Towards an Alternative Solution for the Detection of Historic Structures in Antwerpen (Belgium)

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ABSTRACT: This paper aims to present the try-out of a method which allows to go back to about the end of the fourteenth century (in this particular case even to about 1150), tracing both continuity and changes of plots and construction phases in an old city centre, using limited survey techniques, and combining various archival data with any available archaeological information. This method is based on the systematical archival analysis of building-blocks by making an inventory of the whole, investigating layers of history going backward in time, so as to detect with absolute certainty the connections between the individual sites, and to reveal possible systems of building construction and typologies.

FRAMEWORK AND EXPERTISE

This paper aims to present the try-out of a method which allows to go back to about the end of the fourteenth century (in this particular case even to about 1150), tracing both continuity and changes of plots and construction phases in an old city centre, using limited survey techniques, and combining various archival data with any available archaeological information. This method is based on the systematical archival analysis of building-blocks by making an inventory of the whole, investigating layers of history going backward in time, so as to detect with absolute certainty the connections between the individual sites, and to reveal possible systems of building construction and typologies (Maclot 2006, unpubl.).

This paper does not focus on what can be learned about what has been lost over the centuries, but looks primarily for what is still left, for what is possibly hidden behind, under and in between more recent alterations and conversions. The approach is not that of an architectural historian, but that of a building historian. However this method also offers huge opportunities for any research, and so could serve many purposes.

In old city centres specially, once the existence of historic fabric is established, it should be an obligation in evaluating building applications. Yet in Antwerpen, as in many towns with a heritage of certain importance, building projects generally precede preliminary research regarding their historical potential. So building-permits tend to be the result of rather ad hoc decisions, at their best taken after a short and superficial visit. In fact, only if the building is mentioned in the inventory, edited in the 1970s by the Flemish government, local officials are supposed to be alerted and ask for a report with additional information. Meanwhile, this type of inventory proved to be far too superficial and arbitrary, mainly considering attractive facades and interiors of public buildings, but seldom mentioning structural aspects, let alone looking for medæval structures behind facades of little obvious interest. Even listed buildings are not systematically properly researched prior to their so-called restoration, although law prescribes a decent report as a condition for permits and financial subventions. However, since in 1998 a new system of protecting the integrity of historic buildings was introduced by the Flemish government, Antwerp is supposed to treat all buildings within its former sixteenth-century city-walls as potentially important as regards cultural, historical and esthetic values (Malliet 1998, unpubl.). For each building-permit of an old structure, a so-called CHE-report is required, in which it is analyzed historically, physically, and aesthetically, and, most important, the report is supposed to be made independent of the pro-
jected plans. This reasoned evaluation should assist local government in its decisions and result in better protection and care of the historic environment.

This new implement certainly should make quite a difference, and moreover could result in an ever-growing and useful data-base about Antwerp’s building history. However, after a decade no results of its application have been published or can be produced when asked for, which is not exactly promising. Its effectiveness is apparent when one inspects the contents of skips. For quite obvious reasons, this failure was predictable. First, due to the system itself, as the research is not carried out with a sufficient degree of integrity, since independent contractors are paid by the parties concerned (owners, promoters, architects). Second, even if carried out disinterestedly, the research appears often poorly executed by inappropriately qualified contractors (engineers, architects, archaeologists, art historians, historians, restorers, amateurs). Most of the available contractors are self-proclaimed building historians, who have no experience to speak of, and who seem not able to deliver a decent report, notwithstanding their degrees. The same goes for the officials of the small local centre of monument care, who cannot even turn to a senior building historian for advice. Needless to say, the lack of a well-conceived systems combined with the lack of competence are two problems that sustain each other.

The subject of quality-control of both procedure and competence regarding research, evaluation, and treatment of historic buildings is actually very rightly discussed by building historians in The Netherlands (Stenvert 2008). In fact, at the time of the development of this CHE-idea and before its announcement, a small experiment was carried out by individual researchers in Antwerp, partly subsidized by the Flemish government, in view of developing a method which would enable local government to create a basic survey-system for building heritage. It consisted of a systematic inventory of two building-blocks, establishing the external features as well as the archival data on each of the built-up plots, to be inserted in a Geographical Information System. The idea of inventorying building-blocks had been successfully experimented on in another mediæval Brabant town, ’s-Hertogenbosch in The Netherlands (Van Drunen 2006). But unlike this uncontested pioneer, the town of Antwerpen cannot count on decades of research or the experience of building historians. Therefore the approach had to be very different, mainly by creating a structured system of questionnaires and forms that could be filled in by contracted building historians. The results of this project were presented at a colloquium in 2000, but local officials never cared to even consider the possibility of putting it to use.

But presently, perspectives for a renewed interest for the inventory of building-blocks may rise, albeit from a purely (art) historical viewpoint. Since 2007, a project called HERA, short for Reunited Antwerp Heritage, launches a scientifical website for museum objects, including a fair amount of fragments, iconography and archival data relating to long since disappeared buildings the precise locations of which need to be established. Actually, also the Antwerp town archaeologists could make use of these data for their excavations in the remaining parts of the old castle zone, in which only some foundations subsist. Thus, an integrated system is certainly to be considered.

**THE UNDERESTIMATED POTENTIAL OF ARCHIVAL DATA**

For an experienced building historian, from the street and from an aerial view a lot can be detected by the morphological analysis of building-blocks, also details in facades and pavements can reveal a number of indicative data. But construction systems like cellar-vaults, trusses and joisting demand systematic visits and even examinations involving incisions. Most problematic is to find out the basics: the age or rarity of constructive parts like foundations and party-walls, cellar-vaults, water and waste-pits, often concealed elements that belong to the primary tradition of building in a mediæval city environment. Reconstructing the original building-type and plot-system, which very often have been altered and may seem beyond recognition, require an analysis which includes even more archaeological research into party-walls, vaults, levels, etc. The alternative solution proposes to get a general picture of the potential, without entering the building, let alone effect building archaeological research, yet with far more information than only the external visual data will provide. In fact, only archives are freely consultable. A lot of archival data, including unpublished dossiers and reports, most of them from the nineteenth and twentieth centuries, hitherto have been left unused, because they were never ‘read’ in view of this particular purpose. Amongst the oldest general views of the town, for instance the monumental Bononiensis print in its unique edition of 1565 certainly is a revealing source, not only about the structure of the town itself, but even about typology, at least when confronted with reality. Still, in terms of this town’s building history it is rather recent, and of course it says nothing about the invisible structure of building-blocks, nor even about the total amount of houses, as it is meant to give an impression of the town as a whole, in which only important and mostly public buildings are given due emphasis. (Fig. 1)
On private building, from as early as the mid-sixteenth century, very few drawings of facades or sections still exist, and mostly concern long since demolished houses, seldom dated or located. The first cadastral maps, drawn up under French and Dutch rule between about 1811 and 1830, show only built and unbuilt space, while the imposed system of building permits in 1801 only concerned the aesthetics of street fronts. Yet the few hundred surviving drawings reveal a lot about old facades, and may also be indicative about entrances of cellars, which were traditionally only accessible from the street, courtyard or garden, but still are mute about what is hidden behind the facade. Although from 1852 building permits were extended to the complete construction, only from the late-nineteenth century on, plans and sections were obligatory in case of radical alterations. Now consultable by data-base, these drawings offer a huge potential, again if ‘read’ with an eye for historical building. They help tracing valuable and possibly surviving elements. The example of mediaeval cellar-constructions shows just how these documents help tracing cases of the oldest building types, namely those with transverse arches resting on columns or on piers, mostly on tunnel-vaults, some on cross-vaults. (Figs. 2, 3) Combined with the knowledge gained from a few already discovered examples, the inventory of these cases allows the reconstruction of the underground structure of nearly complete streets, and for that matter to get a fair idea about built surface and width of the original parcels. Eventually the verification in situ can be established. Not surprisingly, the existence of this type of cellars is concentrated in the oldest parts of the city, within the urban extension of around 1300. As to the dating of these ancient structures and constructions, by lack of any in-situ research, only ancient texts can possibly shed light on the matter, again only when ‘read’ from the viewpoint of both an archaeologist and a building historian, and preferably with even larger transdisciplinary knowledge. Indeed, however underestimated their usefulness, contemporary sources about ordinary houses were never meant to document building types or other features that are of interest to today’s building historians, and should be carefully evaluated as to their veracity before interpretation. Recent research indicates that the etymology of medieval ‘language’ of both word and image should be thoroughly revised as the current terminology for building history in the former Low Countries is completely based on the typology of The Netherlands, which appears to differ considerably from the Brabant part.
For Antwerpen, the earliest building prescriptions seem to have been drawn up only at the beginning of the fourteenth century and are quite rudimentary. The restrictions concern the public domain like cantilevers, and public safety like the use of fireproof materials for roofs and facades, the thickness of party-walls, the adjoining properties. Surviving texts about individual houses regard mainly property deeds or mortgages, generally mentioning data about the type of building, the number and denomination of rooms, restrictions, and in case of inventories even specific data about the interiors.

To find the earliest data for the identification and dating of mediæval structures it is important to apply the regressive method of tracing each building plot back in time for the past six centuries. The inventory of every plot starts from the actual cadastral situation, and regresses traces every registered mutation as regards the building as well as its owners and users, so as to ensure the direct and exact connection with the pre-cadastral system that was used until the Napoleonic annexation at the end of the eighteenth century. The Antwerp archives permit investigation to the end of the fourteenth century, especially by deeds of ownership and mortgage, but are extremely scarce for the earlier period. Also problematic is the connection between the mid-sixteenth and the late-fourteenth centuries for lack of geographically established identification of each building plot and contemporary lists of correspondence. This gap can only be crossed by using indirect information from one or even several adjoining properties. Therefore it is necessary to work regressively and with an inventory of the complete building block as a basis, so as to ensure the exact identification of every plot and to draw up the exact geographical position, especially as some properties did not even have recognizable house names, or changed names. This systematical approach gets especially indispensable, when gradually going back as far as the last decades of the fourteenth century, and to understand and interpret the oldest texts that tend to be somewhat limited.

Occasionally, archives of religious institutions may shed light on properties of institutions and important families. Geological information and mainly unpublished reports on archaeological finds and building analysis are also considered as archival data. They fill in certain gaps, and every time the possibility of field-work and further research presents itself, new results add to the interpretation. As long as they can be connected with the exact plot, the inserted data can relate on very different kinds of information and sources, and may enlighten various aspects of construction and living patterns, such as real estate values and taxes, profession and trade, religion and origin, typology, and interior decoration, building materials and construction techniques.

PROMESSING RESULTS

For the try-out of this system a case-study of two building-blocks was chosen, especially because of their high potential as to the relevance of the application of GIS on the matter of both building history and archaeological research. These blocks are situated in one of the oldest parts of the city, the development of which might have been determined by the remains of a mid-twelfth-century Premonstratensian convent, and in which the re-use of building materials is involved. Not only the division of the large plots and houses by the first private owners or the later divisions as a consequence of the creation of new streets, but also the insertion of a new abbey in the early fifteenth century and its extension and shrinking, show how both plot and typology have been gradually changing with the economical ups and downs of Antwerpen.

The most remarkable result is the new insight about the earliest plot-system and typology. By lack of archaeological evidence, the date of the first building phase has to be estimated purely historically. Important in the reconstruction of the development is the hypothesis about the settlement in this area of the nunnery of Sint-Magdalena from about 1150 to 1254, after it separated off from the double cloister of Sint-Michiels upstream the river Schelde. The existence of this convent would not only explain the former street name of Munsterstrate,
referring to a monastery, but also the striking presence in ancient private buildings of reused limestone parts, an expensive material imported from Tournai and hitherto only noted in the oldest parts of churches, city wall and castle. Moreover, the partial integration of the convent would also explain the strange hiatus in the structure of the first urban plots in this area, of which at least until 1286 a part was still property of the abbey of Sint-Michiels. The removal of the nunnery may have had a direct connection with the new policy of the duke of Brabant, Henry the Third, who in 1250 had sold this area to the town of Antwerp, for common use. This new town property was enclosed within a rampart in 1293, even before the new town extension from 1295 to 1314 was started. But in 1296 it was divided in a limited number of large private lots of 1316 square meters which were sold as private property, so as to allow the financing of the building of a city wall and the paving of new streets. All this implies a first urbanistic layout and definition of private property between three already existing main roads, two parallel to the river Schelde and one along the inland canal. Presumably, the earliest constructions were isolated buildings, inhabited by the small group of rich families, the ruling clans, who gradually divided their property with each generation, a system that has been archaeologically established in Flemish mediaeval towns like Gent, Brugge, Ieper. As from 1300 onwards, town regulations prescribed fire-proof roof material only for tightly builted inner city, in that stage, the extension clearly did not need fire-prevention right away.

The final plots were established sometime during the fourteenth century, and at least from the 1370s on, a typical urban densely developed building scheme appears to have existed. Although there is as yet no sign of any intervention by the local authority as to the way of organizing the division of these private properties, it is hard to believe that such a systematical creation of building-lots would be the result of individual decisions. Also, mechanical soundings show how the soil has been considerably heightened by four metres of an anthropogenic layer, deposited immediately on the alluvial bed, and although it is uncertain when exactly this enormous enterprise was executed, it evidently was meant to better the building soil. The earliest mentioned house-names like Sterre, Sevensterre, Maene (Star, Seven pointed Star, Moon) indeed seem to allude to a former and much larger property with a similar celestial name, whereas names like Enge-lant, Halle van Tumhout, Halle van Herentals, Halle van Doornick clearly refer to the prosperous cloth-trade with England. Indeed, during the fifteenth century in several of these properties halls (commercial spaces) were installed by small cloth-trading towns in Brabant and Flanders as the street leads to the market in the oldest city centre and was particularly well situated for trade during the internationally visited fair.

The oldest cellar constructions and party-walls appear to have existed well before the earliest preserved texts from about 1400. The reconstruction shows a plot-structure within a fairly regular grid: building-lots were broad (about 11.6 or 12.6 m and 9 m) and very long (possibly about 100 m), with buildings all facing the Hoogstraat (literally High Street), draining at the back towards the river Schelde, in the Pieter Potstraat (former Munsterstraat). Clearly, this was the result of rationality and financial gain: no space was wasted, building materials determined the width, draining and the most asked for a building-type the length of the lot. Hitherto, no building archaeological research indicates the former existence of a system of party-walls with a large cavity in between, called osiendrup, functioning as drainage for rainwater and at the same time as a fire-corridor. Unlike in many meideval towns, and contrary to what is mentioned in texts, if a similar system has ever existed in Antwerpen, it had already disappeared by the end of the fourteenth century. The analysis of both texts and iconography brings forth a repeated pattern of A (alley), B (broad house), C (less broad house), B (broad house), and again A. The broad houses were of a type with an asymmetrical plan, arranged two-by-two in reflected image, divided by a common alley with entrances to the commercial ground floor and presumably leading to the living quarters in the back. These narrow alleys may have taken over the function of the former cavities as drainage and fire-corridor and in the sixteenth century some of them appear to have been broadened into cross-streets. The narrower houses in between must have had a different inner program, as they were not equipped with an alley. (Fig. 4)

At least as early as the late fourteenth century, the existence is mentioned of so-called ‘street cellars’, accessible from within the house but situated underneath the public space, which brought in local taxes. The front part of each building was used for commercial purposes, and most interesting is the construction system of the actual cellars which were the original ground-floors, only a few steps under street-level and directly accessible from the street, as archaeological excavations in this area have indicated how the street-level has risen some 175 cm since about 1250 (Maclot 1993, unpubl.). The few listed buildings show that they could be as long as about 30 m, and that they were large and undivided, open and roomy spaces, excellent for commercial purposes. However, without archaeological research, it is impossible to establish whether these former ground floors were originally covered with wooden frames, with girders on tie-beam supports or stone piers, and since when inserted brick barrel vaults or basket-handle arches became commonly used. Even if on that level no existing remains of girders have been traced in Antwerp, their former existence is very probable (considering the emerging examples in Brugge for instance). Apart from brick party-walls, fireplaces and chimneys, most of the building must have been solid (oak)wood structures with beams on wall-posts with corbels, ending with a steep-pitched trussed-rafter roof with corbels, covered with flat tiles on secondary rafters.
Until the late fifteenth century these buildings seem to have had a rather high first floor and but one upper floor, under a rather high and steep pitched roof, which contained two attic storeys for the storage of goods. In the back, another building, in which traditionally the living quarters were installed, seem to have been only reachable by one alley for every two properties. It mainly consisted of private cellars, kitchen on the ground floor with sleeping space above, and again large attics for storing wood and dry foods. It is as yet unknown if the two parts were of similar construction. A wooden spiral staircase must have connected these levels. At that time, the inner-court, the well, and the garden, as sometimes mentioned in fifteenth century texts, must have been situated behind these two buildings, and further down some smaller buildings must have existed, with utilities like a washing space, an oven, a lavatory, and even stables with a separate exit in the back-street. Similar buildings seem to have been erected on the neighbouring blocks and so may be considered as the direct predecessors of traditional building type in that area of town.

Thanks to iconography (Fig. 1), at least one of these buildings is known to have had a crenellated stone facade, which may still be traceable whenever the building is researched. This is very interesting information, as there was as yet no sign that Antwerp ever counted so called stenen (literally stones) houses with facades either in brick or in limestone from Tournai, like the ones that still partly exist in other big mediæval towns up the river Schelde, like Gent, Oudenaarde, Tournai. However, most of these buildings still had wooden facades and wooden floors, and the big fire of 1433 is said to have destroyed most of the houses in that area. But it seems highly probable that most of the stone or brick masonry has been re-used: foundations, cellars and entire former ground-floors, party-walls, wells and waste-pits. This means a considerable amount of archaeologically traceable mediaeval information still exist, such as floor-levels and roof-heights, fire-places, interior and even former exterior decorations, even contents of wells and waste-pits with possibly information about pre-industrial activity and living-patterns. Therefore it is important to keep a close eye on what happens to these valuable data.

It is but in the course of the fifteenth century that these large and airy properties got split up, in this particular case because of the installation of the rich merchant Peeter Pot and his wife, who devoted their lives to charity and by gradually purchasing property in the building block, succeeded in creating an abbey behind their house, including a chapel, brewery, bakery, and cloister. Thus, the former plot-structure and the original building-type was severely disturbed: old properties were split up as the abbey incorporated only the part with the living quarters in the back of each lot, whereas the commercial parts facing the Hoogstraat and the Vlasmarkt got converted into a new type of building, and re-used by private owners. This process of division accelerated towards the middle of the sixteenth century, as with the economical boom and demographical growth, quite another type of private building emerges in great quantity. Much less wide and deep, but higher and compact houses, combined living space and a commercial cellar and ground floor were erected as an investment by building promoters who speculated on the increasing demand for lettable space in well situated zones of the inner city. Even the abbey of Peeter Pot tried to increase its income...
by investing in 'modern' housing at the edges of its cloister, eventually by selling part of its grounds and thus creating new building lots. Once again, the former plot-structure was severely disturbed by the creation of two new cross-streets (Peter Potsteeg and Haarstraat), for which former alleys were broadened by pulling down one of the adjoining houses, keeping cellars and re-using building materials. Yet the reasoned application of archival data allowed indicating the exact place of the foundations of the old cloister, which allowed to excavate and document the archaeological data. (Fig. 5)

During the Counter Reformation in the seventeenth century, the reduced but architecturally embellished abbey was a quite successful centre of pilgrimage, and its surroundings prosperous (Fig. 6). But after the abolition of religious institutions at the end of the eighteenth century and the public sale of the abbey, the area gradually got subdivided into small living spaces. As a consequence, from the nineteenth century on, this area got primarily inhabited by labourers, which again resulted in subdivisions or building open space. Part of the former abbey became a school, the chapel a synagogue with mikwa. Only the houses facing the busy Hoogstraat kept their value as well situated places for trade.

In the 1970s, the area was still one of back streets, inhabited by poor and elderly people, but from the 1980's onwards, as it gradually became fashionable to live in restored historic buildings in old city parts, the small houses in these narrow streets underwent a big change. However, the arbitrary way the reconversions were effected, like the horizontal division of buildings into apartments, caused the vanishing of quite an enormous lot of historically valuable features and even more information. Moreover, this happened under supervision of so-called experts and with the help of government money, and for most of the so-called 'revaluations' permits were not even required. By lack of knowledge and vision concerning its potential value as a whole, the area has turned into a not very attractive fusion of at random treated and rather hollow monumental patrimony. It has lost much of its former charms and has again turned into one of the more abandoned areas of the inner city.
CONCLUSIONS AND AFTERTHOUGHTS

Just as in the case of any historical town, Antwerpen needs some frame for scientific research, within which many strands may be involved. The existing system of CHE-zone is still a good frame-work with for monument-care, but it needs more clearly defined standards and an accurate data base as an anchor, available for building historians, when ever a report has to be drawn up. The existing reports on listed and unlisted buildings should be systematically introduced into the system.

The experimentation of a research-system, based on the systematic analysis of building-blocks by using various archival data, ‘read’ from the viewpoint of building history, has already shown how even the plat-structure in the thirteenth century phase of old city parts can be traced, as well as the type and construction of the first buildings can be studied quite successfully, even without entering the building.

Of course, the proposed way of setting up the basic frame-work for every building block in the old city is time consuming and requires specific skills in the field of both history and building. But undoubtedly, once it is put into a format, the filling in of data requires much less specific insight and could be executed by less experienced personnel. However, an important question is, whether this kind of work should be confined to independent contractors, or set up as an academic project, or whether it should be executed by local or even regional government, at least supervised by some committee of accomplished building historians. Anyhow, in reconstructing the different historic and archaeological layers, especially of complicated sites, the applicability and the reliability of the arrangement of archival and archaeological information requires an exact geographical definition of each lot and its mutations in the first place. Here the same question arises as to who is to be entrusted with the execution.

This systematical introduction in GIS of old and new data could result suite soon into a continually growing and instantly consultable data-base about the potential of historical patrimony, and would allow governmental services a more accurate management to save some of our daily threatened and shrinking heritage. It would also be of great help to archaeological excavations, either ad hoc or planned. In a larger perspective it would serve pedagogical purposes like the training of the next generations of building historians; archaeologists, (art) historians, and everybody who is curious about anything connecting with Antwerp history. Needless to say, without a political decision as regards to installing a decent centre for monument care with reputable professional building historians, even with this system, the future care of our heritage is bound to fail.

REFERENCES

Sanderus, A., 1726: Chorographia sacra Brabantiae, Christaen van Lom, Den Haag.
City Museum Plantin Moretus Antwerp (Plantin Moretus)
City Archives Antwerp (FelixArchief)