Moderate Utopias:
The Reconstruction of Urban Space and Modernist Principles in Postwar France

by

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Abstract

This thesis explores the implementation of the American Marshall Plan in France and its precipitation of structural changes within the realms of economics, politics, and cultural subjectivity, studying their manifestations in both the built work of the postwar reconstruction and its concurrent discourse on architecture and urbanism. In the turn from the interwar classical to the postwar Keynesian economy, there followed a cultural transformation that resulted in the social welfare state. The consequence is what Deleuze would describe as a shift from mechanisms of discipline to societies of control, where the *mass subject* controlled by centralized agents would transform to the *active subject* of a middle class physically operating of the mechanisms of agency that control them, this thesis studies the architectural manifestation of this transformation. Through the discursive projects set out in the journals *l'Architecture d'aujourd'hui* and *Techniues et Architecture,* as well as through a study of Orléans, Le Havre, and Maubeuge – reconstruction cities whose architects encompassed a range of formal styles – there was a development in postwar reconstruction architecture that ran parallel to that of the modernist project; one that ultimately displaced the authority of CIAM and precipitated a rejection of architectural modernism with the emergence of Team X thinking.

This discourse intends to offset the standard historiography of postwar architecture as a modernist aesthetic lineage, employing instead an exploration of the motivation of an economic agency in the development of architectural form. While the modernist project struggled to find its place within the postwar reconstruction, cities were being built that employed new principles of construction and organization on a vast scale. These reconstruction cities, almost wholly outside of the modernist influence would mold architecture to the hegemonic organizational space of the postwar, as well as permanently imbricate architecture into new modes of capitalist production and social regulation.

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Introduction

Bureaucracy, Control, and the Agency of Economy

The various examples of architectural form and discourse in postwar France express set of transformations away from the interwar industrial city towards the bureaucratic enterprise, and similarly, from the functionalist state to the social welfare state. Integral to this was a group of concurrent and mutually dependent transformations throughout society, the largest of which, and arguably the greatest motivator of social change, being the Marshal Plan's structural adjustment from a classical industrial to a Keynesian social market economy. This move provided the integration of state controls to a capitalist economy, creating a context in which industrial growth and the solvency of the nation became mutually interdependent. This new economy directed industrial expansion towards projects of social importance, giving the state a dual role in social welfare, one through its national institutions and another through a system of directed corporatism.

It was amidst the greater context of economic and industrial reorganization through Marshall Plan aid that the reconstruction of war damaged cities took place. In a sense, the urban reconstruction was both a manifestation of the economic realities of the period, as well as a route to the ideals and ambitions that they embodied. The French state sought an advantage of the parallels between the ambitions of American governmental organizations and French manufacturing interests in reconstruction, specifically, one in which the formation of an apparatus through which the normalization of capital and domesticity would coincide with the national aims.

The Marshall Plan is a blanket term that can be broken down, at least in the French example, into three discreet economic agents; these are the European

Recovery Program (ERP), the Monnet Plan, and the implementation of credit controls. These programs form a taxonomy that might be seen as a scalar intervention moving from global to national to market, each manifesting the Keynesian principles of political economy appropriate to its aspect, and each having a unique set of premises and ambitions for the reconstruction of the economy. The European Recovery Program was an act of the America Congress to provide reconstruction funds to war damaged Europe; as such it sought to impose an American style market system to expand global trade under an ethos of internationalism. The Monnet Plan, France's implementation of the ERP, wanted first and foremost to rebuild itself *as a nation*, and therefore to gain economic and security supremacy over its neighbors. To fulfill these goals, it sought to build continuity with the Vichy regime and utilize a burgeoning culture of technocrats. Finally, credit controls were a Keynesian mechanism established to halt an inflation crisis, tying these goals to the reconstruction effort, its aim was to build a manufacturing infrastructure and open up avenues of exchange. It is plain to see that with each economic imperative there came a unique set of ambitions that do not necessarily coincide with the others, and that none were prone to stay put within its distinct sphere of influence. The economic agency of the Marshall Plan was therefore one wrought with internal conflict and contradiction, and as such, created a complex network of influences throughout the social and political spheres.

The Marshall Plan provides an historical case study in which the imposition of a new economic order provided the clear path to social transformation. Economy, in this case is undoubtedly the motivating agent of the period. This thesis explores two aspects of this agency of economy in the French reconstruction, first is a study of the structure of the economy, starting from the macro economic desire for internationalism of the ERP, through the national Monnet Plan and finally to the on the ground implementation of credit controls. This will be a

global study in the direction of the flow of monies and goods into the reconstruction projects, and an exploration of the societal structures that are formed as a result. The second is a study of the epistemological structures of these economic models, following the way that concepts of the very nature of money and economy formed distinct relationships within society. The ultimate direction of these explorations is a study of their repercussions on urban space, built form, and aesthetic object.

> We are no longer dealing with a duality of mass and individual. Individuals become "*dividuals*" and masses become samples, data, markets, or "*banks*." Money, perhaps, best expresses the difference between the two kinds of society, since discipline was always related to molded currencies containing gold as a numerical standard, whereas control is based on floating exchange rates, modulations depending on a code setting sample percentages for various currencies.[1]

In his 1990 essay *Postscript on Control Societies,* Gilles Deleuze continues the later work of Michael Foucault in describing some of the transitions from "discipline societies" to "societies of control". Deleuze understood the agency of an inflationary market mechanism to impact the normalization of society; simply put, currency is productive where markets are regulatory. The Marshall Plan invented such a regulatory mechanism from scratch; engaging a classical economy that depended on a simple synthesis of production and consumption it created a slippage through perpetual inflation where consumption and production would continuously jockey to keep up with each other. With an ever-increasing supply, there must follow a likewise increasing demand, one that would have to be absorbed by the laboring class, and "to refer to 'demand' " according to Antonio Negri "is to refer to the working class, to a mass movement that has

[1] Gilles Deleuze, "Postscript on Control Societies" In *Negotiations, 1972-1990* [Pourparlers, 1972-1990.], trans. Martin Joughin (New York: Columbia University Press, 1995), p.180

found a political identity, to a possibility of insurrection and subversion of the system."[2] The classical economy is one of discipline, where the industrialist extracts the "surplus labor value" from the worker, the Keynesian economy is of control, where no such value exists tangibly, and the worker is absorbed into "the system" and reformulated as a bureaucrat to cooperate in building value both internal and external to himself. A discipline society must enforce submission of its subjects, it is a society of control that entices their cooperation, and an inflationary economy could never be sustained in a discipline society.

This system goes hand in hand with the bureaucratic edifice, where a vast middle class physically operates the mechanisms of agency that control them. Michael Crozier identified this dual mechanism of control and submission in *The Bureaucratic Complex* as early as 1963:

> First will evolve the power of the expert, i.e., the power an individual will have over the people affected by his actions, through his ability to cope with a source of relevant uncertainty. Second, there will emerge the power necessary to check the power of the expert. [...] Every member of an organization is an expert in his own way, though his experience might be extremely humble. He will, therefore, exercise some power upon other persons whose success depends, to a certain extent, on his own decisions.[3]

Prior to this era, the assembly line worker was kept in check by a perpetual process of deskilling, striping away their agency, and with it their ability to act in their own interests. With the invention of the technocrat, maintaining diverse skills throughout the organizational structure was essential, and the managerial worker required a nominal agency, a new method of control had to be invented. In

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[2] Toni Negri, *Revolution Retrieved: Writings on Marx, Keynes, Capitalist Crisis and New Social Subjects, 1967-83* (London: Red Notes, 1988). p.24

[3] Michel Crozier, *The Bureaucratic Phenomenon* (Chicago: University of Chicago Press, 1964), p.163

Crozier's analysis, there came about a self-regulating mechanism where everyone's local power over each other prevented anyone from gaining any real power within the greater system; a metabolic system of control.

Antonio Negri sums up the consequences of the bureaucratization of capitalism in its effect on the agency of the burgeoning middle class:

> Moving from the earlier antitheses of despotism in the factory and anarchy in society [...] capitalism is now obliged to move to the social organization of that despotism, to the diffuse organization of exploitation throughout society, in which the new form of planning-based state which – in the particular way in which it articulates organization and repression throughout society – directly reproduces the figure of the factory.

Paul Rabinow's book *French Modern: Norms and Forms of the Social Environment* provides a continuation of the Foucaultian project of "adding an analysis of welfare to Marx's analysis of capitalism and Weber's of bureaucracy, forming a third leg of modernity."[4] Rabinow proposed that a model of control was acting through the agency of a bureaucratic technocracy built upon the tenets of Saint-Simonian thought up to the Second World War. My project is to follow this mechanism through its transformation via the economic agency of the Marshall Plan, in which the technocratic establishment was transformed through Keynesian controls. Highly relevant to any discourse on postwar reconstruction is Rabinow's analyses of the interwar regulatory apparatus through their transformation by the Marshall Plan and their subsequent prominence in the postwar. Among the key transformations and continuities in this discourse are the techno-political form of "Middling Modernism"; the union of the public, social sphere of politics and the anonymous, technical sphere of regulation, and the

[4] Paul Rabinow, *French Modern : Norms and Forms of the Social Environment* (Cambridge, Mass.: MIT Press, 1989), p.8

techno-spatial form of the *Agglomération*; "[an] abstract space – a socio-technical environment – upon which specialists would regulate operational transformations."[5]

Within this discourse, my thesis holds at its core three key moments of economic agency as played out in the Marshall Plan. As the ERP provided an alternative to a certain mode of thinking about political economy, one that offered a much-anticipated escape from industrial capitalism, and were guided in the French reconstruction by the tenets of the Monnet Plan and its particular assemblage of technocrats and nationalists left over after the fall of the Vichy regime, paving the way for a new techno-bureaucratic organization of society. To implement these greater social changes, credit controls were then employed to halt a burgeoning inflationary crisis and result in a redistribution of manufacturing and an enlargement of consumption. Each of these moments is ubiquitous in the structure and form of postwar society and uniquely directs the nature and form of reconstruction. The final chapter provides an architectural summation of these economic agents, detailing the architectural expression of these complex forces through two examples of postwar reconstruction.

The first chapter of this thesis follows the immediate postwar efforts of Sigfried Giedion and Le Corbusier as they worked to conceptualize a new program for the modern movement. This study focuses largely on the 1948 publication of *Mechanization Takes Command: A contribution to Anonymous History*, where Giedion attempts a complete history of the nineteenth century in its turn towards mechanization.[6] In this work, Giedion seeks a synthesis of "thought and feeling", which is a particular dialectic, I argue, that has its epistemological roots in the political economy of Adam Smith. From this observation follows a reading of

[5] ibid. pp.322 and pp.320 respectively.
[6] S. Giedion, *Mechanization Takes Command, a Contribution to Anonymous History* (New York: Oxford Univ. Press, 1948).

Mechanization Takes Command that focuses on its subtext of a critique of the classical economy, and interprets Giedion's synthesis of "thought and feeling", what he calls "The Synthesis of the Arts", as an effort to employ the artistic impulse as the agent in an escape from the hegemonic classical industrial economy. This narrative then follows Giedion's project as it is incorporated into Le Corbusier's *Grille CIAM,* an organizational framework for the conceptualization of modern planning based on the directives of the *Athens Charter.*[7] In this sequence of relationships, a political economy is subsumed by an artistic program, which itself is then subsumed by a supreme organizational complex, a program that creatively inverts the mechanisms of a natural economy. While postwar modernism is still clearly prone to the impulse of the grand gesture, attempting to place architecture at the head of a vast social reorganization, there is also the clear impulse for an escape from industrial capitalism, an escape, I argue, that shows up in the form of the Marshall Plan.

Setting aside the discourse of the modern movement, the second chapter begins with a detailed examination of the aims and implementation of the Marshall Plan, and then follows the various continuities between the Vichy Regime and the postwar, describing how the Monnet Plan wrote them into the French political-economic structure. The central examination is in a certain form of technocratic thought embodied in the Saint-Simonian institution of the *Musée Social* that had gained currency and the interwar period, was picked up by the Vichy regime, and emerged as the administrative power in the interwar. This chapter describes this movement within the realm of urbanism, beginning with Paul Rabinow's examination of "Middling Modernism" in urban planning and social administration, and follows it influence into the war years where it had influence in planning for the ongoing housing crisis and setting reconstruction policy under the corporatist

[7] International Congresses for Modern Architecture (7th: 1949: Bergamo, Italy)., *Programme Du 7ème Congrès CIAM. Mise En Appplication De La Charte d'Athènes; the Athens Charter in Practice* (Boulogne (Seine): l'Architecture d'aujourd'hui,[1948]).

principles of Vichy. The organization of housing policy will be shown to have emerged fully intact from the war, and become codified as doctrine under the Gaulist *Ministry of Reconstruction* lead by Raoul Dautry. Likewise on a macro-economic scale, the Monnet Plan was doing the same thing with the overall economy; solidifying the rule of technocrats and joining corporate interests inexorably to the apparatus of state. This Chapter concludes with an architectural parallel of these continuities through the example of the Vichy and postwar reconstruction projects undertaken in the Department du Loriet, where the building projects on the ground mirrored the greater direction of the state apparatus.

The third chapter follows the technocratic regime and corporatist policies emergent from the Vichy regime, and describes their alignment with the greater American objectives for reconstruction. This chapter opens with a close examination of the regime of credit controls enacted through the Monnet Plan to halt inflation and fuel reconstruction, a discourse following Negri's critique of Keynesian economics and detailing the gradual and systematic way that credit controls worked as both an engine for the economy while absorbing the state into its mechanism. With the state acting as an economic body, this chapter continues on to the role of the American *National Housing Agency* in its steering of the reconstruction effort toward economies of scale and manufactured goods. The result of this is the establishment of a bureaucratic societal organization in which the individual is both an agent and a construction of the state.

The Final chapter brings the previous considerations into a full examination of the architecture of the reconstruction. Following the parallel reconstructions of two cities, Le Havre by Auguste Perret and Maubeuge by Andre Lurçat, it explores the new direction that architecture and planning took in the postwar. Perret and Lurçat are from two very different architectural traditions, as Le Havre and

Maubeuge embody two different modes of national heritage. These differences premised in the respective architectural works result in two distinct manifestations of the Marshall Plan's economic agency as it influenced the building industry. Ultimately, each of these cities comes out of the reconstruction project with a distinct identity and an equally distinct organization of social space, though in these differences there is the overarching similitude of a universal ethos of reconstruction. The two cities thus each embody all of the social, political and economic currents that had been dealt with in the previous chapters, including issues of nationalism, technocratic rule, Americanization, and bureaucratic organization. Ultimately, there is complex articulation of the agency of economy at work in these reconstruction projects; first, is the organization of the building site through the economic directives of a Keynesian mechanism, second, one can see the normalizing force of bureaucratic organization as it plays itself out in a modern welfare state, and third, one can trace the epistemological structure of abstract value through abstract space in the particular mechanisms of co ownership in these cities.

Chapter 1

A Political Economy of Postwar Modernism

As early as the interwar period, there was a significant push to move away from overtly political solutions for urbanism, and to rationalize the city in terms of the new technologies of industrial Scientific Management. While advancing a greater social change, Le Corbusier always saw his project as fundamentally technocratic in nature. Mary McLeod quotes Le Corbusier's position on the technocratic, rather than political, role of the modern architect in the conclusion of a 1925 edition of *Urbanisme*:

> I am an architect; no one is going to make a politician out of me. Everyone, in his own domain where he is an expert, can apply his special knowledge and carry his solutions to their logical conclusions... [Ville Contemporaine] has no label, it is not dedicated to our existing Bourgeois-Capitalist Society nor to the Third International. It is a technical work ... Things are not revolutionized by making revolutions. The real revolution lies in the solution of existing problems.[1]

Taylorism, or scientific management, was a system by which labor was systematically analyzed for greater efficiency. The overall labor process in Taylorism was broken down into a set of individual movements and routines that were then individually refined for efficacy, these process thus became a series of discreet units able to then be reassembled into a single, efficient sequence of production. This model allowed for the minutiae of an industrial process to be separated out, refined, and reinserted into the greater production apparatus. The objective of optimizing production, according to Taylor, was that in eliminating inefficiencies, more income would be generated to the mutual benefit of labor as

[1] Mary McLeod, "'Architecture Or Revolution': Taylorism, Technocracy, and Social Change," *Art Journal* 43, no. 2, Revising Modernist History: The Architecture of the 1920s and 1930s (Summer, 1983), 132-147, p.132 Quoting; Le Corbusier, *Urbanisme*, Paris, Editions Cres, 1925.

well as management. Labor optimization thus became a "fertility schema" for the industrial age, a method by which more wealth could be produced in an otherwise closed system.

Taylorism is basically Adam Smith's rationalization of labor scaled down, with individual motions taking the place of individual workers as the base element of a productive sequence. Where scientific management with respect to production is conceptualized as an analysis at the micro level of individual movements and processes, the realm of the engineer, the Taylorist system can easily be inverted in scale and be employed as a social program. As Anson Rabinbach describes this move:

> Taylorism rigidly separated knowledge from action by transforming the sentient knowledge of the worker into a formalized procedure monopolized by management, and depriving the worker of authority over the work process.[2]

Le Corbusier likewise proposed this schema expanded to the societal scale; as inefficiencies are excluded on the factory floor and as the scientific management of the industrial age is utilized in one sphere, the same rationalized processes should apply to eliminate inefficiencies globally and produce new avenues of wealth by reformulating the very fabric of society.

The uniquely French tilt on this Taylorist model of society came in an interpretation of the nineteenth century French thinker Henri de Saint-Simon. This entailed a proposal of "organic inequality" by which technocrats would replace aristocrats in social management. Much like social Taylorism, the end

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[2] Anson Rabinbach, "The Biopolitics of Work" In *Biopolitics : The Politics of the Body, Race and Nature*, eds. Agnes Heller and Sonja Puntscher Riekmann (Avebury: Aldershot, 1996), p.100.

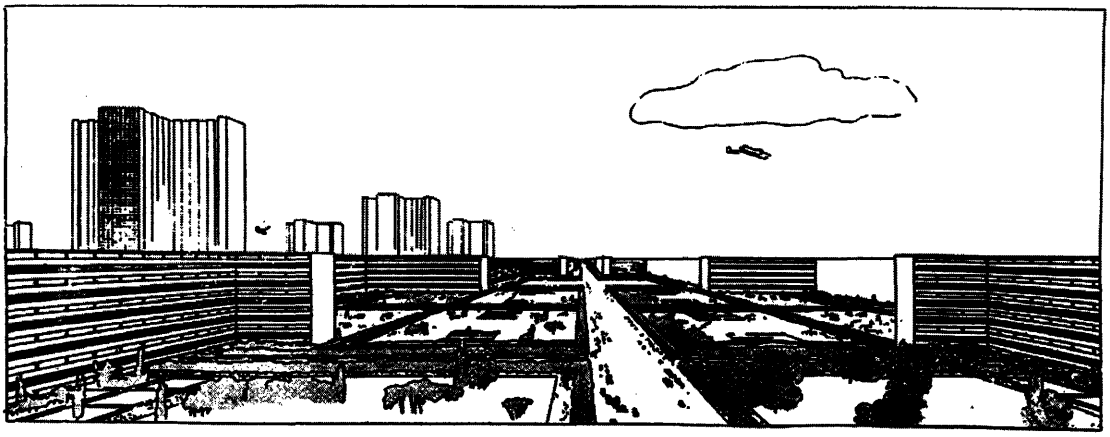

Figure 1.01 - *Ville Contemporaine* by Le Corbusier. Apartment blocks for the elite in a city of "organic inequality", where urban form mirrors the corporate administration,

result was to be an overall increase in efficiency, and therefore the greater national wealth.[3]

Taylorism thus manifested itself urbanistically in Le Corbusier as the organization of society, who argued that a less fatigued worker would provide less "degradation and disintegration of human capital."[4] This was brought into society and the home, segregating workers by craft and organizing the internal domestic functions.[5] Along the lines of such social strategies, Le Corbusier advised for corporatist takeover of social functions, essentially seeking to place technocrats in charge of the infrastructure of society. The result was a vision of urbanism that brought the ethic of the factory floor into social organization, designing cities as natural extensions of the Taylorized factories.

Robert Fishman succinctly describes Le Corbusier's early concept of the hierarchical structure of the *Ville Contemporaine* as one such model of an extended Taylorist organization:

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[3] Mary McLeod discusses in detail the utilization of Saint-Simonian and Taylorist ideas by the modern movement, specifically in the case of Le Corbusier:
McLeod, *"Architecture Or Revolution": Taylorism, Technocracy, and Social Change*
[4] ibid., p.137. Quoting: Georges Benoit-Levy, La Formation de la Race.
[5] ibid., p.137.

> One's house and its location depend upon ones position in the hierarchy of production and administration. The elite of *industriels* live in luxurious high-rise apartments within the city; their subordinates occupy more modest garden apartments in the satellite towns on the outskirts. The structure of the residential areas – the elite in the center, the workers at the outskirts – corresponds to the hierarchy of functions in the great organizations.[6]

Villa Contemporaine in this example provides an early example of the Corbusian production to mirror an idealized industrial structure. This would prove an early and important move in architects struggles to define the urban work in relation to the organizational mechanisms of industrial capitalism.

By the final years of the 1920's it was becoming clear that the radical programs of social renewal, to allow modern society to function organically within an industrialized world, would be impossible to achieve through the stagnant institutions of third republic France. After years of lobbying industry and government to implement a visionary architectural program founded upon an equally radical political economy, it was obvious that the varied institutional interests on whom the solvency of the republic depended were not in any way prepared to impose a radical solution to social problems. Modern architectures various efforts to implement Taylorist systems in both buildings and the social institutions that they housed would have required the displacement of the very powers that would be needed to enact the implementation of such a drastic plan.

It is likely no coincidence that the first CIAM occurred a year before the market crash of 1929, when the philosophical foundation of the modernist vision, a functionalist utopia achieved through the mechanisms of industrialism, was

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[6] Robert Fishman, *Urban Utopias in the Twentieth Century : Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier* (New York: Basic Books, 1977), p.196.

effectively destroyed. With laissez faire industrial capitalism proving itself yet another failed idea, functionalist visions such as the Ville Contemporaine or the conception of the home as the "machine for living" no longer had relevance. Through CIAM, the modernist program was able to consolidate and move forward as a theoretical discourse, independent of the defunct industrial infrastructure on which it had depended for its intellectual foundations and practical goals.

After having effectively operated within a vacuum for the better part of two decades, CIAM discourse proved to be poorly equipped for practical application to the changing needs of the post-war period. Founded in the language of the industrial revolution and predicated on an industrial infrastructure and Taylorist social and commercial practices that were already proving defunct towards the second half of the 1920's, CIAM was no longer able to provide relevance in the vastly changed world of the postwar world. The survival of modernism necessitated yet another foundational adjustment that would bring it in line with the new social, political and economic realities of the time, with mechanistic principles imbedded in its discourse, the CIAM discourse proved wholly unprepared to work within these parameters.

The vast scale of the postwar reconstruction project finally created the opportunity for modernism to play a significant role in the realization of the built environment, but in order to do so, much of its functionalist agenda as expressed in the CIAM discourse needed to be greatly modified. Among the failures of the modern movement was in its dependence on a classical economic production schema that was no longer tenable with the emergence of a market-based capitalism of abstract capital and floating values.

In *The Wealth of Nations*, Adam Smith proposed a new model for the growth of wealth, modifying concepts of the physiocratic model, where wealth grows from a natural source, as well as the zero sum game of a mercantilist system, where gain in one sphere demands loss in another. Smith instead provides what Susan Buck-Morss refers to as his own "fertility schema", creating growth in a closed system through the sequencing of processes, as she explains:

> Smith's fertility schema is the multiplying *effect of a procedure*, not some*thing*, nor even somebody. The machines (at the time rudimentary) are not themselves the source of value, but only the mans of saving labor time and increasing worker dexterity. Nor is it the source of "capital stock" that puts labor "into motion". And although labor is the source of *value*, it is not the source of fertility or growth. Workers are not promethean figures. The value that they produce increases not as a result of their own strength but as "effects of the division of labor". This division causes the productivity of labor, machines, capital – not vice versa.[7]

Prior to Smith, labor had been conceptualized along physiocratic lines, where wealth was produced solely through the power of the worker, a singular agent of production, discreetly turning material into goods, and wealth was seen as an agent of barter or exchange. In Smiths model, labor, production and exchange are sequenced into a greater apparatus, and a new economy based on continuous, unbounded growth ensues.

The acknowledged social problem with Smith's scheme is that the consequences of refinement of a production system, while increasing output and therefore speeding up the production of wealth, will inevitably come at the expense of the workers. There is a class division intrinsic to Smith's fertility schema as he himself recognizes the detriment of menial labor to health:

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[7] Susan Buck-Morss, "Envisioning Capital: Political Economy on Display," *Critical Inquiry* 21, no. 2 (Winter, 1995), p.447 relying heavily on The Wealth of Nations.

> The man whose whole life is spent in performing a few simple operations...generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him, not only incapable of relishing or bearing a part in any rational conversation, but [also] of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment concerning many even of the ordinary duties of private life.[8]

Smith, however, then counteracts this degradation of the worker by reframing him as the empowered consumer. The aggregate increase in national wealth provided by the fertility of the division of labor is manifest in an improvement of the quality of life for all. The consuming power of the worker counteracts the disempowerment of labor, moreover the increased national consumption achieved by the inclusion of the working classes in the commercial capital provides the central engine of the economy. Buck-Morss differentiates the tenets of this force from the rational mechanisms of the division of labor stating, "Not demand, instrumentally and rationally calculated, but desire, deceived by commodities as decoys, is the motor force of Smith's 'economy'."[9] As this new consuming class tries to satiate an ever increasing desire for commodities, the national wealth as a whole increases.

Thus in Smith there are two distinct, simultaneously occurring and mutually interdependent economic processes at work in the creation of wealth. First is his "fertility schema", the rational sequencing of operations to improve production, in which the laboring masses are degraded in the simplicity of their labor. Running parallel to this is the engine of the economy; the irrational and insatiable thirst for goods through which the newly constructed consuming class is empowered. As Buck-Morss explains "Self-discipline is required of the producer, and insatiable

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[8] ibid., p. 448. Quoting: WON, 5: 1 :840
[9] ibid., p.453.

desire is required of the consumer; but since they are the same person the construction of the economic subject is nothing short of Schizophrenic."[10]

It is this economic and human condition that Sigfried Giedion examined in his vast examination of nineteenth-century industrialization. Giedion's 1948 book *Mechanization Takes Command: A contribution to anonymous history* provides an extensive image of modernisms stake in the historical and material culture up to the Second World War. The general theme of this project is to build a thorough, totalized view of mechanical production in its imbeddedness in contemporary culture. As Giedion states his purpose, he strives to "understand the effects of mechanization upon the human being; to discern how far mechanization corresponds with and to what extent it contradicts the unalterable laws of human nature."[11] Guiding this inquiry is his determination, as stated from the outset, to propose a new direction for the postwar that would allow humanity to exist in an age of mechanical production. As he describes it:

> The coming period has to reinstate basic human values. It must be a time of reorganization in the broadest sense, a time that must find its way to universalism. The coming period must bring order to our minds, our production, our feeling, our economic and social development.[12]

Seeking to resolve a schism between "thought and feeling" that he had diagnosed as a symptom of modernity in his seminal book *Space, Time, and Architecture*, Giedion strove for a way out of the mechanized condition that had culminated in the brutality of the war. This voluminous manifesto aims for a synthesis of the human psyche with the mechanical, technical, social realms through an artistic milieu that places technology as subservient to human needs.

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[10] ibid., p.454.
[11] S. Giedion, *Mechanization Takes Command, a Contribution to Anonymous History* (New York: Oxford Univ. Press, 1948), p.v.
[12] ibid., p.v.

The schema that this synthesis was to follow would be determined largely by the predicates of Smith's classical economics through the substantial Hegelian influence on Giedion's thought.[13] It is this influence that Buck-Morss elucidates, detailing Hegel's interpretation of Smith's political economy. As she explains, Hegel reinvents Smith's social body of classical economics as the political body of events played out over time. The "fertility schema" in Smith, the sequencing of production, is rediscovered in Hegel as the collectivity of human woks. Likewise, the economic motor in Smith, the material desires of a consuming class is reinvented in Hegel as the passions of a populace, where either the cumulative effect of each actors desire or the actions of a single agent moves the course of history. It is through these interpretations that Smith's "invisible hand", a synthesis of the disciplined producer and the desiring consumer, is reinvented in Hegel as the Zeitgeist, or "spirit of the age".[14]

Buck-Morss' reading of Smith that so clearly elucidates the predicates of Hegel's historiography can be extended to inform a fuller reading of Giedion's project. When Giedion says, "No one has totally performed any action. Because the whole of an action, of which only a fragment belongs to each actor, is split into many parts", he is making a purely Hegelian argument that hones back to Smith, and his synthesis of "thought and feeling" proves yet another manifestation of Smith's and Hegel' syntheses. When Giedion, combines a Hegelian historical process with a mechanistic commercial structure, it is precisely this relationship that is brought forth. What makes this relationship so important to stress is that when Giedion employs a Hegelian historiography as the escape from a certain techno-centric milieu, he is also implicitly seeking the transformation of classical economics into a new ethos of production.

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[13] The influence of Adam Smith on Hegel's philosophy has been widely discussed by modern historians. For an overview of recent writing that explores this link between Smith and Hegel, see: Buck-Morss, *Envisioning Capital: Political Economy on Display*, footnote 56.
[14] ibid.

Giedion thus expresses his historical understanding in terms of an "anonymous history"; historical currents not lead by individuals or major events, but as the unconscious movement with the mechanical object, the artwork, in fact all other aspects of our material culture as a Zeitgeist, always expressing different aspects of a single historical movement. As he explains:

> The slow shaping of daily life is of equal importance to the explosions of history; for, in the anonymous life, the particles accumulate into an explosive force. Tools and objects are outgrowths of fundamental attitudes to the world. These attitudes set the course followed by thought and action. Every problem, every picture, every invention, is founded on a specific attitude, without which it would never have come into being. The performer is led outward by impulses – Money, Fame, Power – but behind him, unbeknown, is the orientation of the period, is its bent towards this particular problem, that particular form.[15]

By taking such a view of culture, we can glimpse this universalizing scheme, the more encompassing our research is, the clearer a view we will attain. As his own analogy states:

> Iron filings, these small insignificant particles, by the interference of a magnet become form and design, revealing existing lines of force. So, too, the details of anonymous history can be made to reveal the guiding trends of the period.[16]

Every new filing, it is implied, will give greater resolution to the underlying shape of history.

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[15] Giedion, *Mechanization Takes Command, a Contribution to Anonymous History*, 743, p.3.
[16] ibid., p.4.

Figure 1.02 Frank Gilbreth movement studies collected by sigfried Giedion

Giedion's project in *Mechanization Takes Command* is thus to accumulate vast amounts of information pertaining to all aspects of the mechanical and physical world in order, and by placing them against each other, to expose a larger, unifying cultural force at work. The sheer volume of this book is a testament to this positivistic program, an effort to present a totalized picture of the physical world as it stood at the time. Giedion necessarily deplores the gaps in his information as leaving holes in the historical narrative; a methodological desire consistent with his project, in that it de-heroicises the object, showing forms in the collective to be the agents in historical change. It is the world in volume, not a predetermined cannon, which comprises history.

Giedion's "anonymous history" is thus the basic methodology that he employs when discussing our material culture. An example lies in the third chapter, "Springs of Mechanization", the critical portion of this book, in the section "Scientific Management and Contemporary art" in which, harkening back to the predicates of Taylorism in high modernism, Giedion juxtaposes the time motion studies performed by Frank B. Gilbreth employed to refine Taylorist methods in the work place to natural human, animal, and artistic movements. [About Gilbreth]. Giedion here focuses on Gilbreth's project to codify a set of rules by

which perfect motions occur regardless of their type or intent, thus bringing about a unified theory of motion. It was in this study that Gilbreth sought for study the experts in various fields, including the manual labor of bricklayers, the sporting talents of fencers and more obscure talents, such as Rhode Island's fastest oyster shucker, and Giedion interpreted as a treaty on the kinesthetic predicates of the avant-garde.[17] Thus, his description of the time-motion in the philosophical and literary realms:

> A parallel phenomenon occurs in philosophy and literature. Almost simultaneously with Lumière's cinematograph (1895-6), Henri Bergson was lecturing to the College de France on the 'Cinematographic Mechanism of Thought' (1900). And later James Joyce split words open like oysters, showing them in motion.[18]

Giedion then poses a question that was to prove essential to his synthesis of "thought and feeling", and ultimately, to his escape from the hegemony of the mechanisms of classical economics and production:

> Are the trajectories, as recorded by a production engineer, 'to eliminate needless, ill-directed, and ineffective motions,' in any way connected to the emotional impact of the signs that appear time and again in our contemporary art?[19]

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[17] ibid., p.104.
[18] ibid., p.28.
There is a vast scholarship being left out of Giedion's brief analysis of visualization in the literary and philosophical fields. Such a statement should demand a re-reading of Giedion's concepts of visualization and modernity through Joseph Frank's writing on Joyce or Gilles Deleuze's on Bergson, but sadly, that would be another project.
[19] ibid., p.30.

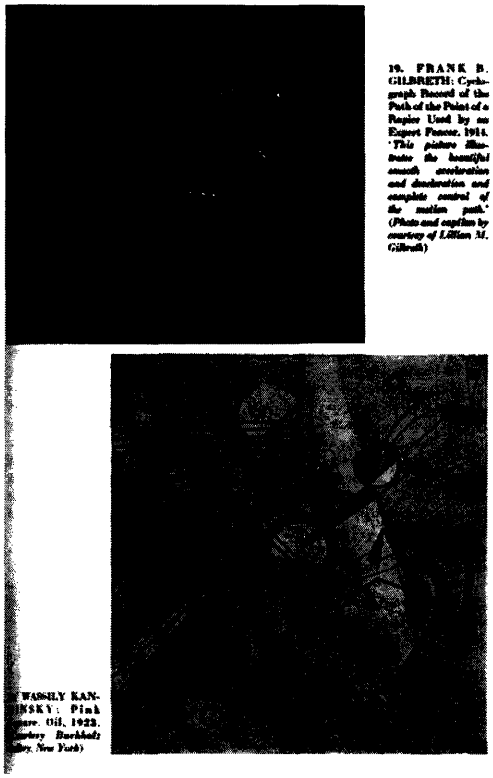

Figure 1.03 - Giedion's comparison of the path of a foil handled by an expert fencer with Kandinsky's *Pink Square*. seeking a unified theory of movement implies a transcendental form in labor.

The artist, in Giedion's view, reinvents this diagram rendered useless to the engineer. In one particular grouping of images, Giedion places a group of time-motion studies showing labor sequences, natural human and animal movements and the path traced by an expert fencers foil against the gestural lines of Kandinsky's *Pink Square*.[20] There is little ambiguity in Giedion's purpose; the expression that as the work of the artist is in the perfection of movement, the ultimate refinement of the movements of labor are likewise equivalent to the same artistic impulse. The worker, it is implied, is capable of achieving a higher state through the scientific management of labor.

Art in this schema, however, is to be seen neither as a mere representation of the greater mechanized world nor as a simple consequence of the 'anonymous history' of industrialization. According to Socratis Georgiadis, it is the other way around; the 'anonymous history' existent purely in the artistic realm, mechanization is merely a manifestation of art, not its primary motivator. As he explaines "engineering constructions are anonymous not as technology, but as art."[21] It is at this point, with artistic production being the motivator of 'anonymous history', that Giedion seeks an escape from the hegemony of the

[20] ibid., p.29.

[21] Sokratis Georgiadis, *Sigfried Giedon : An Intellectual Biography* (Edinburgh: Edinburgh University Press, 1993), p.155.

machine through artistic production and seeks his synthesis between "thought and feeling". As Giedion ends his chapter, he explains this turn through the works of the avant-garde:

> In the hands of Marcel Duchamp and others, machines, these marvels of efficiency, are transformed into irrational objects, laden with irony, while introducing a new aesthetic language. The artist resorts to elements such as machines, mechanisms, and ready-made articles as some of the few true products of the period, to liberate themselves form the rotten art of the ruling taste.[22]

Ultimately, Giedion is seeking a return to human values through the subversion of mechanization itself, what Georgiadis refers to as a "baroque modernity" that is "stripped of its rationality".[23] At the end of each of his chapters, after laying out in detail the mechanized systems behind daily life, Giedion ponders an escape, a post-mechanistic era in which mechanization will be something other than the stultification of creativity and the rationalization of human works.[24]

With art being the primary agent of Giedion's "anonymous history", modernist discourse on architecture began to play an important role in this history as its natural synthesis with engineering. The political-industrial-artistic-economic complex as worked out through *Mechanization Takes Command* thus began to play an important role in the postwar CIAM discourse. Giedion's 1951 publication *A Decade of New Architecture* provided a survey of the modernist architecture produced in the decade between the two prior CIAM meetings in

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[22] Giedion, *Mechanization Takes Command, a Contribution to Anonymous History*, p.44.
[23] Georgiadis, *Sigfried Giedon : An Intellectual Biography*, p.154.
[24] In the Coda at the conclusion of *Anxious Modernisms*, Sarah Williams Goldhagen identifies Giedion as endemic of that strain of modernists that she calls "Consentualists", consisting of "people who consented without serious qualification to the existing political and economic systems, which, for the most, were democracy and capitalism."
Réjean Legault, Sarah Williams Goldhagen and Centre canadien d'architecture, *Anxious Modernisms : Experimentation in Postwar Architectural Culture* (Montréal: Canadian Centre for Architecture, 2000), p.304.
It seems that for his later work, this view should be revised.

1937 and 1947, along with a catalog of the CIAM 6 (1947) meeting in Bridgewater, England that restated the organizations program and goals. This work allowed Giedion to test his thesis against a vast, multinational decade long architectural project, approaching the kind of totalizing view that he strove for in his previous project. Moreover, in showing the variety of architecture produced through this period, a view of the artistic impulse as the overriding agent of mechanization, displayed in the form of functionalism, came through.

With a working model of the subsumption of mechanization by modes of artistic expression, Giedion was elsewhere attempting to unify the entire techno-aesthetic milieu under the umbrella organization of CIAM. A plan laid out by Giedion in *Grille CIAM d'Urbanisme*, the program of CIAM 7, in the subheading "The Synthesis of the Major Arts" makes this clear:

> The realization of this synthesis should be regarded as an essential duty in this period of prodigious liberation of the major arts: Architecture, Sculpture, and Painting. It concerns equally public buildings and private dwellings.[25]

This not only places architecture as equal to the "major arts", but as exceeding the others by pointing out that buildings, public and private, are to be the settings in which these works exist.[26]

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[25] International Congresses for Modern Architecture (7th: 1949: Bergamo, Italy)., *Programme Du 7ème Congrès CIAM. Mise En Appplication De La Charte d'Athènes; the Athens Charter in Practice* (Boulogne (Seine): l'Architecture d'aujourd'hui,[1948])., p.5.

[26] In a direct move to place CIAM at the center of these artistic debates, Giedion provided his Zurich mailing address and expressed that all communications on the matter be sent to him personally. The synthesis of the arts was, of course, a much larger issue in the postwar architectural discourse than Giedion expressed in his brief paragraph. The most notable discourse on the subject was the 1951 *Symposium on How to Combine Architecture, Painting and Sculpture*, carried out outside of the CIAM realm under Philip Johnson, yet including, among other artists, architects and critics, Jose Louis Sert as a vocal participant. See:
Philip Johnson [1906-2005.], "A Symposium on how to Combine Architecture, Painting and Sculpture," *Contract Interiors* 110 (May, 1951).

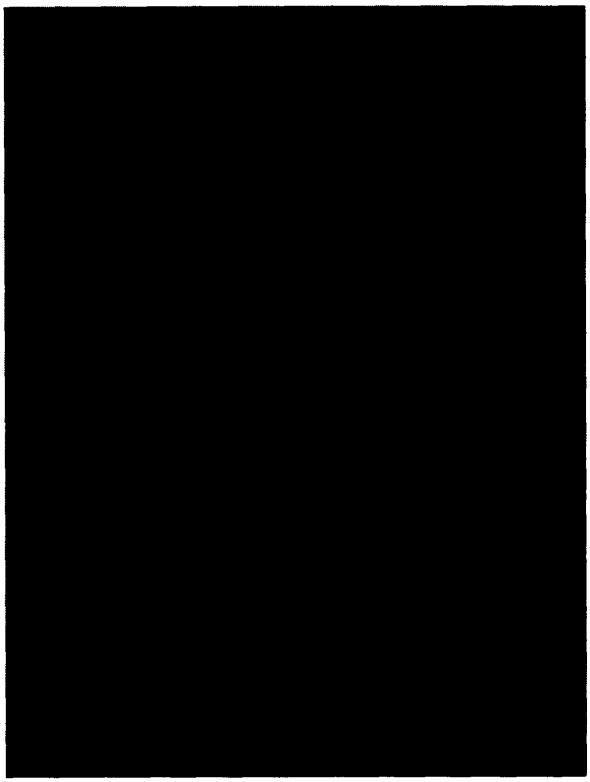

Figure 1.04 - Cover: *La Grille CIAM d'Urbanisme.*

While Giedion's project of "Synthesis of the Major Arts" was originally to share prominence with Le Corbusier's "The Athens Charter in Practice" at CIAM 7 in Bergamo, Italy, the French committee *Assemblée des Constructeurs pour une Rénovation Architecturale* (ASCORAL) in charge of the meeting sidelined Giedion's contribution in favor of more thorough research on the *Grille CIAM*, Le Corbusier and ASCORAL's pet project. Planning and Aesthetics became the two subsets of this greater exploration, thus creating a subsumption of the aesthetic realm through the synthesis of the arts into the structure of the *Grille CIAM*, or more importantly, placing the aesthetic into terms that can be easily dealt with through an application of the Athens Charter.[27]

The *Grille CIAM d'Urbanisme*, or *CIAM Grid* was an apparatus of organization and display intended to systematize the planning and presentation of urbanistic projects. It was intended that posing a logical format would predicate urban works in terms of their fulfillment of the *Athens Charter*, an urban planning guideline posited by the core CIAM group in 1929. The basic format of the CIAM Grid was a group of forty-four 21x33cm boards arranged into a grid to be

[27] Eric Paul Mumford, *The CIAM Discourse on Urbanism, 1928-1960* (Cambridge, Mass.: MIT Press, 2000), 375., p.180.

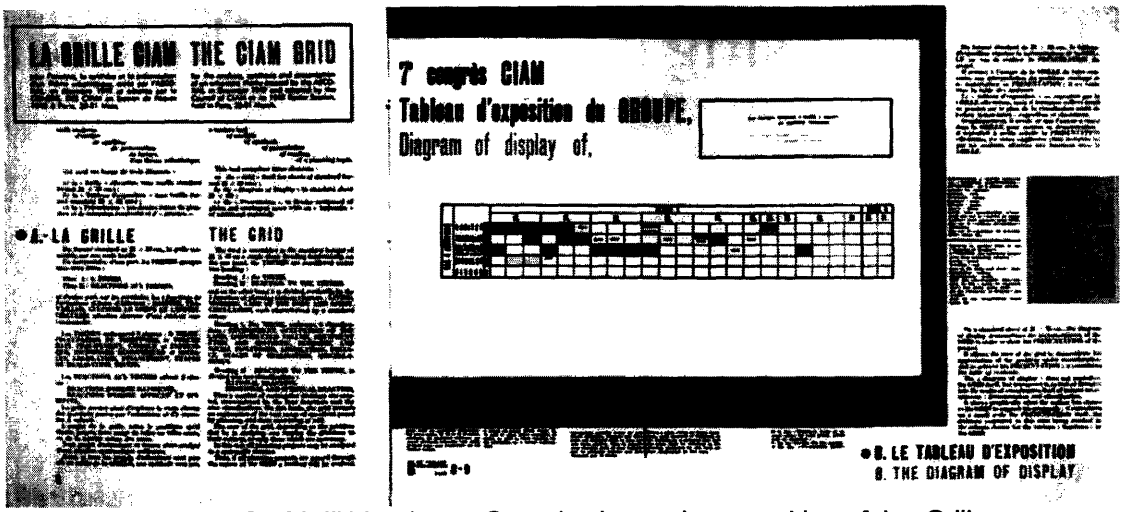

Figure 1.05 - *Grille CIAM d'Urbanisme.* Organization and composition of the *Grille.*

examined as a whole, or carried in a folio to be considered individually, that would completely and wholly describe an urbanistic project.[28] Arranged into a display, the vertical organization would be divided into color coded sets of the four functions of planning as set out in the Athens Charter, these were Living, Working, Care of the Body and Spirit, and Circulation. The horizontal organization was then subdivided by a set of themes consisting of nine classifications covering the spatial, environmental social political and economic aspects of a work, and two further classifications of the rational and emotional reactions to these themes. Thus the forty-four individual boards, each detailed a different subset of the planning paradigm. By this system, according to the ASCORAL Committee:

> [T]he grid permits an exploration of the vast range of questions imposed by planning, and their answering at will... In this way small planning projects may be analyzed in a systematic manner.[29]

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[28] For an explanation of the CIAM Grid:
International Congresses for Modern Architecture (7th: 1949: Bergamo, Italy)., *Programme Du 7ème Congrès CIAM. Mise En Appplication De La Charte d'Athènes; the Athens Charter in Practice*, p.6.

[29] ibid., p.6.

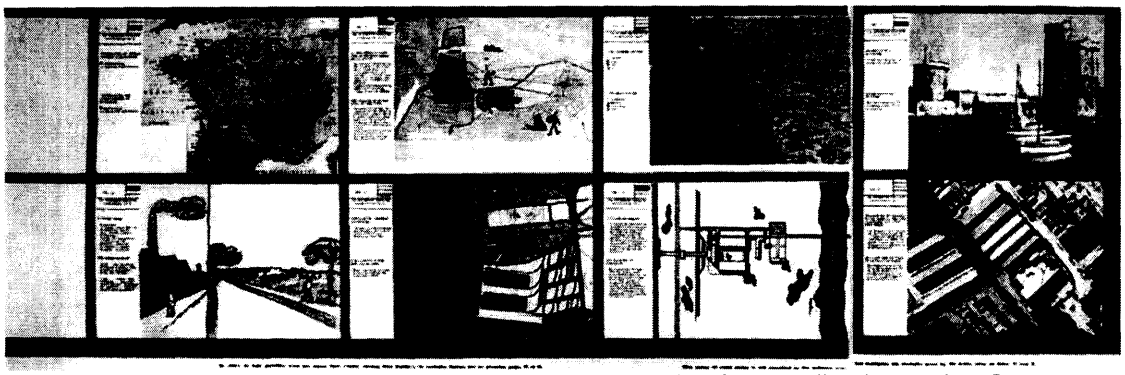

Figure 1.05 - *Grille CIAM d'Urbainsme*. Provided example of an application of the *Grille*.

The problematic nature of this system is left auspiciously hanging at the end of this prescriptive explanation of the grid. In a final sentence that begs erudition, the Committee states:

> Thus, if all planning projects are passed through the screen of the GRID a *Method* will be evolved.[30]

One can imagine the unformed mass of architectural thought being squeezed through this epistemological sieve, to form a fully realized product. The Grille thus became a universal system that encompassed Giedion's project bringing it forth within a prescriptive agenda for modern architecture and planning.[31]

In the conceptual directive of *Grille CIAM*, a section plainly entitled "Instructions", Giedion's influence read through. An optimistic section espousing the vast potentials awaiting the postwar world declares, "The flowering of the civilization of the machine is our responsibility as gardeners of mechanization. The gearing of a new human destiny is written in the gears of the machines themselves."[32] This rhetoric of the human condition forming an organic relationship with the machine is tempered when put through the functionalist positivism of the *Grille CIAM*, where the growth of the individual occurs solely within the context of a

[30] ibid., p.6.
[31] The invention of the Grille CIAM almost immediately precipitated its overthrow. The young members of CIAM, many of whom who would later form the basis of Team X, used the Grille as a platform by which to explicitly invert its very aims.
[32] ibid., p.20.

larger organization of society. Under the "Social" subheading of the "Instructions":

> Planning is the organizer, managing the relationships of the individual and the collective. Individual and collective are the inescapable binomial [...] The individual can be distressed, or the collective can be disbanded, and both consequently rendered powerless. Nothing good results from a society which has become lame. Here, planning, the social organizer, can claim an animating role in prescribing the development of the individual as of the collective, by means of advantageous places and spaces (planning and architecture).[33]

The empowerment of the individual in this example, occurs solely through the greater social organization, and this specific organizational scheme is now solely within the auspices of the *Athens Charter*.

Mechanization Takes Command and the *Grille CIAM* are, in the end, two different positivistic projects. In *Mechanization Takes Command,* our current social state can be described by a clear, totalizing view of our technological realm, a cumulative approach that manifests the essence of our time through its volume. Turning this understanding into a productive mechanism is the Grille CIAM, which presents the view that by producing an essentialist system for the organization and conceptualization of architecture, it will produce a productive mechanism through which new forms are created, forms that will intrinsically conform to the predicates of the Athens Charter. The role of the architect comes to be systemized, in evidence gathering and data entry, and the architectural project is self-realizing, with minimal subjective intervention of the architect in applying a program of planning, the "Synthesis of the Arts" will come about. In a sense, the prominence of the Grille CIAM over "The Synthesis of the Major Arts" in the program of CIAM 7 means that the positivism of Giedion that places the

[33] ibid., p.20.

arts as the creative agent of the world en-masse is subjugated by that of Le Corbusier, which builds their epistemological framework.

The positivism at work in this discourse is yet another manifestation of the greater modernist project, the presumption that modern architecture was not working in the realm of style, but with the fundaments of nature. The belief that a universal system can objectively create architectural form demands that the form that is being brought out preexists in nature. This assumes, of course, that the neither categories being examined nor the formal setup of the apparatus are predicated on any constructed system. The belief in the epistemological neutrality of the Cartesian grid and the objectivity of the categories being examined, demand such an assumption. The knowledge that by passing projects through the *Grille CIAM*, "a method will be evolved" explicitly states that this method will be a construct of the apparatus employed, but what is assumed is that this method is not a formal construct, but that it is so carefully objective and neutral that what is realized is some pure form.

The neutrality of the *Grille CIAM* as well as the objectivity of its classifications could easily be brought into question. Rosalind Krauss discusses the epistemological predicates of the grid, as "antinatural, antimimetic, antireal"; through regularity and repetition, the grid resists uniqueness and autonomy, preferring a static form of order, and resisting the development of temporal qualities such as narrative and sequence.[34] Annie Pedret further discusses the grid, specifically in the context of the *Grille CIAM*, as an "ideological tool for the functional city", the *Grille CIAM* structures knowledge around a Cartesian frame, adopting a specific set of values and imposing certain practices. The premise of

[34] Rosalind E. Krauss, *The Originality of the Avant-Garde and Other Modernist Myths* (Cambridge, Mass.: MIT Press, 1985), 307., p.9, as discussed in Team 10 and others, *Team 10 : 1953-81, in Search of a Utopia of the Present* (Rotterdam: NAi, 2005), p.253.

the grid was that it would provide a level of scientific rigor, proving an objective, universally applicable tool.[35]

This greater CIAM discourse strove for both a descriptive and prescriptive role within the postwar reconstruction. As descriptive, it hoped that a conceptual understanding of the social and economic mechanisms of modernity could put CIAM in a position of being fully in line with the greater currents of the new society. As a prescriptive program, they hoped to direct this postwar modernity in a direction that was beneficial to the members of society as a whole. History has shown that their very premises that a Taylorist political economy would be the inevitable choice on which to model a new society were poorly conceived. Instead a complex of Keynesian economics and social market democracies came to the fore. Nevertheless, the structured relationship between political, social and historical economies proposed by these works, and their integration through an aesthetic and architectural program may serve as a methodological basis from which to examine the realities of the postwar project. From these musings within the CIAM discourse, one can determine the stakes that architecture held in conceptualizing the postwar project. This discourse of CIAM urbanism, which seemed to be pressing for an escape from the mechanistic discourse of the interwar period, finally found its outlet In the Marshall Plan.

[35] Annie Pedret and Massachusetts Institute of Technology. Dept. of Architecture, *CIAM and the Emergence of Team 10 Thinking, 1945-1959*, 2001), p.253.

Chapter 2

The Development of an *Agglomération*

Where the discourse of CIAM sough to determine an economic and social reality to best suit its architectural program, with the end of the war there came a vast structural adjustment in the form of the Marshall Plan that implemented a political economy based upon Keynesian economics working within a social welfare state. In this new context the revolutionary aims of CIAM had little relevance as moderate systems of control undercut the poignancy of radical solutions to social problems. A new architecture was to emerge, quite apart from CIAM, whose direction depended on the tenets of the Marshall Plan that were implemented in the French economy, and as the radical economic programs of CIAM were supplanted by moderate Keynesian systems, so too would radical architectural solutions be tempered to suit a more moderate social reality. A new form of architectural space was to emerge that would follow transformations in the French social, national and material infrastructure brought about by the master agent of the Marshall Plan. Through a close analysis of this economic agency and its specific implementation in France, one can study the emergence of new systems of architectural organization.

One of the main intentions of the European Recovery Program in the wake of World War II was that the future stability of Europe be guaranteed by a system of economic cooperation. While the Marshall Plan is commonly understood to have been a massive grant to the damaged European countries, the monetary payout of roughly thirteen billion dollars, little over two allocated to France, was actually quite small considering its drastic and almost immediate effects. In actuality, the heart of the plan was in the reform of European economic policy initiatives and the building of inter-European cooperation. The method of these initiatives was to structure European economic policies upon a Keynesian system of managed

debt and currency controls in order to fuel a capitalist economy and consumer culture. With all of Europe running the same economic engine, any economic cooperation between countries would ensure their mutual growth. At the same time, Marshall Plan aid was primarily spent on the import of U.S. goods, as the European industrial infrastructure was not yet adequate to provide the material necessary for the task of rebuilding.[1] While the majority of French postwar reconstruction occurred within the Marshall Plan, the initial stages of its planning coincided with the end of the Lend-Lease program and continued through the period of "phase two" funding. The reconstruction must thusly be seen within the larger context of transition from the Vichy regime to that of the ERP.[2]

The Economic Cooperation Act, which authorized the Marshall Plan in 1948, specifically stipulated several major goals. First was the building of agricultural and industrial production, it was intended that a rebuilt industrial system would work along American precedents. Updated processes and technologies were to be introduced while new managerial structures and organizational systems would increase efficiency and productivity. A second goal was the expansion of trade both within and outside Europe. This was intended to develop the individual European markets so as to encompass a greater scale, to foster cooperation between countries, and finally to greatly enlarge trade between the U.S. and all of the European markets. Third was financial stability through sound monetary policies, inflation was to be controlled as budgets were balanced. This was again to be achieved through a combination of economic controls and free-market initiatives. A final goal was for inter-European economic cooperation. Aid receiving countries would work collectively towards their recovery. Mechanisms

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[1] Barry Eichengreen, "The Market and the Marshall Plan" In *The Marshall Plan : Fifty Years After*, ed. Martin Schain, 1st ed. (New York: Palgrave, 2001), 131-145.

[2] Further exploration of the aims and mechanisms of the Marshall Plan should begin with Milward's foundational text on the subject:
Alan S. Milward, *The Reconstruction of Western Europe, 1945-51* (Berkeley: University of California Press, 1984).

were set up, by the Europeans themselves, for the distribution of funds. Likewise, the creation of inter-European trade organizations such as the *European Payments Union* as well as the *Code of Trade Liberalization* guaranteed their shared interests.[3]

The overarching intent of American goals was that Marshall Plan aid would achieve a cohesive set of social and economic conditions throughout Europe that made individual states dependent on each other's success.[4] The basis of this idea was to be the political liberalization and overall integration of Europe.[5] These goals would allow for the larger U.S. aim of creating a vast, contiguous market for American goods, for which a perpetual export marked would be established. [6] To achieve these goals, the U.S. had hoped to re-create an American style economic system within Europe. As Michelle Cini explains:

> This involved not only the proliberalization inducements but also the introduction of new management techniques, the promotion of mass production along U.S. lines, and "the fostering of new modes of thinking" about industrial organization [...] The Americans thus foresaw the future of Western Europe in much the same way as it assessed its own past: as one based on economic prosperity and social harmony driven by the operation of a large, effective, and free internal market.[7]

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[3] Imanuel Wexler, "The Marshall Plan in Economic Perspective: Goals and Accomplishments" In *The Marshall Plan : Fifty Years After*, ed. Martin Schain, 1st ed. (New York: Palgrave, 2001), pp.148-149.

[4] This impulse for integration was primarily considered with the rehabilitation of Germany in mind. Rebuilding Germany had a dual goal in the Marshall Plan, as learned from the mistakes of the interwar period, a politically liberal, economically functional Germany would deter another nationalist uprising, and considering its size and centrality along with its natural resources, the cooperation of Germany was essential for an integrated Europe to function.
Michelle Cini, "From the Marshall Plan to EEC: Direct and Indirect Influences" In *The Marshall Plan : Fifty Years After*, ed. Martin Schain, 1st ed. (New York: Palgrave, 2001), pp.15-16.

[5] Eichengreen describes the long standing tradition of European integrationalist thought proposed in various forms from as diverse sources as Bentham, Rousseau, and Saint-Simon.
Eichengreen, *The Market and the Marshall Plan*, p.136.

[6] Cini, *From the Marshall Plan to EEC: Direct and Indirect Influences*, p.16.

[7] ibid. p.16.

In order for European countries to receive Marshall Plan aid, they had to first create the macroeconomic structures of a market economy. This meant price decontrol, trade liberalization and balanced budgets: the economic underpinnings of a liberal democracy. It was in this way that aid-receiving countries would build a permanent political alliance with the U.S. through a shared economic structure.[8]

The implementation of the Marshall Plan was immediately confronted with a long-standing Saint-Simonian tradition in French polity that had gained momentum through the interwar period with advocates such as Le Corbusier, and had found particular relevance in the occupational Vichy government. The postwar turn was to enforce the ongoing shift "from the governance of men to the administration of things" and build a vast, bureaucratic administration shaping the Marshall Plan to reinforce this mentality. The origin of this technocratic administration in its application to urban planning is detailed in Paul Rabinow's book *French Modern: Norms and Forms of the Social Environment*, and can be followed into the reconstruction effort.

Paul Rabinow describes the system by which the aims of urban planning, through Saint-Simonian ideas and technocratic interventions became conflated with the greater aims of social planning in the interwar period. In this Rabinow employs the idea of a "Middling Modernism"; a relationship between the civic and the regulatory that unites the public, social sphere of politics and the anonymous, technical sphere of rationalization.[9] The emergence of this relationship was brought forth by the career of Henri Sellier, an interwar socialist politician, member of the *Front Populaire* and a Minister of Health in the Blum cabinet.

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[8] Eichengreen, *The Market and the Marshall Plan*, p.133.

[9] Paul Rabinow, *French Modern : Norms and Forms of the Social Environment* (Cambridge, Mass.: MIT Press, 1989), p.322.

Sellier held a pragmatic approach to politics, believing that change would come through administrative and technical reform rather than through social programs. Instrumental in forming policy on social housing and sanitation for the French working classes Sellier would eventually build eleven garden cities on the outskirts of Paris loosely based on Ebenezer Howard's original Schemes as he outlined in his 1902 treatise *Garden Cities of Tomorrow.* Sellier would later founded *l'Association Française pour l'urbanisme* [French Association for town planning], a highly influential organization in French planning circles, and belonging to both the *Front Populaire* as well as the *Musée Social,* he would prove of great influence to later generations to French technocrats.[10]

Sellier's goal through technocratic development was to build what he called an *agglomération,* an "abstract space – a socio-technical environment – upon which specialists would regulate operational transformations." The ultimate aim being to create a structure that would merge collectivist with individualist social policies; on one side there was a universal social welfare while on the other was the maximization of individual potentials. Integral to this would be an imposition upon the city of a coherent regulatory structure to order the various social and infrastructure needs of a population. This specifically reacted against the unregulated and unfettered industrial growth in the suburbs of Paris that provided little social accommodation to its working population, while working as a corrective measure against the damage being done to the industrial worker in providing a regenerative space away form industry.[11]

Sellier's thus fashioned the urbanistic goal of building a set of Garden Cities to provide the industrial worker with a site for relaxation and rehabilitation outside of the industrial realm, and making housing the primary focus of social regulation.

[10] ibid. p.264.
[11] ibid. pp.320-321.

The workers inability to practically provide for his own welfare in an increasingly complex *agglomération* combined with the belief that that providing for a communities well-being was a technocratic function of administrative regulation rather than political task. This caused social welfare to become an administrative function of the state. The desire to organize urban space for the rehabilitation of the worker grew in the hands of Sellier's followers into a program of the scientific management of everyday life and the creation of a technocratic class to oversee its development. Quoting Rabinow, this was "a move from a *plan de ville* (city plan) to a *plan de vie* (life plan)." Characterizing a dramatic shift in the agency of the individual "from utilitarianism – utility for man – to instrumentalism, i.e., man as a means of utility."[12] In this technical task, normalization replaced discipline as the means to regulate a population.

In the technocratic program, setting up bureaucracies to provide services to the public, housing became the crux of the transition from urban planning to social planning. Being conceived as a functional service, like roads or agriculture, housing allowed the structure of the greater social projects to be applied to family life. Housing, being rationalized demanded that a normalized version of family life be conceived. As Rabinow explains, "These norms of sociability were based on *la famille normale moyenne*: [the average, normal family] a stable and rational household." For families to qualify for the benefits of public housing, they must meet these moderate criteria, thus reinforcing a junction between urban and social planning. This establishment of a social lifestyle in housing necessarily expanded beyond normalizing family form to include norms of social behavior. The normal home carried with it spatial norms, specifying ratios of family size to housing type and prescribing functions of rooms, but there were also social

[12] ibid. pp.333-334.

norms involved such as hygienic norms and the regular payment of rent and utility bills which prescribed the regular lifestyle of a salaried employee.[13]

Rabinow describes in this simultaneous regulatory transition from urban to individual and from social welfare to personal oversight as the invention of a modern control society, normalizing its subjects, the mass worker, as pliant members of an *agglomération*:

> Universalizing social norms and economic stratification gradually displaced the disciplinary tactics of hygiene and environmentalist localisms in defining and enforcing social reality. The plan de vie was passing from a bacteriological and class phase to a functionalist and normalizing sociological one, the middling modernist.[14]

Moreover, this describes the mechanisms of the particularly French model of the control society that will come to fruition with the implementation of the Marshall plan directives in their application to the French consumer and industrial production in its subjection to a Keynesian system of economics.

There was a significant shortage in French housing that had its origins in the armistice of the First World War with a misguided endeavor by the government of imposing rent controls to stabilize the housing market. While rents remained fixed, the cost of living spiraled, with the result that a continuously smaller portion of the French workers income was apportioned to rent, effectively making it an insignificant part of the domestic budget. To drop rent controls would have resulted in a sudden adjustment of prices that would require a significant increase in wages and thus perpetuate the inflationary problem. This was further worsened by the fact that with returns on property being so unnaturally low,

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[13] ibid. pp.345-347.
[14] ibid. p.347.

housing construction became a completely untenable venture.[15] Thus the housing shortage would be further aggravated by a market-based solution intended to fix it. As Watson explains the overall interwar housing situation:

> France entered World War II with a serious, albeit partly concealed, housing problem. Her buildings were old and maldistributed, both geographically and in terms of family needs; modern conveniences did not exist for the mass of the people; new buildings lagged behind demolition, so that the situation was constantly deteriorating. The combination of fixed low rents and mounting inflation meant that real estate was no longer a profitable field for investment, and the public were becoming accustomed to assume that rent should be a negligible factor in the family budget.[16]

By the end of the war rents had constituted roughly 4% of family income, attempts were made by the government to slowly unfreeze rents while providing low interest loans for building.[17] The goal was to lower the market price of rent by new building while simultaneously raising the controlled price to encourage building.

The most notable attempt at a solution was in the *Habitations à Bon Marché* (HBM)[18], the largest paternalistic housing method in France up to the beginning of the Second World War, with 66% of housing subsidies going to such companies. The HBM was a system initiated in 1894 to provide low-interest loans to private housing corporations, the idea being that companies would provide their employees with money to buy their own housing, either via the employee or directly to the HBM interest itself.[19]

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[15] Cicely Watson, "Housing Policy and Population Problems in France," *Population Studies* 7, no. 1 (Jul., 1953), pp.18-19.
[16] ibid. p.20.
[17] ibid. p.28.
[18] Literally: Housing at a Discounted Rate.
[19] C. Sidney Bertheim, "Housing in France," *Land Economics* 24, no. 1 (Feb., 1948), p.55.

The intent of the HBM was a continuation of Sellier's idea of imposing a social lifestyle, that as homeowners, workers would hold a personal stake in the market system and thus become more compliant members of capitalist society.[20] While this system proved unsuccessful, its formulations of subsidies for workers housing and government administration of private space by a regime of technocrats, provided a prototype for the social housing systems of postwar France.[21]

These normalizing methods gained extraordinary influence in the Vichy regime, which had a natural affinity towards the technocrats and saw them as a sound replacement for the aging institutions of the Third Republic. Marshal Philippe Pétain, the Vichy head of state, engendered the technocrats with expanded powers and control over civic institutions. This enabled the creation of the *Commissariat à la Reconstruction Immobilière* (CRI) for housing and the *Délégation Générale à l'Equipement National* (DGEN) for industry as the technocratic institutions to oversee reconstruction and urban planning.[22]

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[20] W. Brian Newsome, "The Rise of the Grands Ensembles: Government, Business and Housing in Postwar France," *The Historian* 66, no. 4 (Dec., 2004). pp.795-796.

[21] The postwar government initiated three main funding initiatives for housing. First was the *Sociétés de Crédit Immobilier* were set up for private owners at 1.75-2.75% to pay off their home over a period of 35 years. Second was *Sous-Comptoir des Entrepreneurs,* intended to fund investment properties payable at 6.8% over thirty years, and including a direct subsidy of up to 66,000 francs per. year for twenty years. Finally, the largest of the programs was the retooled low-cost housing system of HBM, the *Sociétés Coopératives d'Habitations à Loyer Modéré,* or more commonly, *Sociétés HLM.* This operated much like its predecessor, charging 0-2% over a sixty-five year period.
Watson, *Housing Policy and Population Problems in France*, pp.41-42.

[22] Newsome, *The Rise of the Grands Ensembles: Government, Business and Housing in Postwar France* p.797.
In truth, the Vichy government did little to encourage the rebuilding of war-damaged properties, promising to cover a maximum of 50% of the costs of damaged or destroyed housing and 70% for industrial properties and equipment. After the liberation there was only a marginal improvement of paying 100% of damaged and 30% of destroyed housing.
Watson, *Housing Policy and Population Problems in France*, p.25.

The CRI, headed by the engineer André Muffang steered public works contracts towards firms specializing in prefabrication and construction management. While the stated goal was to streamline and economize production for the reconstruction, this policy played well into Pétain's ambitions of centralized planning and corporatist policies. Towards this end, public works organizations were established such as the *Committee for the Organization of the Building Trade and Public Works* (COBTP), which directed building funds away from the traditional sectors and towards corporate bodies. This took the ability to control the building process out of the hands of artisans and put it into corporate controlled institutions.[23]

With the end of the war de Gaulle appointed Raoul Dautry to head the newly established *Ministry of Urban Reconstruction* (MRU), a consolidation of the Vichy era CRI and DGEN. Dautry was a trained engineer, a longtime member to the *Musée Social*, and a technocrat with significant ties to industry as well as working relationships with the existing Vichy bureaucracy. Having quit Pétain's administration early enough to show a critical distance from the Vichy government, Dautry served as a politically expedient choice that would provide the reconstruction with administrative continuity from the Vichy government to continue the policies of the corporatist reconstruction apparatus.[24] Thus the centralized planning that would continue into the liberation, as well its domination by technocrats had their origins in both Saint-Simonian ideas and the apparatus of the Vichy Regime.

These particular tendencies stretching from the interwar technocrats of the Third Republic to the Vichy regime were to come to full fruition in the specific application of Marshall Plan aid to the postwar French state. This application

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[23] Newsome, *The Rise of the Grands Ensembles: Government, Business and Housing in Postwar France* p.798.
[24] ibid. p.799.

would codify these tendencies into the French reconstruction economy and by extension, be persistently felt in the economies of construction as well as in the new social *agglomérations* created in the reconstructed cities.

In its conception, the Marshall Plan was to be a temporary program to that would simply work to motivate the European economies. As such, Europeans would not be allowed to depend on American aid as the foundation of their economies, but more as a program to get things started.[25] This necessitated that the money be used for the creation of an economic infrastructure that would underlie future markets. This also precluded the use of Marshall Plan aid to actually run rather than simply initiate any programs, as the money was both inadequate and unreliable for such a task.

As a temporary program built on the idea of constructing the European economies, it was essential that the aid receiving countries themselves be in charge of the operation of their own economic planning.[26] If the U.S. had taken on this responsibility, it might have served to place them in a permanent position of managing each individual economy. With the Europeans in charge, the aid as well as the programs that it created would be their own. Thus the *Committee for European Economic Cooperation* (CEEC) was created to be the apparatus by which American aid was transferred to the European states.[27] To further a spirit

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[25] Cini, *From the Marshall Plan to EEC: Direct and Indirect Influences*, p.20.
[26] ibid. p.20.
[27] It was essential that European economic cooperation and integration be engrained in the bureaucratic structure of European countries, and as such, have a permanent effect on European politics. For this purpose, the informal CEEC (Committee for European Economic Cooperation) was formalized into the OEEC (Organization for European Economic Cooperation) and would later become the OECD (Organization for Economic Community Development). While on the surface, this was a bureaucratic formality to ensure continuing cooperation; it was also part of a larger strategic plan that foretold the cold-war balance of power. The OEEC was originally to be a formalization of the UNECE (United Nations Economic Commission for Europe), but was instead built out of the CEEC to operate outside of the United Nations and thus preclude Soviet involvement. This integrated American long-term strategic goals with the economic reconstruction.

of cooperation, this internationalist structure had the immediate effect of forcing Europeans to show each other their balance sheets as a first step to gaining aid.[28]

The mechanism set up by the French for the utilization of Marshall Plan funding was the Monnet Plan, named after its originator Jean Monnet, a French statesman who served in the interwar ministry of commerce under the administration of Etienne Clémentel, which oversaw all of France's non-military production. Clémentel's group of technocrats was among the first to attempt to regulate the economy through state bureaucratic oversight, proposing direct intervention in pricing and quality controls of industrial goods, a concept that Monnet would revolutionize.[29] Rather than an economy-wide distribution of funds, the intention of Monnet was to fund specific sectors of the industrial infrastructure in order to break the larger 'bottle necks' in the economy. The six select resources for developmeny were coal, power, steel, cement, agricultural machinery and transport. Along with direct funding to these infrastructure sectors, investment was encouraged through lending controls for industrial output. A basic requirement of the Monnet Plan was to transition the corporatist infrastructure of the Vichy regime through means such as industrial cartels and trade unions into the framework of a mixed economy.[30] The intent was that through minimal intervention, a free-market economy would be able to move forward on its own with minimal supervision.[31]

Beyond simply serving to stimulate a lagging economy, the Monnet Plan was also intended to serve the greater French foreign policy goals of both its postwar

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ibid. p.21.

[28] Eichengreen, *The Market and the Marshall Plan*, p.135.

[29] Rabinow, *French Modern : Norms and Forms of the Social Environment*, pp.325-326.

[30] Eichengreen, *The Market and the Marshall Plan*, p.134.

[31] Edgar Beigel, "France Moves Toward National Planning," *Political Science Quarterly* 62, no. 3 (Sep., 1947), 381-397, p.381.

relationship to Germany as well as the overall construction of a revived French national identity. While the American goal was for large scale European integration, many Europeans saw this as an infringement on their sovereignty.[32] This caused the term 'integration' to, in practice, be loosely defined and result more in a principle of cooperation than a dictum of unification.[33] Generally, the European goals for aid were different than the U.S. ideals; European interest in the Marshall Plan was primarily as a financial aid program. On the most part, Europeans cooperated with particular demands of the American plans only to the extent that they were contingent on the receipt of funds. This mentality, combined with the fact that aid was to be managed by each individual country rather than centrally governed by the US, allowed each country to establish both the nature and terms of aid depending on both their particular needs as well as their political leverage.[34] Thus while the Lend-Lease agreement between the U.S. and France stipulated that they would work towards a world-wide economic recovery, specifically to "improve world economic relations" and to "eliminate all forms of discrimination in international trade and to reduce staff and other customs barriers." It was understood that France would only cooperate in a multi-lateral cooperation once the modernization of its own economy was underway.[35]

In gaining the priority for reconstruction over Germany, the Monnet plan was specifically designed to quickly enable French products to dominate markets that

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[32] The implementation of the Monnet Plan in this respect signifies a victory in the French debate of the "Atlanticists" who sought American aid with the implementation of a Keynesian social market economy over the "Nationalists" who wanted to reject aid in favor of exploiting the resources of the conquered Germany as punishment for the war, although some compromise in the form of French prerogatives had to be given. See:
John S. Hill, "American Efforts to Aid French Reconstruction between Lend-Lease and the Marshall Plan," *The Journal of Modern History* 64, no. 3 (Sep., 1992), 500-524.

[33] Michelle Cini argues that the fact that the mechanisms of the Marshall Plan had the versatility to adapt to local conditions. While refusing to dictate integration, policies resulted in a European "culture of cooperation" that would prove stronger than any externally imposed authority.
Cini, *From the Marshall Plan to EEC: Direct and Indirect Influences*, p.24.

[34] ibid. p.23.

[35] Frances M. B. Lynch, "Resolving the Paradox of the Monnet Plan: National and International Planning in French Reconstruction," *The Economic History Review* 37, no. 2 (May, 1984), p.231.

had formerly been controlled by German industry. This was intended to temper the German recovery and therefore secure French military and economic security in relation to its new ally.[36] Likewise, France was dependent on the coal and coke resources of the Ruhr Valley. The Monnet Plan focus on coal and steel production would justify a demand for adequate access to this area, which had been central to the dominance of German industry.[37]

With the interwar building of a social *agglomération* set upon Saint-Simonian premises, its appropriation by the Vichy regime that transformed it into a corporatist technocracy, and their continuity with the postwar period that reinvented them as normalizing mechanisms, there developed a tenuous combination of different ideological currents put together to form a new and unique functional state bureaucracy. This revived *agglomération*, coupled with the drive to rebuild a national identity and restate the national prerogatives created a new formulation of urban space and infrastructure that would be pervasive throughout the reconstruction projects.

Being a technocrat and Engineer by training, Dautry was primarily concerned with the pragmatic aspects of the reconstruction. Ambivalent about the aesthetic of the reconstruction, Dautry resolved potential conflicts over style by allowing the core reconstruction architects to choose the planners that would oversee their work, a model derived from the beaux-arts patronage system.[38] Despite his general unwillingness to take a stand on the issue of architectural aesthetics, Dautry stood in strong opposition to CIAM urbanism and feared the growing influence of the *Charte d'Athens* among architects.[39] To counter CIAM, Dautry

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[36] ibid. p.232.
[37] ibid. p.235.
[38] Rémi Baudouï, "From Tradition to Modernity: The Reconstruction in France," *Rassegna* 15 (June, 1993), p.71.
[39] Emblematic of this is Dautry's seemingly contradictory treatment of various projects by Le Corbusier commissioned by the MRU. In the case of Saint-Die, a large-scale urban planning

composed an opposing *Charte Nationale de l'Urbanism* for use in the reconstruction. Instead of the abstractedness and rationalism of the *Charte d'Athens*, the *Charte Nationale de l'Urbanism* focused on the "human character" of the plan as a manifestation of social, economic and naturalistic concerns. Where the CIAM sought to approach planning as a totalizing action that demanded a clean slate, Dautry advocated a sort of critical intervention, modifying the existing cites while respecting the unique character of each place.[40] Dautry's town planning charter was to provide continuity with the *Charte de l'Architecte-reconstructeur*, the reconstruction charter produced under Pétain's Vichy regime, in a directive repeated almost verbatim in Dautry's charter:

> You must go beyond the solutions which consider only rationalism and totally neglect all the traditional local factors we have mentioned. This is the serious mistake of those who have believed that this is modern architecture. Inversely, you should not think that the solutions which may be defined as simple pastiches of the past can solve the problem. This would be no less a serious mistake for those who believe that by this they are creating a contemporary local architecture. You will build in a modern spirit, impregnated with that which, in the tradition, has withstood time, adapting yourselves to local conditions.[41]

This argument denies modernisms vital claim to be working outside of the realm of style, formulating a universal architecture. Form is instead contingent, based on local usages and conditions with an eye towards the rational planning and

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project, Le Corbusier's attempt to design a city along the dictates of the Athens Charter was summarily dismissed. The Unite d'Habitation at Marseilles, a fragment of Athens Charter planning consisting of a single building set within a square of green space, was built. Clearly Le Corbusier's design and aesthetic met ministry approval while his planning did not. It was not until after the ministry of Eugine Claudius Petit that Athens Charter planning was ever accomplished in France at a meaningful scale.

[40] ibid. p.71.

[41] ibid. p.70. Quoting Charte de l'Architecte-reconstructeur, Imprimerie Nationale (Paris, 1941), p.20.

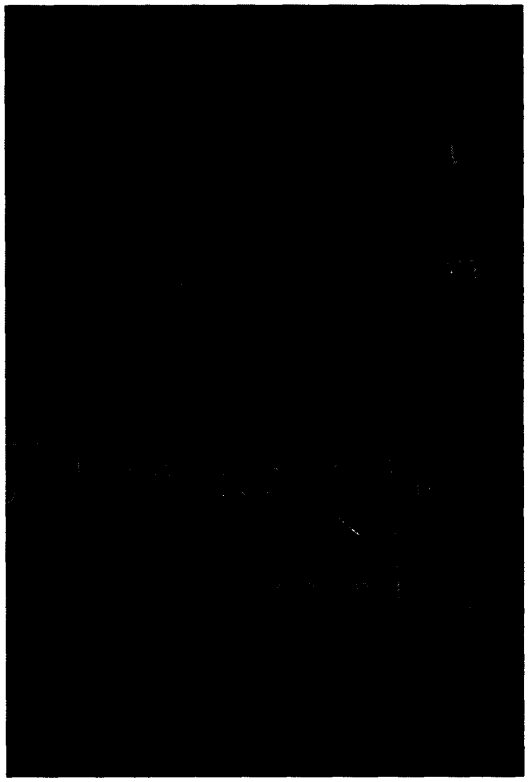
organization. Modern design does not reside within the heroic object itself, but is in its integration into the greater social *agglomération*. This equates the modernist form with "pastiches of the past", implying that the modern movement was providing little more than a picturesque modernism and gutting its claim to be presenting a true functionalist agenda. It was this critique of modernism that as Minister of Reconstruction, Dautry carried forward from the Vichy charter, and that would be central to the reconstruction projects.

Expressing the consequences of the continuities between the interwar technocrats, the Vichy regime and the postwar MRU, Rémi Baudouï shows that in political and urbanistic considerations, there was no significant ideological divide between the regionalist and modernist architectures in the reconstruction effort. As he explains:

> Rather than systematically opposing regionalist architecture and the Vichy regime on the one hand to modern architecture and the Fourth Republic on the other, we must look upon these two periods as a single unit. Beyond the liberation and the return to democracy, a unified history of reconstruction must have developed that rests largely on the continuity of administrative structures that dealt with reconstruction from Vichy to the Fourth Republic.[42]

Baudouï elaborates on these continuities with an examination of the Loire Valley reconstruction. The Loire was the last region in France to be destroyed by advancing German armies between the 14th and the 19th of June 1940. The purpose of this bombing was to cut off communications between Paris and the southern provinces by destroying the bridges that spanned the Loire. As a consequence, the towns of Orléans, Châteauneuf-sur-Loire, Sully-sur-Loire, and

[42] Rémi Baudouï, "Between Regionalism and Functionalism: French Reconstruction from 1940-1945" In *Rebuilding Europe's Bombed Cities*, ed. Jeffry M. Diefendorf (Basingstoke: Macmillan, 1990), p.34.



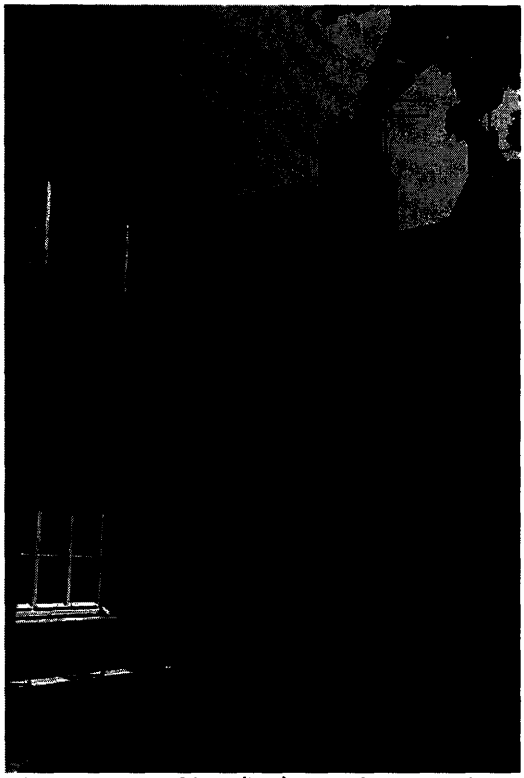


Figure 2.01 & Figure 2.02 - Regionalist reconstruction types at Gien (left) and Sully-sur-Loire (right)

Gien, having been traditionally built around their bridge crossings all had their centers demolished. As often happens, the very characteristic that made these towns a vital target also made their reconstruction a matter of urgency; for the Germans to gain administrative control over the region, communication across the Loire was essential. The order to rebuild these towns was given priority by the German army, and planning for the reconstruction of the region began just days after its destruction.[43]

In the cases of the Loire reconstruction, the destruction of the city centers provided the opportunity to generally rethink the urban organization in terms of traffic and environmental concerns. In each of the towns, the reconstruction worked to rationalize the old cities, making them function for the new demands of

[43] ibid. p.35.

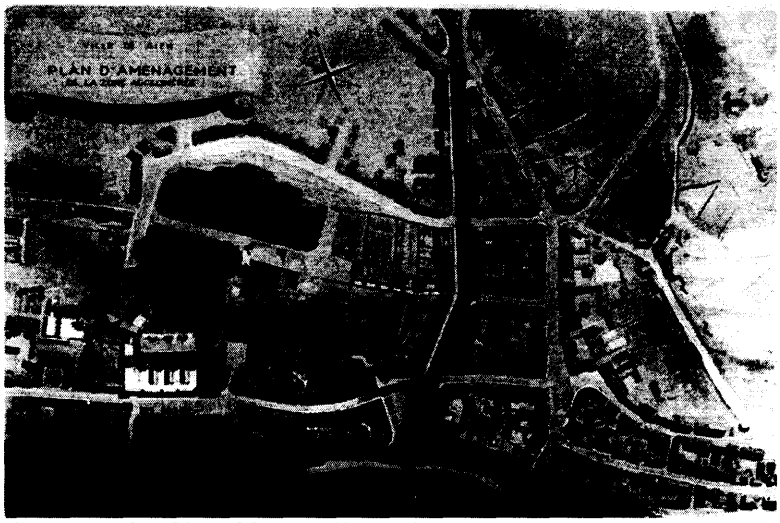


Figure 2.03 - Gien: Master Plan, 1941.

modern society, thus many streets and roads were added while others widened and straightened to ease congestion and circulation while town squares were opened up to improve the qualities light and air to their dense centers, modern sanitation systems were introduced and zoning regulations put in place.[44]

The consequences of the Loire reconstruction would extend throughout France in forming the administrative platform of the MRU. The two main planners of the Loriet, Jean Kérisel and Jean Royer were each given top positions in the Vichy reconstruction administration and were responsible for town planning charters that would be brought forward into the postwar reconstruction.

In looking at the architecture of the Loire reconstruction, every appearance is of a purely regionalist architecture which aimed for a true reconstruction of the past city; the traditional street layout seems to be retained and the scale and aesthetic of the architecture presumes to be original to the region. It is in looking beyond the aesthetic, at the administrative and technocratic mechanisms being invented at the time, that it becomes evident that a new urban conglomerate was being

[44] ibid. pp.38-39.

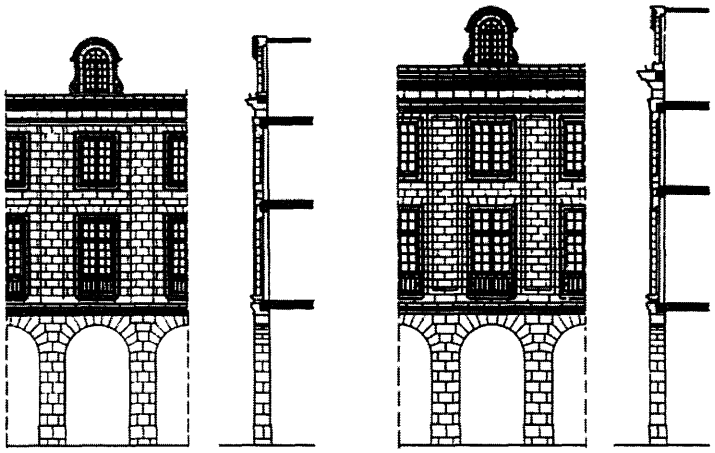


Figure 2.04 - Rue Royale, Orléans. Reconstruction (left) and original (right) show the modified proportions of the new street.

invented, and that the foundations were being laid on which modern French planning would be built.

A close examination of rue Royale in Orléans provides a good example of this mixture of regional and regulatory motives in reconstruction architecture. Jean Hupeau designed the 1750 project of rue Royale in a French classical style, extending as a uniform corridor between the historic Pont George V over the Loire river and Place du Martroi, the main square of the city, intersecting the previously existing network of streets with the construction of a classicist facade. While keeping with the formal qualities of the original Hupeau project, many of the elements endemic of an 18th century project were subtly curbed. Comparing the elevation and section of the reconstruction in comparison to the original project, most immediately noticeable is a change in scale, with the height of the reconstructed building being several feet lower than the original; likewise, the width between the piers is proportionally reduced. A uniform reduction in scale does not, however, follow through to the rest of the façade elements, the height of the arcade along with its corresponding arch openings are the same in both projects, in contrast, the window sizes of the reconstructed project are reduced

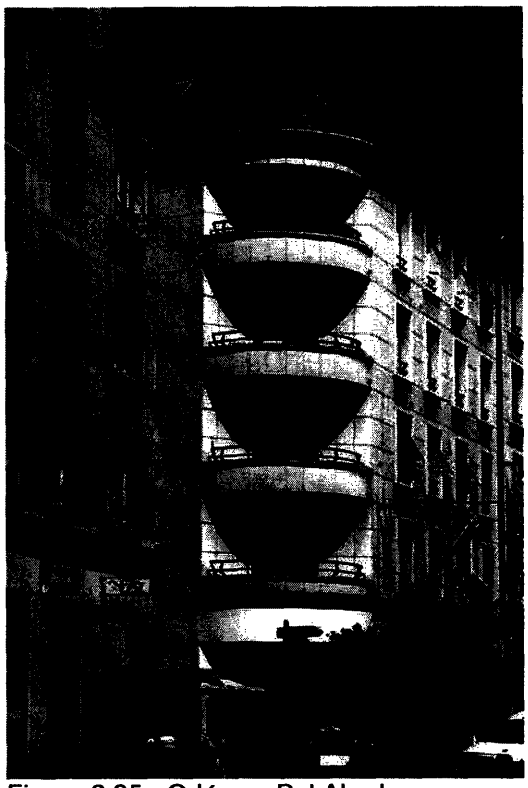


Figure 2.05 - Orléans: Pol Abraham Reconstruction.

far more dramatically than the scalar change would dictate. Moving to the sections, the height of the *Piano Nobile* is reduced while the third floor is extended, giving greater uniformity to the ceiling heights throughout.[45] Thus the monumental scale of the 18th with its large window openings and prominent *Piano Nobile* is significantly tempered. The street space of rue Royale, notorious for its congestion, was significantly widened with its sidewalks being moved to the arcade spaces.[46] It was these lessons of the Loriet reconstruction under the Vichy regime that Pol Abraham, the regions chief architect, drew upon when executing a final postwar reconstruction for the greater city of Orléans.

Prior to his reconstruction work in the Loire, Hyppolyte (Pol) Abraham (1891-1966) was a relatively minor figure in French interwar architecture. Graduating from the Ecole des Beaux-Arts in 1920, Abraham went on to build his early career residences of the 1920's as minor works executed in a Deco influenced style. Abraham's significance as a modernist architect began in partnership with Henry-Jacques Le Même with a series of sanatoriums built between 1929 and 1931. In these works, Abraham experimented with concrete construction and

[45] Robert-J Boitel, "La Rue Royale A Orleans," *Les Monuments Historiques De La France* 2, no. 3 (July-September, 1956), 160-168.
[46] Baudouï, *Between Regionalism and Functionalism: French Reconstruction from 1940-1945*, p.39.

relied on modular elements and repetitive forms in a modernist style that seem to predict the repetitive megaliths of a later generation of architects. After these achievements in the modernist style, Abraham changed courses to build in a regionalist-influenced style, winning the 1942 *Etudes Provinciales* competition that was predicated on the designs of regionalist works. Under the Vichy regime, Abraham was commissioned architect in chief of the Loriet region, and sought to apply the technical achievements of his interwar works with his more recent regionalist tendencies. As such, he experimented in prefabrication and heavy wall construction, improving his methods throughout the destroyed cities of the Loire in a revivalist style that would culminate with the reconstruction of Orléans.[47]

The history of Orléans stretches back to Gallic times when it was the fortified town Cenaum. Razed by Caesar in 52 CE during his conquest of Gaul, the city was re-founded by the Roman emperor Aurelianus in the late third century and given the name Aurélien, from which its current name is derived. The city's place in historical consciousness resides in the story of Joan of Arc who liberated Orléans in the 1429 battle. With the subsequent end of the hundred-years-war, the city became a major river crossing, being the closest point on the Loire to Paris, and quickly grew to be one of the largest and wealthiest cities of France and the nominal capital of the Loire Valley. During the war, Orléans was made the center of French railway logistics, thus becoming a hub of the Vichy transportation infrastructure, and infamously, the central point of French deportations. On top of the rest of the Loire, which was bombed by approaching Germans in 1940, Orléans was again destroyed during the liberation in aerial bombardments that focused on the destruction of this railway infrastructure.[48]

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[47] Daniel Le Couedic, "Abraham, Pol [Hippolyte]," Grove Art Online. Oxford University Press, http://www.groveart.com (accessed 04/17, 2007).
[48] "Orléans " http://fr.wikipedia.org/ (accessed April, 17, 2007).

Figure 2.06 - Orléans: Transition from rue Royale to Abraham's Recon-struction. Proportional elements of traditional forms are drawn into the new city.

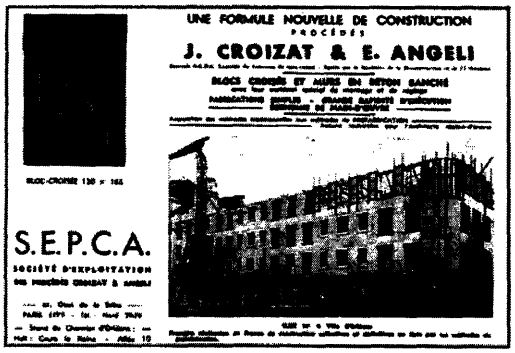
Abraham's project for the reconstruction of Orléans extended on a grand scale the lessons learned in the Loriet reconstruction. While giving the appearance of a "true" reconstruction, where buildings were replaced largely in their original locations, in reality, streets were widened and straightened, new roads were added to ease congestion and large urban squares were set up for air and light.[49]

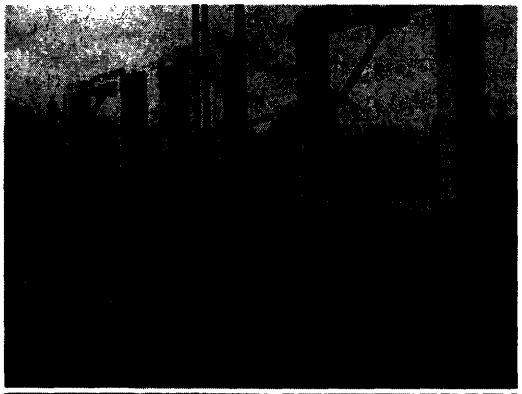
Beyond the urban management, there was another form of modernized regionalism at work in Abraham's architecture; the drawing of architectural elements from the city's history into the new construction. Looking at Abrahams reconstruction adjacent to the new rue Royale there is an interesting transition from the classical proportions of rue Royale to the overall reconstructed urban scale. The heightened windows of the *Piano Nobile* are carried into the Abraham project, and the transition to the regularized urban scale is made further down the block, thus for a short period, the Abraham project partially takes on the scale

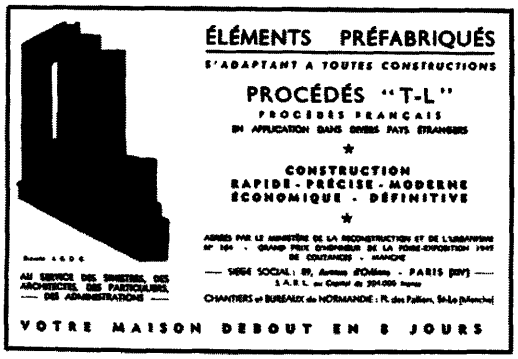
[49] Rémi Baudouï describes the case of Orléans in greater detail:
Baudouï, *Between Regionalism and Functionalism: French Reconstruction from 1940-1945.*

Figure 2.07 & Figure 2.08 - Orléans: proportional systems from undamaged buildings are carried into the reconstruction project (left) while architectural elements recalling a French classical past are incorporated in the new city (right).

and character of the classicist façade as it transitions to the urban scale. Other examples of adjustments in scale to match the undamaged portions of the original city are prevalent. Where original buildings still exist, elements of their proportional systems are brought into the reconstruction architecture, thus roof heights, window patterns, balcony projections, and the proportional façade systems are echoed in their adjacent postwar neighbors. Along with proportional adjustments, architectural details of a French style are scattered throughout the city, arched openings, monumental entrances and coffered underpasses become moments of discovery to be stumbled upon randomly. Throughout the city, remnants of Orléans' classical past are carried into the Abraham reconstruction. Regionalism in this case is not only organizational in this case; it is scalar and proportional as well as mimetic.







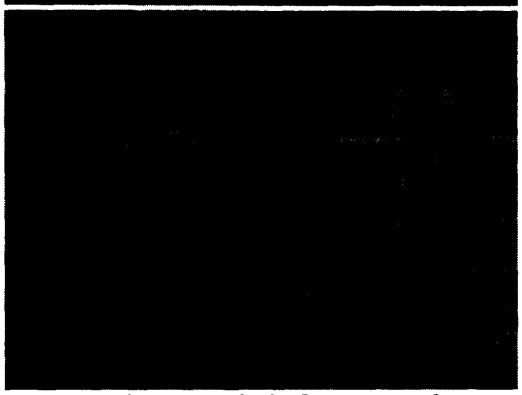


Figure 2.09 & Figure 2.10 - Orléans: The city is created almost entirely from manufactured elements, expanding the building trades into the industrial sector while experimenting in prefabrication of materials and construction management on an urban scale.

In achieving this variety of local variation, Abraham's Orléans reconstruction is based on the idea of the organization of a set of modular elements to suit varied local conditions. While the Orléans reconstruction is based on a system of local conditions, constantly changing grade levels, following curved and picturesque streetscapes, and matching itself to the proportional systems of the old city, Abraham uses a defined and limited set of building elements, modular, manufactured units to suit almost any of the complex conditions that arise. Almost all of the elements of the city are of industrial manufacture, fabricated off site and shipped in standard units to the construction. This shows clearly in the street elevations, where the entire reconstruction utilizes the same concrete square cladding elements and all windows are of standard sizes. Looking closely at the construction of the city, inner wall construction, floors and modular ceiling tiles are all systematized and manufactured. An industry of acronymic products

such as SEPCA making up the walls, STUP for the slab construction, and SAMIEX for ceilings sprung up around this work. A case for the transition from the work of the artisans to a system of industrialization is thus strongly made in Orléans, in a 1946 issue of *Techniques et Architecture*, the results are described:

> One realizes (as it is to be expected) that the best site foremen of the traditional building trade is not the best craftsmen for the work of restoration ...the success of a building prototype on an industrial scale took place without any real problems. The vitality of these revolutionary techniques is thus proven. It is necessary now to await the confirmation, virtually guaranteed, of their economic viability.[50]

Orléans thus goes beyond a study in standardization to become a study in the versatility of industrialized building. An example is the intersection of rue Bannier, rue de la Lionne and rue des Fauchets, four variations of the outside corner condition are used to define the square dedicated to the destruction and subsequent reconstruction of the city, an example where variations are achieved within the employment of the modular system. What is exceptional about the implementation of this modular reconstruction method is the richness and variation of a new city that is materially and tectonically almost completely unchanging.

A transformation can thus be seen to have occurred between the interwar modernist planning ideas and the construction of postwar society. With the implementation of the Marshall Plan, there came a set of ideas that would direct the greater development of the postwar world that would be guided by the tenets of international cooperation, market expansion, and social welfare. In the case of France, the Marshall Plan came against an ongoing experiment in technocratic rule that had its origins in the *Musée Social*. This form of social thinking had

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[50] Pol Abraham, "Orleans, Une Experience De Prefabrication," *Techniques Et Architecture: Reconstruction 1946* 6, no. 7-8 (1946). p.314.

undergone a particular transformation in the Vichy regime to emerge from the war as body of corporatist technocrats already in place to organize postwar development. The Monnet Plan in France was thus an operational transformation of its existing infrastructure to adhere to the dictates of the Marshall Plan. This combination of large scale social planning with corporate incentives would create a new social *agglomération,* a political economy that the postwar architectural projects were to fully manifest.

Chapter 3

The Discursive Space of Capital

The various examples of postwar architectural form and discourse provide a set of similarly motivated transformations away from the interwar industrial city towards the bureaucratic enterprise, and consequently, from the functionalist state to the social welfare state. Integral to this was a group of concurrent and mutually dependent transformations throughout society. The largest of these, and arguably the greatest motivator of social change, was the Marshal Plan's structural adjustment from a classical industrial to a Keynesian social market economy. This provided the integration of state controls to a capitalist economy, creating a context in which industrial growth and the solvency of the nation became mutually interdependent. Beyond this, it directed industrial expansion towards projects of social importance, giving the state a dual role in social welfare, one through its national institutions and another through a system of directed corporatism. Along with these transformations were the combined French goals of foreign policy supremacy, a renewed national identity, the transformation from the Vichy regime and the strengthening of the French economy through industrial initiatives through which the Monnet Plan and its credit control system must be understood.

In the postwar period, French industry had a complex and tenuous relationship of both animosity and alliance with the state. Having largely collaborated with the fascist regime, industry had little say over the reforms to French capitalism. As such, they were subjected to the imposition of a semi-planned market system that was seen by many in industry as an infringement upon free enterprise.[1] To ease the transition to a free market, the government asserted control over the

[1] Doug McEachern, *The Expanding State : Class and Economy in Europe since 1945* (New York: Harvester Wheatsheaf, 1990), p.86.

infrastructure of French industry. The French banking system was almost completely nationalized to create a platform from which the new economic controls would be administered. The infrastructures of the energy and transportation industries were likewise taken over to ease the production and flow of goods.[2]

Along with the nationalization of infrastructure were cases of retributive nationalization. By example, Renault was nationalized without compensation as punishment for the family's ties to the fascist regime. This process gave the state a stake in a wide range of the industrial production of the country, thus further tying government solvency to the fates of industry.[3]

The French reconstruction was predicated on the idea that the increase in consumption that would bring about a recovery should be brought about by an investment program in the industrial sectors as well as the building of an economic infrastructure. In line with the Monnet Plan ideals, Industrial expansion became the motivator through which the expansion of supply lines as well as the reorganization of labor was achieved. The industrial structure in place was to provide continuity between the Fascist regime and a liberal democracy. Tenets of the Monnet Plan as well as various other investment directives were set up so that reconstruction funds were sent through the industrial sector before reaching the general market. As the gateway for aid to reach market, the apparatus of the French reconstruction hinged around a giveaway to industry.

For a Keynesian system to work, it is presumed that prices will have enough short-term immobility, or 'stickiness', that new money coming into the system will expand the economy rather than uniformly drive up prices. Until the credit

[2] ibid. p.76.
[3] ibid. p.76.

controls of 1948 were enacted, prices had not attained this quality and the increase in money supply directly increased wholesale prices.[4] Governmental deficit financing and a cheap money policy, which provided low interest loans to businesses without any real regulation, caused significant postwar inflation.[5] It quickly became apparent that credit controls had to be enacted to ensure that new money was used for productive gain rather than having the effect of simply driving up prices. The French experiment was in the use of monetary controls to regulate the economy rather than controlling prices, consumption and production directly.[6]

The first attempt to enact credit control was to regulate the way that credit was distributed throughout the economy, but not to regulate the total volume of that credit. Along with the distribution of credit based on expected returns, regulations dictated the decentralization of credit by limiting the maximum that any one firm could borrow, and dictate that credit was to be also allowed only for productive purposes, thus borrowing for speculative ventures, such as securities or investment property, was outlawed.[7]

Allowing credit only for productive purposes was intended to speed up reconstruction by building up the physical infrastructure of the nation as the principal means of creating the economic infrastructure, thus projects of national

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[4] From the years 1945 to 1948, prices rose 71, 80, 45 and 62% respectively. The market response was an overwhelming devaluation of the Franc, while the market value of the Frank was at 205 to the dollar in 1948, its black market value stood at 351, a premium of 71%.
M. A. Kriz, "Credit Control in France," *The American Economic Review* 41, no. 1 (Mar., 1951), pp.89-90.

[5] ibid. p.86.

[6] Eichengreen and Casella argue that credit controls were secondary to the political decline of the leftist government and an ambitious program of public investment in bringing about price stabilization:
Barry Eichengreen and Alessandra Casella, *Halting Inflation in Italy and France After World War II* (London: Centre for Economic Policy Research,[1991]).
The discourse on credit controls provided here thus describes the context in which change occurred, if not necessarily its impetus.

[7] Kriz, *Credit Control in France*, pp.86-87.

importance were given primacy in the distribution of money. It soon became apparent that deciding the degree of national importance of any single credit application, as well as determining the total outstanding credit of a firm at any given time was impractical.[8]

It eventually became clear that the overall volume of credit as well as its distribution needed to be regulated in order to slow down inflation. A February 1948 law demanded that banks remain at a minimum of 60% liquidity; that is that their assets be valued at a minimum of 60% of the money on loan at any given time. Further regulation in October of the same year dictated that a minimum of 20 percent of theses assets be in the form of public securities such as treasury bills.[9]

These measures were intended to limit and secure the volume of lending, by tying the amount that a bank may lend out to its assets held by the state, the total volume of lending is limited by the volume of state assets and securities, as a result, any increase in the volume of one will necessarily increase the volume of the other. Thus the securities of public and private assets are tied together, with the success of private markets strengthening the financial solvency of the state. In this system the private banking money stemmed from the state in a twofold manner. First, money is borrowed from the state via private banks, with the Bank of France as the primary issuer; second, the state assets held by the banks secure that money. In this way the borrower was tied to the state by both the supply and the security of lent monies. This fully integrated the state into the reconstruction. While on the surface, private firms using private money were accomplishing the work; the entire system was predicated on the solvency of the state. As Antonio Negri describes this condition of Capitalism:

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[8] ibid. p.87.
[9] ibid. p.87.

> The state has, itself, to become an economic structure, and, by virtue of being an economic structure, a productive subject. The state has to become the marshalling center for all economic activity [...] Thus it becomes a new form of state: the state of social capital.[10]

In effect, credit controls were a dual system of limiting the credit supply through the tight restrictions enacted in 1948, while at the same time creating a virtually unlimited channel of credit, through certain economic sectors, to businesses.[11] Because credit restrictions were exempted when directed towards Monnet Plan priorities such as industry, agriculture and export goods, these became the mechanisms for the creation of new credit beyond the existing supply. Returns on these investments then became available for general credit to other businesses. In effect, all new money brought to market was initially to be supplied through credit to the reconstruction effort. Any expansion of the economy reflected an initial investment in the reconstruction, as Kriz explains:

> It was by allowing the use of additional reserves that had been generated by Bank of France rediscounts granted *for a few special purposes,* that the authorities actually brought about a *general* credit expansion.[12]

Also, with the requirement that 20 percent of all new funds to be invested in government securities, the reconstruction effort effectively became the means through which the state maintained solvency.[13] In this way reconstruction became the mechanism by which the consensus of trust in the French economy was achieved. Both businesses, with the creation of new credit, and government, with part of the returns being invested in government bonds relied

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[10] Toni Negri, *Revolution Retrieved: Writings on Marx, Keynes, Capitalist Crisis and New Social Subjects, 1967-83* (London: Red Notes, 1988). p.26.
[11] Kriz, *Credit Control in France*, p.97.
[12] ibid. p.97.
[13] ibid. pp.96-97.

on a reconstruction economy. The efficacy of the reconstruction effort was in effect an index of the health of the economy as well as the solvency of the state.

It was in this greater context of economic reforms enacted to secure Marshall Plan aid that the reconstruction of war damaged cities took place. In a sense, the urban reconstruction was both a manifestation of the economic realities of the period, as well as a parallel route to the ideals and ambitions that they embodied. To understand the particular ways that the French reconstruction expressed these ambitions, it is essential to understand direction of the overall state of the building trades from which the reconstruction projects emerged. The French state sought an advantage of the parallels between the ambitions of American governmental organizations and French manufacturing interests in reconstruction, especially in the formation of an apparatus through which the normalization of capital and domesticity would coincide with the national aims.

In May of 1945 a cooperative program began between the French Ministry of Reconstruction and the American National Housing Agency (NHA) to formulate a set building techniques and domestic goods to be employed toward the reconstruction. An exhibition of this effort entitled the exhibition of *Techniques Americaines de l'Habitation et de l'Urbanisme, 1939-194X*, took place from June to July 1946 at the Grand Palais in Paris, and displayed the results of this cooperation for benefit architects and members of the building trades as well as for the information of the general public.

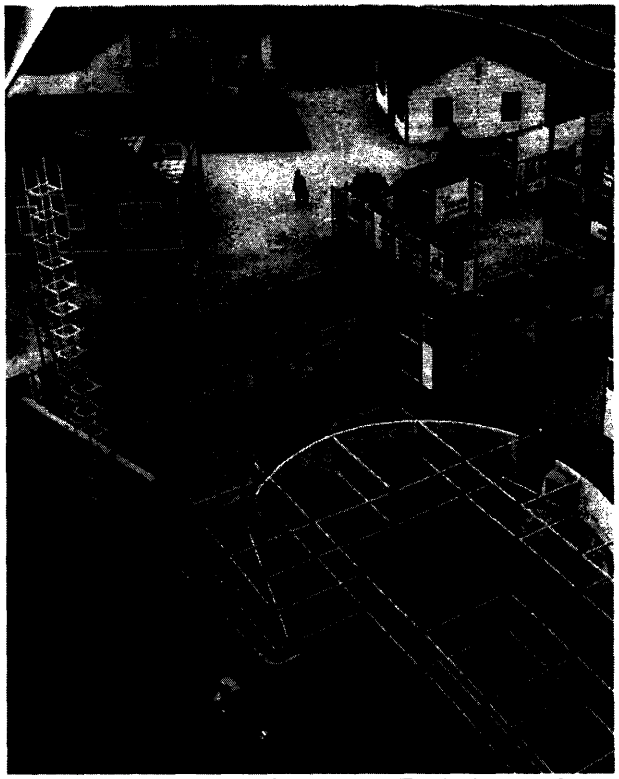

Figure 3.01 - *Exposition des Techniques Americaines de l'Habitation et de l'Urbanisme, 1939-194X*, June – July 1946, Grand Palais, Paris.
Both the exhibition boards as well as the hosing prototypes at the exhibition were fabricated in the US and assembled on site at the Grand Palais. Building techniques are shown leading sequentially to their realizations.

The exhibition was constructed entirely in the United States of prefabricated, modular units by the NHA and shipped for assembly in France. This effort was undertaken with the leadership of NHA head Paul Nelson with his assistant Frederick Gutheim and included the contributions of a vast range of the building materials and equipment industries, prefabricated home manufacturers as well as established American and French architects including Gyorgy Kepes, Anatole Kopp and most notably Louis Kahn.[14] This combination of influences pointed directly to the effort that was being made to present a new way of thinking about construction. The presentation, consisting of materials, component catalogs and images of construction sites and finished projects, was intended to conceive of an architecture based on the integration of manufactured parts, state bureaucracy and construction methods and techniques. As Paul Nelson said:

> First of all, it should be stressed that this was not an exhibition of "architecture" or "urbanism" in the general sense of the terms, and that the choice of examples was not determined by aesthetic considerations, but by a concern to show the French public that cheap housing is mass-

[14] Jean-Louis Cohen and others, *Scenes of the World to Come : European Architecture and the American Challenge, 1893-1960* (Paris; Montreal: Flammarion; Canadian Centre for Architecture, 1995), 223. p.175.

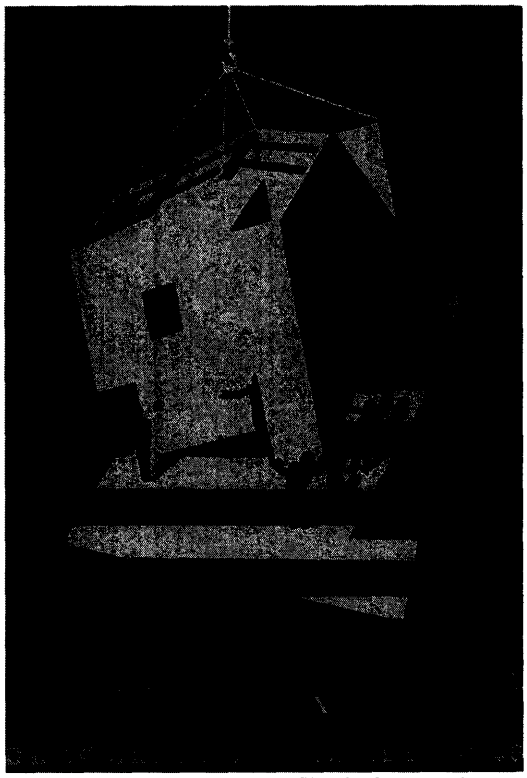

Figure 3.02 – Poster, *Techniques Américaines*.
The aims of the exhibition are made explicit; the benefits of modern, prefabricated American systems are to be implanted in France. As the house is being placed on the space of an American flag, the site of the modern dwelling is effectively transformed into a plot of American soil, with the postwar home becoming a space of American-style capitalism.

produced in America, that new materials are developed and applied there, and the extent that Americans adapt to ever-changing conditions by constantly renewing their methods.[15]

The exhibition was to be set in three stages. First was the graphic stage, a winding exhibition of displays showing a variety of building and planning techniques, second was a cul-de-sac of prefabricated houses by various manufacturers showing the coordination of these techniques and third was a library for further research and a cinematic exhibition of American successes.[16]

The graphic section of the exhibition was arranged as a sequence of display broken down into five general categories. The first section, *Production de Logiments*, was to set the stage of the housing problems, explaining the economics of building as well as the private and the governmental roles in construction, this section expressed an evolution of housing from prewar to wartime production followed by the early postwar and

[15] Paul Nelson, "Precisions a Propos De l'Exposition Des Techniques Americaines De l'Habitation Et De l'Urbanisme," *L'Architecture d'Auhourd'Hui: Techniques Americaines d'Habitation Et d'Urbanisme* 18, no. 12 (Jul., 1947). Trans. J.L. Cohen.
[16] Descriptions of the organization and layout of the exhibition are from:
Max Blumenthal, "Exposition Des Techniques Americaines 1939-194X," *Techniques Et Architecture* 6, no. 1-2 (1946).

its extrapolation into the future. The indeterminacy of the exhibitions title, 1939-194X, expresses that the system being articulated was part of a ongoing process, that the future was certain to continue these modes of production. The second section, *Logiments*, covered residential building techniques centered upon the themes of health and habitability as well as mass production and economy of building. The third section, *Urbanisme*, explained the doctrines and techniques of urban and regional planning with special attention paid to citizen involvement. The fourth section, including the areas of *Techniques de Construction, Equipment, Prefabrication, Material de Chantier* and *Organization du Travail* included in its scope the issues of construction techniques, manufactured products and the equipment of housing. The final section, *Techniques d'Information*, was devoted to the organization of information, covering drafting and presentation as well as communication with the contractors. Integrating this section with the previous was a full set of Sweets Catalogs, showing the importance of information technology in the incorporation of manufactured components into the design process.

The section *Techniques de Construction* articulated the benefits of integrating manufactured production with the building trade, as an exhibition presentation in *Techniques et Architecture* explained:

> It will initially make it possible to understand the reasons why Americans build composite walls instead of masonry; to see materials that they use; how they equip the houses with kitchens and bathrooms; how they heat, cool and light these houses; how they preserve food for a long duration in a "deep freeze". Many types of equipment will be shown there, from the complete kitchen to the fluorescent lamp. Likewise, there will be presented the techniques developed for prefabrication, those of the organization and the mechanization of the building site, and finally the organization and

> research in the construction trade in the United States to lower the price of construction and to develop better building materials.[17]

It is notable that this section also held the central role in this exhibition, conceptually integrating the macro scale of a decentralized manufacturing infrastructure with the micro scale of particular components on the ground. This expresses the overall goal of the exhibition to provide a vision of the building process in the United States as a productive bureaucracy of economies of scale, where an enlargement of the industry provides both an increase in quality as well as a decrease in cost. Richard Neutra articulated these ideas in his address to a French Audience printed in a special issue of *l'Architecture d'aujourd'hui*:

> I speak of an attitude of technical economics: whatever we design today, the immense number of careful technical details we conceive – all of it has true contemporary significance only if it does not aim at uniqueness, but at an applicability for repetitive production, for production en series.
>
> In former periods, "quality" was identical with rarity.
>
> In our technological setup, only frequency of consumption permits a tooling up, warrants grand investigation in research and apparatus, which today spells and means the best obtainable specification and design.[18]

Paul Nelson likewise articulated the use of standardization for the new direction of modern architecture:

> Certain principals are internationally valid, such as the development of standards essential to mass production and the coordination of all the factors of that production.
>
> The exhibition revealed this general principal to the French architects and town planners. It also reassured them as to the so-called threat which standardization represents to design freedom: standardization does not

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[17] ibid.

[18] Richard J. Neutra, "Systematics, an Ingredient to Design," *L'Architecture d'Auhourd'Hui: Richard J. Neutra, Architect* 16, no. 6 (Mai-Juin, 1946), pp.6-7.

> restrict the architect's movements – it is a means of diversifying and constantly improving living standards.[19]

This articulates a model of building design based on the gradual and collective improvement of manufactured building components to be coordinated by the architect.

In a prior issue of *l'Architecture d'aujourd'hui*, Paul Nelson equated the task of material urban reconstruction to the parallel tasks of social, economic and political reconstructions:

> It appears to be a fact that the French people are very conscious of the formidable task of reconstruction and the need of increasing their productivity, so they are becoming more interested in the techniques of accomplishing these goals. Their own social, economic and political ambitions are in a sense new techniques opening new horizons.[20]

Notable in this is the technical language that continues on in the comment on social reconstruction, referring to "new techniques opening new horizons." New building methods are displayed as discreet practices, each having accomplished a unique technical evolution, the assembled prototypes at the conclusion of the exhibit thus represent the conglomeration of these parts into a unified whole. In building a display for the benefit of the public in addition to the trades, Nelson expresses awareness that the metaphor of a building as an assemblage of discreet, technologically refined parts would be transferable to the social sphere. Just as the problem of architecture will be solved by a disparate group of people employed toward the gradual improvement of discreet methods, social issues would likewise be worked on collectively, with situations gradually improved through a technocratic bureaucracy.

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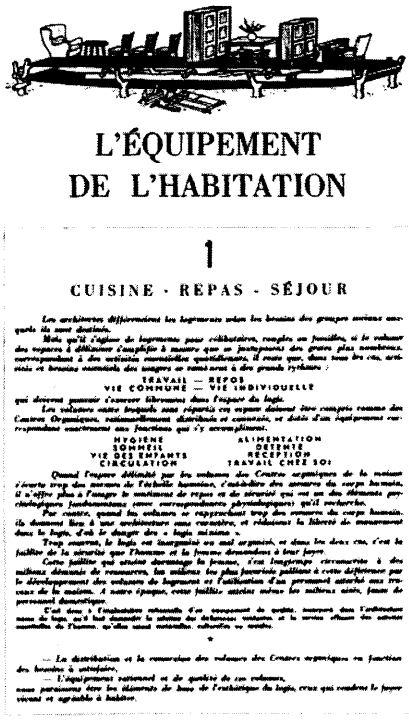
[19] Nelson, *Precisions a Propos De l'Exposition Des Techniques Americaines De l'Habitation Et De l'Urbanisme* trans. J.L. Cohen.

[20] Paul Nelson, "Exhibition of American Housing and Planning Techniques 1939-194X," *L'Architecture d'Auhourd'Hui: Richard J. Neutra, Architect* 16, no. 6 (Mai-Juin, 1946), p.78

With the postwar turn, the modernist project required an inversion of its prewar aims – where the original goal was that the independent agent of the entrepreneurial architect would define the political economy of a new era via its realization in built form – the postwar period had already provided an economic and ideological infrastructure that required physical realization. Architectural discourse under these new circumstances changed twofold; first, the desire for radical change was tempered by a moderate system defined by liberal democracy and Keynesian economics, and second, theoretical discourse on architecture was from then on to occur within set social and economic confines, and no longer to demand radical change. The confluence of the regulatory structure of the Keynesian state with the industrial infrastructure of the nation thus created a unique complex of commerce and domesticity.

In 1947 the HBM system was absorbed into the MRU, and André Prothin was placed in charge of experimental construction and housing competitions under the *Service of Construction Studies*, an MRU subset of the MRU, making several dictates in the requirements for new HBM and reconstruction housing. Of interest were two requirements pertaining to the facilities and spatial arrangements. First was that each apartment should have certain amenities: a kitchen, a bathroom, toilet, laundry facilities, closets and a storage room. Second was that each unit contain a living and dining room and that they be separate from the kitchen.[21] These policies provide insight into the relationships between a corporatist housing and construction policy and some of the modes of domesticity that arose in post-war France. In requiring an expansive list of amenities for each individual unit, the building component industries were guaranteed a fixed and continuous demand for their products.

[21] W. Brian Newsome, "The Rise of the Grands Ensembles: Government, Business and Housing in Postwar France," *The Historian* 66, no. 4 (Dec., 2004). pp.800-801.


L'ÉQUIPEMENT
DE L'HABITATION

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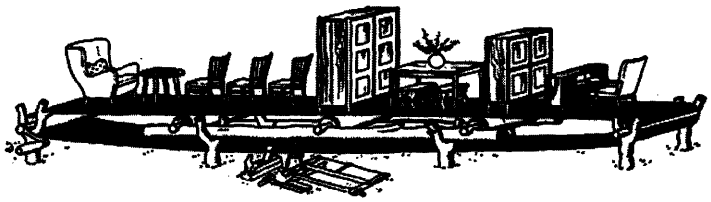
CUISINE · REPAS · SÉJOUR

Figure 3.03 - Front Page: "l'Équipment de l'Habitation" *l'Architecture d'aujourd'hui*, Vol. 10, 1947.

Reflecting this bureaucratic merger, in May and June of 1947, a special two-part edition of *l'Architecture d'aujourd'hui* entitled "l'Equipment de l'Habitation" came out presenting a summary catalog of the domestic equipment and furnishings, mostly derived from the *Techniques Americaines* exhibition and the subsequent *Exposition Internationale de l'Urbanisme et de l'Habitation* also at the Grand Palais in 1947, that were becoming available to the French consumer. The first of these issues, Volume 10 covered the kitchen dining and living rooms and equipment while the second, Volume 11, covered furnishings for the bathroom, the bedroom, children's furniture, closets and storage, office furniture, and domestic equipment.[22]

The image atop the introductory page to these issues articulates many of the aims projected in these exhibitions, and sought through the modernization of the French building industry. Showing a conveyer belt that rolls out new manufactured good for the new consumer environment, this image is a treatise on a new mode of consumer domesticity. The articulation of the structure and assembly of this apparatus, its heavy wooden branches supporting a basic

[22] Alexandre Persitz, "L'Equipment De l'Habitation," *L'Architecture d'Auhourd'Hui* 18, no. 11 (Jun., 1947), pp.50-129.



L'ÉQUIPEMENT
DE L'HABITATION

Figure 3.04 - Graphic, "l'Équipment de l'Habiataion" (left), and Figure 3.05 - Frontispiece, "The Primitive Hut" of Laugier's *Essai sur l'architecture* (right). A new form of domestic production is proposed.

rectangular form is unmistakably reminiscent of the frontispiece of Laugier's *Essai sur l'architecture* in which he describes the primitive hut. Where in the *Essai sur l'architecture,* the harrowing tale of the origin of architecture is the work of the individual satisfying a basic necessity, in the new domestic manufacture, the traditional artisan trades are cast off the side, and architecture entails the mass-production of goods for the general expansion of a market.

Each section of these issues showed a variety of products in different arrangements, displaying the versatility of manufactured furnishings to suit different needs as well as the range of furnishings available for each purpose. The section on the bedroom, for instance, showed the range of different bedding types available (single, double, trundle, murphey, etc.) while presenting their different arrangements to best suit spatial constraints as well as domestic arrangements. Special equipment, such as the bathroom fixtures and certain domestic equipment, displayed the installation requirements and their technical specifications. Product information in general moved away for the form of architectural discourse familiar to *aujourd'hui* readers, instead took on the

Figure 3.06 - Bathrooms, "l'Equipment de Habitation: 2". Manufactured modules create new arr-angements. Different combinations of the domestic environment are aranged to satisfy a proliferation of domestic modes.

Figure 3.07 - Closets, "l'Equipment de Habitation: 2". An economy of perpetual inflation requires an ever-increasing demand for goods where a domestic environment of surplus is created. There is little differentiation between design and commercial presentation.

commercial jargon of the catalog. For example, the caption accompanying a high-end wardrobe:

> Extremely luxurious and complex cabinet for men's clothes and linens, also contains a place for accessories. Allows complete utilization of the doors (shelves offer various systems of arrangement).
>
> Examples of rational and complete design down to the last detail.
>
> G. - B. GIBELLI, architect, Italy.[23]

These special issues thus represented an architectural program for the postwar home that also served as a commercial marketing catalog, and as will be shown, an official doctrine for reconstruction housing. In these issues a new techno-

[23] ibid., p.93.

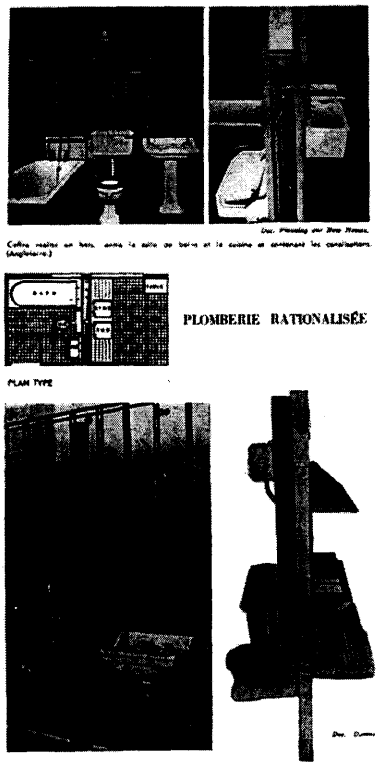


Figure 3.08 - Plumbing and fixture arrangements "l'Equipment de Habitation: 2". Products are shown integrated into a greater system of social sanitation. The social hygienic plans of sanitation are integrated into the normalizing forms of the environment of consumption.

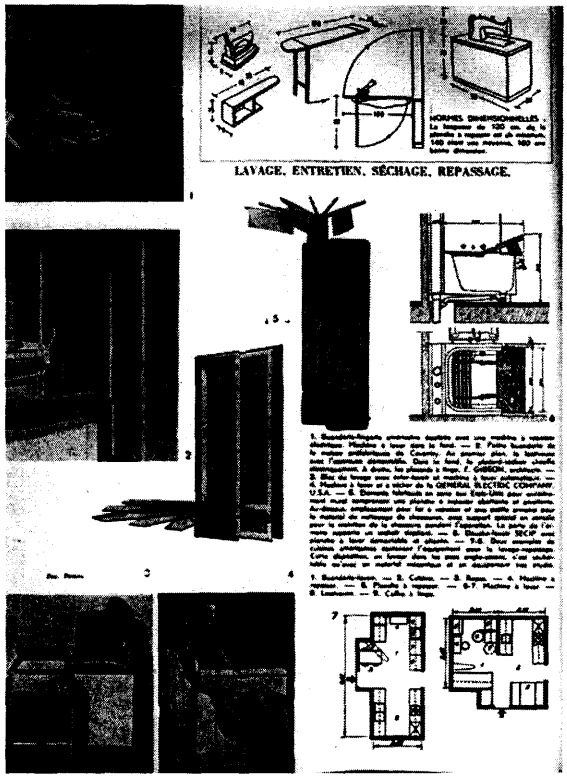


Figure 3.09 - Domestic equipment, "l'Equipment de Habitation: 2". New standards of sanitation precipitating new lines of domestic appliance demand a revised role for the postwar house-wife.

spatial domestic milieu was being formed, and a new form of state-domestic consumption was being tested.

The presentation in *l'Architecture d'aujourd'hui* gives no indication of an overarching design program; the display of information is jumbled, bordering on arbitrary, with different products placed next to each other with little regard to a greater, unified presentation. Products of different types and manufacture, coming from all over the world, compete for space in this issue. The editing problem, on receiving a sundry heap of product information form a variety of manufacturers, was to produce some sensible orm of presentation. The intractability of this problem is exactly what is on display here, the impossibility of

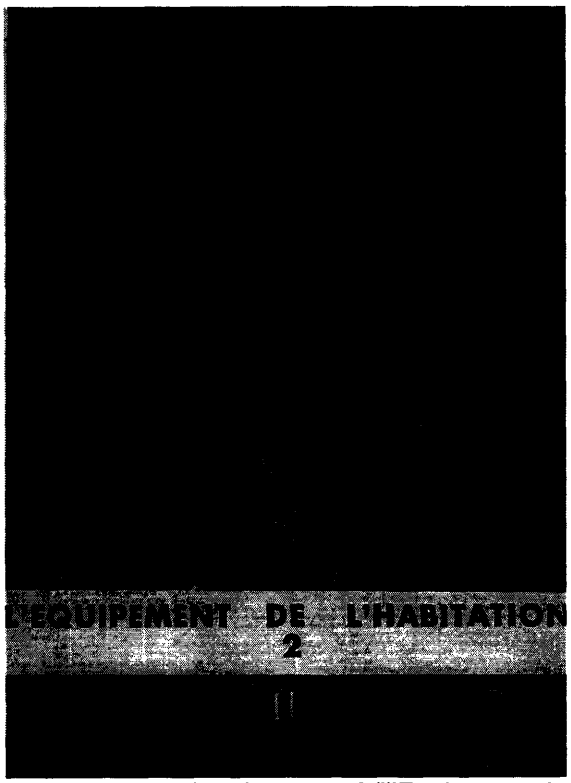


Figure 3.10 - Frontispiece of "l'Equipment de Habitation: Volume 2", *l'Architecture d'aujourd'hui* Vol.11, 1947.
The postwar closet overflows with new manufactured goods to satisfy a newly manufactured set of needs. Among a sundry collection, the chaos of the new consumptive environment, the housewife is completely at ease as she ponders a selection of badminton rackets.

creating a single voice, and in the end the recognition that all that can be expressed is the existence of an amalgamation of competing aims and devices. The presentation of this issue, its saturation with information, and its focus on the local presentation against a global system precisely mirrors the mode of commercialized space destined for the postwar domestic interior. Departing from the modernist totality of design, where every part of the domestic interior reflected the imperatives of the overall work, the postwar interior was a space of complexity and difference brought about by diverse market competition.

These editions clearly go further than being simply the content of a catalog being adjusted to a journal format; it serves as a normalizing mechanism for the domestic interior. In the diversity of products there reads through a pattern of standards for the modern family where each page displays an intended mode of domesticity. Pages for the bedroom show distinct and separate typologies for parents and children's rooms, sections on the bathroom indicate the new standards of hygiene, and domestic chores are codified through the isolation of the kitchen and the proliferation of new appliances. Many of the displays set up in this issue, these standards of the modern home by designers such as Jean Royere, are in fact arrangements

directly commissioned by the MRU in a state effort to bring living standards to the postwar home. The distinction in this issue between what is a commercial enterprise, a design presentation and state intervention is impossible to determine. Each is shown on equal terms and all share the same space, in fact, all three exist in the same products.

Through living standards, the MRU created a new economic platform through which architectural works in domestic space would work to expand the economy. Living standards were both a basic program for the welfare state, increasing the health resources of the people, as well as a means of expanding the economy, using Keynesian mechanisms to increase the commercial potential of the home. As the MRU worked to gather diverse furnishings for the home, the work of a designer began to entail specifying manufactured furnishings throughout its design, the domestic interior started to become a space for commercial expansion. Manufactured products from the United States and Europe were presented together, offering infinite variations on the domestic interior; every possible arrangement and every mode of living was available for specification through the furnishing products of postwar life. As distinct from domesticity in a classical economy, the postwar home was more than a simple commercial space; it had become a space of international exchange and economies of scale. Through the influence of the MRU, modes of living to take place within the home had changed, or expanded, as the separation of programs with increased living standards opened up the commercial potential of domestic space, the home became another aspect of a larger inflationary economic model.

Under the influence of the MRU, the furniture design traditions of the 1930's would continue on with new life being given to them. Much of the furnishings of this period consisted of interwar works of designers such as Royere being revisited decades later, mass-produced for mass consumption. With a new

demand for goods to furnish the postwar home, new techniques were being produced to provide aesthetic quality at a large scale. Dorothy Scoenbrun, an American describing the French design section of the *Exhibition of American Housing* describes:

> With their inimitable talent for the new and different they have succeeded in spicing the entire show with delightful ideas. There are drapery fabrics printed with huge, over-size keys a foot long, looped with green ribbons in groups of three. Many wallpapers employ unusual motifs such as fashionable life-size heads and picture hats, or serenading troubadours large enough to be, in effect, a mural. Unforgettable, too, are the new artistic ceramics, not only used as traditional table decoration, but worked into tall, leaf-entwined stands for floor lamps.[24]

Figure 3.11 - Cover, "Techniques Américaines d'Urbanisme et Habitation", *l'Architecture d'aujourd'hui* Vol.12, 1947.
Sitting at a blueprint that defines the domestic environment, the architect arranges manufactured homes into a larger agglomeration. Oddly, the pieces never seem to fit cleanly together and lay scattered about on the drafting table.

Schoenbrun quite presciently then went on to complain about the "boogie-woogie" music being piped into the auditorium.[25]

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[24] Dorothy Schoenbrun, "An American Looks at the Paris Art Scene," *L'Architecture d'Auhourd'Hui: Richard J. Neutra, Architect* 16, no. 6 (1946), p.83.
It is interesting to speculate here about the possibility of a Keynesian explanation for the origin of French kitsch.

[25] One can not help but see a connection to Adorno:

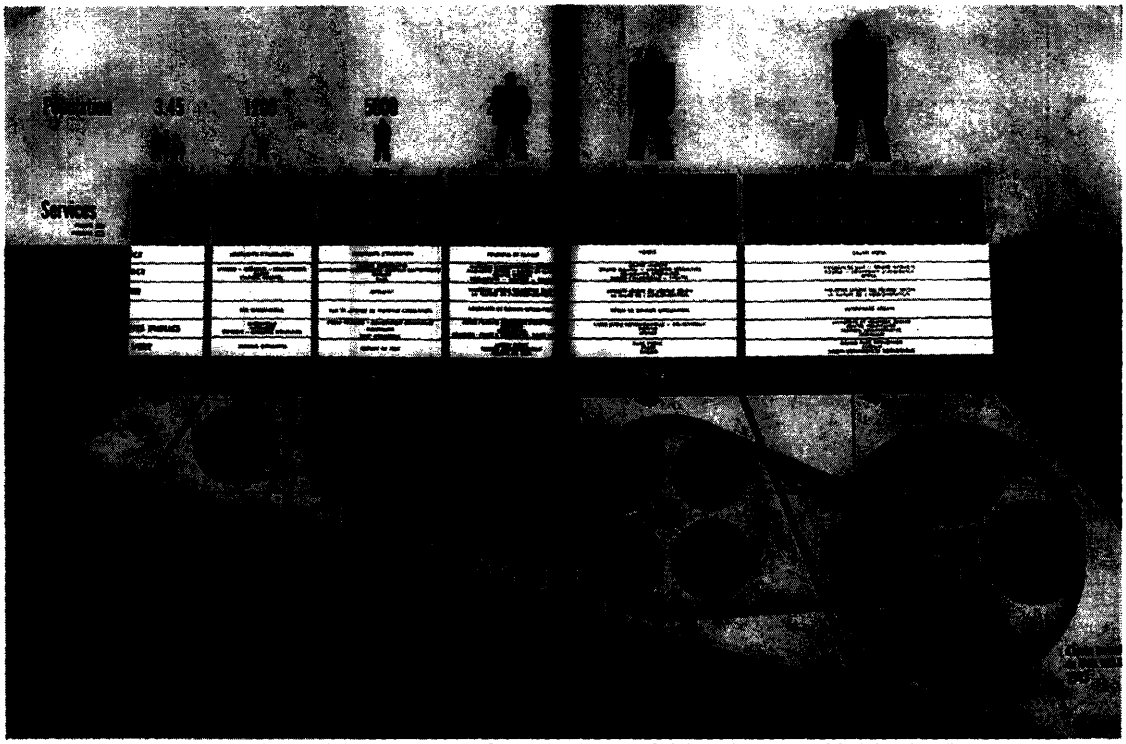


Figure 3.12 - Frontispiece, "Techniques Américaines d'Urbanisme et Habitation"

The July 1947 issue of *l'Architecture d'aujourd'hui,* a special issue entitled "Techniques Americanes d'Habitation et d'Urbanisme" was specifically dedicated to reprinting essential portions of the similarly titled exhibition. Where the two prior issues were devoted to staging a commercial and domestic milieu, this issue went further to conceptualize an entire organizational complex for postwar France, a new structure of society built upon a Keynesian bureaucracy.

After several introductory notices, there followed a two-page graphic spread, serving as a frontispiece to the exhibitions contents, this consisted of a complex taxonomic diagram, designed under the direction of Paul Nelson, of an idealized planning framework and entitled *Vers la Ceation de Standards d'Urbanisme.*

Theodor Adorno, "On the Fetish-Character of Music and the Regression of Listening" In *The Essential Frankfurt School Reader,* eds. Andrew Arato and Eike Gerhardt (New York: Urizen Books, 1978).

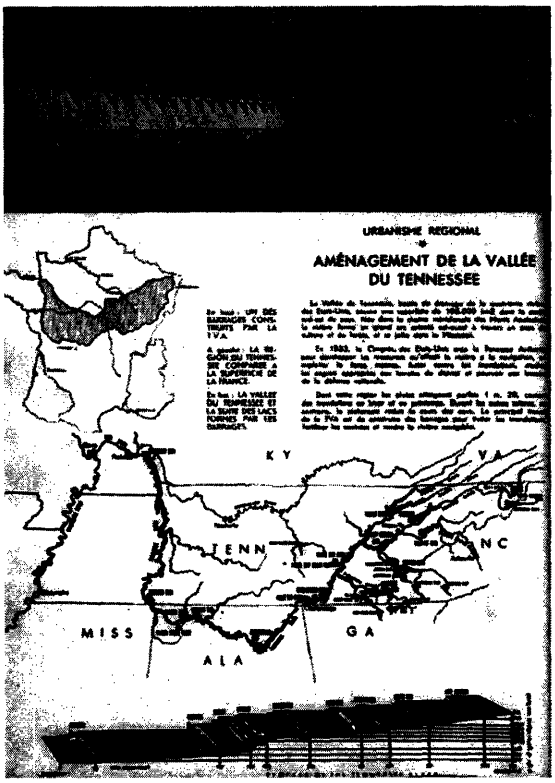


Figure 3.13 - Land Management, "Techniques Américaines d'Urbanisme et Habitation"
The presentation of the Tennessee Valley Authority implies a similar application to the French infrastructure.

This proposed a modular urban planning framework to accommodate a population of 250,000 residents. The design clearly has its origins in Ebenezer Howard's Garden City layout in that each scale of urbanity represents a modular unit of a larger network. The city is thus divided into six scales, beginning with the single family residence and moving through the scales of neighborhood, community, quarter and sector to reach a metropolis of 250,000, each being one of several like units contained within the next largest scale, and the city becomes conceptualized atomically.

Each scale of intervention is graphically framed at the top by the size of the population being served and at the bottom by the degree of scale in question. Between these are the two main subdivisions of public and private *Services* and *Land Utilization*. The *Services* section quantifies the types of utilities provided with each increase in urban scale, by example, telephone service exists at the domestic scale, a boulongerie is added at the neighborhood scale, public transportation might be added at the community scale. These work cumulatively, as each increase in scale already contains the previous utilities while new ones are continuously added. The Land Utilization section is broken down into the six basic subcategories of Housing, Commerce, Industry, Roadway Infrastructure, Public Buildings and Green Space. Each item in this taxonomy qualitatively

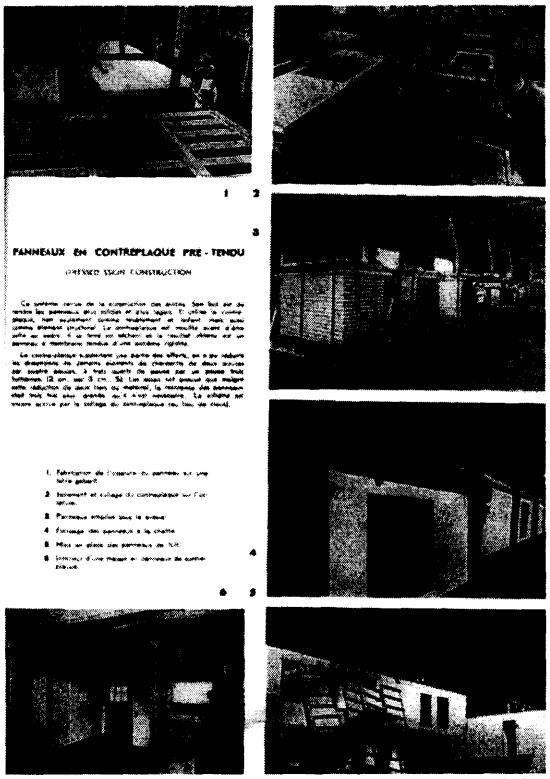
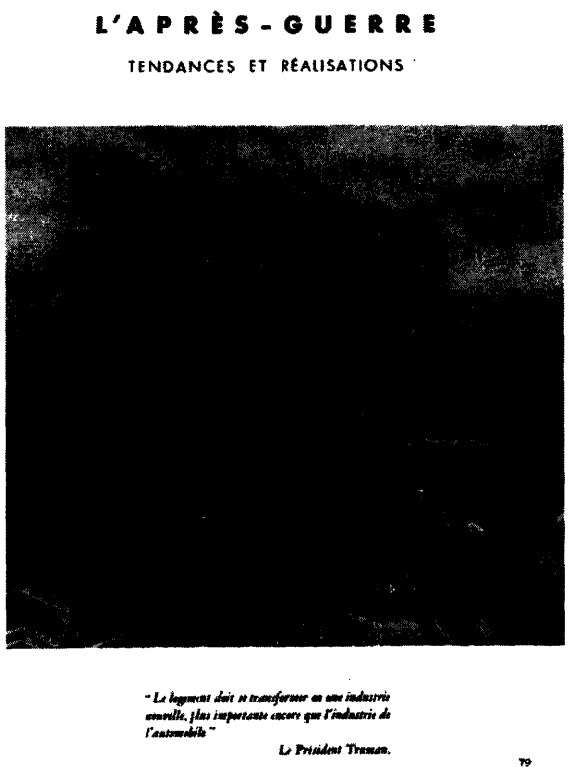


Figure 3.14 - Manufacturing and prefabrication of materials, "Techniques Américaines d'Urbanisme et Habitation"

Figure 3.15 - Construction Equipment, "Techniques Américaines d'Urbanisme et Habitation"

changes with each increase in urban scale; roadways will thus increase from residential street at the neighborhood scale through avenue and grand boulevard through to the highway system at the scale of the metropolis. The diagram thus expresses a model of systemic transformations that take place with increases in urban scale. With each grouping, cumulative increases in services are coupled with qualitative transformations in land utilization. As the descriptive caption of the grid states:

> The design of plan of a community must take account of these services, which differ in kind and in importance according to the number of the population and the extent of the agglomeration.



3.16 - Concluding image, "Techniques Américaines d'Urbanisme et Habitation"; "l'Après-Guerre: Tendances et Réalisations"
The entire urban agglomeration is displayed in a single image, with the city being served by its multiple appendages. Business sits at the center and is surrounded by industry, and commercial shipping, all manned by new the urban middle-class in its vast stretches of housing; the infrastructure of the road connects these different aspects.
Quoting president Truman: *Housing must be transformed into a new industry, one more important than the auto industry.*

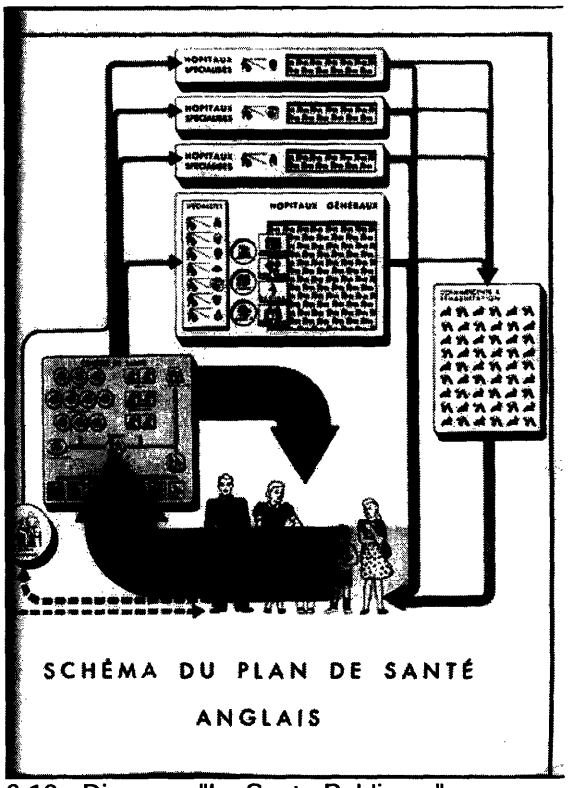
This study attempts to define basic urban units according to their own services and of their population.[26]

The Nelson Grid makes reference to Sellier's *Agglomeration* providing a socio-technical environment for the modern city. Each increase in the urban scale is accompanied with a group of concurrent spatial transformations, these are in turn reinforced by public and private services supplied to the citizenry. Land usage in this model becomes a conduit for the supply of goods to a consuming populace. A large urban populace is both an economy of scale, demanding the distribution of goods evenly throughout, as well as a new conduit of commerce, demanding a range of goods to suit both the individual and the mass urban populous. All of these conduits for the distribution of goods and services are made manifest in the transformation of land usage.

[26] Paul Nelson, "Vers La Creation De Standards d'Urbanisme," *L'Architecture d'Auhourd'Hui: Techniques Americaines d'Habitation Et d'Urbanisme* 18, no. 12 (Jul., 1947).

The *Expostition de Techniques Americaines* as well as its presentation in the pages of this special issue of *l'Architecture d'aujourd'hui* must be seen as a model by which the physical structure of the land and its usage are organized to receive public and private goods and services, where the land becomes a template for the insertion of manufactured goods and economic movement. The organization of the presentation from the scale of land management, urban structure, residential types, and materials and equipment must be seen as presenting a seamless conduit for manufactured goods to reach a global mass-market, likewise the new organizational techniques for architects to utilize in production place them as the agents in guiding commerce and structure towards a mutual interdependence.

When this model is seen inverted, when the perspective of the overall land management is switched for that of the individual family, and the nuclear family with the single family house at the left of the diagram takes methodological precedence as the catalyst of the system, a reading of the grid as a model for social subjectivity becomes apparent. The home in this case becomes the single module of a scalar system of commercial subjectivity. With each iterative change in urban scale, the spatial relationship of the family to the urban scale undergoes a transformation. Concurrent with this, the social amenities offered to the family are gradually increased as the family moves form private life to social citizenry. The spatial organization of the family in relation to the metropolis occurs simultaneously at a variety of scales, with different modes of public and private service available different degrees of interaction. With this view, the conceptual economy of scale is likewise inverted. In the social view, the mass of individual consumers would allow a range of goods to be spread evenly throughout the population. With the individual as the focus, a sundry group of goods is always available for choice of consumption.



3.16 - Diagram, "La Sante Publique," *L'Architecture d'Auhourd'Hui*, no.15, 1947

In a later issue of *l'Architecture d'aujourd'hui*, Paul Nelson again contributes with a proposal for a restructuring of the public health system along American lines. In separating out one of the elements of public services as detailed in *Vers la Creation de Standards d'Urbanisme* for detailed examination, he methodologically inverts the former diagram, focusing instead on a single amenity as interacted with from the view of a singular nuclear family. In an accompanying article by Andre Schimmerling to display a similar transformation of the English public health infrastructure, the provided diagram sets at its center the image of the nuclear family. [27] This is the same nuclear family set as a taxonomic unit in the upper left corner of *Vers la Creation de Standards d'Urbanisme*, but this time enlarged with the diagram organized around them. The two diagrams therefore form a unified set, on one hand describing how the family represents a single element of a larger social structure, and on the other hand, showing how the social structure provides a scale of amenities to that family. This is articulated by Nelson's own description of four different types of public health to operate at different urban scales:

[27] Andre Schimmerling, "La Sante Publique," *L'Architecture d'Auhourd'Hui* 18, no. 15 (Novembre, 1947).

1) National plans of the equipment of public health services in each country, which will enable us to compare the urban standards that fix the necessary distribution of buildings.

2) Units of building-types or plan-types of health centers, general hospitals, teaching hospitals, specialized hospitals (tuberculosis, psychiatry,...), houses of convalescence, Faculties of Medicine, school nurses...

3) Units of space for each type of building, i.e. examination, disease, sterilization, operating rooms, laboratory, radiology...

4) Systems of control, allowing to make the integration of the units of space, i.e. the systems of operation concerning circulation, communications, indication..., air conditioning systems, temperature control. Orientation, lighting, acoustics..., systems of structure concerning spacing of columns, doors and windows..., finally them systems of drainage concerning the food, water, the garbage collection, coordinated with the sewer...[28]

Thus this inversion of the taxonomic description to a scalar one further articulates the workings of a spatial-service conglomerate, modeling an organic system distributed evenly throughout society. One must imagine that each of the amenities described in the Nelson grid must have a similarly unique scalar description, and that the accumulation of these provides the structure of the postwar metropolis.

The diagram provided by Nelson of an idealized public health infrastructure, *Schéma du Plan de Santé Anglais*, goes beyond the description of a scaled techno-landscape infrastructure and points to something more, namely the bureaucratic infrastructure of public health, and consequently, the specific

[28] Paul Nelson, "Preface," *L'Architecture d'Auhourd'Hui: La Sanate Publique* 18, no. 15 (Novembre, 1947).

subjectivity of the nuclear family within it. In this, the family is displayed in a state of continuous feedback within a network of health centers, medical specialists and methods of rehabilitation each with their own internal organizational complexes.[29] Each zone of this complex has the capability of curing the subject or moving them forward into a more specialized organizational space, eventually cycling them back into the domestic sphere. The diagram implies a certain consequence, that with each subsequent cycle through the public health complex, the individual nuclear family comes closer to its cultural ideal. A model of subjectivity to the complex thus comes through, if one reads only the shaded arrows pointing back to the idealized family, one can imagine that this family is a wholesale construction of the public health system. Now moving back to the techno-spatial organization of health care that Paul Nelson describes, and bringing this further back again to his taxonomic grid of land utilization with public and private services, the grid must be re-imagined as a conglomeration of different social organizing mechanisms, all sharing a complex field of spatial utilization, and all driven toward the aim of scalar expansions of the marketplace.

The consequence of this was a new type emerged in which the home became a both an economic model of domesticity and commerce as well a social normalizing apparatus, fulfilling the "middling modernist" goal of transforming a "plan du ville" into an "plan du vie". The economic and industrial directives created in the implementation of the Marshall Plan called for the standardization of personal amenities in the private sphere as well as the construction vast social facilities on the urban and national scales. This program would group together industrial and commercial structures with defined organization of the single family dwelling as part of a cohesive social program. Being affected by the

[29] For further discussion of the bureaucratization of France's public health system and its effect on social subjectivity and familial relationships, see:
Jacques Donzelot, *The Policing of Families*, 1st American ed. (New York: Pantheon Books, 1979).

mechanisms of the state through two routes, through national institutions and through corporatist systems created a polity of dual allegiance, being equally citizens and bureaucrats. As postwar capitalism made a shift from industrial conglomerates overseeing a vast population of workers to corporatist bodies run by a bureaucratic middle class, forms of bio-power needed to transform from accommodating the *mass subject*, workers controlled by centralized agents, to those accommodating the *active subject*, a middle class physically operating of the mechanisms of agency that control them.[30]

[30] For further discussion of this change in social subjectivity with the move to a post-Taylorist industrial model, see:
Anson Rabinbach, "The Biopolitics of Work" In *Biopolitics : The Politics of the Body, Race and Nature*, eds. Agnes Heller and Sonja Puntscher Riekmann (Avebury: Aldershot, 1996), 95-111.

Chapter 4

Actualités – Le Havre and Maubeuge

The major reconstruction projects of the postwar can in many ways be seen as manifesting the vast epistemological transition that was taking place throughout society. Certainly the nationalistic and administrative aims imbued in the Monnet Plan and apparent throughout the French postwar culture manifest themselves architecturally, through both the architects' deliberate aims as well as through the structural change that was taking place in the flow of goods and capital. The culture of technocratic administration, taking on new forms throughout the interwar and Vichy period, were becoming systematized into the larger political-economy of reconstructed France, democratized forms of Saint-Simonian ideas were construing a vast administrative bureaucracy and building new apparatus of control. Consequently architectural form was going through a similar transition, technocrat-architects were setting up bureaucratic-industrial organizations for the reconstruction of cities that would hold within them complex methods of social normalization.[1]

Following the example of Orléans, the first major postwar reconstruction project whose predicates were in the Vichy regimes Loriet reconstruction, were the major examples of Le Havre, under the control of Auguste Perret and Maubeuge, overseen by Andre Lurçat. Where Orléans was responsible for advancing methods of industrialization of the building trades, these two later examples have built upon Abraham's methods to form a vast industrial, bureaucratic and

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[1] Bureaucratization of architectural practice was a postwar global phenomenon, described most succinctly by Henry Russell Hitchcock in his 1947 essay:

> [B]uilding that is the product of large-scale architectural organizations, from which personal expression is absent ... [This] depends not on not on the architectural genius of one man, but in the organizational genius which can establish a fool-proof system of rapid and complete plan production.

Henry Russell Hitchcock, "The Architecture of Bureaucracy and the Architecture of Genius," *Architectural Review* 101 (Jan, 1947), 3-6.

regulatory amalgamation. In each case Perret and Lurçat acted as both architects and administrators, designing buildings, but more importantly, setting up the conceptual apparatus by which other workshops could work independently yet attain a cohesive reconstruction project. Each city, through this systematization of building, invented a unique complex of industrialization and social organization.

Through the reconstruction of cities and the social reorganization of the population, each of these places became a mimetic interpretation of the past, reviving critical elements of their respective histories into a new agglomeration. In many ways, with the opportunity to reinvent France as a new socio-cultural space came the parallel opportunity to reinvent it as an historical space, selecting elements of cultural importance and defining an aesthetic form to place new works into a continuity with tradition. The reconstruction thus became what Pierre Nora would call a *Lieux de Mémoire*, a site of memory in which cultural continuity can exist.[2] The reconstruction projects would work as a moderation of foreign systems, displaying the new postwar environment as contiguous space with a traditional past.

With the war's end, Le Havre was one of the most severely damaged cities in France, having withstood 130-150 separate allied and German bombing raids throughout the war, and was definitively destroyed during a single, four-hour carpet bombing raid by the British R.A.F. in September of 1944. Le Havre is located at one of the largest natural harbors in France placed on the English Channel at the mouth of the Seine. Given the urgency for Marshall Plan goods to begin flowing in from the United States, Le Havre's size, proximity to British

[2] Pierre Nora and Lawrence D. Kritzman, *Realms of Memory : Rethinking the French Past* (New York: Columbia University Press, 1996).

Figure 4.01 - Le Havre reconstruction, present day.

trade and water access to Paris made its reconstruction a project of national importance and was given the highest priority after the armistice.[3]

Perret received the commission for the reconstruction Le Havre at seventy years old, towards the end of a vast career that brushed up against both the vanguard of modernist architecture as well as high beaux-arts academicism. Throughout this long career he would always be known to be at the cutting edge of the architectural technologies. Dealing with the functions of a new city came after the completion of countless residential, industrial and commercial buildings. In facing the problem of a tabula rasa, Perret could look back to any number of his own theoretical as well as un-built projects that spanned over the first half of the century. His 1922 theoretical project, le Maisons-Tours in which gigantic towers surround Paris, is partially realized in the form of the Church of Saint Joseph, the

[3] As always, the urgency of Le Havre's wartime destruction and the urgency of its post-war reconstruction occur for precisely the same reasons.

Figure 4.02 – Le Havre in reconstruction. New buildings by *Atalier Perret* are built upon a uniform one-meter plinth.

city form itself stems from a 1931 competition entry for Porte Maillot.[4] His years of technical experimentation allowed him to realize many architectural feats that were previously unattainable. In the end Perret's Le Havre is the culmination of a lifetime of influences covering the formal, technical, functional, historical and theoretical, both of his own making and through his interpretation of others.

Andre Le Donne of Perret's workshop articulated the overarching symbolic goal of the Le Havre project through an understanding of the new relationship that France would have with the US:

> From the rails of our shipyards the brilliant vessels will come and go for great exchanges of the worldly riches and the spiritual treasures of

[4] Pierre Vago, a long time Perret collaborator recounts the early planning for Le Havre: "We met in Rue Raynourd. Perret brought out the plans for his unhappy competition for the Porte Mailot and told us: 'This is what we are going to do'". At which point Vago walked out, never to associate with Perret again. Vago would later edit *L'Architecture d'Aujour d'Hui*, associating himself with a more progressive crowd.
Roberto Gargiani, "La Città Di Auguste Perret = Auguste Perret's City," *Abitare* (July-August, 1992), pp.186-187.

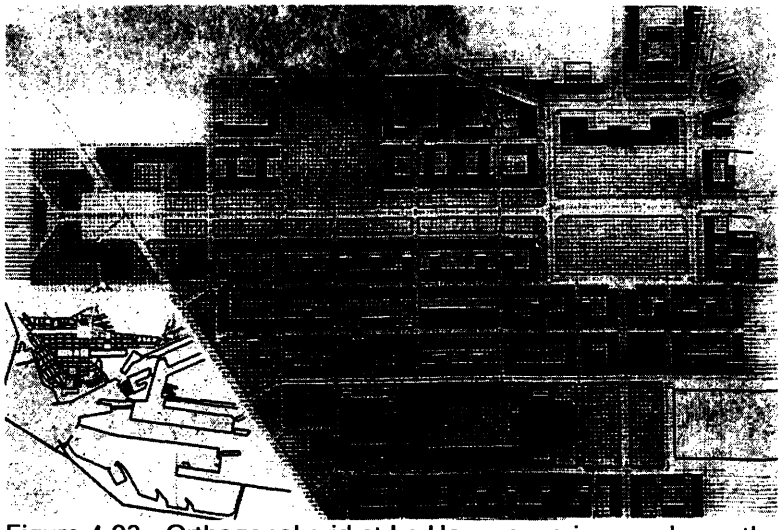

Figure 4.03 - Orthagonal grid at Le Havre superimposed over the new city

> America and Europe. Wouldn't it be good to set up a Constantinople of the new world, a place for the two civilizations to meet?[5]

The vision for La Havre as "a Constantinople of the new world" is central to Perret's unique plan for the city. With the wars end, it was immediately understood that the majority of reconstruction would be accomplished through a relationship with the United States. Perret envisioned the future of Le Havre, the main port city of France prior to the war, to be central to this development. As such, Le Havre was to be a hybrid of the French and American techniques and values, employing the best of both cultures. As Constantinople was a center of exchange, building its dominance on the flow of goods and ideas between the east and west, so too would be Le Havre, a junction between the old and new powers. Throughout the Le Havre project this interplay is continuously expressed. New economic and bureaucratic systems, exemplars of innovative American techniques, become interwoven with the traditional aesthetic forms and historic tropes of French identity. The result is a formally cohesive, intellectually resolved hybrid of two distinct cultural processes and imaginations.

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[5] Le Donne, Andre. "Le Havre" in *L'Architecture d'Aujour d'Hui,* 17e Annee, No 7-8. (Sep., Oct. 1946), p. 46.

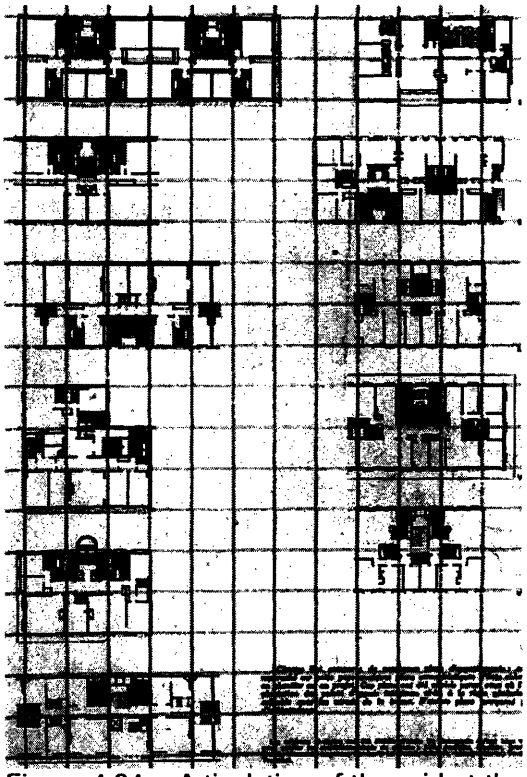
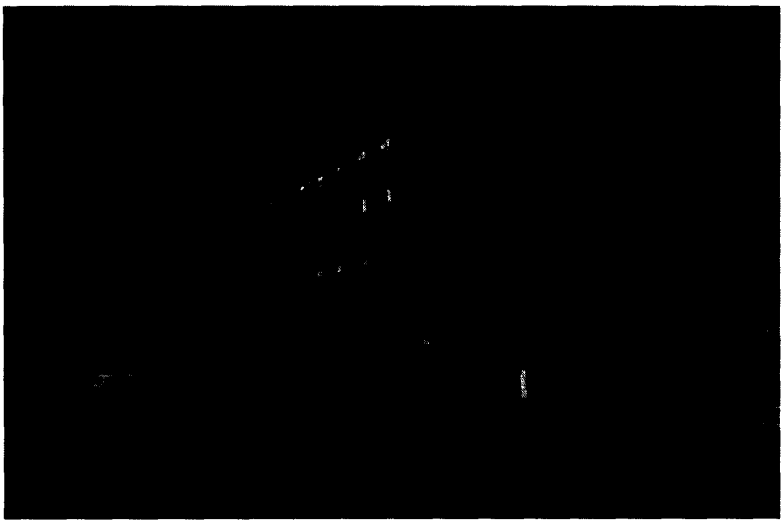


Figure 4.04 – Articulation of the grid at the scale of individual units.

One can begin a study of Le Havre by first seeing the city as a manifestation of a new technique of property ownership. Le Havre employed the system of *Immeubles Sans Affectation Immédiate*[6] (ISAI), where every tenant in the new building is given a proportional share, some parts per thousand of ownership, over the entirety of the block in which they reside. As new buildings were apportioned for the co-ownership of their inhabitants there became mediation between complete privatization of property on one hand and collective ownership on the other. A combination was thus made of the abstract, bureaucratic space of social welfare with the defined private property of the consuming individual.

This abstract superstructure of the master plan, as well as the dissolution of localized ownership to a collectivist system was expressed in the particular logic of Perret's plan. With the entire city sitting on a flat one-meter thick plinth, Perret was able to set up a regular grid on module of 6.24 meters that uniformly controlled the entirety of the project. This worked as an abstract grid that extended horizontally and vertically throughout the city, controlling every element of the built environment. Streets, blocks, buildings and individual dwelling units all filled out the grid on equal terms, all acting as the infill of the portion of grid that they happen to occupy. Likewise, every element of the urban space was a

[6] Lierally "Buildings Without Immediate Assignment"



Figures 4.05 & 4.06 - Two variations at rue de Paris. Similar buildings are uniquely articulated.

multiple of the single cubic module. In this system, Perret experimented with a system of multiple repetitions and variations of similar forms. The entirety of the main boulevards are constructed of the exact same form repeated unremittingly, while the neighborhoods that fill out the city consist of iterations of several basic types of blocks varied and combined. The arbitrary infill of the abstract grid can be seen here as analogous to the collectivist ownership of property in the abstract.

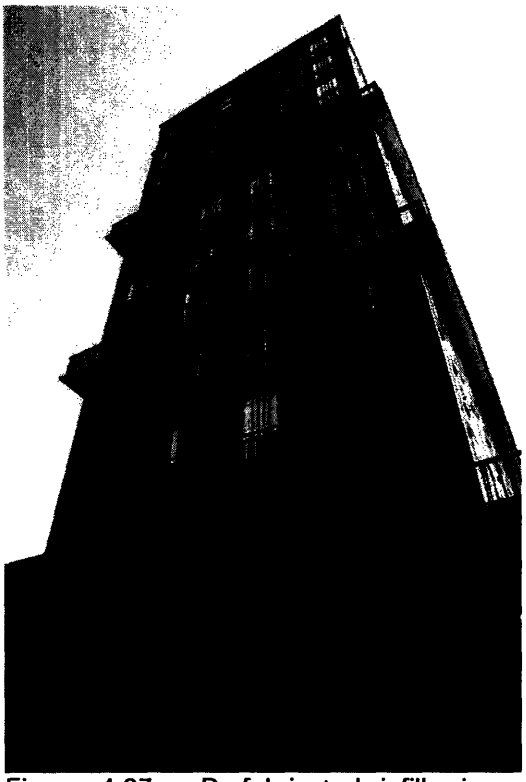


Figure 4.07 - Prefabricated infill pieces within cast-in-place grid.

Like Abraham's work at Orleans, the reconstruction of Le Havre was an exercise in modularity, prefabrication and construction administration. The buildings were conceived in two parts, first was the skeletal concrete frame, built on site in its 6.24 meter grid, and second were prefabricated infill, factory built and shipped to the site. This method combined the craft of artisanship with the efficiency of industrial methods. As the frames were fabricated on site, different workshops with general parameters were able to apply their individual craft to each section of the town. The earliest works were done directly under Perrets supervision at the Porte d'Ocean and around the Hotel de Ville, once building was systematized; different builders were commissioned to contribute to newer sections. This can be seen with considerable clarity in Rue de Paris, where the frame of each building, while following a set grid, is uniquely crafted and articulated. Once the frames are established, its entire infill is of precast elements. The wall and floor panels in this case were not only prefabricated, but done so with considerable ingenuity, where prefabricated walls and floors were shipped with plumbing chases, door and window frames pre-installed, and parquet and tile finish built into the floors. This level of systematization brought the building components beyond simple prefabrication to complete building system design.[7]

[7] Bernard Esdras-Gosse, "La Reconstruction Du Havre Et l'Industrialisation Du Batiment," *Etudes Normandes*, no. VII (1953), 357-372.

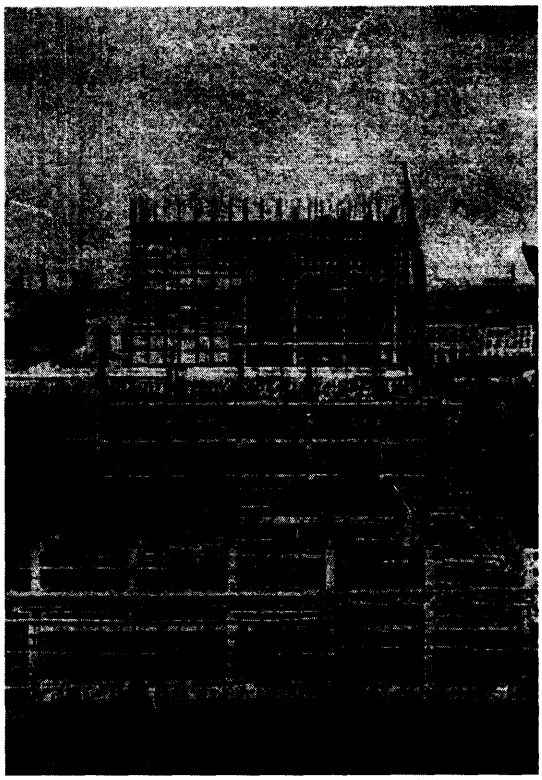


Figure 4.08 - Construction of ISAI at Le Havre, the concrete frame articulates the grid.

4.09 - Columns at rue de Paris. Each articulation executed by a different workshop is unique.

The articulation of the abstract grid of Le Havre is a study in tectonic variation. While typically, a regularized rectilinear composition, there is a noticeable transformation from the abstract background to the articulated detail when approaching the main boulevards of the city. In these places the grid becomes architecturally expressive rather than a simple structural frame as it changes from abstract form to a system of columns, beams and lintels. As a counterpoint to the endless formal repetition of the city, significant variation in detail is introduced. The tectonic variation in this scheme works in different ways as the urban scale increases. On the local scale, every single element of the city has a unique tectonic character that distinguishes it. On the urban scale, the details work to differentiate urban functions as well as distinguish civic roles. Finally, taking the variation in detail as a whole, the city becomes almost uniform in its

universally applied logic of endless variation. This articulation is highly varied, as no two expressions of the articulated grid, anywhere in the city, are the same. In cases where each building along a particular street is formally the same, its articulation is always different. Likewise, as the abstract grid becomes a study in variation, so too do the methods of its infill; the precast panels that comprise the elevation elements are as numerous and varied as the elements that frame them.

In the case of Le Havre, the abstract, regularized grid, the ISAI ownership formula and the tectonic variation of urban elements are interdependent in bringing forth a new realization of the post-war city, they allow the city to work as a universal abstract mechanism. With a uniform module controlling every aspect of the urban form, the multitude of urban functions is all filled into this abstract space. The ISAI formula overlays an additional layer of abstract uniformity over the city, one of ownershiep, that mirrors the grid in its undifferentiated universality. Finally, the overall tectonic variation overlays yet another uniform layer over the city, that of a universally conceived system of differentiation. Each method, in its own way, overturns it pre-modernist counterpart. Localized urban structure, localized private property and local tectonic identity all give way to universalized systems as these three previously unrelated urban systems now embody interrelated logical systems; abstract uniformity, undifferentiated universality and universally conceived differentiation that cohere and overlap. A singular vision of urbanity is employed in these diverse aspects of the public sphere.

Closer inspection of the tectonic variation expressed throughout Le Havre demands an overall examination of the aesthetic systems used by Perret and their historical roots. This brings forth a conversation about the historicism played out in the architecture of Perret and its employment in a nationalist agenda.

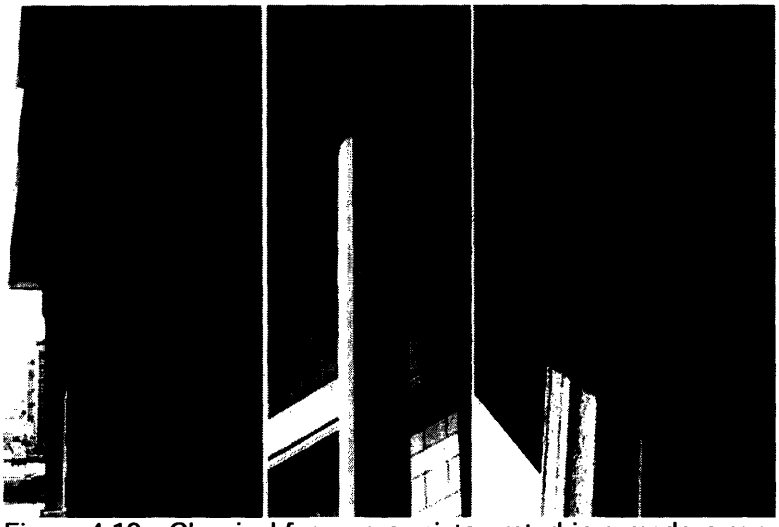


Figure 4.10 - Classical forms are reinterpreted in a modern exploration of structural rationalism.

Perret's greatest architectural and philosophical influence can be found in the ideas of Eugene Voillet-le-Duc, the nineteenth-century architectural writer and critic who through careful study of the gothic architecture in France was among the first to propose that the gothic form was intended as a pure expression of its structural function. Through extension of these ideas into the architectural practices of the early nineteenth century, Voillet-le-Duc created the school of thought of *structural rationalism*, an aesthetic rational whose formal expression can be found variously in the important work of his period. The fact that Le Havre was built in the spirit of structural rationalism is no coincidence. The strict rationalism of Perret's project is a result of the fact that he saw a fundamental connection between the demands of Voillet-le-Duc's work and his own. While precast concrete assembly does not strictly follow the same system as the stonework of the gothic architecture, Perret saw that the same overall logic applied. [8] While this elucidates the logic and history of Perret's kinship with

[8] The comparison ends with Voillet-le-Duc's ascetic refusal to employ the use of steel to reinforce his structures, believing the balance of forces in pure compression to define structural rationalism. For Perret's innovations in reinforced concrete, steel and therefore tensile members are fundamental.

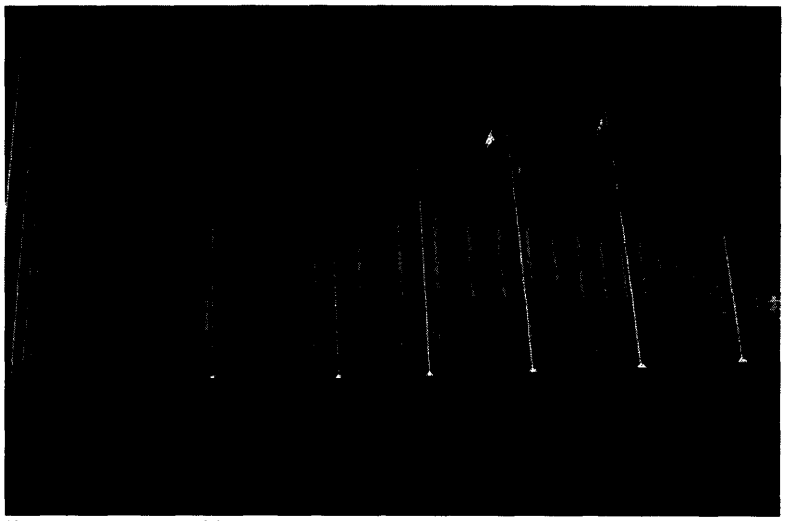


Figure 4.11 - Le Havre, Hotel de Ville. A modern interpretation of the classical form.

structural rationalism, there is certainly a deeper analogy. Voillet-le-Duc completed the majority of his work under the Second Empire,[9] a period that will perhaps always be associated in architectural memory with the massive renovation of Paris under Napoleon III. Nothing could more strongly identify the establishment of a French architecture than an association of Voillet-le-Duc, who reconstructed the great French Gothic cathedrals in the wake of damages incurred throughout the period of revolution, and through this work, wrote a series of treatises that defined the French architecture of the period. Le Havre is on many levels the architectural progeny of Voillet-le-Duc in both material and image. Once again France was recovering from an extended period of turmoil and destruction and once again there was the need for a rediscovery of a French national architecture. As Voillet-le-Duc dug through the ruined gothic cathedrals to unearth a buried nation of France, Perret, in the ruins of a later conflict built the continuity to a period of French nationalism, and unearthed an architecture for the Fourth Republic.

[9] The Second Empire, 1852-1870 was the empire presided under Napoleon III (Charles Louis Napoleon Bonaparte). The decline of the second empire is often associated with the rise of Prussian influence in the region.

Within this larger conversation of structural rationalism should be an exploration of the Hotel-de-Ville of Le Havre and its function as a revived form of the classicist trope. On the most part the Hotel-de-Ville offers a rather literal interpretation of the classical monumental building. With a dominant frontal elevation comprised of a colonnade-framed *piano nobile*, its French Classicist roots are obvious and intentional. The Hotel-de-Ville is, however still open to some interpretation as a modern expression of this form. Beginning with the façade one sees a modern interpretation of the gradation employed in classical architecture. Rather than the use of rusticated materials or classical orders to express this, Perret uses the geometric articulation of precast elements. Light, slender columns are set above a heavy, simple ground floor and hold up a thin, cantilevered parapet. Perret uses entatic expression through manufactured materials to achieve the classical trope. Beyond this, individual elements can be seen as interpretive of the past. The colonnade consists of pre-cast columns that are too slender to be of a classical order while the capitals are abstract geometric forms. One could argue that these are not interpretations of the classical form through a new material, but an evolution of the classical form to suit new materials and methods. Telling of this is a close inspection of the capitals, which are highly articulated yet make no attempt to reference a classical type, they are instead geometrized forms, a clean expression of their own materials and methods.

The city plan of Le Havre furthers this conversation about reinterpreting the past through modern methods. The Perret plan, while based upon an abstract grid is clearly historically derived, being based on the form of the city as it stood in 1939 on the eve of its destruction.[10] This shape was the product of an ongoing

[10] Joseph Abram completed an in-depth study of the various schemes for the planning of Le Havre. It was through much iteration, reflecting a range of planning philosophies, that Le Havre landed on its current form so clearly derived from its historic layout.

evolution with three discernable iterations of growth, a model that can be seen in most of the cities of Europe. The old city predates the renaissance and fills the central area of the port. Nineteenth-century growths lead to the griddled street layout to the north of the port, filling out the city to the ramparts, with its monumental avenue Fosch. The twentieth century addition was urban infill to the sea to the west of the old city, still constrained to the north by the existing

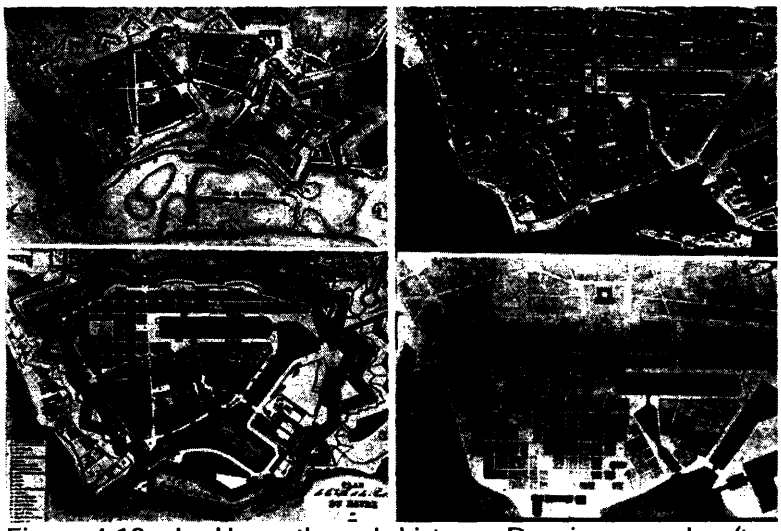


Figure 4.12 - Le Havre through history. Renaissance plan (top left), nineteenth-century (bottom left), 1939 plan (top right), proposed reconstruction (bottom right.

ramparts.[11] Perret's city follows the form of the old city by reconstituting not only the dominant nineteenth century grid, but also the idiosyncrasies of developments before and after. There is no functional or social reason for Le Havre to follow the old plan of the city. The fact that the entire city is raised upon a uniform, one-meter plinth eliminates any reason to keep in the footprints of the old city (which are, in fact, not literally, but figuratively followed). Likewise, the ISAI property ownership scheme eliminates the property associations that would demand that buildings be replaced or people be housed in their original locations.

Joseph Abram [1951-], "Auguste Perret e Le Havre: Utopie e Compromessi Di Una Ricostruzione = Auguste Perret and Le Havre: Utopias and Compromises of a Reconstruction," *Lotus International, no 64* (1989), 108-127.

[11] Le Donne, p. 48.

Each development of the city was both a product of its time and an accommodation to the built past, the existing form of Le Havre is the latest step in of an ongoing historic process, rebuilding an interrupted continuity with the past.

The Hotel-de-Ville, the tectonic quality of a modernized structural rationalism and the plan of city itself are fully modern systems as well as homage to the past. While manifesting the new rational and bureaucratic systems of the post-war world, they impart a spirit of nationalism and national identity to the city. As Perret envisioned the experience of Le Havre: "In front of the water we will build a true 'front de Mer'[...]. It will be visible from a distance, before landing. It will embody the idea of France in the eyes of foreigners. It will offer a noble and monumental image."[12]

Perret's reconstruction demands comparison with a concurrent project in Maubeuge under the leadership of Andre Lurçat. These two projects are similar in almost every premise, engaging similar problems of reconstruction, but are separated by fundamental differences in the most fundamental regards of their conceptualization of social space and their vision of the postwar realities.

The city of Maubeuge, located in north-eastern Frances Val de Sambre, seven kilometers south of the Belgian border, had had a long history of sieges and occupations, having been sacked some twenty times before its inclusion into France under a 1678 treaty. At the time of its annexation, it immediately became part of a greater scheme by Vauban to militarily protect France from the north. Sébastien Le Prestre de Vauban, military architect and "Marshall of France" under Louis XIV was an expert on siege technology and is credited with providing France with its 17th century "Ceinture de Fer" (Iron Belt), a grouping of roughly one hundred fortified towns encompassing the perimeter of the country which

[12] Gargiani, *La Città Di Auguste Perret = Auguste Perret's City*, p.186

Figure 4.13 - Maubeuge reconstruction, present day.

included the citadels at Besancon, Antibes, and Belfort and most notably, the "Queen of the citadels" at Lille. Maubeuge was part of the famous "précarré" consisting of a double line of 28 citadels at the large flat land at Frances border with Belgium, which had been at the crossroads of Franco German conflict throughout its history. This history of conflict was repeated once again in May of 1940, when the city was almost completely destroyed, having been torched by the advancing German army, through both bombing and shelling, on their way to Paris during their blitzkrieg campaign.[13]

André Lurçat (1894-1970) is well known as one of the fathers of the modern movement. After a traditional beaux-arts training, he quickly adopted a modernist aesthetic, which he cultivated through an array of designs for artists studios and private residences throughout the 1920's. In 1926, Lurçat's status in the modern movement was assured when he organized the *Architecture internationale* exhibition, where for the first time, Bauhaus architecture was exhibited in France. He subsequently became a founding member of CIAM, yet

[13] "Maubeuge," Wikipedia, http://fr.wikipedia.org/wiki/Maubeuge (accessed March 30, 2007).

Figure 4.14 - Maubeuge, ISAI residential reconstruction.

after a rift with Le Corbusier, began to associate himself with the Austrian group, and thus designed his most well known project, an apartment block at the Werkbundsiedlung, at Vienna in 1932. In 1934 Lurçat was invited to practice in the Soviet Union, where he remained to work on several unrealized projects until 1937, when he returned to France due to uneasiness with the Stalinist purges. On his return to France Lurçat joined the communists in the resistance, and with the wars end received commissions for a housing complex at Saint-Denis as well as his reconstruction project at Maubeuge.[14]

Pragmatics became the overarching theme of Lurçat reconstruction of Maubeuge. He had developed a thoroughly cohesive approach to planning that depended upon location-specific contingencies and evolving situations to inform his approach. His approach as a planner was one that drew upon the singular character of each place to inform the outcome. Working with the local community to understand the particular complexities of individual situations, creating planning schemes that addressed the specific characteristics of the context, and employing systems of prefabrication that still allowed for

[14] Jean-Louis Cohen, "**André (Emile Lucien) Lurçat**," Oxford University Press, www.groveart.com (accessed 04/04, 2007).

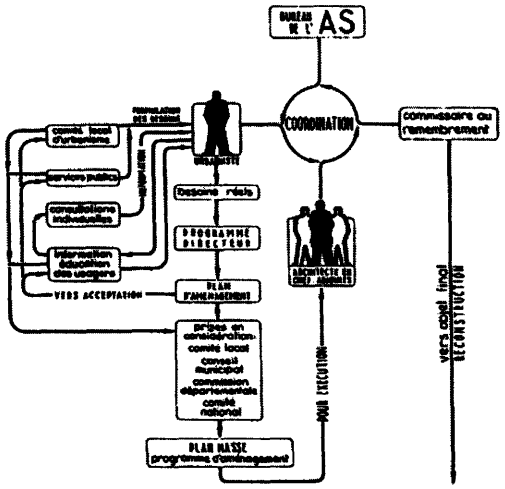


Figure 4.15 - Organization chart of Maubeuge reconstruction. Lurçat integrated the citizenry directly into the bureaucratic mechanism.

individualized responses to unique situations are examples of his approach. Opposing equally the radical schemes of the modern movement and the radical social programs that they carried, Lurçat states that "the value of town planning is directly related to the possibility of its realization." and that "if town-planning can and must be daring in design, it must however comprise a certain modesty in its claims." A design program thoroughly co-opted by the social and economic realities on the ground replaces this the modernist tenets of an architecture that would embody social change.

Lurçat believed in close cooperation of the community in designing the reconstructed city. Being partially rebuilt along the ISAI system with areas of the city under co-ownership, Lurçat arranged a situation in which the citizen was vested not in the outcome of his or her own private property, but in the formation of the city as a whole. As part of his pragmatic approach to planning, Lurçat sought the early and involved commitment of the citizenry. This was intended to enable him to "answer with the maximum of effectiveness and speed the arising problems." In achieving this aim, he set up a representative body of fifteen elected members "representing all of the social and economic categories, trade unions and decision makers." This brought a spirit of participatory democracy into the very constitution of the reconstruction effort.

Maubeuge provided the opportunity for the residents to be directly involved in the decision making of town planning schemes. For Lurçat, the input of the

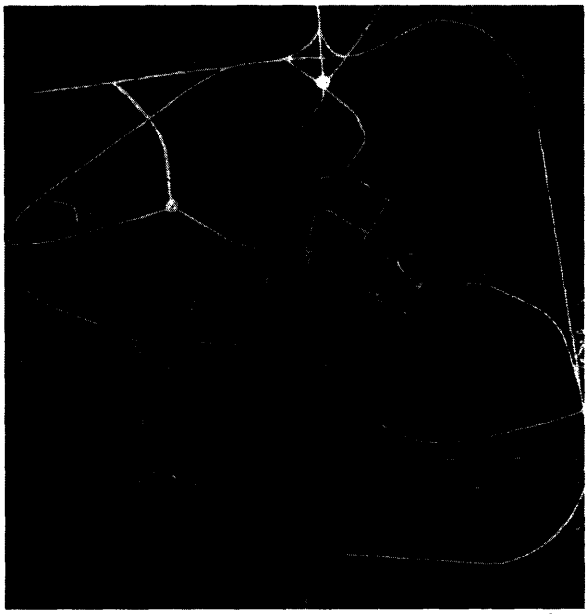
community was a pragmatic issue, a means to gain an understanding of the problems at hand as well as to ensure the efficacy of his own ideas being enacted in the reconstruction project. Giving the public a personal stake in the terms of the reconstruction would improve the overall project while providing the political clout needed to move his ideas through the bureaucracy. As he said in a 1958 issue of *Urbanisme*:

> To question [the population] in order to fix the exact extents of the overall problem, to inform the population, to educate it, then to convince them in order to ensure itself of its contest and of its reflected approval, are the essential and determining elements of the success.

This degree of public involvement in an ISAI city posited a new type of socio-political organization in the reconstruction that must be distinguished from other notable ISAI cities.

Perret's ISAI in Le Havre represented an undoing of the traditional understanding of private property, abstracting both the spatial and economic systems of habitation through an algorithmic system of ownership. Le Corbusier's Unite de Habitation, an ISAI at Marseilles used collectivity to create a social agglomerate, collectivizing space and setting common areas for community functions. Lurçat's ISAI at Maubeuge, in contrast, became a democratizing mechanism, giving the individual citizen a personal stake in the greater community through participation in the decisions and processes of the reconstruction. As opposed to the authoritarian ideas brought forward from the modern movement, Lurçat implemented a system based on participatory democracy, where both the urban characteristics and the efficacy of their implementation depended on the end users.

Lurçat built a conceptually new city around certain traditional geographic boundaries and markers. Thus planned entirely within the area of the Vaubon



4.16 – diagram of Lurçat's reconstruction showing Sambre and Vaubon ramparts

ramparts, the city is primarily organized around the main bridge crossing the Sambre, several existing gates in the ramparts, and the traditional locations of the main city squares.[15] Beyond these overall constraints, the city is organized as a modernist project in the tradition of his own experiments at the Werkbundsiedlung, rejecting such precedents as the picturesque organization of the Loire reconstruction as well as the vast organizational supremacy of the Athens Charter as expressed in Le Corbusier's concurrent project for Saint-Die.

> In the particular case of Maubeuge, where the ground was extremely parceled out, and where the properties frequently imbricated one and other in irregular patterns, and were arranged without any views, it was necessary to carry out a regrouping of general areas. It was necessary to redistribute them by giving them a regular form, to adopt a method ready to allow a resolution of the thorny problem of the displacement of the owners and their assignment to a new place. For the conglomerate of the small houses without ventilation and views, bordering the narrow and sinuous streets, the plan substituted a network of vast small islands of regular forms, conceived according to their given function.[16]

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[15] Jean-Louis Cohen, André Lurçat and Institut français d'architecture, *André Lurçat : 1894-1970 : Autocritique d'Un Moderne* (Liège: Mardaga, 1995), p.247

[16] ibid., pp.251 Quoting:
Remembrement et reconstruction, II – L'experience du r emembrement et de reconstruction de Maubeuge, Paris, La Documentation Francaise, 6 novembre 1948 (Notes documentaries et etudes, no 1017), pp.4-5

Figure 4.17 - Maubeuge, standard window frames awaiting assembly.

The individual building design was based on a system that considered both the forms of the destroyed buildngs along with a

Lurçat proposed a logic of construction that combined the benefits of prefabrication with the artisan skills of the various construction teams. A desire to allow creativity within the bounds of a consistent oeuvre of construction is expressed in his directives of the work:

> [C]ertain architectural constraints would be imposed on the reconstruction architects. A street should be rebuilt with a single material, windows types determined in advance, etc. Buildings should have the same heights and floor spacing. Recommended constraints would be only of the general order, with freedom being left to the architects to compose according to their suitability, and to introduce the details necessary to the compositions.

Thus, the general unit would emerge from local diversities. Order, combined with imagination, would govern the creation of varied and interesting architectural works.[17]

[17] Andre Lurcat, "Maubeuge," *L'Architecture d'Auhourd'Hui: Urbanisme* 17, no. 7-8 (Sep., Oct., 1946), p.57.

Figure 4.18 - Standard stairs to be used throughout reconstruction project.

Using the same basic set of prefabricated building components throughout the city allowed for an economy of scale in the building trades where a guaranteed consistent demand for these elements allowed for the implementation of their manufacture on a large scale and guaranteed a continuous, regular supply of materials to the building site. Along with this came the transparency of pricing, with each element of construction being priced out separately, a greater degree of cost regulation could be implemented on the building site. The mass production of building elements also guaranteed a certain standard of quality where controls to be centralized at the sites of manufacture rather than demanding oversight in the field. Thus in the end, standardization provided an efficient and transparent pricing system while ensuring a consistent level of quality and workmanship throughout the city.[18] The repetitive use of common elements also provided an aesthetic cohesiveness in the overall design of the cities; with different workshops employed on various sectors of the city, a uniform detailing methodology brought unity to the greater urban project. In this way a

[18] Andre Lurcat, "La Reconstruction De Maubeuge," *Techniques Et Architecture: Reconstruction 1946* 6, no. 7-8 (1946), 344-345.

relative autonomy was allowed to individual designers while the aesthetics of the overall city were centrally controlled. Rather than being a restriction, standardization became liberation from the tedium of detail work, allowing the architect to concentrate more effort on those things that could not be normalized.[19]

Each reconstruction architect engaged this combination of prefabrication with artisanship in a distinct way. Standardization in Lurçat came to mean something fundamentally different than in either the cases of Perret's work at Le Havre or Abraham's at Orleans. In each city, there were two forms of standardization at work. First, there was the standard building elements, prefabricated and shipped to the site, and second, there was the framework, built by on-site labor, into which these elements were placed. In the case of Le Havre, the prefabricated elements consisted of the large exterior panels comprising the skin of the building, where the onsite labor constructed the grid into which these panels rested. This is wat grants that particular combination of standardization and individuation as seen in the various blocks on the Rue de Paris. Conversely, in Orleans, the near entirety of the building is comprised of prefabricated building elements. Things such as windows and exterior moular wall panels are standardized, while the overall dimension and layout of a building is left mostly to a be resolved in a case-by-case basis. Individuation Le Havre comes in the articulation of the standard grid, where in Orleans it comes in the organization of individual elements. Maubeuge proves an intermediary case in that it draws on both of these ethoses of standardization and individuation. In Maubeuge, much as in Orleans, the prefabrication is in the individual building elements such as windows, stairs, doors, and kitchen units and the particularities of the form and layout, within programmed constraints, were left to the individual builder.

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[19] Cohen, Lurçat and Institut français d'architecture, *André Lurçat : 1894-1970 : Autocritique d'Un Moderne*, p.253.

Lurçat's work at Maubeuge represents continuity with both the "Middling Modernism" and Vichy technocrats as well as something of a transformation of them. While it is plain now to see the continuity, Lurçat wanted to move away from absolutist, centrally controlled welfare towards a system of contingency and local decisions. In his critique of the Dautry ministry's *Charte de l'Urbanisme* Lurçat recognized as a continuation of Vichy doctrines, criticizing it as "a continuation of general considerations and councils which at the very least, one could say, are the jumbled output of an obsolete and harmful paternalist tone." Arguing against a continuation of the old program, Lurçat demanded a system that would take its inspiration from the new social and technical realities of the postwar. Opening his polemical critique of the MRU charter, "A Propos de 'La Charte de l'Urbanisme' du Ministère Dautry" Lurçat directly critiqued this continuation of the established system:

> Any doctrines, that comprise the principles and applications of practical value, must be founded on reality. But, as this reality is defined by the state of a given society, i.e. by techniques, modes of production, and the relationships between members of the various social categories, the evolution of society and is characteristics are always in perpetual change. Reality today is neither the same as it was yesterday, nor as it will be tomorrow, the conditions that form it are different. As a result, doctrines whatever they may be, cannot immutable, nor be formulated once and for all. On the contrary, it must follow a reality that is in ceaseless fluctuations, from which it translates its various aspects. It thus calls for constant revision.[20]

[20] Andre Lurcat, ""La Charte De l'Urbanisme," *L'Architecture d'Auhourd'Hui: Urbanisme* 17, no. 7-8 (Sep., Oct., 1946), p.16.

This critique of the MRU charter went on to attack the inflexibility of the charter, demanding instead a set of guidelines that would allow for contingency and adaptability. By this, he argues for an adaptable set of doctrines rather than a rigid Charter:

> Doctrines - not a charter - well established and clearly stated, must make it possible to define a state, to justify decisions [...] and finally, to give them the full value of reality...
>
> What should be the goal of town planning doctrines, in the present circumstances, if not to state the essential principles of order corresponding to needs, and order bringing satisfaction to those needs.
>
> Doctrines of town planning must be obliged to state these principles in rational solutions [...] Contents, i.e. guiding principles, and their possibilities of application, must be considered in well-established doctrines.[21]

The practical adaptability demanded by Lurçat in this critique is precisely a reflection of the combination of standardization and individual freedom that he set up throughout the reconstruction of Maubeuge. This is representative of a bureaucratic structure pervading all aspects of the reconstruction where systems are set up so that decisions can be made locally.

Le Havre and Maubeuge provide two different interpretations of the ISAI system applied on an urban scale, as well as two different ways that economies of scale were used in the building trades. The disparate organizational systems of these two cities manifest the agency of economy that pervaded the social and economic conditions of the period. Expansive and contiguous cities provided a scale necessary to fuel an inflationary economy not only of production, through standardization and mechanization of the building trades, but also through consumption, providing standards of habitation that open up regularized,

[21] ibid.

inflationary commercial space. Each architect utilized the ISAI system to create significantly differing social environments. Perret created an abstract conglomeration in which a single overarching principle organized a vast range of social types. Lurçat, on the other hand, created a participatory system where basic underlying principles manifested a variety of different building systems. These reconstruction projects would both create vast normalized environments that would prove to be the confluence of industrial ideals and commercial expansion. The resulting space in each case was to determine a fully normalized social type, a bureaucratic subject occupying a regulated social space.

Conclusions

Approaching a Genealogy of Team X

The architects who had the strongest influence in experimentation during the postwar reconstruction were a group that had had early ties to the modern movement, but had strayed from it and the CIAM discourse that it carried. Auguste Perret and Andre Lurçat each had their own unique partings with Le Corbusier; his former pupil had long left Perret behind while Lurçat broke with the French CIAM group to work with the Austrian Werkbund early in his career, Pol Abraham was likewise building modernist credentials before his own turn to regionalism. While several strict modernists such as Marcel Lods and Le Corbusier were able to complete some works during this period, the major direction of postwar architecture was generally peripheral to CIAM and the modern movement. A separate lineage of modern architecture was formed that brought about a postwar architecture beginning in a regionalist design and planning methodology tied to a technocratic milieu, and traveling through a group of designers credentialed by their expertise over any social vision.

It was, in fact, expertise that was sought for the reconstruction; with manufacturing as the basis of modern design, it was to be specialists in fabrication and organization who would take the lead. The expertise of the reconstruction architects, their ability to organize manufacture and construction trades on a large scale gave rise to a new social vision of society and the city. In each of the reconstruction cases, the new bureaucratic and industrial mechanism resulted in a certain materiality of building. In the case of Le Havre, this was the space of an abstract mechanism that codified the city around a systematized laboring force. In Maubeuge, this became an organization of workshops, beginning with the same materials and modules, to construct a city through independence and coordination. These two cities applied the same basic

mechanisms with separate methods, Le Havre was a top-down organization with Maubeuge being bottom-up. Regardless of this difference, each project carried with it a new organization of labor that manifested new organizations of the city.

Another side of this industrialization of the building trades was in the creation of the city as a uniform environmet for the consuming subject. Just as economies of scale were used to make possible the costruction of these cities, the urban uniformity created in these works set the platform for a new form of consumption. The standardization of urban and social environments was instrumental in providing those economies of scale in normalized production of domestic goods could take place. Along with economic expansion, the reconstruction projects manifested this progress when the agglomeration, the abstract space and socio-technical environment, was systematized into the materiality of the cities. It is no coincidence, then, that the reconstruction cities were perfect manifestations of a new form of political economy, normalizing spaces regularization and expansion in both the economic and urban environments.

This thesis thus challenges the narrative of a contiguous tradition of Modernist architecture from the interwar tradition of CIAM and Athens Charter planning to the postwar projects of Team X. The standard discourse in this field focuses on the key players of CIAM, specifically Le Corbusier, Sigfried Giedion, and Jose-Louis Sert, as the standard bearers of an architectural modernism persevering in their plight through the uncertain times of the depression and wartime periods, to reemerge for the reconstruction, with their architectural project intact. This narrative of the preservation of a modernist program through the discursive realm of CIAM is actually quite accurate; the key players produced a substantial amount of theoretical work and expanded the organization of architects and planners exponentially throughout a period when almost no architect was actually commissioning any work, and this contribution to the history of modernism is not

to be discounted. The folly in this narrative is that the modernist architecture produced in the interwar period and the discourse that it propagated through the war had only a passing resemblance to the postwar modernist project. The agent of postwar modernism was not its interwar forbearer, but in a complex economic and cultural transformation set into motion by the American Marshall Plan.

When viewed through an economic model, Team X can be seen as a vast epistemological break with CIAM, and a progeny of the reconstruction projects whose relationship to the modernist establishment was peripheral at best. It was the Reconstruction that provided a cohesive model of building architecture within a social welfare state, and that the city was not a finite element, but the site for an endless proliferation of markets. The CIAM discourse in its logocentric premises never seemed to have grasped the democratic potential for architecture, choosing instead to incessantly build rational foundations. Team X embraced this new form of society that CIAM in its postwar years had obstinately chosen to either reject or ignore.

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Figure 1.03
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Figure 2.10:
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Figure 3.01:
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Figure 3.17:
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