

The loss of semi-public spheres within the Vienna urban parterre system. Cause and effect study

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Abstract. *As proven in the preceding pilot study the historical Viennese StadtParterre (urban parterre) originally presented an extensive, intriguing network of interior and exterior urban spaces: streets, building ground floors and courtyards. It included an essential semi-public sphere with no clear-cut boundary between inside and out. Rather, doors and windows were left open most of the time so that ground-floor premises were easily accessible to the 'public flow'. Original photos from the period attest to this: the ground-floor facades were permeable— semi-public or private uses extended from the interior out to the street, and conversely. In addition, many of these so called 'Gewölbe' were connected with basement floors or cellars underneath, which meant a further extension of the urban parterre and in most cases the (commercial) use of the street-facing premises also included the interior courtyard. Today, courtyards within the Viennese Gründerzeit areas mostly accommodate garbage cans or dumpsters; their soils are sealed and a considerable part of the urban parterre lies idle. Intensive, diversified use nowadays is rare: street, ground floor and courtyard—all being different parts of one essential urban system—are not mutually supportive, their interlinked use-pattern falls apart and diverges. The paper discusses reasons and socio-urban effects of such a dis-linked, mal-functioning urban parterre structure by among others comparing it to the original historic state. First and foremost, though, it debates to acknowledge the significance of the StadtParterre for the functioning of a city—a fact that has somewhat fallen into oblivion lately.*

Keywords: StadtParterre (Urban Parterre); Use Structure Analysis; Urban Space Research; Vienna

Introduction

The presented paper focuses on the architectural structure of Vienna's Gründerzeit GZ areas,¹ a rigid urban grid structure that emerged in the period between 1848 and 1918, when an enormous influx of new residents made Vienna's population grow from 440,000 to 2,2 Million, thus making it—by that time—the fifth-largest city in the world. Despite busy construction activity (due to significant population increase in *resent* time), buildings and tracts from this epoch still make up a large portion of the Viennese cityscape.² By accurately analysing the field's tectonic and

social fabric and by mutually aligning the historic and the today status, conclusions are drawn that will generate a solid and detailed knowledge of its current architectural form and systemic potential.

There is a strong and direct relationship between street space and structure and use of the buildings' ground floors.³ In addressing urban-development issues, it certainly is necessary to consider the totality of the urban parterre as a consistent urban zone of public, semi-public and private spaces. The concept of the *StadtParterre* therefore includes both built-up and non-built-up areas; it covers the *street* as well as the adjacent *houses* and *courtyards*.

Thus the different parts of the urban parterre are treated as entity, so that their interrelations can come to light.⁴

Surprisingly the existence of an urban parterre and its significance for the functioning of a city has somewhat fallen into oblivion lately. The reason for this may be that conventional 3D city models—used ever since their launch in the noughties in urban planning and research—do not represent intricate, small-scale, multi-layered, and ramified ground-floor structures in a convincing manner and thus obviously prevent us from perceiving them in a broader functional perspective.

Methodology

In our on-going research project (as well as in the precedent pilot study) an effective new modelling type was evolved, which represents the *StadtParterre* in an utterly precise microstructural form. The Comprehensive Ground Plan Survey (CGPS)—a detailed survey method familiar since Canigga's and Muratori's work in the 60s, when by putting floor plan next to floor plan they ultimately depicted the delicately structured fabric of cities—was taken up and developed further: to the *Three-Dimensional Urban Parterre Model (3D-UPM)* (Psenner 2014a).

For creating a UPM, relevant documents at the building authority archives are photographed and analysed (plans as well as manuscripts containing information about business licenses, utilization taxes and certain fees). Historical and current data collected by these means is verified on-site and subsequently modelled on the basis of the digital cadastral map.⁵ As a result, two model implementations are created: one showing the current condition and one equivalent to the 1910-status. At the same time, so called house biographies are drawn up for each plot of land, which account for all structural changes and changes in usages over the years.

Vienna *StadtParterre* – theoretical approach

The Vienna urban parterre is being explored in terms of an exemplary neighbourhood in the 9th district, an archetypal GZ area totally

rebuilt in the late 19th century: it covers three adjacent roads (A, B and C)⁶ and altogether expands a length of almost one kilometre. Preliminary research was informed by an in-depth theoretical and historical approach, covering the following subjects:

- impact of relevant legislation: building regulations, commercial code, public health care and road traffic regulations, tax incentives, urban planning, etc. (cf. Psenner 2014a, 2014b, 2013, 2012a, 2012b);

- architecture: elaborate study on the unique architectural type of the 'Viennese GZ-Stadthaus' (townhouse), which was by no means exclusively residential, as one might presume from today's perspective (cf. Psenner 2012a);

- urban planning: due to the thread of inundation and in order to facilitate traffic (what was meant to efficiently promote economy) a topographical "levelling of the city of Vienna" was carried out throughout 19th century.⁷

In order to better read the streets' position within the larger urban fabric, the *biography of the street* was extensively researched, including detailed information on layout (topography and urban planning), architectural development (historical and current building plans on the selected lots) and over time use structure development of ground floor and basement premises. Trading documents, business licenses and tax regulations are evaluated in order to enable the modelling as well as the drafting of *house-biographies* for each single building in the chosen field.

The *StadtParterre*: system and components

Including all additional relevant ground floor data, the spatial representation of Vienna's *StadtParterre* (UPM) facilitates a conclusive analysis of the (use) structure and potential of the ground floor zone and relates it to the uses and functions of the *street space*. Thus, interrelations can be identified, problematic situations considered and dealt with in a broader context.



Figure 1.

UPM showing the research field - use structure analysis for historic status (around 1910). © Psenner

Building ground floor: 'Gewölbe'⁸

Analysis and findings on the historical structure:

One important aspect of the Viennese GZ ground floors is their generous ceiling heights (3,20-4,95 m). The large amount of space thus offered is a special asset, not least because it opens up possibilities for a variety of uses, lending itself not to a specific market segment, but to a broad range of prospective occupants (Psenner, 2012a). During GZ, Vienna's economic, social, and urban fabric was characterized by a large number of small-scale businesses, many of them workshops or manufactures, preferably located on the ground floors of tenement blocks. By that time the city had an incredible range of registered businesses⁹, but only few of those actually had more than ten workers.¹⁰

Around 1910 the *StadtParterre* sample examined here accommodated a highly varied range of businesses: several restaurants, coffee houses and wine spirit shops, general stores, bakeries and pastry shops, underwear, linen or shirt sewers, linen cleaner's, carpenters, butcher shops and smoked meat productions, dairies, various printing houses, production of cork goods, frame and moulding makers, glaziers, etc. and a myriad of other retailers and manufacturers, also one pharmacy, a necktie sewing school and three temporary synagogues.

As the average apartment size was rather small¹¹ (around 35 m²), residential functions were often moved out of the private units.

Also, only very few apartments had real kitchens, or pantries and other food storage facilities, so that shopping for perishable goods was an everyday chore. These circumstances also account for the relatively large number of eateries/coffee houses/liquor stores (seven on a stretch of only 190 meters) as well as grocers and other small retailers.

Current situation – use status:

Despite their proximity to a high-level shopping road, two of the examined streets (A and B) display supply road characteristics: here the street-facing ground floor premises originally mainly accommodated workshops, manufacturing and trade businesses; while residential use (if so) was mainly found in the premises facing the courtyard. The third street (C)—a secondary street—displayed a balanced distribution of trade-, manufacturing- and residential use in the ground floor zone. An utterly intense ground floor use had subsisted until the late 1980ies, but then was scattered by vacancies, underuse, storages and garages; and lately was permanently disrupted by massive breaches of use patterns: i.e. a sharp rise of number and size of ground floor garages. This development is mainly effected by the Viennese parking space regulation (*Stellplatzverpflichtung*), which requires new extensions or even minor restructurings to provide additional parking spaces on the lot—one parking space per 100m² flat space. Over the last twenty years rooftop conversions became more and more attractive, that way this antagonistic law—dating from 1938—was



Figure 2.

Comparison of use structure: historic (left) and today (right): Urban Parterre Model UPM, © Psenner. UPM uses colour codes—e.g. green for semi-public spaces and spaces with high user frequency, such as shops, coffee houses, studios; orange for work spaces, such as offices, workshops, factories; yellow for housing; grey for garages and storage spaces; light grey for vacancies—to identify the type and intensity of use. © Psenner

applied all along.

Since 1910 many flats had been merged to fewer but bigger ones, which clearly augmented the per capita living space from 4m² (sic!) to about 39 m². In consequence fewer people enliven the urban sphere and less semi-public space is constituted.¹² A clear decline in so-called semi-public usages on the ground floor can be derived from comparing the two models (see fig. 2). The point is realizing and utilizing

the advantages of the distinctive structural ground floor feature; not least because the spaces available hold an enormous potential for a growing city.

Façade-design: permeability and shading

A morphological use structure analysis shows that ground-floor *facades* once provided a *permeable interface* between public and semi-



Figure 3.

Historic permeable facades, ‘Sonnenschutzplachen’ (flexible, textile awnings), left: Wiednerhauptstraße around 1905 (source: <https://www.facebook.com/238341929694182/photos/a.404818156379891.1073741941.238341929694182/601364410058597/?type=3&theater>); right: Währingerstraße around 1910 (source: <http://www.bildstrecke.at/Alle/Images/detail/6649?page=4&filter=w%E4hringerstra%DFe&filterCategory=Alle>)

public spaces. Business portals¹³ and alley doorways created *visual and real* permeability and thus generated an intense interchange between the different spheres. Original photographs of the time substantiate to this: ground floor façades were pervious: private ground floor uses extended into public street space, and conversely, the ‘Gewölbe’ were open to the public.¹⁴ Another highly important aspect is shading: so-called ‘Sonnenschutzplachen’ (flexible, textile awnings) once allowed for individual shading.

When analysed in terms of their permeability with regard to the *actual engagement* of the street-level environment, we must state that nowadays ground floor façades are mostly closed and impermeable and that they do not provide temporary shading possibilities at all.

Courtyard and souterrain / cellar

Historically seen the (commercial) use of the street-facing premises also included the interior courtyard; today, courtyards within the Viennese GZ areas mostly accommodate garbage cans or dumpsters, their soils are sealed; thus a considerable part of the urban parterre lies idle. Intensive, diversified use nowadays is rare: street, ground floor and courtyard—all being different parts of one essential urban system—are not mutually supportive, their interlinked use-pattern falls apart and diverges.

Many of the ground floor premises were connected with basement floors or cellars underneath, which meant a further extension of the urban parterre. These connections now have nearly all vanished and, contrary to its original function, the Gewölbe are now being used for storage. The Viennese *StadtParterre* is becoming increasingly less attractive.

The Sidewalk

Analysis and findings on historical and current use-structure:

In the GZ epoch, the *trottoirs*—“trotter” meaning to *roam about* in French—on both sides of the street had been assigned no less than one third (!) of the total street width

(Kortz, 1905 cit. in Psenner, 2015a). But the sidewalk did not at all end with the curb; it rather extended out to the street, as street was seen as being space for everyone’s use.

The holistic approach embodied in the term *StadtParterre* shows the primary function of the sidewalk in its true light: easily and directly accessible, the sidewalk is the most important area of interaction in the public realm, a space where people can meet and move among, or simply observe, each other relatively freely. Not least, it is the site of integrative interaction between minorities and majorities in a diversified society (Psenner, 2011: 203). Clearly, it should be possible to engage this multi-functional urban space in all sorts of ways, provided that it is adequately dimensioned. At present, however, the average 1.7 to 2.2 meters between building fronts and parked cars are reserved for *moving* (pedestrian) traffic—§ 78 of the Austrian Road Traffic Regulations prohibits ‘*hindering pedestrian traffic by stopping for no reason*’; also, using the sidewalk ‘*for other purposes than those of street traffic*’ is still conditional on administrative approval (RTRA §82 and §83, cit. in: Psenner, 2004: 133, 2014a: 137).

This lack-of-space problem¹⁵ also has to be seen as a consequence of a deliberate shifting of rights of use: while more and more street space was assigned to cars, pedestrians found themselves reduced to increasingly narrow walking lanes. In the years after WWII, sidewalks were built with a minimum width of 1.25 meters (according to Austrian building standards, 1956). On initiative of the city administration, these narrow post-war sidewalks have been increasingly widened in recent years, with additional bulges added at street crossings, so that the pavements are now offering a little more space to walk and stand, but this still is a far cry from the comfortable fourmeter sidewalks as are common in other cities (ed. New York City, Barcelona etc.). But the clear passageway is in the end drastically reduced again by signposts and the noses of parked cars.

Street

Analysis and findings on historical and current use-structure:

Vienna's earliest specific legal directions for traffic regulation were laid down in the *General Roads Act* and in the *Road Police Regulation* of 1875. Clearly, the focus here was on the individual so that *parking in the street* at night was simply prohibited for safety reasons and, in case of violation, was punished with 'imprisonment between 3 and 14 days' (Psenner, 2014b). The law also contained an explicit prohibition against 'molesting pedestrians and residents by splattering street mud'.¹⁶ This clearly shows that street users on foot were given preferential treatment; their safety and wellbeing was stipulated and protected by law. But legislation shifted away from this initial philanthropic emphasis and was over time amended to protect vehicles, not least because car production as well as modern,

fast and efficient traffic were seen as boosting the urgently needed economic recovery in the post-WWI period. Against these 'economically convincing' arguments, the needs of pedestrian increasingly moved to the background.

The NS Road Traffic Ordinance (Straßenverkehrsordnung StVO) of 1938 provided the most significant shift in the hierarchy of street users.¹⁷ The motorisation of the 'Volk' and the 'promotion of the motor vehicle'¹⁸ was the overall goal and the StVO was intended to serve this aim. Naturally parking in street space was now approved, with minor restrictions, a situation not very different from today. After WWII the New Austrian StVO was passed, which actually consisted in a simple renewal of the 1938 law and maintained the privileging of motorized traffic. It was not until 1960 that humans once again moved into the centre, replacing traffic as the focus of attention. But the course had been set for rapid expansion of motorized individual transport and research of the time provided



Figure 4.

Sidewalks: drastically reduced passageway by signposts and the noses of parked cars. ©Psenner

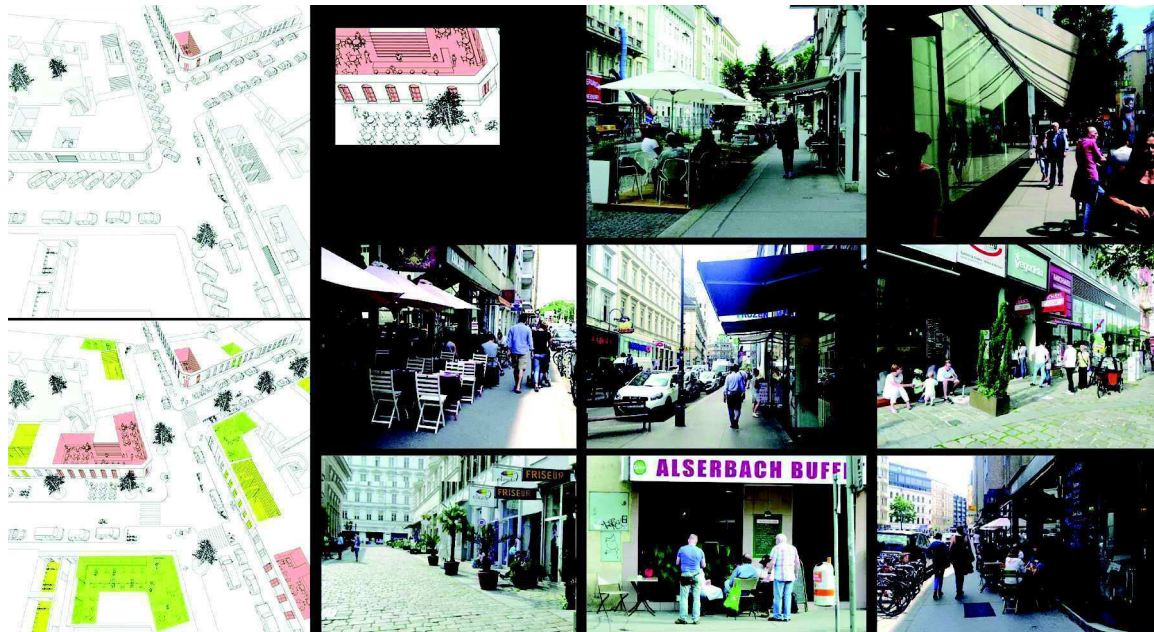


Figure 5.

A typical GZ-road—once and now; source: Wien Museum, working dokument, © Psenner

‘compelling’ arguments for the economical relevance of the motorized individual mobility (Psenner, 2015a).

This historical and political shift in street-use rights must be borne in mind in any discussion regarding the legitimacy of the car’s occupation of public street space today. Cities with a significantly different cultural history and, consequently, a different approach to the issue offer alternative solutions (i.e. Tokyo): street space not blocked up by parked cars is free space and remains available to all; enlivened public space in turn brings additional security; its users develop a personal relationship with the place and aesthetically manipulate it.

Consequently, today the analysed streets are heavily obstructed by cars: 60% of the public space is constantly occupied by private goods = cars. It is needed to say that the average ‘automobile’ is moving 40 minutes per day, the rest of the day time the car stays parked in public space (Posch cit. in Psenner 2014b).

Conclusion

The morphological use structure analysis (of the street level environment in question) showed that, historically seen, the *StadtParterre* was a ramified, varied, much used and hence

engaging space-system, which involved an essential semi-public zone and that ground-floor *facades* provided a *permeable interface* between public and semi-public spaces. But nowadays intensive, diversified use is rare: street, ground floor and courtyard—all being different parts of one essential urban system—are not mutually supportive, their interlinked use-pattern falls apart and diverges.

Successful regulatory measures in urban planning, administration, and economic policies depend on sound and detailed knowledge of the actual architectural structure as well as the current actual—and potential—use of the street-level environment. The Urban Parterre Model UPM does provide this information in an easily accessible and locally contextualized form. Thus, the development potential of the street-level environment can be clearly identified to inform urban planning.

The basic prerequisite for a calibrated and socially just transformation of the urban parterre lies in recognizing the systemic approach. This includes pointing to the (hidden) secondary consequences of a mislinked *StadtParterre*. Which finally enables direct conclusions, i.e.: vacancies and underuse of ground floors of buildings in Vienna are not least a result of surface-parking-ridden street spaces (Psenner 2012, 2011a, 2011b, 2005).



Figure 6.

The complex micro-analytical possibilities of UPM facilitates morphological analysis and conclusions regarding the actual use-structure and the use-potential of the StadtParterre by visualizing the spatial and functional interrelation between ground floor, courtyard and street. It allows to document vacancies and other issues relating to street-use and to analyse the contributing economic, traffic and social factors. Such systemic modelling of built-up environment and taking inventory of historical, current, and potential ground-floor uses provides a basis to put Vienna's street-level environment in a long-term development perspective as a practical guideline for future interventions in various neighbourhoods and for the (re-)designing of individual street complexes; by enabling actual and conceptual place making. © Schremmer/Wimberger/Psenner

Although science has long been calling for substantial state intervention in the organization of urban individual traffic, policy-makers and the administration have not yet brought themselves to take clear steps. The car-centred use of street space which increasingly affects adjacent ground floors of buildings, entails another highly detrimental development. The (indirect) link between motorized individual traffic and urban-structure problems of ground-floor use has been pointed out here.

Notes

1 The GZ structure evolved as part of Vienna's urban expansion caused by industrialization as well as corresponding historical and political developments. The architectural style of the GZ period (also known as historicism) can be read as an expression of the aesthetic tastes of a rising and economically powerful bourgeoisie. It mainly consisted in large tenement-townhouses and was widespread in 19th century central Europe.

2 Still one of four apartments in the city is located in a GZ building. (Psenner, 2011: 196)

3 See Psenner: "Wahrnehmung im urbanen öffentlichen Raum": in identifying criteria of public-space perception, the author focuses on architecture as a determining factor. Ever since this 2004 survey the interrelation between street space and buildings has been thoroughly studied. (Psenner 2011; 2012b; 2014a; 2017a)

4 Detailed articles by the author on this issue: Psenner, 2011, 2012b, 2014a, c, 2015c, 2017a.

5 The modeling was realized by using the building planning software Autodesk Revit®, which allows a coordinated and consistent model based planning approach.

6 For data protection reasons, all information about the studies of the Viennese StadtParterre in question are anonymized.

7 Cf. Psenner 2017 'Wiener Null' - Levelling the City of Vienna" lecture at EURA Conference 2017; Cities locked in networks, Warszawa Poland (22.6.2017).

8 The technical term „Gewölbe“ was used for ground floor rooms with alley doors

directly facing the street. They showed a high use frequency (shops, doctor's offices, coffee shops...) and thus formed a semi-public zone that was directly connected to the public space of the street (Psenner 2017a).

9 Among the businesses registered in the Establishment Census of 1869 we find: the Pfaidlergewerbe (shirt sewer), Paramentenerzeuger (vestments manufacturer), Bänderzeuger (ribbon maker), Bettwarenerzeuger (bed linen maker), Naturblumenbinder (florist), konzessionierter Spirituosenschänker (licensed liquor dealer), Brunnenmeister u. Brunnengräber (well digger and builder), Büchsenmacher und Schwertfeger (gun and blade smith), Bürsten- und Pinselmacher (brush maker), Deichgräber (ditch digger/trencher), Nadler Webkammacher u. Drahtwarenerzeuger (needle, weaving comb, and wire products maker); Federnschmücker (plume feather decorator); Flaschenbierfüller (beer bottler), Fragner u. Greisler (grocer), Hafner (stove fitter), Kamm- u. Fächermacher (fan and comb maker), Gemischtwarenverschleißer (general store operator), Kanal- und Senkgrubenräumer (sewer and cesspit cleaner), Kostgeber (landlord or landlady), Lohnfuhrwerker (haulage contractor), Sauerkraut- u. Saure Rübenverschleißer (sauerkraut and pickles merchant), Seiden- Schön- u. Schwarzfärber (dyer), Tuchscherer (cloth-shearer), Wirkwarenerzeuger (knitware manufacturer).

10 This highly diversified industry with mostly medium and small companies constitutes a specific structural characteristic, which also continued to prevail throughout and after the economic crisis that came in the wake of the stock-exchange crash of 1873. Enterprises that employed a larger workforce were mainly all located in the suburbs.

11 The ordinary GZ-tenement flat, called Garçonnière, consisted in one big and one smaller room (with no daylight). Big Families not only lived but worked there; whereby the beds were mostly used by several occupants in shifts: so called 'Bettgeher'.

12 The study involves an insight residents' and visitors' frequency analysis. Since official data about this factor is not available, relevant information is collected from participant

observation analysis.

13 A delicate structure of wood and glass was located in front of the wall, by thus appropriately staging this sensible zone: enhancing permeability, accessibility and weatherproof presentation of goods.

14 This brings to mind other urban cultures, where the StadtParterre still functions this way: i.e. Italian cities.

15 GZ Vienna features extremely narrow and deep street canyons: with—conforming to the historic building regulations—minimum street widths of 9 meters (1859) and later on 16 meters, the building regulation effective from 1870 allowed for a maximum building height of 25 meters. (cf. Psenner 2011: 200)

16 Federal law and Viennese Road Police Regulation § 20 cit. in Psenner, 2014b and 2015a.

17 The German StVO 1937 (a revision of the Reichs-StVO 1934) was implemented in Austria in the year 1938.

18 Gülde 1938, cit. in Psenner, 2014b.

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