Unfolding urban publicness

a research by EMU

[EUROPEAN POSTGRADUATE MASTER IN URBANISM]
TU DELFT / IUAV VENICE

Patrizia Sulis
ferno, are not inferno, then make them endure, recognise who and what, in the midst of the in-vigilance and apprehension: seek and learn to see it. The second is risky and demands constant There are two ways to escape from suffering it. we live every day, that we form by being together.

And Polo said: “The inferno of the urban domain.

Areas delineated in the research.

The dominant role of media in the perception of the city goes along with an issue of power. Controlling the flows of communication and information also means controlling the per-
cept of the city, and potentially imposing an order and a control on it, this latter a very present phenomenon in the contemporary city.

Context of the research.

Cities are ruled by globalization rules and rep-
resented by the media and communication systems. This leads to one hand to a phenom-
emon of homogenization, and to the other hand to cultural and identity claims that can manifest themselves as violent forms of op-
position.

Every kind of differences, diversities, manifest themselves as violent forms of op-
position.

The new condition of mobility of people, goods and information leads people to per-
cieve and experience cities in different ways and to the lack of a main cultural image of the city. What arises from here is the important role of images and messages broadcast from media, that directly cause a ‘blindness effect’: one see so much things that at the end he doesn’t see anything anymore. The ‘semantic emptiness’, a sort of excess of codes simultaneously op-
erative and conflicting, that affects the space is directly reflected into a condition of differ-
ent degrees of legibility and visibility of the different parts of the city, leading to the frag-
mentation into distinct visible and invisible parallel networks, and to a related difficulty of mapping and representing the contemporary urban domain.

The idea of city-world is in a way an ideal: free exchange and free mobility. The world-city is instead the place in which all contradictions and conflicts come into surface: it is not true that people, goods and ideas can move so freely. Cities are the places in which all the tensions are pointed out.

Migration has a central role in this issue. Peo-
ple move for different reasons and migration flows go directly to cities: it is a demographic flow that has its destination in the city. Migration is a kind of social self-regulation: a tension, a conflict that tends to produce other conflicts. It is like a chain reaction that leads to a state of equilibrium after some move-
ments: migration causes just limited conflicts, contrarily to the tension that can be caused if migration itself is forbidden or just restrained. But the present fragmented condition of the city is instead causing phenomena such as privatization and segregation that lead to a multiplications of those boundaries that were thought as disappeared, and that power tried to make invisible. Border conditions can be found at varying degrees: they are not nec-
essary material, but also of different nature. Border is in the city as a neutral concept, and the disappearance of the boundaries between countries, due to the network of global cities, is the multiplications of new boundaries, the reappearance of phenomena that power tried to make invisible, and the very explosion of conflictive and violent way.

The boundary condition can be found at varying degrees wherever one looks at a geo-
graphically expanding power. It is not true that cities are borderless.

The disappearance of the boundaries between city and periphery, among cities and even countries, due to the network of global cities, seemed to announce the disappearance of all boundaries and the global connection of every place. In fact, what is more and more evident is the multiplications of new boundaries, the reappearance of phenomena that power tried to make invisible, and the very explosion of the visibility of those places in an increasing conflictive and violent way. The boundary condition can be found at varying degrees wherever one looks at a geo-

graphically expanding power. It is not true that cities are borderless.
Borders are very present inside the city, and they are not necessary material, but also of different nature: the border is in fact everywhere, and the power is the element that determines if the border becomes boundary or a porous place of exchange.

Nowadays one of the most used word is exclusion, which means that there ought to be an “inside” and a “outside”: one is excluded from something new can be generated, where exchange and conflicts among different realms take place, in a continuous tension and interplay between change and continuity and the implied possibility that the city emerges from within.

Here conflict can be seen as the condition required for the growth: it is a force of negotiation and allows space to be, rather than a container for conflict, a place to articulate conflict and for conflictual practice. Following the captivatory principle of the complex systems’ theory, those are the local places of instability necessary to maintain the overall stability of the city. According to Deutsche, social space is where the meaning and the unity of the social is constantly negotiated: public space is therefore a highly open site of political action where conflict, division and instability do not ruin the democratic public sphere, they are rather the conditions of its existence. In those places transformations are more likely and faster than in the homogeneous parts, they are like “warm formations are more likely and faster than in cold regions”. Those heterogeneous places can be observed, as the following the captivity principle of the complex systems’ theory, as different social groups is possible and also necessary for the growth: it is a force of negotiation and allows space to be, rather than a container for conflict, a place to articulate conflict and for conflictual practice. Following the captivatory principle of the complex systems’ theory, those are the local places of instability necessary to maintain the overall stability of the city.

The emphasis on the physical and spatial perspective is the condition that those maps represent. Making aware people who live in the city and the very same people that live in the city in all its contradictions and dualities is indeed the city that, for urban dimension, is the most open site of political action where exchange and conflicts among different realms take place, in a continuous tension and interplay between change and continuity and the implied possibility that the city emerges from within.

The interesting point is therefore working on the spatialisation of the globalised dimension of the European city, knowing that space changes slower than society and interposes tension on changes, and that it is necessary to learn to decipher this tension observing the space of friction.

Materiality really matters because people’s spaces are ground surrounded, they are not only abstract ideas: spatial needs can be immediately understandable.

The public space is the starting point for a continuous tension and interplay between change and continuity and the implied possibility that the city emerges from within. Therefore people who do not conform to mainstream networks do not have a formal place in the city where they can express themselves as social beings.

This leads to the conditions of invisibility of entire sectors of the urban population: they are not represented in the urban life of the city and are consequently excluded also from the public and democratic life. This does not automatically mean that those “invisible” people renoval claim to a public life: the formal invisibility stays just on an official level. Scratching the surface of reality that media tend to broadcast, it is possible to discover parallel networks to the official city, systems of territorial identities that can be recognise as such because they contain those characteristics that have been considered as necessary and sufficient conditions for being categorised as belonging to the public domain.

The public domain is completely defined as a place where an exchange between different social groups is possible and also actually necessary. There are the public realm is the sphere where different social groups can be the right example of a city affect by the problem of exclusion and segregation and the right city for some approaches of attempting and dealing differently with them.

The attempt of mapping the geography of the city in all its contradictions and dualities can be the right example of a city affect by the problem of exclusion and segregation and the right city for some approaches of attempting and dealing differently with them.

Starting from this point, the interest of the research focused more on the identification of alternative public places in the contemporary city, where people that continuously cross the contemporary city with a multiplicity of flows coming from the most different scales. The research have been taken directly from the references that those maps represent. Making aware people who live in the city and the very same people that live in the city in all its contradictions and dualities is indeed the city that, for urban dimension, is the most open site of political action where exchange and conflicts among different realms take place, in a continuous tension and interplay between change and continuity and the implied possibility that the city emerges from within.

Glossary

Some concepts and definitions at the basis of the research have been taken directly from the references used for the literature research. Here the most important ones, that are considered as a priori concepts for all the following development of the work.

particularly relevant during the research has had the paper of Foucault [Foucault, 1984] and the concepts of isotopia and heterotopia cited in his work.

Particular relevance during the research has had the paper of Foucault [Foucault, 1984] and the concepts of isotopia and heterotopia cited in his work.

Particular relevance during the research has had the paper of Foucault [Foucault, 1984] and the concepts of isotopia and heterotopia cited in his work.
Choosing Milan as city for the research, it has been very useful, especially at the beginning, referring to the research done by Boeri, Lanzani and Marin, illustrated in the book "The changing territory", about the transformation under which the territory has been going on, and the new practices that affect the city. It helped very much because of the deep knowledge that they build on the book, that allows, especially for those who do not know the city very well, to understand the dynamics that have been in the past in the city and how those influence the city now and will do it in the future.

Starting from this state of art, it is possible to try going a bit further, particularly focusing on how people move in the city and how the way they move through the city influence the knowledge about it. It is therefore interesting focusing on the different technologies included into the urban environment, through which people move and to which different parts of the city refer, building a system with them that do not include anymore just infrastructure or just buildings, but create complex systems composed by different elements strictly related one to the other.

Therefore, the first step is to understand how the different fragment that compose the zenithal image of Milan are arranged in relation to the different technologies that affect them. Especially about the different infra-structure networks, it was interesting trying to relate the historical modification that took part in the city and the development of the technologies that affect it; keeping in mind the principle that each technology brings a different idea of the city, a different morphology, a different productive tissue. The technology that people use to experience the city is strongly part of the way they look at the world, and it affects their way of experience and knowing it, influencing their cognition process and the way they know the city and build their idea and image of it.

The city of Milan has been read looking at the historical and present railway system, the axial urban structure of the XIX century, the road system, characterised by ring roads and overpasses, and the underground system, which in Milan is strictly linked to the railway system and mostly set outside the historical rings of the city. The 'ancient machines' as they are called in Boeri's book tend to cluster along the railway lines, especially in correspondence to the ancient 'doors' of the city. Looking at them later, after following development, the productive tissue appears completely scattered and totally disconnected by the previous technological system. Furthermore, the different infrastructures are included in a new isotopic system, where the 'ancient machines' are included in a new isotopic system, where the 'new machines' that cluster on it referring to the research done by Boeri, Lanzani and Marinii and referred to in the book "The changing territory", about the transformation under which the territory has been going on, and the new practices that affect the city. It helped very much because of the deep knowledge that they build on the book, that allows, especially for those who do not know the city very well, to understand the dynamics that have been in the past in the city and how those influence the city now and will do it in the future.

In fact, all the different elements create links to the particular technology taken into consideration, and consequently among them. The technology becomes, in a way, the mother putamen, the device that links all those parts making them part of a network that shares the same level of the hierarchy and a common framework.

What can be observed with the industrial and productive tissue in Milan is a clear example of this phenomenon. Firstly it was strictly linked to the railway sys- tem and mostly set outside the historical rings of the city. The 'ancient machines' as they are called in Boeri's book tend to cluster along the railway lines, especially in correspondence to the ancient 'doors' of the city. Looking at them later, after following development, the productive tissue appears completely scattered and totally disconnected by the previous technological system. However, the chaotic and fragmented appearance of it immediately disappears once one reads the territory using the key of the new technology: the road network. It creates a system with the 'new machines' that cluster on it with precise and specific morphology, creating a new image of the city. Those machines are included in a new isotopic system, whereas the 'ancient machines' are now outside the system as heterotopias.

But it is an appearance: many of those places are now interested by interventions that are going to build a new image of Milan. Power takes them in the transformation process, linking them to the new technology: the underground systems. They are not heterotopias anymore, but again into an isotopic relation sharing the same level of hierarchy, because of their connections and the gradient of value they have for the power system.

Even if they have completely different functions, they are topologically closed because of the relation among them. It would be possible to draw a different topological map, showing how the proximity dimension changes among them and how they can be very distant from places that are instead just physically contiguous.
It is possible to read in the same way the other parts of the city. The homogeneous city is indeed strictly related to the XIX century axial system, very common to many other European cities at that time. The homogeneous morphology and the closed relation between the boulevard structure and the façades of the buildings make them as two parts of the same unity. The following transformation that interested this issue are characterised by very specialised functions, such as commercial streets, or entire neighbourhoods dedicated to specific functions such as fashion and publicity agencies that tend to cluster in some places, creating multifunctional districts in this homogeneous but low flexible morphology. Indeed some of those places are very related to the global image of Milan [topologically, they are closer to similar places in other cities than the places physically close to them]; they can also be valuable places such as the exchange stock market and the related business districts, and they are linked to the underground system.

The ‘utopic city’, mostly composed by after WWII expansions and characterised by big interventions of social buildings, are almost totally disconnected by the rest of the city through the railway system, but also through the road system, that was at the beginning the technology that allow them to develop.

With the continuous developments of ring roads, overpasses around the city and the specialisation of some roads such as highways, what were before linking networks have become ‘selective infrastructures’ and ‘disconnecting systems’, that bypass entire parts of the city. Looking closer, it is interesting to observe how the most multi-ethnic neighbourhoods are in the ‘utopic city’, completely disconnected from the new technology lines. However, even if they are disconnected at a local level from the city, they are globally linked through other technologies at a different level, such as international railway systems and airports, or through the satellite tv, a very visible device in the city, which directly connects people that live in those places to their own countries and other national communities around the world.

Paradoxically, the very same technologies are used by a very different kind of moving people: international railways and airports are the same technologies that global tourism needs to reach Milan, and satellite TV is the same device that spreads all over the world a global image of Milan, constituted by very few selected and visible places in the city.

Other two technologies are involved in the process of visible/invisible mapping of the city: the Internet and the CCTV. About the Internet, it is not very easily to map its location in the city. In the map it has been taken into account the location of the free wi-fi hotspot in the city: it can be clearly seen how they cluster around the most global relevant, high-value places of the city. It is also very interesting to observe how they almost completely overlap the underground system path. This tends to create different parallel cities at different speeds in the very same one: some of those cities are at a very high speed [would it be the underground speed or the high-fast Internet access?], some others are at a very slow speed, when not completely cut out of those networks.

Another interesting technology that can be taken into account is the CCTV, usually related to filtering access to some places of the city due to security reason. In this case, it is the map of the CCTV system that regulate the private car access to the historical centre of Milan. It is related to an ecological issue [the most polluting cars are not allowed to enter in the centre if not paying an eco-tax], but indeed it can be easily turned into an economical issue, determining a discriminatory access.

With the continuous developments of ring roads, overpasses around the city and the specialisation of some roads such as highways, what were before linking networks have become ‘selective infrastructures’ and ‘disconnecting systems’, that bypass entire parts of the city. Looking closer, it is interesting to observe how the most multi-ethnic neighbourhoods are in the ‘utopic city’, completely disconnected from the new technology lines. However, even if they are disconnected at a local level from the city, they are globally linked through other technologies at a different level, such as international railway systems and airports, or through the satellite tv, a very visible device in the city, which directly connects people that live in those places to their own countries and other national communities around the world.

Paradoxically, the very same technologies are used by a very different kind of moving people: international railways and airports are the same technologies that global tourism needs to reach Milan, and satellite TV is the same device that spreads all over the world a global image of Milan, constituted by very few selected and visible places in the city.

Other two technologies are involved in the process of visible/invisible mapping of the city: the Internet and the CCTV. About the Internet, it is not very easily to map its location in the city. In the map it has been taken into account the location of the free wi-fi hotspot in the city: it can be clearly seen how they cluster around the most global relevant, high-value places of the city. It is also very interesting to observe how they almost completely overlap the underground system path. This tends to create different parallel cities at different speeds in the very same one: some of those cities are at a very high speed [would it be the underground speed or the high-fast Internet access?], some others are at a very slow speed, when not completely cut out of those networks.

Another interesting technology that can be taken into account is the CCTV, usually related to filtering access to some places of the city due to security reason. In this case, it is the map of the CCTV system that regulate the private car access to the historical centre of Milan. It is related to an ecological issue [the most polluting cars are not allowed to enter in the centre if not paying an eco-tax], but indeed it can be easily turned into an economical issue, determining a discriminatory access.
The “new machines” related to the railway system and the ancient walls of the city.

The “new machines” related to the road system.
Some of the “old machines” relate now to the underground lines [ in yellow ].

The “homogeneous city” related to the railway system.
In the “homogeneous city”, new ‘specialised’ parts of it related strictly to the new technology system.
The "utopic city" related to the railway system.
The "utopic city" related to the complete urban road system and the highway.
The most multiethnic neighbourhoods are in the “utopic city”, completely disconnected from the new technology lines... ...and they are also disconnected from the surroundings by ring roads and overpasses.
Even if locally disconnected, those places are globally connected to others through other technologies, such as international railways and airports...

... and by satellite TV, which directly connects them to their own countries in the world.
Paradoxically, international railways and airports are the same technologies that global tourism uses to reach Milan...

... and satellite TV is the same that spreads all over the globe the images of some very selected places in Milan.
Free Internet hot-spots in Milan, compared to the underground line and the disconnected neighbourhoods.
Checking points controlled by CCTV technologies for the eco-pass in Milan and the related parking service linked to some underground stops.
Assuming the technology and the part of the
city related to them as a unity, it is therefore
possible trying to map the urban practices dif-
ferently.
Instead of taking into account in the reading
a single element each time [ places related to
network, people moving related to network
etc. ], it would be interesting trying to con-
sider all together elements that are in a rela-
tion among them, identifying them as a unity:
in this way it can be also possible to map and
visualise spatially in the city elements that are
part of different domains, and the respective
borders of those domains.

Obviously, the term ‘border’ here does not
necessarily have a physical meaning: it can be
defined by time [ i.e. the hours of fruition of
different places in the city ], or distance [ from
a given point of reference ], or by importance
[ of some places instead of some others ].

Generally speaking, basic parameters that set
borders can be space, time and use of places
by people.

It can therefore be possible to draw a different
map of places in the city, drawing boundaries
around places that have the same time of fruition,
same function, connected by the same devices
that give them accessibility.

Following this method, it is actually possible
to draw a multiplicity of maps of the same
city, each of them including only some places,
some practices, some rhythms, some people.
In a sense, it is possible to map the several dif-
fferences that are present at the same time in
the same city.

It is introduced here a tool that I called
‘enveloppe’.

[ after the French: matiere ou objet souple qui
s'adapte à la forme de l'objet, qui couvre en en-
tournant. L 'enveloppe n'est pas constitutive de
l'objet ]

The enveloppe is an enveloping structure as a
wrapping, that folds and contains in it places,
rhythms and people that are among them in
an isotopic relation.
Therefore the ‘enveloppe’ has a precise frame-
work and precise conditions: each ‘envel-
oppe’ contains and defines a ‘situation’ done
by shared places, rhythms, scales by different
people.

Each enveloppe involves a situation defined by 3
conditions: space - done by the unity by places of flow
and technology
time - actions follow specific rhythms [ idior-
rhythms ]
purpose - defined by actions and agents

If the starting conditions of the ‘enveloppe’
change, the folded ‘situation’ changes and
the ‘enveloppe’ can be modified, including or
expelling elements from it, that therefore
change their status of isotopia or heterotopia
related to the ‘enveloppe’.

‘Enveloppes’ define borders in the city, bor-
ders that are not fixed ones; they set distance
among places that are physically contiguous,
re-sizing and scaling the city and modifying
the proximity-contiguity relations among
the different urban elements. Places that are far in
the city can then be put one beside the other
because of how they are experienced by peo-
ple. Obviously the same places can be experienced
by different people in different times and
through different technologies: this means
that the ‘enveloppes’ overlap in some places in
the city. Those places then acquire somehow
a new status, becoming places of interference
and exchange among different domains repre-
sented by the various ‘enveloppes’ that overlap
there.
Those places in the city are like multi-scale
articulators, they acquire somehow a differ-
ent dimension in the “flat city”, allowing and
encouraging not only horizontal relations
among the same scale and domains, but also
vertical ones among different ones.
As first step, I began drawing the enveloppes considering the different uses that can be detected in the city of Milan, related to the different devices that connect several urban parts. Doing so, I could compare how people, using different technologies, share the same places because of a common purpose. However, I realised that methodologically it was not the best approach, because I was mixing to much parameters all together, taking into account different devices, rhythms and not having a common element on which I could compute the results.

What I have then decided to do, and it will be fully explained in the section ‘underground’ and ‘overlapping’ later on, is, once more, setting the technology as key reader for the further investigation. From a spatial point of view, it changes a lot regarding the approach: I am not looking generally at some spaces in the city, characterised by some functions, but I am choosing places that are in themselves related to the mobility domain, observing if and how they interact to the rest of the surrounding city and to the different flows that invest them. Doing so, it will be possible to compare those different places among them and, later on, compare them to others connected by different technologies.
The envelopes of the shopping "corso" [in orange] and the shopping "road" [in yellow], related to the underground system.

The envelopes of the global well-known places [in orange] and the leisure places [in yellow], related to the underground system.
The envelopes of the well-known places [in orange], related to the underground system, and the multi-ethnic neighbourhoods [in yellow], related to the road system.
As already stated before, it is not possible to analyse and take into account all the possible envelopes that different people, with different rhythms and by different technologies, create in the urban space.

Even if it would have been extremely interesting to compare how and where envelopes that involve different technologies share the same spaces, it has been necessary to focus on a specific technology that can restrict the field of observation but in the meanwhile being worth for the phenomenon I was trying to detect.

What I have chosen is the technology of the underground system in Milan.

I found this particular technology extremely fascinating and interesting. In the city of Milan the underground network is directly linked to a railway system [as the German S-Bahn and U-bahn] and, through this, to the regional and national railway system [by shared stops and stations].

This directly implies that the domains involved in the use of the underground line in itself are very wide, including flows of people from the very local scale [people living in Milan taking the underground just for few stops] to the very global scale [tourists that arrive at the Central station from the international airport and go straight to the Duomo square].

Phenomenology of an underground.

As other underground systems, it is possible to recognise some characteristics that really qualify and explain the spatial relation and the impact of the underground line on the city.

The underground line works differently regarding to different places in the city, and this is very clear if one observes what happens on the surface:

- the underground line often tends to have the very same route of important historical paths in the city, it tends to highlight again and again the very same places already connected by other technologies. This happens very clearly also in Milan: looking at the underground map, it is evident how the majority of the stops are included inside the railway circle, that identify the ‘historical’ Milan. All the main relevant places, related to city identity or tourist interest, have direct access from the underground line with several stops: sometimes, as between the Duomo and the Castle, the stops are extremely close. This indirectly implies that those places have an important role for the city, and power chooses to directly connect them in order to be directly accessible for some domains.
The corresponding "surface city" in relation to the underground line.

The underground line route compared to the surface road system.
• because of its own properties and the consequent effects on mobility and flows in the urban environment, the underground line becomes a cluster line, an attractor for other urban activities. A very simple example can be made regarding the kind of shops around specific underground stops, or the concentration of specialized activities and services along the line.

• Obviously, the underground line not only intervenes on the urban status quo, but also follows or anticipates urban transformations. Looking at the important urban projects that recently involved or will involve Milan in the future, as the Fair Trade in Rho, or residential and CBD projects such as Santa Giulia or Fiera Milano, it is evident how the presence of the underground line and the relative stops (or its expansion reaching the places involved in the transformations) are an added value under several points of view, first of all accessibility. This also implies setting new centralities in the city.

The underground system is therefore a highly selective technology because of its spatial approach to the city: the fact of running underground and communicate on surface just by a few spots in very selected places implies that entire parts of the city are completely bypassed by them, and that the places that have a direct relation by means of the underground station acquire somehow a different status compared to the surroundings.

Topologically, this can be seen as a shrinking of the urban surrounding around those spots, while the urban parts in between and the places that are not connected by the underground are subject to a kind of ‘expansion’ phenomena.
The same way of reasoning can be made look- ing at the underground from a time point of view: the city is like crossed by a super-speed line, that connects just few selected places. It is like introducing an invisible temporal bound- ary in it: city acquires two different speeds, leading to the existence of a fast [inten] city and a low [inten]city in the very same space. The underground creates a different space and time system in the city, in a way autonomous to the surroundings: the system is there, even if one do not need it or decides to not use it. This lead to the possibility of introducing another observation: the map of the under- ground, its diagram so familiar to all people that use it, put on paper and visualise, through a point and the name of a stop, places, parts of the city, entire neighbourhoods that would not ever been known by anyone except people that live there and stop at that station. The point on the underground map becomes the visualisation, on a global network and on an isotopic system, of a disconnected place, an heterotopy. Each stop on the map folds in it numerous and different spaces and times. In a point on the paper real stations, trains, real streets and buildings on the surface are folded, all includ- ed and constituting the mental map and the image of the city of the users. However, they do not just fold a space and time related to a kind of users: different flows meet at the various stops, because the under- ground system is used by numerous different people coming from the most different do- mains. The underground trip can be the only movement they do in the city, or a part of the more complex journey for reaching their des- tination. It implies that flows, and people, using dif- ferent networks at different speeds, all meet there: people coming from the highway, or from the railway line, or that reach the un- derground stop from surface by bike [ very visible at each stop ] or by foot: each of them downgrades or upgrades its own speed, ‘tun- ing’ it to the speed of the underground de- vice/technology. People coming from different domains are ac- cording themselves, their behaviour, to rules that are imposed by the device and shared by who decides to use it. They do not only shared rules, but also space, that is common to the entire network, customised to make people familiar to it in every part of the city. And, finally, they also share speed/time of the un- derground. The fact that a single, common device leads people to share the same domain, even if temporarily, even if just passing by, allows to up- grade the status of an underground stop of the sys- tem to a different level. They becomes shared places, where different domains meet, because they share common codes and rules and speeds; they becomes places that, because of these characteristics, can be seen differ- ently: they can acquire the status of ‘potential public places’. The spatial and temporal implications of the underground system directly lead to issues of spatial visibility and spatial differences and in- equalities in the city [ spatial segregations of some neighbourhood, denied access of some parts of the city to specific people ]. Crossing the city through the underground system offer to people a completely different image and global idea of the urban dynamics. The underground line does really modify the perception of the city that people have: one enter by a station just under the main train station and is suddenly thrown forward to the destination point, in a station that keeps more or less the very same iconic image of the one he departed. Often one arrives directly to the place one needs to reach, and this place, just for being directly linked among others by the underground, has to be or acquires a high de- gree of visibility in the urban context. Therefore the cognition map that people build in their mind while using the underground line starts to be completed or filled with very used by pieces of cities, or even single build- ings, that result to be directly ‘attached’ to the underground map. The surroundings, the context, other possible alternative ways of reaching that specific place are not even taken into consideration. People that enter in the routine of always using the same un- derground stop, the same exit, tend to use al- ways the same route or path for reaching their working place, their school, their favourite shops. It would be possible to draw for each of them an alternative map of the city, of that part of the city, that result to be directly linked among others by the underground line. It would be possible to draw for each of them an alternative map of the city, of that part of the city, that result to be directly linked among others by the underground line.
it is strictly prohibited to take photos in the underground stations without permission
The underground system is therefore the device that was chosen to define the envelopes that were taken into consideration in this part of the research.

Choosing the underground system means having set the starting conditions that characterise the situations wrapped into the envelopes. Those represent then the different flows of people that move through the city following their own path and time: each flow is also characterised by specific spaces [including departure and destination], times [different users move through the city differently during the day or the week], purpose of the movement [work, leisure, studying], and because, as stated at the beginning, this is not the purpose of the research, which is the attempt to find a new possible way of reading the city looking for different and alternative public places.

The flows of people taken into consideration in this part of the research are:

- university students
- tourists
- shopping
- leisure
- affairs [business people]
- commuters by trains
- commuters by car [that use the parking linked to the underground line]
- immigrants
- commuters by trains
- commuters by car [that use the parking linked to the underground line]

Data used in the following maps come from the empirical research and from general information about Milan that was possible to access and verify through the Internet. Although results are indeed subject to some simplification, this does not invalidate the methodology.

Going further into the research and the conceptualisation, the stops of the underground line acquire then different status whether they are common stops for different flows and are then included into the different envelopes. Some of the stops will be then just linked and related to their surroundings and will refer only to the local scale, while others will become ‘shared’ stops among different flows [and domains] and therefore acquire a different status, being multi-scalar [or scale-free] regarding to the context. Those stops can be seen then as ‘doors’ that put into communications the multiplicity of different ‘worlds’ that are contained in the city.
Envelopes of tourists flow related to underground [red] and railway [white] lines.

To the following page: the stops of the underground system involved by those envelopes.
Envelopes of immigrants flow related to underground [red] and railway [white] lines.

to the following page: the stops of the underground system involved by those envelopes.
Envelopes of shopping flow related to underground [red] and railway [white] lines.

To the following page: the stops of the underground system involved by those envelopes.
Envelopes of leisure flow related to underground [red] and railway [white] lines.
to the following page: the stops of the underground system involved by those envelopes.
Envelopes of students flow related to underground (red) and railway (white) lines.

to the following page: the stops of the underground system involved by those envelopes.
Enveloppes of affairs flow related to underground (red) and railway (white) lines.

To the following page: the stops of the underground system involved by those enveloppes.
Envelopes of trains flow related to underground (red) and railway (white) lines.

to the following page: the stops of the underground system involved by those enveloppes.
Envelopes of parking flow related to underground (red) and railway (white) lines.

To the following page: the stops of the underground system involved by those envelopes.
Overlapping different envelopes by time of use of the city [same places at the same time]: working hours during working days.

Underground stops involved in the overlapped envelopes.
Overlapping different envelopes by time of use of the city [same places at the same time]: working hours during working days.
Overlapping different envelopes by time of use of the city: same places at the same time: night hours during working days.

Underground stops involved in the overlapped envelopes.
Overlapping different envelopes by time of use of the city (same places at the same time): night hours during working days
Overlapping different envelopes by time of use of the city: same places at the same time | weekend days.

Underground stops involved in the overlapped envelopes.
Overlapping different envel-
 oppes by time of use of the
city [ same places at the same
time ]: weekend days.
Overlapping all the envelopes, all the shared underground stops can be determined.
The bigger the stop, the higher number of envelopes overlap on it.

The underground map of Milan can be then re-draw highlighting the shared stops among different domains.
Those stops are also connected to other different networks. They are heterogeneous places regarding the underground line, and shared multi-scale places that allow exchange among them.

Overlapping the street network of the city centre and the underground line to the different envelopes, it is interesting to observe how the main places where envelopes meet are included in the city centre or are already important places in the city (historical doors and axes).
Some conclusions can come out after a certainty not exhaustive work like that.

Firstly, what the possible output of a kind of research like the one that has been developed until now can be.

I think that a design can follow out of this, but it is not the only possible ending point. More than that, I do believe that the interesting point of a research like the one I did is experimenting and attempting to have an alternative, different insight and reading of a complex phenomenon as the city is, and trying to understand, in a comprehensive but not total nor definitive way, how the ‘urban machine’ works, related to different issues. This does not mean that certain, strict rules for analysis or strategy or design have to come out of it. Actually, the good point of doing a research like this is that at each stage of the work, new directions and new questions arise, and as it is the [temporary] ending of it.

Secondly, taking a closer look to the results, it is possible to define interesting and potential places for the further development of the city of Milan. The places identified through the research can be seen as possible spin off, looking at the dimension of the public interventions, especially related to the several events that involve the city, some of them really important, as it would be the World Expo in 2015.

Furthermore, what directly comes out of the research is that the most shared places in the city (and also the most connected, considering the mobility system as basis of the research) are once again the places that already own a privileged status in the city. Those places are continuously intensified by the mobility networks, especially the ‘selective’ ones, as the underground line is. Obviously, there are historical reasons for that, and also explanations tied to the character and the image that people who live in Milan have of their own city. However, it can be noticed how two other factors strongly influence the way envelopes overlap, and consequently what are the most relevant places in the city.

The first is indeed the importance of global flows that interested the city: global tourism, global business, global migrations, all those flows affect the city, and in some way determine how it will develop in the future. The second, naturally tied to the previous one, is the power, political and economic, that chooses which places are relevant to be connected and how they ought to be. In fact, networks, as borders, are neutral devices, and it is the role of the power, and its will to privilege some parts of the city [and consequently hide some others] that assigns to those devices the status of boundaries.
Acknowledgement.

I am at most grateful to my mentors, Prof. Stephen Read and Prof. Bernardo Secchi, for the valuable inspiration and guidance not only during the thesis semester, but also during the whole time I spent in Delft and Venice universities.

I also would like to thank my readers, Prof. Adolf Sotoca Garcia and prof. Paola Viganò, for their feedbacks.

I have always seen the thesis as a very important moment, not only because it is a final challenge in itself, but also because it is a very personal insight of what a person is truly interested and passionate for. Therefore, my hope is that this thesis won’t be just the end of a two-years path, but also the starting point of a new one.

My biggest thanks go to my parents, that once again supported me in something I strongly believed and wanted to do, and that, I am sure of it, will continue to do that for the next steps I will choose. To them, to the few other people that really shared with me this experience, and to my Island, that deeply shaped my way of being, I would like to dedicate the following quotes:

"Adoro l’arte e il mio ideale è di sollevare in alto il nome del mio paese, così mal conosciuto e denigrato al di là dei nostri malinconici mari, ne le terre civili. E lavoro, lavoro tanto, come un uomno, per la mia Idea, e riuscirò, benché sia una piccola persona palpita ed umile, che ha però lo spirito grande e ardente come gli oscuri occhi andalius".

Grazia Deledda

"Istruitesi perché avremo bisogno di tutta la nostra intelligenza. Agitati perché avremo bisogno di tutto il nostro entusiasmo. Organizzatevi perché avremo bisogno di tutta la nostra forza".

Antonio Gramsci