation of biodiversity and the management of resources used by human activity. With the latter aspect, economics and architecture are among the disciplines that should be most directly concerned, economics because it is immediately concerned with the

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<sup>22</sup> This is possibly due to the fact that heterodox architects have not a freedom to build comparable to the freedom to publish that heterodox economists enjoy.

management of rare resources including land and rare materials, architecture because it is an activity whose output, namely buildings and cities, transform radically, and in many cases almost permanently, the world in which we live. From this point of view, it is remarkable to see how much architecture was transformed since the nineteen seventies, or thereabouts, by new attention given to the existing built world. Since this period, the option of recycling old buildings was more and more often considered before destroying for rebuilding. Existing buildings like factories, churches, railways stations, etc. are regularly recycled into shopping centers, housing, museums, etc. rather than being destroyed and replaced. It is true that this phenomenon is far from being new in the history of architecture — for example, many Greek or Roman temples have been transformed into churches in the past — but what is new, however, is the fact that this recycling trend became much more systematic and founded its sources in an ecological conscience regarding the need to conserve still valuable buildings instead of generating wastes and using fresh resources in rebuilding. In economics, the problem is quite different since here the ecological conscience suggests that theoretical analyses be modified rather than suggesting that the decision be made to recycle. In any case, the unavoidable ecological conscience was manifested, sometimes very timidly, by attention increasingly given, in economic analyses of the last decades, to the fact that energy and other resources are seriously limited and that waste raises a problem more and more difficult to solve, whereas such questions were not really considered during previous periods.

As mentioned, the point here is not to overemphasise the kinship between economics and architecture by establishing the existence of a parallel development for any period and any sector. It is rather to show that economics, which entertains close relations with other social sciences since each of them analyses from a particular point of view the same object, namely human society, and which entertains another type of relation with natural sciences, from

which it borrows a few schemes of thought, can also, for the sake of mutual clarification, be put in relation with fine arts and especially with architecture, which is, for the reasons exposed above, the most closely related to economics among the fine arts.

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