A contemporary cultural forum
adjoining the riverbank and flow of people

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A CONTEMPORARY CULTURAL FORUM

Adjoining the riverbank and flow of people

Graduation Report
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Eindhoven, January 2016

This graduation report is a collection of research, models and designs made during the graduation studio ‘A Contemporary Cultural Forum’ supervised by Mark Hemel, Sjef van Hoof, and Juliette Bekkering.

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Faculty: Architecture
Master: Architecture, Building and Planning
“Streets and their sidewalks - the main public places of a city - are its most vital organs.”

Jane Jacobs
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This report is a result of the graduation studio ‘A Contemporary Cultural Forum’ supervised by Mark Hemel, Sjef van Hoof, and Juliette Bekkering.
In this studio a special attention has been put on drafting, and modelling techniques.
Therefore we had to invest into the development of personal design techniques and a personal design language.
These techniques are not only essential in conveying our message, but also should play a constructive role in the development of the conveying the values of our design.
The Cultural Forum as a conglomerate of cultural program combined into large-scale building is the centre of our research.
The computer does not produce tactility and texture, the preference therefore has been put on physical models.
Not a model that is there as a representation only, but instead, a working model, preferably a dynamic model, that is helping us to synthesise our ideas in relation to context and aspects of various levels of importance like meaning, structure, functionality, efficiency or beauty.
For the site, two of the most prominent central European cities: Londen and Paris are visited and analysed. Historically both cities have played a mayor role in defining western identity, and still do. A cultural forum in either of those cities could be a strong tool, underlining the point of view of the architect.
After comparing both cities with a study of the political and urban context, I have chosen a site in the centre of Paris, were the forum will be a recognisable place, adjoining the riverbank of the Seine and flow of people.
Summary

Paris is the most air-polluted city in Europe. Due to its urban fabric, density, and many car roads in the center, Paris is overwhelmed with cars. Paris has also claimed the third spot in the world (after London and Bangkok), with over 16 million international visitors this year. The combination of traffic jams and air pollution asks for changes in this rich historical city. The government wants to reduce the amount of cars, and especially along the river the Seine in the heart of Paris. Recent changes is a project called 'Les Berges' where a part of a previous car road has been closed for cars and now only accessible for pedestrians. This new walkable boulevard stretches from Jardin des Tuileries until Pont de l'Alma, which is in between Musée du Louvre and the Tour Eiffel. This area has an enormous potential for a walkable touristic zone, and will form the starting point of the contemporary cultural forum, which is adjoining the riverbank and flow of people. The contemporary cultural forum consist of social, and cultural functions as individual introverted masses, arranged amongst open accessible terraces. Public terraces increase the scarce amount of walkable space along the Seine. With solar panels, trees and light through the terraces, the forum tries to address the importance of sustainability and the beauty of the river on this previous primary car road. The top in between two gentle staircases will create the central area of the forum with beautiful views over the river to the city, and the connection to all the different zones the forum has to offer. It will be a gathering place for main events / performances, and public speeches.
Introduction

This graduation project represents the culmination of the Master Course in Architecture.
The graduation phase is organised in the form of Graduation Studios, a form which allows students to work individually within a larger team on an assignment set by the Graduation Studio. The entire graduation course consists of a preliminary colloquium, an interim colloquium and a final colloquium in which the results of the design and research project are tested and discussed with the supervisory committee.
The year-long studio work is divided into two parts. In part one the focus is put on research, where Paris carefully analysed in its political and cultural context, and compared with other cities. Various workshops are held to develop a particular and convincing way of drafting and modelling that relates to the essential architectural ingredients that will form the centre of our ambitions. In part two the emphasis is put on the development of architecture. This is an individual part, where the architectural product clarifies the design technique shaped in part one. The result of the studio work should thus be an architecture product that is clear in its position and relevant to our contemporary times.
Agora of Athens

The ancient forum was the centre of athletic, spiritual, artistic and political life in the city. The best known example is the Agora of Athens. The literal meaning of the word is ‘meeting place’.

In the eight century B.C., citizens of Athens would gather around the agora for military purposes or for public speeches by the ruling king or council. During a long period of time this place transformed to a large, open square where the citizens could gather for a wide variety of purposes. For example, the space could be used as a market, for an election, a performance, a religious procession, military drill or an athletic competition. Administrative, political, judicial, commercial, social, cultural, and religious activities all found a place together in the heart of Athens.

The area open to public called Agora comes from the greek term ‘agoraphobia’, which denotes a phobic condition in which the sufferer becomes anxious in environments that are unfamiliar. For instance, a place where the king perceives that he has little control. Such anxiety could be triggered by wide open spaces, by crowds, or by public situations.

A forum nowadays is not interpreted anymore as a physical gathering place, but as an online forum where people can hold conversations in the form of posted messages. Due to the developed multimedia it is not necessary anymore to deliver messages and political opinions directly to the public on big open spaces. However, meeting places like markets or performances where different people can gather is still important for cities to flourish. Without an intermediary public space, people will retreat into private spaces, without the opportunities for connections beyond an intimate clique. If a forum provides only anonymous or intimate contact, it will fail to generate the informal and impersonal contact that encourages public life.

“The more successfully a city mingles everyday diversity of uses and users in its everyday streets, the more successfully, casually (and economically) its people thereby enliven and support well-located parks that can thus give back grace and delight to their neighbourhoods instead of vacuity.”

[1]: Jane Jacobs (1961)
Top left figure A1: Downtown Rome during the Roman Empire
Bottom left figure A2: The first commercial centre of Athens
Top right figure C1: Forum Romanum
Bottom right figure C2: Agora of Athens
Second Empire

The French capital is the biggest and most important city of continental Europe. Like many other European metropolises, it is characterised by a highly cultural, multicultural and political atmosphere. On the continent, France is regarded as the birthplace of the modern nation state. From the first republic that was established after the French revolution 1789 until the current fifth republic, the continuous development of a modern France left its traces on the urban fabric and the concept of the city.

With the use of models, analyses have been made of the great project developed by Napoleon III and Haussmann. Main topics which has been analysed are the comparison between the old and the new city structure, the connections and views in the city, and the public transportations by metro and train. The urban tissue of the city and its history is important for the design of a contemporary cultural forum, which should relate to the city context of the city.

Between 1853 and 1882, a big structural transformation took place in Paris, which is still clearly recognisable today. Earlier transformations of Paris had always consisted of additions to the already existing urban fabric. Napoleon III’s idea of restructuring the city by cutting streets through the existing structure represented a fundamental change of approach. Georges-Eugène Haussmann was chosen by the emperor Napoleon III to transform the city for the bourgeoisie (the upperclass) with big boulevards, parks and public spaces. Important monuments where linked together in a network of diagonal axes (See fig. C3 and B4). From the first until the current fifth republic, the continuous development of a modern France left its traces on the urban fabric and the concept of the city. The revolutionary ideas in 1789 about a modern city were inspired by strict lines of the baroque gardens of Versailles. The idea of implementing that concept in an urban environment had not yet been done before, and was regarded as a new ideal that fitted the aspirations of a developing republic. Paris was structurally changed into a planned city, with a efficient distribution of people, food, water and garbage.

Top figure B3: Bourgeoisie
Bottom figure C3: New boulevards by Haussmann
Napoleon III and Haussmann

Between 1835 and 1848 Paris was the biggest industrial city in the world. With the same size, the inhabitants grew from 1.200.000 in 1847 to 1.970.000 in 1870.[1] The large population put a lot of strain on the housing of the city, making it a hotbed for civil unrest. The cities urban fabric was still largely medieval which made it very easy to disrupt the city, and with that, the whole nation. (See figures A3 & A4)

Haussmann was assigned with the rigorous modernisation desired by Napoleon III. Wide new boulevards know as percées tore apart the existing tissues of often dangerous and poor working class areas to make leeway for organised connection corridors between key points of the city. These boulevards had multiple uses. They functioned as places to live and shop according to new standards of the upper middle class, as a kind of stage for elegant living, promenading, and socialising in outdoor cafés and restaurants. Another crucial point for Napoleon III is that with the big boulevards the barricades in the narrow streets could easily be broken down by the military force during uprising. The big boulevards could also be used for major military parades to impress and show the military power. Public health is also a major factor. Paris had suffered with cholera, especially the big outbreak in 1849. Narrow streets were considered unhealthy without fresh air, sunlight and difficulties with transportsations of food, people, garbage and water. The new boulevards created also visual connection between key points in the city. A modern environment with an organised open city structure. Big boulevards and lanes planted with trees were the basis for this structural plan.

Top left figure A3: Old photo of the barricades in Paris
Bottom left figure A4: Map with previous barricades in Paris
Top right figure A5: Photo of the typically Haussmann facade
Bottom right figure A6: Photo of the old facades of Paris
**New percées**

Extension of the Rue de Rivoli to the Rue St.-Antoine had already been started before Haussmann. Now a north-south boulevard stretched southward from the Gare de l'Est, across the Île de la Cité, to the end of the Jardin du Luxembourg. With the completion of the Boulevard St.-Germain, the inner ring has formed, which also forms the main inner east-west route on the Left Bank. (Red wires on figure C4)

Diagonal avenues such as the avenue de l’Opéra, and the Rue de Turbigo were important axes to connect the important monuments in the city. (Yellow wires on figure C4) For example, Louvre, Opéra, Les Halles or central markets.

Secondary streets would link the main boulevards with key institutions located away from the major monuments. Rue des Halles, Rue du Pont Neuf, Rue des Écoles, Rue Soufflot, Rue du 4 Septembre, etc. (Blue wires on figure C4)

The exterior boulevards, only partially completed under Haussmann, formed an outer ring to create a network of new streets which provided rapid access through and around the major suburbs.

In the East a triangle of avenues converge on the Place de la Nation.

In the west radial avenues were developed around the Place de l’Étoile.

In the north the Rue Lafayette connected the Opéra intersection with the Gare du Nord and Gare de l'Est and continued northeastward out of the city.

In the south the Boulevard Raspail linked the western end of the Boulevard St.-Germain with the Porte d'Orléans. And in the northwest the boulevard Malesherbes connected the periphery with the business quarter around the Rue saint Honoré - Rue Royale intersection. (Black wires on figure C4)
Top left figure C5: Important axes in Paris 2
Middle left figure C6: Sightlines and overlapping distances
Bottom left figure C7: Metro network Paris

Top right figure C8: Metro stations Paris
Middle right figure C9: Diagonal axes central Paris
Bottom right figure C10: Train network
Top left figure C11: Major cultural, political & religious buildings Paris
Middle left figure C12: Important places related to Paris
Bottom left figure C13: Parks in Paris

Top right figure C14: Major cultural, political & religious buildings London
Middle right figure C15: Important places related to London
Bottom right figure C16: Parks in London
Intersections

The diagonal streets cut through the existing city fabric leaves its traces to the urban fabric and thus the building blocks in the city. The intersections of two or more percées become major nodes of traffic and urban activity. Triangular building blocks were the result of this transformation, and the height and design of the building facades were strictly regulated by Haussmann, therefore creating unity along the building blocks in Paris. In fig. A8 the building blocks are taken out of its context and put next to each other. The result is many triangular building blocks due to the many diagonal axes in the city. The division of the building block was also clearly regulated by Haussmann and this creates the special atmosphere in Paris where sharp buildings point to major streets and many areas where streets come together. The connections of streets will create a special atmosphere where people like to gather with places to drink or eat something, and small shops at the corner of the building blocks like a supermarket, pharmacy or a bank. These intersections creates the character of the city, and is important for the social interactions inside the city.

Top figure A7: Paris building blocks
Bottom figure A8: Horizontally organised building blocks
Top left figure C17: Place Saint-Ferdinand model
Bottom left figure B5: Place Saint-Ferdinand plan

Top right figure C18: Rue d'Amsterdam, Rue de Liège, and Rue de Moscou
Bottom right figure B6: Rue d'Amsterdam, Rue de Liège, and Rue de Moscou
As mentioned before, Georges-Eugène Haussmann was chosen by the emperor Napoleon III to transform Paris with big boulevards cutting through the existing city fabric of the city. In this chapter two specific parts of the city are analysed: The new Avenue de l’Opéra and Place de la République. Old city maps are compared with the new maps of Paris, to show the new structure and also the immense changes in comparison with the existing city structure. If you look at figure A10 on the right page, It is not difficult to see that the realisation of these new boulevards cutting through old quarters involved extensive expropriation and demolition of private buildings. This Avenue de l’Opéra is connecting the Opera to the Louvre Museum, two important monuments in the city fabric of Paris.
Fig. B7 shows a section before and after the enormous changes of the city fabric. Streets are marked in blue planes, to show that the new structure resulted in less but bigger streets.
Top figure A10: New avenue de l'Opéra
Bottom figure B7: Old and new section avenue de l'Opéra
Building blocks

The big new diagonal avenues cut through the city fabric resulted in a completely new structure of certain building blocks. This was also carefully dictated by a set of rules made by Haussmann. The subdivision of the blocks into plots followed strict rules to divide the triangular block:

- Each plot is carefully laid out so that it is perpendicular to the street.

- The central deciding line in the interior of the block is the bisector of the acute angle formed by the streets.

- If we exclude the deep plots such as those aligned along the street, each plot is of around the same proportion.

Figure A11: Haussmannien blocks, percées
Top figure B8: Map of new avenue de l’Opéra
Bottom figure A12: Haussmannien blocks, dimensions
Figure B9: Map of old avenue de l'Opéra
Top figure D1: Photo of the avenue de l’Opéra

Top figure A13: The rue des Moineaux in 1860 (cliché Marville) before the avenue de l’Opéra
Top figure D2: Photo of the Rue des Moulins

Top figure A14: Photo of the old Rue des Moulins
Place de la République

Place de la République is an important gathering place in Paris. For example after the attacks on Charlie Hebdo last year on 7 January 2015, thousands of people came together Place de la République in a vigil to pay tribute to the victims of the attack on the satirical magazine. (see fig. A16) The square was originally called the Place du Château d’Eau until 1879. The name changed and named after the French Republic after named after baron Hausmann’s vast renovation of Paris. In fig. B10 The red dotted line shows the contours of the Place de la République, played over the existing urban tissue. The fountain in the middle of the square is a 9,4 meter high bronze statue of Marianne, the personification of the French Republic, and holding an olive branch in her right hand and resting her left on a tablet engraved with Droits de l’homme. Due to the big boulevards and thus sight lines in the city this statue can be seen from far distances all the way from seven major axes.
Figure B10: Old / New Place de la République
Top figure A17: Place before place de la République
Left figure A18: Impressions before place de la République
Right figure A19: Façades before place de la République
Top figure A20: Map of place de la République
Left figure A21: Impression of place de la République, 1929
Right figure A22: New building facades on place de la République
Preface

In front of you is the resume of ‘Collage City’ (Rowe, C., & Koetter, F., 1978) a book written by Colin Rowe and Fred Koetter. It is written as part of the graduation studio ‘A contemporary Cultural Forum’ from the department of Architecture, Building and Planning at Eindhoven Technical University.

Writing this résumé and joining the innumerable discussions has been very informative and educational. We would like to thank our graduation studio supervisors Mark Hemel and Sjef van Hoof for allowing us to read this inspiring book and provide us with the necessary guidance in order to fully understand the meaning of it.

We hope you will find an equally amount of joy in reading this resume.

Graduation studio: ‘A contemporary Cultural Forum’
Course code: 7X545

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Utopia: Decline and Fall?

From classical utopia towards activist utopia
The introduction of the book tackles the illusion of an utopia in architecture and urban planning and its pernicious grip it had on the 20th century city. According to Rowe and Koetter a distinction can be made between two types of utopia: a classical utopia and an activist utopia.

Inspired by universal rational morality and ideal of justice the classical utopia can best be characterized as an object of contemplation. It represents an icon of the so-called good society, addressed to a very small audience. Inspired by post-Enlightenment Newtonian rationalism, the idea of a utopia and its interpretation underwent a serious change in the course of the 20th century, where a transformation of the classical utopia towards an activist utopia could be identified. Whereas at first it was “addressed to a conspicuously small audience and its architectural corollary”, changing continuously” as the stock of the prince (and his strange ideas of round towns) and what he represented began to fall” [1], this interpretation gradually altered towards an activist utopia when the populace came to the fore. The contemplative platonic model now yielded to a message of a far more energetic utopian directive. This implicated no more a message for a few, but a means for literal deliverance and transformation of society as a whole.

The point of turnover between two sorts of utopia can best be exemplified by the proposal for a Grand Council of Newton in 1803 from French political and economic theorist Henri de Saint-Simon (1760-1825); from a classical utopia, a utopia as merely a critical reference, to an activist utopia, a utopia as a foundation and a strict prescription for the future.

As stated by Saint-Simon:
“The need is evident and hence the attempt must be made to establish science as the foundation of morals, to turn in to politics, into a branch of physics and, ultimately, to enjoin the replacement of arbitrary government by the rule of rational administration.” [2]

The engineer as ‘noble savage’ and ‘new Greek’
In proposals for redeveloping cities, modern architecture attempted to mediate the tension between nature and culture. However it is arguable whether this tension is resolvable, which explains why those proposals led to failure, leading to scenarios where” the city of modern architecture had been rendered tragically ridiculous.” Cities are fundamentally different than nature, so it is essential cities must be distinguished from it. Nevertheless, modern architects and urbanists had a desire for the return of nature in the heart of the city, attempting to give utopia meaning by eradicating culture, by doing away with the traditional city. One need only consider how often the rich inheritance of dense urban fabric has been removed to make way for a new city that is supposedly closer to human nature, made in the image of technological rationality, and thus closer to a new harmonious golden age heralded by the engineer as both the ‘new Greek’ and ‘noble savage’. As a noble savage, the engineer was believed to be closer to some uncorrupted natural condition than the debased architect of the later 19th century and early 20th century, which apparently afforded engineers a privileged position closer to the wellspring of authentic culture, akin to the not yet alienated ancient Greek.

Right figure A25: Activist utopia - Charles Fourier, Phalanstery, 1829
PLANO

DEL PALANSTERIO U PALACIO HABITADO POR UNA FALANGE INDUSTRIAL DE DOS MIL ALMAS Y MIL FORASTEROS.

EXPlicacion:


La Calle-galería rodea todo el palansterio.
Utopia leads to failure?
As the interpretation of a utopia transformed from a useful reference, the classical utopia, towards a rigorous prescription in the form of an activist utopia, the question arises whether this transformation has led to scenarios which are unlikely, perhaps even impossible, to succeed. Activist utopia are known for their lack of variations, lack of tolerance and a disregard of essential aspects of social life which are crucial for a society in order to function successfully. It is therefore questionable whether society, and the role architecture plays within society, benefits from an activist utopia. Furthermore, ideas for a utopia, a desired future scenario, are based on ideas about the future of the past. It is essential to question those set of ideas the same way as religion and politics, as the direct application of an idea in a distorted way. Therefore even though the utopian idea of modernist architecture had a major influence, it remains still one idea; one that is restricting us from other ideas. This is why it is possible to speak of utopia’s decline and fall.

[1]: Rowe, C. (1978), Collage City, Page 15
[2]: Rowe, C. (1978), Collage City, Page 20
After the millenium

After Modernism
The authors aim to reach a prescription for the architecture and urban planning of today. This prescription consists of a dialectic between two apparently opposite ideals, that is, anticipation and retrospection, in a complementary interdependent relationship. Modern architecture aimed to create a ‘better’ world through architecture. However, this did not immediately happen. Le Corbusier’s Ville Radieuse was heavily criticized by both the protagonists of retrospection and those of anticipation. In this way it served as a starting point for the creation of an alternative strategy.

Retrospection
The practice of townscape can be seen as a reaction to Modernism as well as a derivative from the eighteenth century picturesque, love for disorder, cultivation of the individual, distaste for the rational, passion for the various and suspicion of the generalized. It can typically be exemplified by the vernacular architecture which is so common in England. Characterized by the theory of the ‘accidents’ of organic growth, an architecture based largely on perception, and ‘giving the people what they want’, townscape design is the art of giving visual coherence and organization to the collage of buildings, streets, and spaces that make up the urban environment. Jane Jacobs’ and Kevin Lynch’s works can be used to give the idea of townscape credibility, but it has led to heavily criticized places like Disneyworld and the Las Vegas strip.

Anticipation
To a certain extent, the science fiction practice is presented as academicized version of what modern architecture was supposed to have been. Yet it still suffers from the same symptoms as Ville Radieuse: disregard for context, distrust of the social continuum, the use of symbolic utopian models for literal purposes and the assumption that the existing city will be made to go away. It does not seem able to alleviate modernism’s problems.

The cross-breeding of the two directions in architecture and urban planning has led to a clash of the two, resulting in a fusion of sorts. Archigram, seeking to improve on modernism, creates picturesque images of the future. One of its most significant works is The Plug-In City. This provocative project suggests a hypothetical fantasy city, containing modular residential units that “plug” into a central infrastructural mega-machine. The Plug-in City is in fact not a city, but a constantly evolving megastructure that incorporates residences, transportation and other essential services – all movable by giant cranes. Team X claims to replace the isolated building and programme with the overlapping of buildings and programmes, and substitute imposition with participation. However, the result is another rather difficult fusion, alternating between systems building and townscape tune up.

A third group, named Superstudio, had major objections about modernism, therefore proposing some rather radical solutions. They did not believe that architecture could improve the world and that technology has endless possibilities. The world-wide carthesian grid that Superstudio therefore designed is conceived as a non-oppressive egalitarianism that eradicates all existing variety in favour of an ideally uniform grid for spontaneous happening.

Whilst Superstudio propsoes the elimination of the formal structures of power, Disney World makes an attempt to furnish the resultant vacuum. On that account it is of importance to consider whether the question of real versus illusory is a useful one? Or is it rather self-defeating?

Right figure A27: Retrospection - Gordon Cullen, Paisagem Urbana, 1961
Memory and prophecy
Superstudio, personifying to a large extent radicalism, aimed to produce architecture as theatres of prophecy, whereas conservatism, as can be seen in the proposals of Jane Jacobs, resulted in architecture as theaters of memory. The authors state that mankind is both conservative and radical and that it is necessary to accept this condition. Without prophecy there is no hope, without memory there is no communication. We may receive strength from the novelty of prophetic declamation; however the degree of this potency must be strictly related to the known, perhaps mundane and necessarily memory-laden context from which it emerges.
Crisis of the object: Predicament of texture

Solid versus void
The old, so-called traditional cities can be described as cities of solid, consisting of building blocks that have representative fronts and chaotic backs. The resulting hierarchy produced clear public spaces as a void, which the modernists highly criticized. Their idea was to create an object that had equal faces. Therefore the object becomes a dominant feature in the space, and the building becomes a freestanding object.

This duality between urban fabric as a void or a solid can best be described by comparing two well-known architectural creations, namely the Uffizi and the Unité by le Corbusier.
The Uffizi represents a void. Between the clear boundaries of the building there is a void space which is designated for public activity.
Unité represents a solid in an open space, where the building functions as an independent object. The human activity is not regulated in the open space, but exclusively in the building/object itself.

By studying the urban fabric of cities throughout the 20th century, it can be stated that “the matrix of the city has transformed from continuous solid to continuous void.” As a result a figure ground map of cities show two types of models. One, characterized by the traditional city, is defined by voids in largely manipulated solids, leading to a merely black figure ground map. Contrary to the traditional city, the object in modern cities, defined as a black solid in largely manipulated voids determines the urban fabric. This in turn results in, to a great extent, white figure ground maps.

Poché
The relationship of the physical boundaries and its adjoining space can best be described as a ‘poché’. In two-dimensional sections or plans walls and floors are drawn as black boundaries in order to define the space, in the same way the building defines space in the city. It is possible to speak of poché when the urban fabric acts as a solid in combination with the void.

This can best be clarified by a comparison between the Unité of le Corbusier and the Manica Lunga.
Unité doesn’t act as a poché because it ensures its own isolation and object quality. Manica Lunga, being also an object, acts different than the Unité. It acts as a boundary between the street and the garden where the building has distinctive relationships with both spaces, depending on their character. Therefore Unité only occupies the space whereas Manica Lunga acts as a space occupier as well as a space definer.

Acropolis and Forum
“Ultimately, and in terms of figure-ground, the debate which is here postulated between solid and void is a debate between two models and, succinctly, these may be typified as acropolis and forum.” [3]

The distinction between the two significant models is that the acropolis is a collection of buildings which functions as a solid and an occupier, whereas in the case of the forum, the buildings define the void, resulting in a place for discussion.

[3]: Rowe, C. (1978), Collage City, Page 83
Collision city and the politics of ‘bricolage’

Total architecture or casual creation
Many utopian projections in human history can be characterised by the conceptions of total architecture and total design. The ideal society did not offer options to its people, because it did not need to. Citizens “could not fail to be happy because they could not choose but be good.”[4]

An example of the envisioned utopia in practice can be seen in the gardens of Versailles. The language of Versailles as a 17th century criticism to the medieval city was adopted by Haussmann and Napoleon III in their grand renovation of Paris. Versailles also exemplifies the idea of total architecture. It is the prevalence of the overwhelming idea and the refusal of the exception. Opposing the concept of the one dominating idea is the reverse of any totality. Villa Adriana can be taken as an example of a disorganized and casual creation, an accumulation of disparate ideal fragments. Being built by several people at different times it might be a better representation of political societies rather than the single central vision as political power tends to changes hands frequently.

The Fox and the Hedgehog

The examples of Versailles and Villa Adriana serve as an introduction to a serious bifurcation, as illustrated by Isaiah Berlin with her mention of the ‘hedgehog’ and the ‘fox.’ Berlin writes "the fox knows many things, but the hedgehog knows one big thing". [5]

This philosophical concept sets up the fox as a collector and compiler of different ideas and the hedgehog as the zealous pursuer of his conviction. The hedgehog creates the architectural rules that uphold his ideals. The fox gathers ideals that appeal to him and constructs on the basis of that.
Throughout time there have been numerous famous examples of foxes and hedgehogs in architecture. Concluding whether one is a fox or a hedgehog has been difficult to prove, as it is hard to be certain about one’s position. The era of modernism is an exception to this rule, as the hedgehog emerged as the dominant species. According to Rowe and Koetter this is due to the fact that the modernists were driven by one single vision, to create a descent standard of living for the masses, bearing in mind the rapidly changing society that boasted chances for change in that period. Not taking those chances and not having radical ideals was considered worse; it could lead to a disrupted society as an alternative to the all-encompassing plans of the modernists.

Conclusion

The single central vision of the architect is not in any case clearly divided by a hedgehog or a fox determination. The savage mind and everything that ‘bricolage’ represents, must now be brought into consideration. The ‘bricoleur’ is adept at performing a large number of diverse tasks, and unlike the engineer, he does not subordinate each of them to the availability of raw materials and tools conceived and procured for the purpose of the project. His universe of instruments is closed and the rules of his game are always to make with whatever is at hand. The artist is both someone like an scientist as of a 'bricoleur'.

"The scientist creating events, by means of structures and the ‘bricoleur’ creating structures by means of events.”[6]

But it does not suppose that, in absence of total design merely random procedures can be expected to flourish. Instead, whatever may be the empirical and whatever may be the ideal, the ongoing thesis presumes the possibility and the need for a two-way argument between these polar extremes.
It is preferable to consider the complementary possibilities of consciousness and sublimated conflict. “For, surely, the task is that of making safe the city (and hence democracy); it is just possible that these activities could provide the true Survival Through Design.” [7]
Collage city and the reconquest of time

“…Collage is a method deriving its virtue from its irony, because it seems to be a technique for using things and simultaneously disbelieving in them. It is a strategy which can allow utopia to be dealt with as image, to be dealt with in fragments, without our having to accept it in toto, which is further to suggest that collage could even be a strategy which, by supporting the utopian solution of changelessness and finality, might even fuel a reality of change, motion, action and history.” [8]

Opposing tradition vs. utopia

In accordance to Rowe and Koetter, this quote demonstrates the best solution for combining history of a city with a utopic view. From one hand, the part of utopia should not be forgotten, because without a utopian vision there is no growth, no point on the horizon to work towards. On the other hand, the importance of tradition should also not be underestimated, because tradition gives structure to society. It gives guidance for utopia and it structures the city and its future.

Collage technique

The collage technique in the book is deducted from influential artists, like for instance 20th century Spanish artist Pablo Picasso. Picasso stated that his art is not for one time period, not just for the future and not for passed time, but it is for the present, and will always be interpreted by people in the present (Rowe & Koetter, 1983). This interpretation might change, but the meaning of his art does not over time. This also counts for cities, as cities are not fixed in history but constantly evolving. However the experience of a city is always to be found in the present.

To what extent can cities be considered a “collage”? Nowadays there are roughly two types of collage cities to be found, best characterized by the cities London and Abu Dhabi. London is a collage city in the terms of tradition combined with utopia, where new buildings are built on the structure of the old urban fabric. This is a collage city in the terms of Rowe and Koetter. Abu Dhabi is a different type of collage city, as it tries to combine buildings of different cultures. In this way it seems to procure a utopia by importing tradition from all over the world. It combines tradition and utopia in a new way, entirely different from the theory as provided by Rowe and Koetter in their book Collage City.

[4]: Rowe, C. (1978), Collage City, Page 87
[5]: Rowe, C. (1978), Collage City, Page 91
[6]: Rowe, C. (1978), Collage City, Page 103
[7]: Rowe, C. (1978), Collage City, Page 117
[8]: Rowe, C. (1978), Collage City, Page 149


Right figure A31: Tradition vs Utopia - Pantheon, Rome
Architectural technique

The dimensions of the spaces inside the forum are defined according to the needs related to the specific function. Therefore the architectural quality of the whole is defined by connected spaces. The dimensions and the way how different functions are connected has a major influence on the atmosphere and thus behaviour of the people inside the open accessible cultural forum. With the connections of space, the dimensions and the materialisation of elements the building can influence aspects such as connection, routing and separation.

By staggering and shifting functions, the design creates different zones for different user groups to gather. The top will form the central area with the connections to all the different zones.

In between two gentle staircases, and with beautiful views over the river to the city, this area will be a public gathering place with possibilities to provide main events, performances, or public speeches.

Social and cultural functions are extracted, and connected to the terraces. The details and thus connections between the elements such as floors, walls, columns and roofs are important for the individuality of the elements, and as a whole for the result of a combination of different cultural functions together.

Research question:

This project undertakes research into the question of how architectural tools such as layering and the mass and space in between layers could be applied in the design of a cultural forum, where multiple functions meet.

Multiple themes can be investigated according to this research question. Therefore, the following subsidiary question are relevant:

- How can the topics of separation and connection be influenced, due to the proposing technique?

- How can the materiality and detailing in relation to the technique of layering and extracted elements influence the mass and volume of the building.

Urban space for pedestrians is very scarce in the dense city fabric of Paris along the Seine. With the layered terraces along the Seine the design increase the amount of public terraces.

By staggering the different layers, the design opens up the forum towards the city. The overlapping layers allow for the addition of skylight, terraces, views, relations with the surroundings, differentiated interiors, and contribute to the sustainable aspect of the building.

Slim, but thick-walled steel columns are connected to the layers and masses in a way that it will create a lightweight and subtile network which support the terraces. A grid of 5,0 by 10,0 meters, it will allow market stands to connect in between the columns, and the boulevard will keep its flexible character with the possibilities to organise events for children or different markets, just as it is used at the moment. (see photo's of activities on the lower boulevard)

The connection of terraces in relation to the river the Seine has always been a major aspect of this design on this location. Enclosed boxes in between open accessible layers which attract the interest of different user groups and a place where people would like to gather. Different cultural and social zones on the terraces define the variated forum. The different functions combined, linked by public terraces, create the clustered cultural forum.
Figures C21 - C36
Figure C66: Model of Cultural Forum 1 (scale 1:200)
A Metropolis like Paris, which is the economic, political and cultural centre from France, and the biggest and most important city of continental Europe is inhabited by an incredibly amount of different people with various backgrounds, religions and ideologies. It is important that the city has public spaces where different user groups feel invited. Good public spaces are those that assemble rather than disperse, integrate rather than separate, and invite rather than repel. Then there will be possibilities of meeting across different people and different lifestyles. A cultural forum should be a representative physical space accessible for different user groups, were the public space is a site of contact, but of a certain sort that is neither intimate nor anonymous.

The forum should provide this physical space, on a location where people like to gather. This location should be a representable place in the centre of the city, were the forum will be a recognisable place, not only for parts, but for the whole city. Paris is a very dense city, and still, like everywhere in the world, people are moving towards the city. In contrary to many mega cities in the world, Paris has strict regulations for high rise buildings. The building hight inside the ring should not exceed 25 meters, and in the periphery the hight limited with 37 meters to protect the architectural coherence in the city. With these strict regulations, and high population, the city has a very high density. As a result many people live outside the periphery and travel to the centre of the city to go to work every day.

Le Corbusier created in 1925 an extraordinary utopian plan as a critique on the structure of Paris with its low buildings which, according to Le Corbusier, resulted in small streets with dust, smells and noise. With the plan Voisin a big part of the centre of Paris would be destroyed and replaced for a plan with high-rise buildings. This should create a healthier environment for the increasing number of citizens in Paris. It was based on the idea that, with the right city planning and the appropriate use in technology, architecture could revolutionise patterns of living and improve the lives of modern city dwellers on a physical, economical, and even spiritual level. Le Corbusier wanted to divide the city into zones separating living, working, transport and recreation. Le plan Voisin would create light, open public spaces, and better organisation of the transportation, compared to the existing Paris. However unvisionary le plan Voisin was professed to be, however ‘real’ it has evidently proposes a completely different working model of reality.

Nowadays Paris is one of the most polluted cities in the world. According to Airparif, a non-profit organisation that monitors air quality, Paris is two times more polluted than London, just 343 kilometres away. If we look at the transportation network in Paris, many primary car roads are located it the centre of the city, along the Seine. Due to the pollution and the high density, plans has been made to remove the car roads close to the seine and make places for pedestrians instead of cars to improve the quality of life in the city. This would be a good opportunity for a location for the cultural forum, were I would like to explore the viability of stacking landscapes and functions rather than spreading laterally. In that way the forum addresses the issues such as the increases in population density, and the physical quality of human life in the city.

As mentioned before, the forum should be an openly accessible space with a variety of functions which attract the interest of different user groups and a place where people would like to gather. I would like to entwine layers of green space, like a vertical park which reflect on the city fabric and city life mixed with cultural functions. This in combination with an area for a market, restaurants and an exposition space, the forum will become an easily accessible area for both tourists as locals.

The transition between these specific public functions are important areas where people can learn to join with other
people, without compulsion to know them as persons. These public spaces are emphasised either as a site for impersonal contact or as a site for representation.

Three major themes are important for the forum: Social, Cultural, and Sustainable.

Social
The forum has to take part in both the stream of tourists and local people. Bistro’s, restaurants, and bars with a beautiful view on Paris, are intertwined with an exhibition, theatre and a music and dance area in the building. The cultural forum has to be easily accessible from the marketplace outside, as if the terraces intertwine with the boulevard along the Seine.

Cultural
The cultural functions inside the forum consist of an exhibition space where the contemporary art collection frequently changes. A small theatre for events such as performances, cinema, or symposiums, and a music and dance area for events or dance classes.

Sustainable
The forum has also to address the importance of sustainability, which is especially in Paris a trending topic, due to the fact that the city is one of the most polluted cities in the world. The people visiting the forum are exposed to the theme of sustainability with sun and wind energy, and green terraces. The forum has to provide at least its own usages of energy.
Open terraces and enclosed boxes

The Cultural Forum consist of different functions, open accessible terraces, and columns on a grid of 5,0 x 10,0 meters for support. The objects facilitate the cultural and social functions, the layered terraces are openly accessible with a great view over the Seine and Jardin des Tuileries towards the city. The exhibition, music and dance area and the theater create solid introverted masses. Objects which have their specific cultural value. The different functions combined, linked by public terraces, create the clustered cultural forum, with its center on the top.
Figure C67: Model of Cultural Forum 2 (scale 1:200)
**Along the Seine**

The design is located at the heart of Paris, at the new walkable boulevard for pedestrians as mentioned before. Due to the flood risk the cultural forum is lifted from the lower Embankment. The river the Seine plays an very important role in the city of Paris, and so does it in the design of the cultural forum. The design has a strong focus on the flow of the river, and the terraces connects with the river embankments. As can be seen in the plan of the Prevention Plan Flood Risks (IRPP), there is a possibility for the lower embankment to be flooded. The last great flood in Paris was in 191, and the lower embankment is created to control the rising water of the river the Seine. The terraces of the cultural forum are connected to the lower embankment with gentle stairs next to the main stream of people, and connected to the upper embankment through the pedestrian bridge 'Passerelle de Solférino'. The social and cultural functions are carefully positioned among each other and in relation with the open accessible terraces, which creates different public areas. The size, connection to ground floor, public an semi-public areas, and view towards the city, and sunlight are important factors in the positioning of space. The forum / meeting-place at the top will form the centre, connected to all the different zones and functions with an amazing view over the river and the centre of Paris.

Figure B13: Section through Seine and Jardin des Tuileries
Top left figure A23: Prevention Plan Flood Risks 1 (IRPP)
Bottom left figure B14: Ordering functions

Top right figure A24: Prevention Plan Flood Risks 2 (IRPP)
Bottom right figure B15: Parameters for functions
Figure C68: Situation model of Cultural Forum 1 (scale 1:300)
Primary roads

Paris is one of the most polluted cities in the world. The number one reason for this is the amount of cars in the center of the city. As can be seen on this map are many primary roads located next to the river the Seine. This is good for logistic purposes, with cars as major transport, but catastrophic for the air quality, and also the walkable stream of people, where the primary roads will form a big barrier between the accessibility of the river the Seine.
Public Transport

The Paris Métro, is noted for its density within the city limits. Major train lines are entering the metropolis and metro stations have a short distance between each other. This makes it an good city for walking in combination with public transport. Many bridges crossing the river the Seine define important axes in the city fabric and are also popular as touristic highlights themselves.

Figure B17: Public transport
Layered Paris

Multiple layers shape a complex city like Paris. From the river the Seine, transportation networks over- and underground, to the big boulevards, cut through the city fabric. These interventions by Haussmann from 1853 until 1882 are still clearly recognisable and influenceable in the urban tissue of Paris today.

Figure B18: Layered Paris
**Highlights**

Data about functions, related to the amount of visitors are collected, analysed and visualised. The red coloured dots illustrate the top 20 most visited places in the city. With the biggest, and thus most visited spot on Notre Dame with 14.000.000 visitors a year.

Figure B19: *Highlights*
Tourists flow

Tourists visiting highlights of the city creates a major stream of people in the city. ‘The tourist flow’. Paris claimed the third spot in the world (after London, and Bangkok), with 16,06 million international visitors this year.

This map is created by putting a red pixel on that specific place where a foreigner made a picture and put it on social media. The map shows the major tourist stream in the city and corresponds with the map where the most visited places in Paris are shown.

Figure B20: Tourists flow
Les Berges

Due to the amount of car traffic in the center, and therefore the pollution in the city, this area once a car road, is now only accessible for pedestrians. This place has a huge potential for an walkable boulevard along the river. Instead of walking on the sidewalk next to the road, people have the opportunity to walk on the lower boulevard with more space and a direct relation to the river.
**Tourist stream**

With the new possibility for ‘Les Berges’ as a walkable boulevard, I want to continue this flow of people towards the Eiffel tower. This area is now accessible for pedestrians due to the fact that the government closed this previous car road.

The location of the cultural forum will be at the beginning of this new stream of people in Paris.
Connection to center

The cultural forum is located in the center of Paris in between major highlights of Paris. From the public terraces in the forum it is possible to make a connection with these places, so that the forum will not only become an building on itself but tries to form a link with the city fabric with both streams of people and views towards cultural values.

Figure B23: Connection to center
Photos of the location

Due to the amount of car traffic in the center, and therefore the pollution in the city, this area once a car road, is now only accessible for pedestrians.

This place has a huge potential for an walkable boulevard along the river. Instead of walking on the sidewalk next to the road, people have the opportunity to walk on the lower boulevard with more space and a direct relation to the river.
Accessibility

The pedestrian bridge ‘Léopold-Sédar-Senghor’ forms a major connection between the Louvre, and Musée d’Orsay. The bridge is also a tourist attraction itself because of the millions of locks places on the railing of the bridge by couples to figuratively speaking lock their relationship forever. On the north side of the bridge is accessible through a tunnel underneath the primary car road. The bridge connects both the lower as the upper embankment of the Seine. In the previous situation many people took the connection on the upper boulevard, due to the fact that the lower boulevard was a car road and parking place.

The removal of this car road and parking space opens up a new opportunity for a walkable boulevard along the Seine to the Eiffel tower, and thus an addition on the major tourists flow.

Figure B25: Accessibility

Legend
- Stream of cars
- Possible flow of pedestrians
- Metro station Musée d’Orsay
New walkable boulevard

With the new possibility for ‘Les Berges’ as a walkable boulevard, I want to continue this flow of people towards the Eiffel tower. This area is now accessible for pedestrians due to the fact that the government closed this previous car road. The location of the cultural forum will be at the beginning of this new stream of people in Paris.

Figure B26: New walkable boulevard
To facilitate the open market place on the boulevard, and to encourage the new flow of people on the lower boulevard towards the Eiffel tower, the cultural forum is placed on the border of the lower boulevard with terraces overlapping over the Seine.
Figure B27: Top view
Figure C69: Situation model of Cultural Forum 2 (scale 1:300)
Routing

On both side's of the Seine on the upper embankment is a continuous flow of cars. The lower embankment is transformed from a car road to a pedestrian area. The forum hooked in the main tourists flow, and the beginning of a new route on this lower embankment to the Eiffel tower. From two gentle stairs next to the stream of people on the lower embankment, and from the pedestrian bridge, to terraces are openly accessible. Both tourists, mostly interested in cultural functions, are intertwined in the forum and mixed with the in France so important food and social culture.

For example, routings and zones are overlapping each other, the tourist flow to the exhibition space on the third floor will pass the bistro, the theater and the forum on the top. The exhibition itself goes from the third floor to the first floor and ends in the restaurant and its the terrace.

Legend

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<td></td>
<td>Stream of cars</td>
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<td></td>
<td>Possible flow of pedestrians</td>
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</table>

Figure B28: Routing
Axonometry

The Cultural Forum consist of different functions, open accessible terraces, and columns on a grid of 5,0 x 10,0 meters for support. The objects facilitate the cultural and social functions, the layered terraces are openly accessible with a great view over the Seine and Jardin des Tuileries towards the city. The exhibition, music and dance area and the theater create solid introverted masses. Objects which have their specific cultural value. The different functions combined, linked by public terraces, create the clustered cultural forum, with its center on the top.
Terraces

Urban Space for pedestrians is very scarce in the dense city of Paris along the River. With the layered terraces along the Seine the design increase the amount of public terraces. Connected with major streams of tourists on the pedestrian bridge ‘the Passerelle Léopold-Sédar-Senghor’, the existing boulevard on the upper embankment, and the new walkable boulevard on the lower embankment, the design makes a connection which resulted in public and easily accessible terraces.
Zones

Different cultural and social zones define the varied forum. The cultural forum consist of cultural and social functions arranged amongst open accessible terraces. By staggering and shifting these functions, the design create different zones, and in combination with the terraces different zones for different user groups to gather. The top will form the central area in the forum with the connection to all the different zones. Two big staircase create an enclosed space in between the exhibition, and the music and dance area. Above the bar in the middle of the forum a stretched terrace provides a stage for public events in Paris such as performances and speeches.

Figure B31: Zones
**Sustainable energy**

The forum has to address the importance of sustainability. People visiting the forum, are exposed to the theme of sustainability with water, sun energy, and green, and walkable terraces excluded by cars. The forum has to provide at least its own usages of energy. The solar panels “Sunfix aero duo 2.0” are installed on the terraces at the second floor and the roof of the theatre. They are arranged in pairs in a tent shape which allows optimal utilisation of the existing surfaces of the terraces, and thus achieves the maximum possible energy generation relative to the existing roof surface. (See plans fig. B38 & B40)

The place is chosen with the help of a solar study, where there are no shadows on this spot and visible for people who walk on the terraces but not accessible. In the Seine I would like to use the flow of the river to create energy. I found a product called “SMART Monofloat Kinetic Micro Hydro System” which could be placed at the side of the river (at places where now boats are parked) and generate energy from the flowing river. With the following specifications: River characteristics: Min. depth: 2.0 m / Min. width: 2.0 m / Max. recommended depth: 10 m / Min. river flow: 1.0 m/s / Max. river flow: 3.5 m/s. The Seine with an average speed of 2,5 is good for the use of this turbine.

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**Figure A25: SMART Monofloat Kinetic Micro Hydro System**
Figure A26: Sunflix aero duo 2.0
Figure C71: Situation model of Cultural Forum 4 (scale 1:300)
Figure B32: First floor (original scale 1:500)
Figure B33: Second floor (original scale 1:500)
Figure B34: Third floor (original scale 1:500)
Figure B35: Fourth floor (original scale 1:500)
Figure B36: First floor (original scale 1:300)
Figure B37: Impression from first floor terrace
Figure B38: Second floor (original scale 1:300)
Figure B39: Impression from inside the exhibition
Figure B40: Third floor (original scale 1:300)

Third floor

original scale: 1:300
Figure B41: Impression from the top terrace (forum)
Figure B42: Fourth floor (original scale 1:300)
DESIGN | Sections

17,000
4e verdieping

13,000
3e verdieping

9,000
2e verdieping

5,000
1e verdieping

0
Begane grond

-2,000
Seine
Figure B43: Section C3

Legend
- Yellow: Exhibition
- Red: Restaurant

Original scale: 1:100
- Steel balustrade with glass panels in between balusters 2500 mm
- Balustrade welded on T-profile 120x150 mm
- T-profile 120x150 mm connected with bolts on poured concrete
- **Stucco** 10 mm
- **limestone** 150 mm
- **Glass-fiber batt insulation** 150 mm
- Two layers glass-mat faced gypsum sheathing
- Aluminium liner panel
- **Colored Translucent blinds** 10x200 mm

- **Concrete tiles** 1000x1000x50 mm
- Space for equipment 200 mm
- **Reinforced concrete beams** 400x200 mm
- **Poured concrete floor** 200 mm thick
- **Colored Translucent blinds** 10x200 mm
- **Isokraft thermal breaks**
APPENDIX
The design of the Cultural Forum is formed by a technique which is analysed spatial qualities in relation with routing. A technique of open layers and enclosed boxes, as a set of tools is used to analyse aspects as routing, zones, connection, light and materialisation in a forum where multiple functions meet. With a special attention to drafting and modelling techniques in our studio, it helped me to understand the spatial qualities by making. I believe that this is the best way of understanding and thus designing architecture. Although this process takes a lot of time, it is good to reflect the design and make improvements possible. It was nice to work in this studio with the fellow students and I have enjoyed the excursion trips to both London and Paris, and the enormous amount of time we spend together in the workshop of the university. The weekly meetings helped me to reflect on my results and give me insight in the vision of two different architects Sjef van Hoof and Mark Hemel. I want to thank my supervisors, Mark Hemel, Sjef van Hoof and Juliette Bekkering for sharing their interesting visions and reflections with me.
**Literature**


**Articles**


**Images**

Images from external sources

**Figure A1**: Downtown Rome during the Roman Empire

**Figure A2**: The first commercial centre of Athens
- http://www.eie.gr/archaeologia/En/chapter_more_5.aspx

**Figure A3**: Old photo of the barricades in Paris
- http://api.ning.com/files/0F2IH2NtrWAp4Z4PnCKyo-sc-ncoe8UE330HD0m2xhNncCUbto-v1GnrN6y-lgQ0tc-j/ParisattheBarricades ontheRueStMaurJune1848.jpg?width=280&height=400

**Figure A4**: Map with previous barricades in Paris
- https://spargelandfraise.files.wordpress.com/2012/04/plan-barricade-paris.jpeg

**Figure A5**: Photo of the typically Haussmann facade
- https://s-media-cache-ak0.pinimg.com/736x/2e/ee/b1/2eeeb143a96f7186c526c02bc8dacf3bd.jpg

**Figure A6**: Photo of the old facades of Paris

**Figure A7**: Paris building blocks
- http://static1.1.sqscdn.com/static/cf/450845/10977688/1298911523390/paris+blocks.jpg?token=ZJKY0yd9h-QZ70YfRbxDLj3p%2FToK%3D
Drawings

All drawings are made by Jochem Alferink

Figure A8: Horizontally organised building blocks
- http://static1.1.sqspcdn.com/static/f/450845/10977688/1298911523390/paris+blocks.jpg?token=ZJKY0yd9h-QZ70YyRbxDL3p%2FTCk%3D

Figure A9: Location of the new avenue de l'Opéra
- http://www.lib.uchicago.edu/e/collections/maps/paris/

Figure A10: New avenue de l'Opéra
- http://www.lib.uchicago.edu/e/collections/maps/paris/

Figure A11: Haussmannien blocks, percées
- Panerai, Philippe, (et. al.) (20014) p. 20.

Figure A12: Haussmannien blocks, dimensions

Figure A13: The rue des Moineaux in 1860 (cliché Marville) before the avenue de l'Opéra
- Panerai, Philippe, (et. al.) (20014) p. 4.

Figure A14: Photo of the old Rue des Moulins
https://abeautifulbook.wordpress.com/2013/01/04/2031/

Figure A15: Place de la République
- http://www.bustler.net/images/uploads/place_de_la_republique_mathe_arquitectura_1.jpg

Figure A16: Demonstration at Place de la République, 11-01-2015
- http://cdn.timesofisrael.com/uploads/2015/01/000_Par8071255-635x357.jpg

Figure A17: Place before place de la République
- http://www.urbangreenbluegrids.com/projects/place-de-la-republique-paris/

Figure A18: Impressions before place de la République
- http://www.urbangreenbluegrids.com/projects/place-de-la-republique-paris/

Figure A19: Facades before place de la République
- http://www.urbangreenbluegrids.com/projects/place-de-la-republique-paris/

Figure A20: Map of place de la République
- http://www.urbangreenbluegrids.com/uploads/Place-de-Republique-stedenbouwkundig-plan-_TVK-950x628.jpg

Figure A21: Impression of place de la République, 1929
- http://www.cparama.com/forum/place-de-la-republique-t2924.html

Figure A22: New building facades on place de la République
- http://www.v2asp.paris.fr/commun/republique/diapo1/5.png

Figure A23: Prevention Plan Flood Risks 1 (IRPP)

Figure A24: Prevention Plan Flood Risks 2 (IRPP)

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All Models are made by Jochem Alferink

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All Photos are made by Jochem Alferink

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