

Unbounded urbanization and the Horizontal Metropolis: the pragmatic program of August Mennes in the Antwerp agglomeration.

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Parallel to many discussions in other European cities, the debate on a metropolitan Antwerp emerged at the turn of the 20th century, following the decision to tear down the old ramparts around the city in 1904. Once boundless, the old core became for the first time the subject of a contiguous urban expansion at its very fringes. Soon, however, far more loose urbanization processes would wash over the land as the urban territories rapidly expanded beyond what was at first imagined. By consequence, the face of the future Antwerp metropolis would be shaped by a series of interlocking and unbounded urbanization processes.

Tracing the interrelated endeavors of the key parties that helped shaping these urbanization processes, ranging from property tycoons, technocrats and architects to key figures in the political world, my PhD research aims at rendering the contours of a long history of the construction of Antwerp's twentieth century belt within which the notions of urbanism and urbanization are blurred.

Through an eclectic catalogue of five 'urban questions', this paper investigates the various ways in which the process of territorial rescaling set in motion in 1904 coproduced the features of today's horizontal metropolis. Based on the activities of engineer August Mennes, the paper will try to conclude that the Antwerp Horizontal Metropolis surfaced as the result of a juxtaposition of urbanization techniques that question and transcend the interpretation of 'urbanization' as a process of random and speculative accumulation.

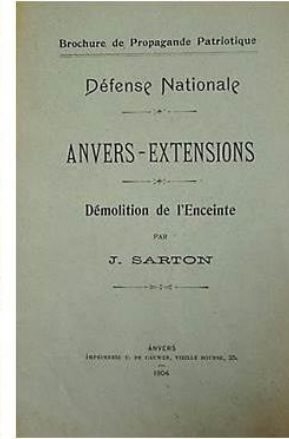
The unbinding of the city and the emergence of the horizontal metropolis.

"Today, urbanization can no longer be seen as a marked-off front that washes over the countryside in concentric circles and deposits different layers of the city in successive waves. In a highly networked and globalized world, urbanization can hardly be grasped in terms of circumscribed territorial units anymore. Neil Brenner leaves no doubt in his latest book 'Implosions/Explosions'. Urbanization has become a planetary phenomenon. It is boundless, and spans the world like a multilevel relational space. Urbanization is not happening everywhere, but within the area of spaceship Earth it has no limits, no 'outside' " (Debaene, 2014). This article will look for the very roots of these actual descriptions of both city and urbanization as territorially unbounded phenomena. In the context of the Antwerp agglomeration, this search leads all the way back to the year 1904, when a royal decree to tear down the old ramparts put a definite end to the age-old and relatively autonomous process of vertical accumulation within the old urban core [fig.1]. In the spirit of a discourse on 'Greater Urbanism' that marked the beginning of the 20th century, the collective imagination of a 'Greater Antwerp' would soon be projected way beyond the boundaries of that 'vertical core'. Quintessential in Antwerp's history, is the fact that the administrative boundaries did not disappear along with the old ramparts¹. The city became above all mentally unbounded. From that moment onwards, a motley collection of mainly rural villages was forced to engage in a new metropolitan alliance, in spite of their historical territorial boundaries². For decades, the territory of this *sub-urbs* would serve as a laboratory for the development of inter- and 'transcommunal' techniques of urbanization.

Although the 'unbinding' of Antwerp in 1904 initially aimed for a contiguous urban expansion at the city's very fringes (Ministerie van Landbouw en Openbare Werken. Studiecommissie tot inrichting der Antwerpsche Agglomeratie, 1911), soon a far more extended terrain would become the subject of far more radical and liquefying processes of urbanization. Through an eclectic catalogue of 5 urban questions (Castells, 1975) the paper investigates how this instance of territorial rescaling coproduced the features of today's horizontal metropolis. Each urban question will highlight certain traits of unbounded urbanization. Based on the activities of engineer August Mennes, the paper will try to show how the Antwerp Horizontal Metropolis surfaced as the result of a juxtaposition of several urbanization techniques that question and transcend the interpretation of urbanization as a meaningless process of accumulation.

1 It would take until 1983 before a great merger redefined the administrative boundaries of a metropolitan Antwerp.

2 In retrospect this history can be understood as an example of regional planning and as an early attempt to reinterpret dispersed patterns of urbanization as a plausible form of urbanity.



[fig.1] The vertical core within confined territorial boundaries and the 1904 propaganda to 'unbind' it. Soon, loose processes of urbanization would wash over the horizontal sub-urban territory. Source: Antwerp City Archives, file n°1369#7072.

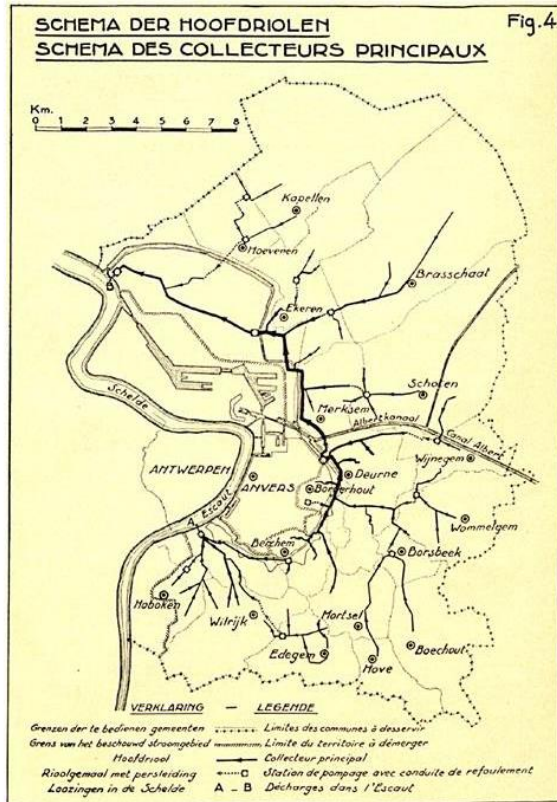
Urban question 1: Sewer system as a unifying landscape for the agglomeration.

As soon as 1904, the mentally unbounded city and the imagination of a 'Greater Antwerp', established a reciprocal interdependence between the vertical core and the horizontal territory of its mainly rural surroundings. This territorial rescaling opened new opportunities to cope more structurally with local aberrations of the urbanization process, at the scale of the entire agglomeration. The design for the General Sewer System for the Agglomeration (G.S.S.A) from 1921 illustrates this well (Stad Antwerpen, 1966). Previously, every suburb had dealt with its own wastewater and the sewer system in the agglomeration was little more than a set of primitive structures that disposed of wastewaters at the edges of each and every separate municipality. De facto, the entire network of regional waterways had gradually been turned into an open gutter. These highly unhygienic conditions not only caused structural failings within the different suburbs. In spite of having its own proper sewer system, the urban core too had to cope with all of the disposed wastewaters of its entire hinterland. After all, the majority of waterways in the agglomeration –the river *Schijn* in particular– meets the River Scheldt within the city's boundaries (Stad Antwerpen 1966).

These primitive structures were ill-suited to cope with the unfolding urbanization of the suburbs and continuing to work with them would only exacerbate all problems downstream, within the vertical core. Only the design of a sewer system at the scale of the entire agglomeration would solve this double crisis. Under the impetus of the Provincial Authorities, an engineer was appointed that worked for more than 2 years under the auspices of a technical committee with representatives of the state, the province and the city on an impressive and multi-layered plan that included 22 municipalities³ in the Antwerp Agglomeration. Starting from accurate topographic and 'pluviographic' maps, the territory was subdivided into several sub-basins (Provincie Antwerpen, 1939). The ultimate goal was to design a robust and economical sewer system with natural drainage and a minimum of pumping stations and pressure lines. As a result, the conceived system had the characteristics of a unifying landscape of underground waterways [fig.2]. The impact of future urbanization was taken into account by matching the capacity of the system's main lines to expected degrees of densification and subsequent impermeability of the ground surface of each separate municipality [fig.3]. As these projected collector lines were public utilities, both State and Provincial Authorities each subsidized 1/3 of the total construction costs. The 22 suburbs split the last third of these costs and were enabled to connect their local and expanding systems as they pleased and at their own expense (Stad Antwerpen, 1966).

To dispose of the wastewaters far enough from the city both up- and downstream, the entire system needed sufficient length. To this end, the river *Schijn* was re-routed to meet the river not less than 16km further upstream. It would become the main underground artery of the entire sewer system. Short-circuiting numerous waterways in the north of Antwerp and draining a significant polder area, this diversion would turn out to be vital for the expansion of the harbor [fig.2].

³ It is remarkable that the old core was not part of the initial study, until the results of the G.S.S.A. revealed that the old urban sewer system would be far less performant than the agglomeration's new infrastructure. From 1923 onwards, a similar plan was developed for the Antwerp urban core. Urbanization then reveals itself as a rhizomatic and reciprocal process in which invention, renewal and modernization not only simply migrate from the urban core to the countryside.



[fig.2] The main infrastructure lines of the sewer system for the Antwerp agglomeration read as an underground synthetic landscape, following natural topography. In the north, the system detours the harbor. Source: *International Water Exhibition in Liège* (Provincie Antwerpen, 1939).

While slumbering urbanization processes initially caused multiple problems both in the city and its suburbs, the G.S.S.A. seized the new opportunities of unbounded urbanization to take the urban question of the agglomerations' sewer systems towards a decisive tipping point. Being much more than a remedial measure, the plan created entirely new conditions for a radically horizontal urban and economic expansion of the agglomeration. The plan redefined the mental map of the region: a collection of primitive hamlets suddenly became enlisted within a new framework that anticipated the contours of a metropolitan region in the making.



[fig.3] Excerpt of a G.S.S.A. survey map. Superposing data on expected densification and increasing impermeability on top of existing and dispersed urbanization patterns that will be recollectored into a new metropolitan figure. Source: Antwerp City Archives, file n°533#1.

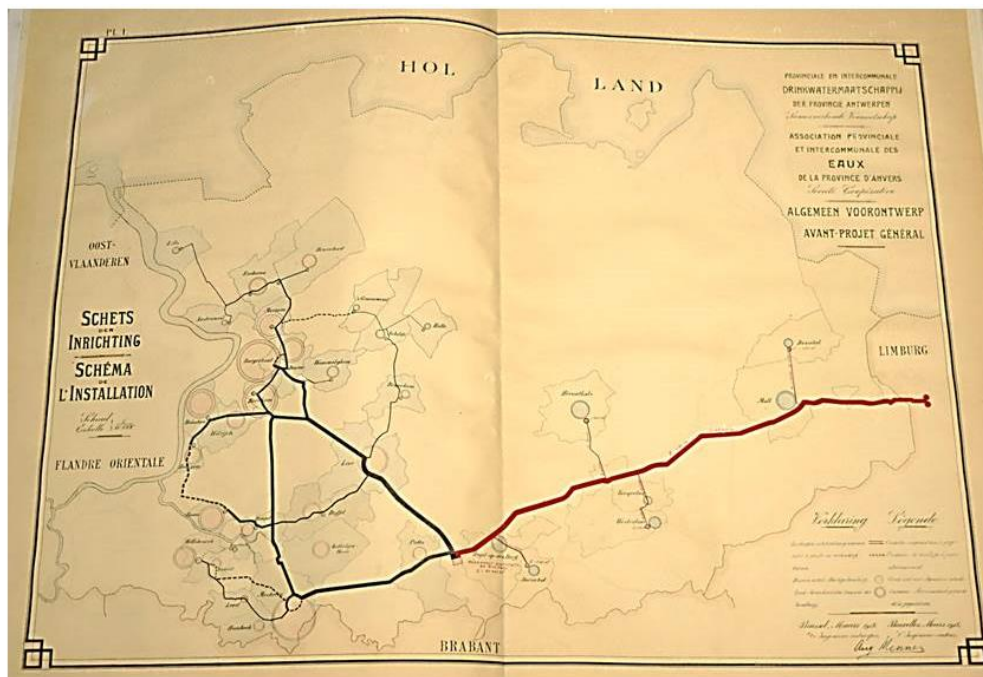
Urban question 2: Water supply and collective consumption.

Under the growing pressure of urban expansion, densification and industrialization, it became ever more difficult to extract clean drinking water from the aquifer and or surface water in the Antwerp agglomeration (PIDPA, 1963). This problem was most pressing in the rapidly urbanizing territory next to the Antwerp vertical core. The lack of sufficiently large water-collection areas in the vicinity of the city, necessitated a search for water much further afield, far beyond the boundaries of traditional city-country relations.

In 1913, the Provincial and Intercommunal Drinking water company of the Province of Antwerp (PIDPA) was founded by count *de Baillet Latour*, who was the Provincial Governor at that time (PIDPA, 1963). In 1918, after a first round of study work, a hydraulic engineer was commissioned to design a plan that would provide 360.000 inhabitants from 35 provincial towns with fresh drinking water (Mennes, 1923).

Although the demand for water was initially centered around *Berchem-Deurne-Mortsel-Boechout*, the plan indicated 60.000 ha of heathlands in the plains of *Mol-Lommel* as water-collection area, about 60 km to the west of the city and even partially outside of the boundaries of the Antwerp province [fig.4].

The plan first encountered strong local resistance in the region of *Mol-Lommel*. As is often the case with large-scale projects, the public interest conflicted with the many local, private interests. The agricultural sector, for instance, was concerned about the potential lowering of the water table of fields around the new *prise d'eau* (Mennes, 1923). The principles underlying this discussion were rather fundamental. In a speech to the provincial government, the author of the plan stated: “The average layman in the region of *Lommel-Mol* might wonder, yielding to the human nature of selfishness: why are they looking for water here? That water was given to us by nature; it is our fortune, our property, our possession! If they want water for other villages, they better go and find it elsewhere! Surely, this kind of reasoning will not find a willing ear in your midst. It disqualifies every notion of solidarity that undergirds all progress and the entire modern civilization”(Mennes, 1922).



[fig.4] The 1922 PIDPA-plan. Although the demand for fresh water originated in the Antwerp sub-urbs, 35 discontinuous provincial municipalities were involved in a collective arrangement of unbounded scale. Source: Antwerp City Archives, file n°534#11.

The PIDPA-plan clearly illustrates the concept of ‘collective consumption’ (Castells 1975; Saunders 1981) as one of the basic challenges faced by an urbanized society⁴. The transition from a non-urbanized to an urbanized context presupposes structural collective arrangements (Remy, 1974). In the case of the Antwerp water supply, this collective arrangement reached far beyond the city’s boundaries. Large parts of the provincial territory were definitively implicated in a new era of unbounded urbanization. Millions of gallons of water were extracted from the ground water table in Limburg, and on their way to a more urban context equally provided as yet rural communities with fresh water. As had been the case for the sewer system, both

4 In virtually all Belgian agglomerations, this principle was not strictly attached to the matter of water supply only. For other utilities, such as electricity and gas, the development of all kinds of collective arrangements were at play (Holvoet, 1937).

State and Provincial Authorities each subsidized 1/3 of all costs. An average annual subscription rate of 35fr. per connection sufficed to cover the rest of the construction costs⁵.

To the question whether it wouldn't be more efficient to look for smaller water-collection areas closer to the city, the author of the design replied: "It is one of the principle laws of hydraulics that the amount of water that can run through a pipe with a given section increases gigantically when that section is slightly altered. That is why the supply of a large amount of water at a long distance can easily be organized without additional costs compared to the supply of small amounts of water at short distances. That is a reward, given by nature, for the solidarity of the communities." (Mennes, 1922).

The horizontal metropolis in the Antwerp agglomeration, thus, seems almost literally built on one of the principle laws of hydraulics. What's more, the design could easily be extended to 80% of the provincial municipalities without having to touch the system's main pipelines (Mennes, 1922). The Pidpa-plan, in short, contained all the germs necessary for a radical project of horizontal urbanization within the Antwerp agglomeration.

Urban question 3: Recollecting industrialization within the urban project.

From its origins in 1830, the Belgian state started to build large-scale infrastructures as the economic backbone for the industrialization of its territory. The Campine region, for instance, was gradually reclaimed through the construction of a series of canals that connected the area to the Antwerp harbor (Van Acker, 2014). Next to that, a multilayered railway policy undergirded strongly dispersed urbanization patterns from the early 19th century onwards (Uyttenhove 2011; Grosjean 2010). Urban cores were recollecting into an incredibly dense network of national and vicinal railroads. Exceptionally high degrees of mobility perpetuated and stimulated a certain fragmentation and dispersion of both the commuting workforce and the industrialization process itself (Seebohm Rowntree 1911).

In the Antwerp agglomeration, as soon as 1879 a national railroad ran parallel to the river Scheldt and served as a backbone for the development of a 'linear industrial city'⁶ that ran from Hoboken all the way south to the age-old, small-scale stone quarries and brickyards in the *Rupel* Region. In the north, the Old Campine Canal initiated a similar linear industrial development, with the construction of the *Merksem* Docklands of 1874 as a climax. Along the canal, a private shunting-yard that was directly connected to the national railway infrastructure of the Antwerp Harbor by vicinal railroads, was crucial for the rise of a flourishing industry in *Merksem* (Heemkundige kring Merksem, c.a. 1997).

The early suburbanization of industrial activity along these infrastructures shows clearly on the *Plan Industriel de la ville d'Anvers et des communes environnantes* from 1914 [fig.5]. The remarkable title and cutout of this map is exemplary for the collective imagination of a 'Greater Antwerp' that began to take hold of the agglomeration at that time (Ministerie van Landbouw en Openbare Werken. Studiecommissie tot inrichting der Antwerpsche Agglomeratie, 1911; Schobbens, 1924). Right in the center of the map, the agglomeration still shows a string absence of industrial activity – with the exception of a single enterprise. Soon however, a new ring-shaped railway was projected that would interconnect both industrial ribbons along Scheldt and Canal with each other and with the expanded harbor. As such, one horizontal industrial complex was shaped that interfered with expected urbanization. Thanks to new shunting yards, also smaller municipalities such as *Deurne*, *Wijnegem*, *Berchem* and *Borsbeek* (Mennes, 1922) got full access to this horizontal industrial city. As such, former products of mere industrialization became part of an explicit urban project.

The unbounded process of urbanization did not only provided new opportunities, but also came with new problems. Although the plan structurally interconnected dispersed industrial areas at a regional scale, unwanted side-effects at a local level could no longer be avoided in the ever more complex palimpsest of ongoing railway works. A reorganization of the harbor infrastructure in the late 1930's for instance, disconnected all industrial activity in *Merksem* from the national railways. To regain access to this network as quickly as possible the *Association Industrielle de Merxem* hired an engineer with direct contacts in the highest circles of Belgian politics⁷ (Heemkundige Kring Merksem, c.a. 1997).

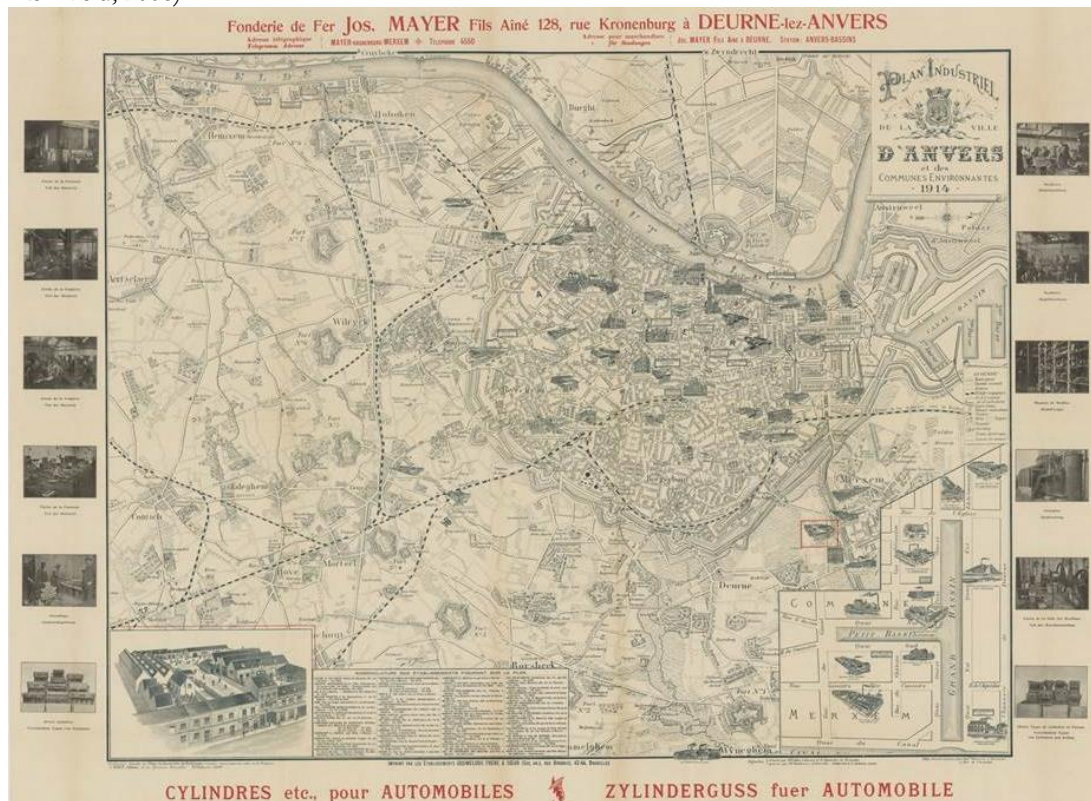
In the era of unbounded urbanization, political lobbying crossed the communal boundaries and completely outgrew the sphere of influence of local politics. In this case, an influential engineer functioned as an intermediate figure between state politics and a local pressure group. A multiplication of this kind of hardly traceable alliances lay at the root of what could be labeled, following Lewis Mumford and others, an 'Invisible City' (Mumford, 1938; Remy 1974; Meyers, 1998). The relatively unequivocal links between politics, capital accumulation and urbanization that had still marked the vertical core [fig.6], had come to a definite end. In

⁵ This was an average price, based on an expected number of 80.000 clients. Social classes would be subsidized, while high-class customers were supposed to pay extra. The average price would decrease with a growing number of clients. In this way, access to fresh water was socialized as much as possible (Mennes, 1923).

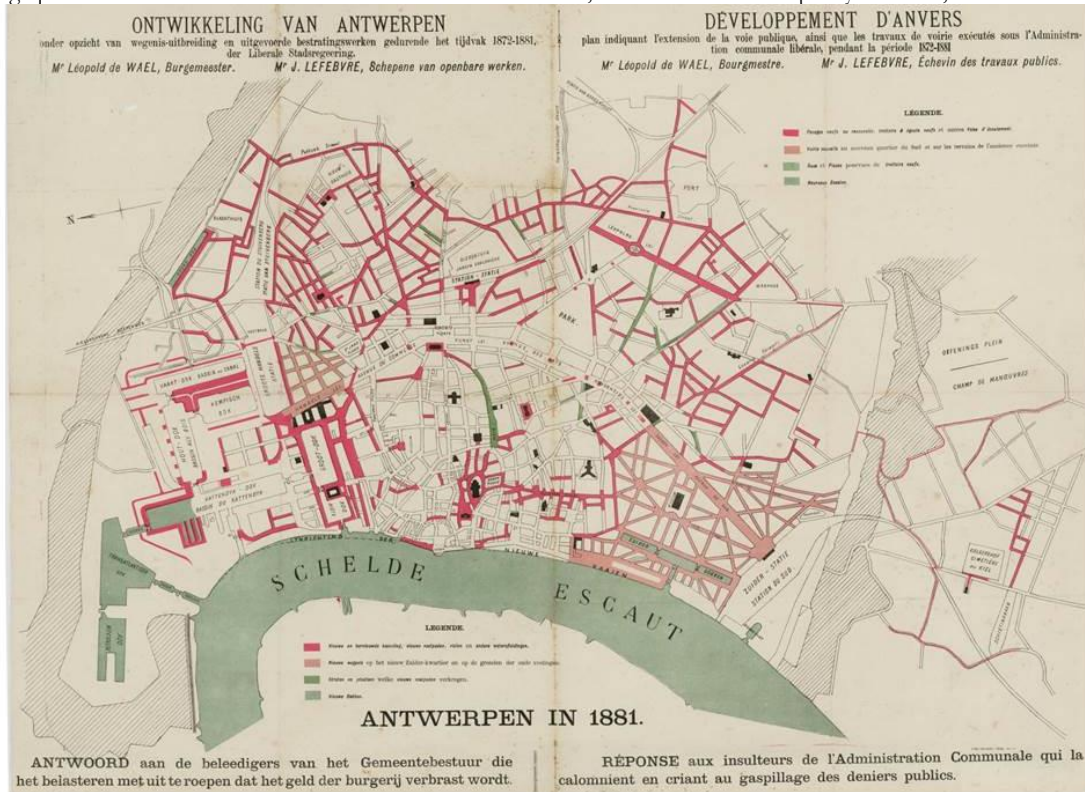
⁶ The idea of the linear industrial city would re-emerge later on, as an explicit model for the construction of the economic backbone for the Belgian welfare-state (Ryckewaert, 2011).

⁷ The archives of *Merksem* speak of direct contacts with the ministry of Internal Affairs and leading political figures such as Hendrik De Man, who was minister of Public Works at that time (Heemkundige kring Merksem, c.a. 1997).

the era of unbounded urbanization, these links would become ever more ambiguous and ever less concrete. In the 'Invisible City', a complex whole of obscured interferences in supra-local politics and in all kinds of financing systems lies at the root of a stratified and in that sense abstract spatiality (Lefebvre, 1974; Merrifield, 2006).



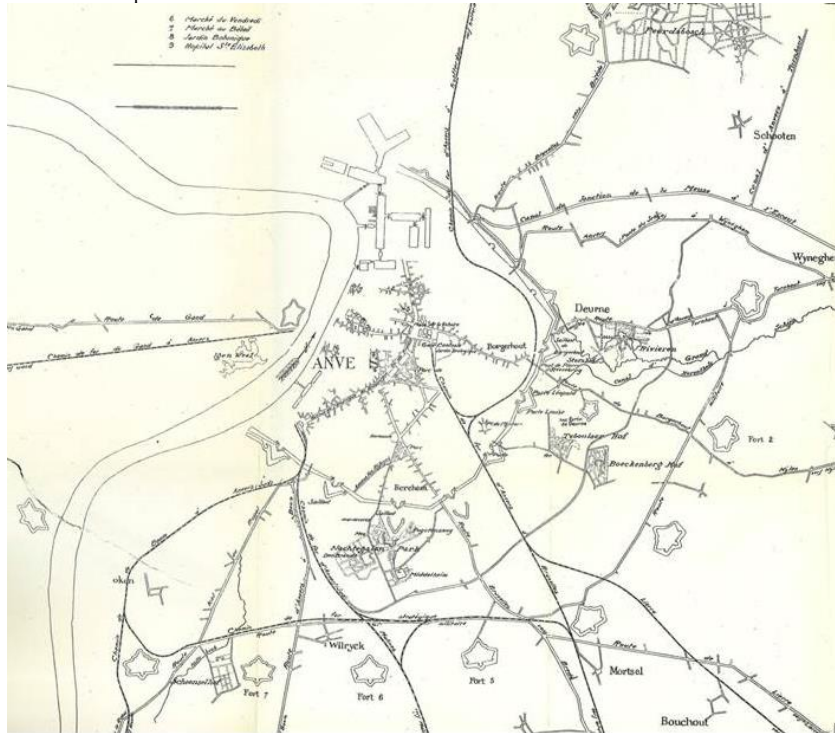
[fig.5] Plan Industriel D'Anvers et des communes environnantes, 1914. Source: Antwerp City Archives, file n°12#4068.



[fig.6] Traceable links in the old core between urban politics, capital accumulation, and urbanization. Map of the Antwerp Authorities in response to Bourgeois complaints about the spending of tax incomes. Source: Antwerp City Archives, file n°12#12546.

Urban question 4: Financing Public Parks with boundless tract development projects.

At the turn of the 20th century, the city of Antwerp lacked green areas and parks. “The situation in Antwerp on that matter is far worse than in any other city of the same importance, both in Belgium and abroad. And we have to hurry to solve this problem, which is becoming more intolerable with today’s growing population.” (Schobbens, 1924). The prospect of a ‘Greater Antwerp’ was offering a unique opportunity to develop sufficient public parks for the urban agglomeration[fig.7]. This task, however, was not going to be a ‘walk in the park’.



[fig.7] Map that relates mineral public spaces in the vertical core to future public parks in the horizontal agglomeration. Source: *Les parcs publics dans l'agglomération Anversoise* (Schobbens, 1924).

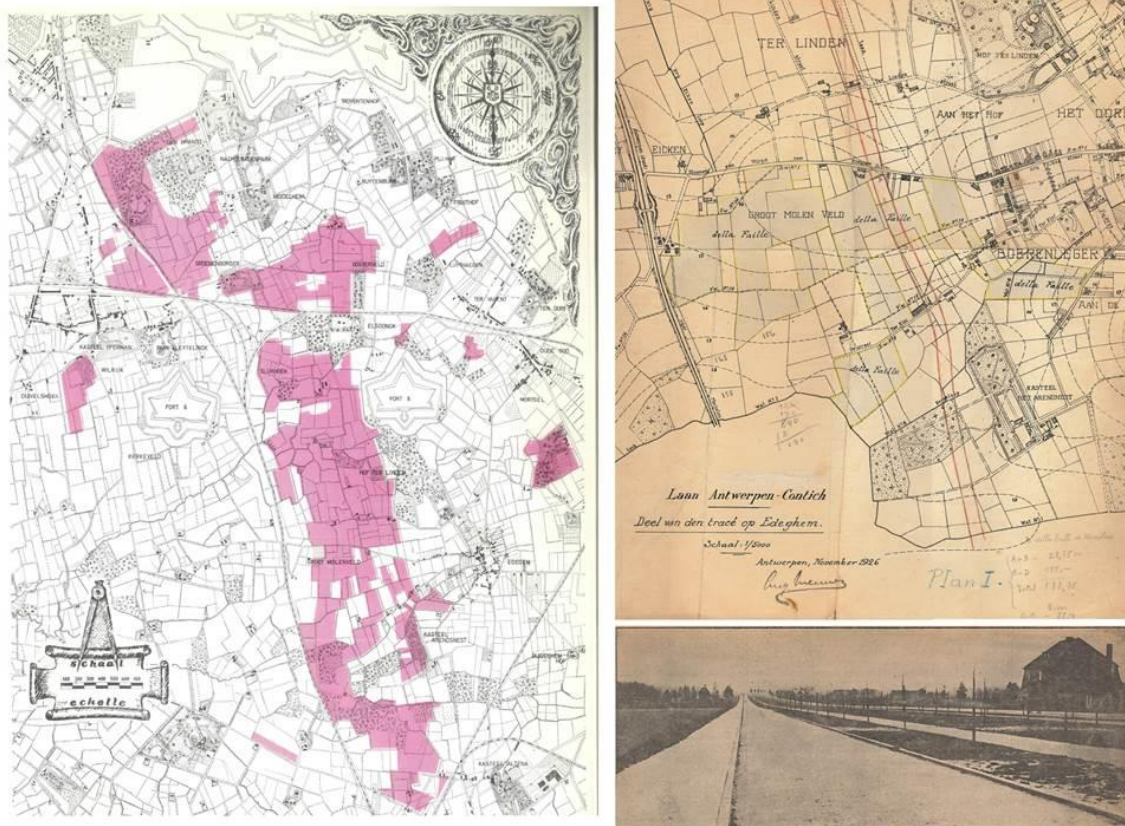
As stated before, the city was above all mentally unbounded in 1904, as the administrative boundaries were never questioned or altered. Because most of the strategic lots to build a first new park⁸ –the *Nachtegalenpark*– stretched over the territories of *Wilrijk*, *Berchem* and Antwerp, some radical forms of political politics were applied. The terrains targeted as future park were some of the old noble estates around the city. The small towns of *Wilrijk* and *Berchem* were, however, not in a position to raise the funds to buy these estates. In the end, an intercommunal agreement was reached that redrew the communal boundaries in such a way that a number of these estates would come to fall within the territorial boundaries of Antwerp, putting the city in a position to realize a large park.

The city, in other words, had to finance the development of first park for the agglomeration all by itself. But on its own, the city didn't have enough capital either. That is why a deal was closed with one of the noble landowners –the family *Della Faille*–allowing them to develop a part of their estates as a project for park living of a high standard in return for a reduced price for the future park lands. The modalities of this agreement were described in the *Convention Della Faille*, that would in turn become the forerunner of a boundless horizontal tract development practice far beyond the agglomeration's boundaries.

With this early experiment in mind, the family Della Faille soon understood that in an era of unbounded urbanization, the commodification of ground would become the ultimate strategy for the further accumulation of their age-old capital (2005, Degryse). The family founded the firm *Extensions et Entreprises Anversoises* (*Extensa n.v.*). From 1910 onwards, the firm started to buy up all kinds of strategic lots and to incorporate numerous smaller *Sociétés Immobilières* that had been created ever since the royal decree of 1904 had caused a fierce land speculation. In the following decades, the firm managed to assemble a true empire of estates that reached from the city of Antwerp, over *Wilrijk* and *Edegem* all the way down to *Kontich*. To open up their estates, and to bring them in reach of the vertical core, the Extensa firm fully financed the *Prins Boudewijnlaan* (1933) (*Extensa n.v.*, 1960)[fig.8]. This privately financed metropolitan avenue, that reached from *Kontich* to Antwerp, was transferred to the public domain and all involved municipalities largely

8 The noble estates of *Middelheim*, *Vogelzang* and *Den Brandt* altogether provide 80ha for the new *Nachtegalenpark*.

benefitted from its construction as well. In the end, the whole operation can best be understood as a far-reaching public-private arrangement that initiated an urbanization project that re-inscribed several municipalities in the Antwerp agglomeration. The Extensa n.v. commissioned an engineer to draw a development scheme for the entire area [fig.8]. Although the majestic trees along the *Prins Boudewijnlaan* in a way mimicked the driveways of the old noble estates, the imagination and quality of the royal living parks as defined in the *Convention Della Faille* failed to be maintained. With this erosion of the spatial quality also came a certain democratization of the suburban dream though. Although the Extensa n.v. was born in the city's lap, its activities soon spread over the entire territory of the emerging horizontal metropolis (Extensa n.v., 1970).



[fig.8] Left: Extensa estates stretching from Antwerp to *Kontich*. Right: Opening up the Extensa estates with the construction of the *Prins Boudewijnlaan*, that equally serves several municipalities. Source: Private Archives Extensa n.v.

Apart from the initial operation of the *Nachtegalenpark*, similar urbanization techniques were applied to develop other parks in the agglomeration, such as the *Boeckenbergpark* in *Borgerhout* or *Merksem Park* (Schobbens, 1924). The *Rivierenhof* in *Deurne*, in turn, was bought and developed as a regional park by the provincial authorities, due to a lack of resources of the small municipality itself (Schobbens, 1924). The implementation of parks in the Antwerp agglomeration, in short, necessitated radical and 'transcommunal' territorial politics that came along with an intense urbanization policy of large-scale public-private registered tract development schemes.

Urban Question 5: Socializing and equipping a metropolitan grid through property development.

The *Prins Boudewijnlaan* that was developed by Extensa was far from the only large metropolitan avenue that was planned during the interwar period. After unbinding the city, the *Jan Van Rijswijklaan* became the first of a series of radial infrastructures that brought the vertical core in reach of the extended horizontal territory of the metropolitan region⁹(Broes Dehaene, 2014). Together with a couple of remarkable tangential figures, these radial boulevards would establish a powerful armature for future urbanization [fig.9]. With the *Singel* and the *Krijgsbaan* two ring-shaped boulevards were constructed on the vestiges of the old military infrastructures. In between these two recuperated boulevards though, the entirely new avenue *Ringlaan* emerged that crossed all of the municipalities that bordered Antwerp. This avenue was introduced in the 1930's, when an engineer drew alignment plans for all of these local authorities [fig.10] (Van Acker 2014; Heemkundige kring Merksem,

⁹ In the pre-highway era, the *Jan Van Rijswijklaan* became the main road connecting the Antwerp core to the Brussels pentagon.

c.a.1997). This figure of the *Ringlaan*, in other words, was not conceived within a concerted and well-coordinated operation at the level of the agglomeration, but emerged from below as the sum of several municipal initiatives. In general, these municipalities didn't really care for the development of a collective and continuous boulevard that would link up the old centers of the agglomeration, but were mainly attracted to the individual state subsidies¹⁰ that were at play (Theunisse, 1974). The history of the *Ringlaan* clearly illustrates how a greater Antwerp emerged in a political void, since no single decision-making authority represented the agglomeration as a whole. In that context, there was hardly any other option than relying on the local, albeit intercommunal pragmatics that constituted a 'soft metropolitan territoriality' (Fedeli, 2014). Nonetheless, this pragmatic collection of boulevards established a metropolitan grid that by and large transcended the local concerns of each separate municipality. This new grid recollected the old (rural) town centers and living parks into a new metropolitan composition. This grid connected the different municipalities with the new public parks and often, its scale proved to be well suited to host all kinds of cultural programs and large-scale public services.



[fig.9] Several broad avenues introduce supra-local metropolitan scale in the agglomeration. Left: *Oosterveldlaan* and hospital in *Wilrijk*. Middle: *Fruithoflaan*, future commercial main street and the prospect of large-scale *Etrimo* development in *Berchem*. Right: *Bisschoppenboslaan* in *Deurne*. Different municipalities, but all the same public lighting armatures. Source: Antwerp City Archives, digital image bank.



[fig.10] Excerpt from Interwar alignment plan for *Deurne*, introducing large-scale avenues. Source: Antwerp City Archives, file n°MA#65790.

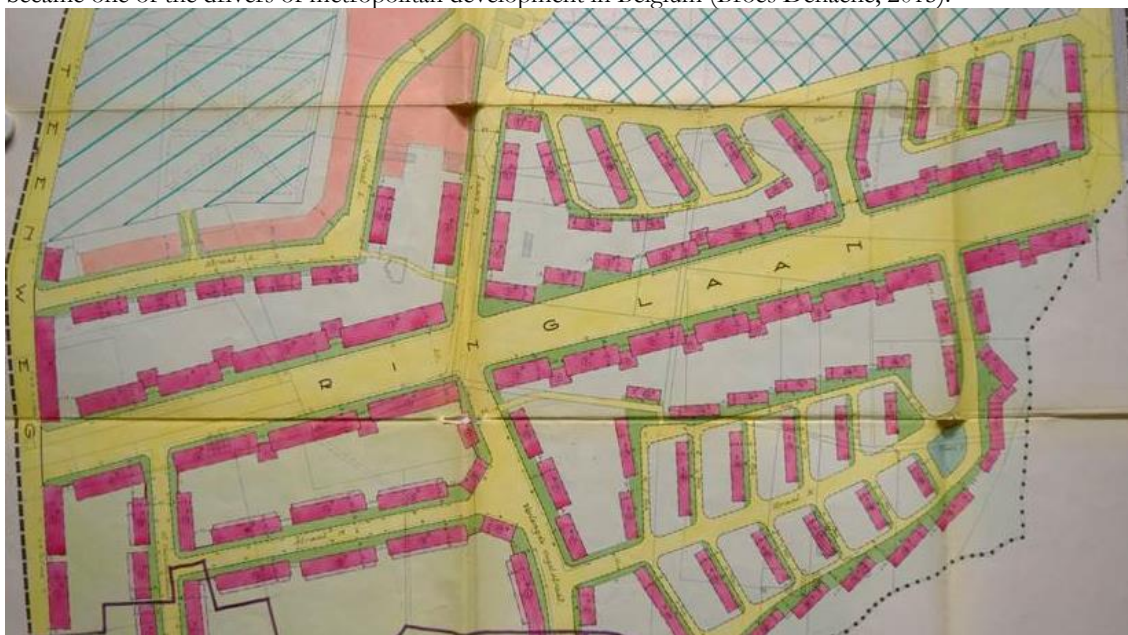
In the post war period, most of these avenues were consolidated through legal development plans that were produced in the outlines of the 1946 law on the reconstruction of the country [fig.11]. Again, the same engineer that had drawn the alignment plans in the 1930's was behind the communal drawing tables¹¹ (Heemkundige Kring Merksem, c.a.1997; van Aelst, 1958). The different municipalities built along these avenues as they pleased, without any preconfigured urban idiom. Nevertheless, at many places, they became the arena for the activities of property tycoons and a real estate business that had emerged in the slipstream of the unbounded city (Broes Dehaene, 2015). In the early years of the interwar period already, these developers had built a remarkable patrimony of art-deco apartments for an impoverished bourgeoisie (Delhaye, 1946). In the post war period, these tycoons would mainly address the rising middle- and even social classes as they turned to new forms of standardized mass housing production for the greatest numbers¹² (Broes Dehaene, 2015). Although an ongoing banalization of their activities became the subject of

10 Municipalities were granted state subsidies for the construction of roads of supra-local importance.

11 WWII is often cited as a pertinent break in the history of Belgian and Antwerp planning history because the numerous urbanists that collaborated with the planning-minded German occupier became *persona non grata* after the war. (Uyttenhove, 2011; Van Den Broeck, e.a., 2015). On closer inspection, Ir. August Mennes seems to be a notorious exception to that rule. Both before and after WWII, he was in the front line as an advocate of a metropolitan Antwerp (Heemkundige Kring Merksem, c.a. 1997).

12 Similar to the industrialists of *Merksem*, these developers organized themselves after WWII as they founded the UPCL (*Union Professionnel des Constructeurs de Logements*) and lobbied their way into the federal Belgian housing policy (Broes, Dehaene 2015).

a fierce and pertinent critique, it has to be noticed that they realized a certain socialization of an up and coming urban milieu (Collin, 1964; Broes Dehaene, 2015). Following in the footsteps of a few giant players – such as Amelinckx n.v., Etrimo n.v., Vooruitzicht n.v., Van den Bogaert n.v. , Van Kerckhove & Gilson n.v.– a broad range of local entrepreneurs helped building the Antwerp metropolitan region. Their strategy was not so much defined by buying as much as land as possible, but by multiplying the land value of strategically selected plots along the metropolitan grid. In some cases, the scale of these real estate operations enabled public-private deals that provided enough private capital to develop infrastructure, all kinds of services and even semi-public parks (Götzfried, 1980). The construction of public transport (*a priori* and *a posteriori*) and the rise of a broad range of commercial services that served large parts of the suburbs (Götzfried, 1980) emerged as positive externalities (Remy, 1966, Dehaene, 2013) of this highly commercial and dense housing schemes. From its origins onwards, the horizontal grid of metropolitan avenues that ran across the municipal boundaries, provided local authorities with attractive possibilities of urban condensation. Although Antwerp and Brussels may be readily seen as the cradles of this kind of project development, soon the activities of these major tycoons would spread to provincial towns all over the territory. As such, their real estate business became one of the drivers of metropolitan development in Belgium (Broes Dehaene, 2015).



[fig.11] Excerpt of a postwar legal zoning plan in Berchem, that consolidates a part of the famous Ringlaan, from border to border. Later, this piece of the Ringlaan would be renamed the Fruitbofslaan, which became the ultimate arena for high-rise housing production.

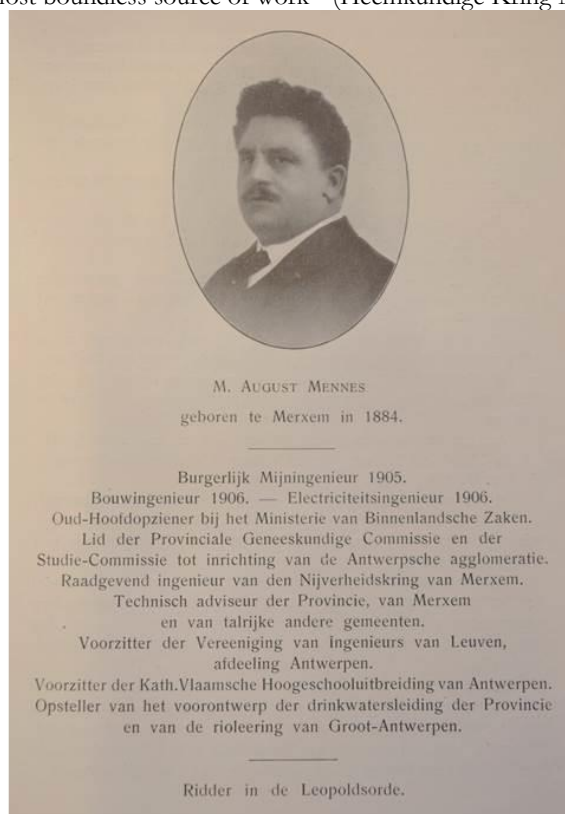
Conclusion: August Mennes as a one-eyed person in the invisible city.

However eclectic this catalogue of urban questions and horizontal projects in the unbounded metropolis of Antwerp may seem –with a diversity of subjects and commissioners ranging from local municipalities to provincial or state authorities and even private parties– they all have at least one thing in common. One single engineer was the author of all the plans discussed above: Engineer August Mennes [fig.12].

Mennes graduated as an engineer in mining, construction and electricity in 1906 and started working as the principal supervisor in the department of internal affairs. He was, in other words, in the front line when a royal decree decided to install a ‘Study committee for the development of the Antwerp Agglomeration’ (S.A.A.) in 1907 in order to tackle some of the most urgent and pertinent ‘urban questions’ of the recently unbounded city. Although high ranked representatives of the federal, provincial and local governments gathered in the S.A.A., its function was purely advisory. There was no room at all for decision-making nor was it mandated for any direct implementation efforts. In 1911, August Mennes was appointed as the main technical advisor of a subcommittee that dealt with the questions of drinking water and the sewage system in the new agglomeration (Van Acker, 2014). It is in this position that August Mennes was able to make his way in to the highest circles of Belgian politics.

But for a man of action like Mennes, studying and a merely advising role simply weren’t enough. Leaning on his extensive network and his strong reputation he founded his private practice in 1919. In line with his activities for the S.A.A., Mennes was initially mainly involved in long-term projects for higher authorities and at high planning levels –with the G.S.S.A. and the water supply project as main examples. The many contacts he maintained with local authorities during these commissions enabled him to collect an impressive portfolio of local commissions. Lacking any expertise themselves, all of these small municipalities around Antwerp

ended up calling upon Mennes as their technical advisor and town planner. In that sense, Mennes greatly benefitted from the fact that the city was mentally unbounded but not administratively. These events would bring him in an utterly strategic position. Thanks to a multiplication of local mandates, Mennes was able to bring his views and concepts towards actual implementation. For more than 40 years, he became one of the few actors that was steadily working towards a plan for the entire agglomeration, albeit from the bottom up. In the heydays, his ‘Office for a Metropolitan Antwerp’ employed more than 30 people working on a large number of projects, an almost boundless source of work¹³ (Heemkundige Kring Merksem, c.a.1997).



[fig.12] Engineer August Mennes and an overview of his main activities. Source: Archives *Heemkundige Kring Merksem*.

The text ‘A Greater Antwerp’ that he wrote in 1922, can be readily interpreted as a general guideline and would remain his personal manifesto throughout his long career (Mennes, 1922). This text clearly referred to earlier mission statements of the S.A.A.. In this text Mennes displays far more ambition than that of the regular technocrat, and casts himself in the role of the many-sided and socially engaged engineer who was finding his way into the essence of the metropolitan questions of his era via a detour of pipelines and sewers (Mennes, 1910a; Mennes 1910b; Mennes, 1917; Mennes, 1922; Mennes, 1923). As a registered member of numerous associations and committees, Mennes became well networked within the social, economic and cultural circles that altogether set the agenda for a metropolitan Antwerp [fig.11]. In that sense, he can be considered being part of a tradition of enlightened engineers that in a way defined and produced a particular kind of urbanism and *culture urbaine* in Belgium (Peleman, 2014).

These findings, however, don’t go without some qualification. Although his influential position enabled him to interfere with the multiple dimensions of the unbounded process of urbanization, he was never empowered nor capable to develop a consolidated urban project for the Antwerp agglomeration¹⁴. Mennes’ planning ideology developed more and more in a pragmatic and instrumental direction, in particular after the abolishment of the S.A.A. after the second world war. Mennes was nicknamed ‘the cobblestone huckster from *Quenast*¹⁵’ for a reason (Heemkundige Kring Merksem, c.a.1997). Of the hundreds of characterless streets he designed and constructed in the agglomeration, few traces can be found in the city archives¹⁶ (Stad

13 The amount of projects that August Mennes was involved in and the number of associations and committees he was part of trigger the imagination to such extent that one might wonder if he was secretly represented by his twin brother Ferdinandus Mennes at some occasions.

14 As Cerda did for Barcelona, Wagner for Vienna or Berlage for Amsterdam.

15 Quenast is a Belgian quarry that ever since the Middle Ages provided the typical cobble stones (*Kinderkopkes*) for the construction of virtually every Belgian street.

16 Under German reign, a Greater Antwerp was administratively defined. Several municipalities were governed by the city of Antwerp at that time. As such, Mennes was faced with the threat of losing a large number of projects. This resulted in a major trial, for which an all

Antwerpen, 1941). They were simply forgotten and subsumed within an anonymous history of urbanization that was intentional but hardly amounts to a coherent plan.

August Mennes may have understood how to turn urbanization into a craft, but his activities never really led to a consolidated urban project for the unbounded horizontal metropolis. His efforts to concretize pertinent 'urban questions' nevertheless undergirded the shaping of a several formative structures in which a somewhat pragmatic urban program was able to subsequently unfold. Slowly but surely, a new *milieu urbain* emerged without any clear destination. Preconfigured spatial considerations hardly played any significant role in urbanizing the agglomeration. The metropolitan space was, in that sense, not so much the rationalized product of planning. The urge to define a general *image-guide* for a 'Greater Antwerp' was not very present and hardly played a steering role in its construction. Rather, the emphasis would come to lie on the search for tailor-made (public-private) and collective (intercommunal) constructions to build a metropolitan environment that could be shared by many¹⁷. In the Antwerp agglomeration, the horizontal metropolis emerged as a pragmatic but productive juxtaposition of several unbounded urbanization techniques. Urbanization was practiced as a craft of engineers who developed new techniques in order to transcend the process of meaningless accumulation.

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of Mennes' projects in the agglomeration were listed. Despite the lack of plans, these extensive lists provide an overview of the impressive contribution of this engineer to the construction of the Antwerp Agglomeration.

¹⁷ State capital was used to socialize sewer systems and water supply. A rich bourgeoisie in their park living areas in a way co-financed the construction of public parks and metropolitan avenues. The metropolitan grid gave the 'greatest numbers' from middle and social classes access to an up and coming urban milieu and equally provided room for all kinds of services (commercial apparatus, hospitals, universities, sports center...) of which the higher bourgeoisie benefitted in return. Urbanity emerges as reciprocal surplus value that results from a juxtaposition of different urbanization techniques.

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