

# Black and White Thinking

---

## The *Nuova Pianta di Roma* (1748) by Giovanni Battista Nolli and the postmodern understanding of public and private space

### Foreword

The discussion surrounding the concept of *public space* developed in the last third of the 20th century, primarily through Jürgen Habermas and the philosophers and sociologists who dealt with his work from philosophical and sociological perspectives.

The field of architecture (residential construction, open-space planning, urban development) has, to a greater or lesser extent, been guided by these theories and, in the process, has also reformulated them. In this context, older themes, such as the mainly aesthetically oriented discussions about urban space (Camillo Sitte), have slipped into the more recent discussions about public space within architecture, as has the more socially normative than sociologically oriented planning of communities (revival of early-19th-



**Fig. 1** Giovanni Battista Nolli, *Nuova Pianta di Roma* (1748)

century sociopolitical attitudes—Owen, Fourier—under the new concept of *utopian socialism*<sup>1</sup>).

1 Bollerey 1977.

In the English-language architectural discourse, particularly in the United States, there is a concept of public space—ultimately attributable to Robert Venturi and Denise Scott Brown—that developed completely independently of Habermas and other philosophical and sociological approaches in Europe and the US. This concept centers around the *Nuova Pianta di Roma* by Giovanni Battista Nolli in its interpretation as a postmodern work.

In the following essay, I will trace the emergence of this understanding over the past 50 years, identify the postmodern misunderstanding of the Nolli Map, and provide arguments as to why the postmodern concept of public space is unreflected and extremely one-sided with respect to architectural theory.

## The *Nuova Pianta di Roma* (1748) as an ideal model for the postmodern understanding of public space

### *Learning from Las Vegas*

In the fall of 1968, Denise Scott Brown and Robert Venturi were hired by Charles Moore, the then Dean of the Yale School of Architecture, to conduct an urban development project. In this context, they visited Las Vegas to study the Strip<sup>2</sup> and other areas of the city. Not long after this visit, they wrote an essay on the insights they had gained. In 1972, they published their findings in the epoch-making book *Learning from Las Vegas*.

2 The Strip is a section of the South Las Vegas Boulevard in Las Vegas, where the largest casinos are located.

The 1968 essay by Robert Venturi and Denise Scott Brown<sup>3</sup> dealt with the sheet of the twelve-section Nolli Map that shows the *Piazza Navona*; this piazza had been previously referenced by Rasmussen (1959) and Brinckmann (1920) in their discussions of the Nolli Map as a whole (see below). It was in this essay that Venturi and Scott Brown began interpreting the areas shown in black on the Nolli Map as private and the areas shown in white as public: ‘Private building is shown in gray hatching which is carved into by the public spaces, exterior and interior...’<sup>4</sup>.

3 Venturi and Brown 1968: 91.

4 Venturi and Brown 1968: 40.

When, in 1972, the two authors, together with Steven Izenour, wrote a book expanding on this essay, they once again made reference to the well-known *Piazza-Navona* segment of the *Nuova Pianta di Roma*.<sup>5</sup> Their observations were as follows:

5 I am referring to the original English edition. For the German translation, which appeared in the *Bauwelt Fundamente* series, the illustrations were completely revised.

Rome’s churches, off streets and piazzas, are open to the public; the pilgrim, religious or architectural, can walk from church to church. [...] Nolli’s map of the mid-eighteenth century reveals the sensitive and complex connections between public and private space in Rome. Private building is shown in grey crosshatching that is carved into the public spaces, exterior and interior. These spaces, open or roofed, are shown in minute detail through darker *poché*.<sup>6</sup> Interiors of churches read like piazzas and courtyards of palaces, yet a variety of qualities and scales is articulated.<sup>7</sup>

6 Venturi, Scott Brown, and Izenour used the term *poché* descriptively. Rowe and Koetter adopted it in their 1978 book *Collage City* (German edition, 1984: p. 114–116), where it is used for describing the ambivalent character of an intermediary zone between solid and void (see below).

7 Venturi, Brown and Izenour 1972: 14.

Venturi, Scott Brown, and Izenour framed their findings in an inaccurate historical context that—so far as I am aware—has been overlooked to this day. They used the Nolli Map (1748) as a representation of Rome in the 1940s: Visiting Las Vegas in the mid-1960s was like visiting Rome in the late 1940s. For young Americans in the 1940s, familiar only with the auto-scaled, gridiron city and the antiurban theories of the previous architectural generation, the traditional urban spaces, the pedestrian scale, and the mixture, yet continuities, of styles of the Italian piazzas were a significant revelation.<sup>8</sup> In order to illustrate this comparison, the authors created a collage with a ‘Welcome to Las Vegas’ sign superimposed on a fragment of the Nolli Map (Fig. 2). This is followed by the results of the analysis from their urban development project (Fig. 3).

The third reality that comes into play in the case of Las Vegas, namely the desert and the disorganized space between the casinos and hotels, is ren-



dered in black, (private) buildings are shown in gray crosshatching, and the publicly accessible areas of the—as they call it—‘ceremonial space’ in which activity occurs is white.<sup>9</sup>

### *How the Nuova Pianta di Roma found its way to Las Vegas*

The *Nuova Pianta di Roma* was shown at a historical congress in Rome in 1903<sup>10</sup>, in A. E. Brinkmann’s book *Stadtbaukunst* in 1920, and by F. Ehrle in 1932. In 1962, Danesi published a reproduction with no further comments and Frutaz issued his multi-volume work *Le piante di Roma*, in which the *Nuova Pianta di Roma* was shown both in its entirety and in its 12 individual segments<sup>11</sup>.

In his 1920 book *Stadtbaukunst*, Albert Erich Brinckmann devoted an entire chapter to the Nolli Map. He lists and occasionally praises the previous three-dimensional maps of Rome. However, Nolli’s two-dimensional map is presented as having played a special role:

Die Baukunst verlangt die höchste Anspannung der geistigen Vorstellungskraft: nicht der Blick in den Kirchenraum, sondern die nur geistig zu gewinnende Gesamtvorstellung ihrer Raumformen und ihrer plastischen Körperformen vermittelt das architektonische Erlebnis.<sup>12</sup>



**Fig. 2** Collage (Venturi, Brown and Izenour 1972)

**8** Venturi, Brown and Izenour 1972: 14.

DIRECTIONAL SPACE			
	SPACE · SCALE	SPEED	SYMBOL
EASTERN BAZAAR		2 MPH	
NEDERLAND STREET		4 MPH	
MAIN STREET		10 MPH	
COMMERCIAL STRIP		15 MPH	
THE STRIP		25 MPH	
SHOPPING CENTER		3 MPH	

**Fig. 3** Las Vegas (Venturi, Brown and Izenour 1972)

**Fig. 4** A comparative analysis of directional space (Venturi et al., 1972: p. 8.)

**9** In 2007, Denise Scott Brown discussed the Nolli Map once again in an interview. She emphasized that the situation in Las Vegas had changed completely: the more the exterior space had been made to resemble the plazas of Europe, the more private they had become. In this context, she explained much more clearly to what extent her and her husband’s ideas had been dependent on those of David Crane. Furthermore, she emphasized that both at the time and in the past, they were much more concerned with *poché* than with threshold or transitional space. (Harteveld & Scott Brown, 2007, p. 70)

**10** Gnoli 1903.

**11** Frutaz 1962: p. 235.

**12** Brinkmann 1920: p. 56.



**Fig. 5** *Piazza Navona* section of the Nolli Map published in 1920 by A. E. Brinckmann

**13** Brinckmann 192: p. 51.

**13a** ‘...new buildings, corrections, opening up of new streets, and modernization of entire neighborhoods.’

**14** Brinckmann 1920: p. 57.

**14a** ‘organic growth’

**15** In these cases, I can only give the dates of publication. Books are written over a longer period of time. Positions – particularly in the case of architects – are incorporated into teaching. There are lectures about them at universities. Therefore, the date of a book’s publication is not indicative of the moment of the development of the concept and its public discussion and likewise provides no information on their order.



**Fig. 6** Page 70 from Rasmussen 1959 (colour markings added by EF)

Brinckmann showed three sections of the Nolli Map: the segment with the three streets that lead to the Piazza del Popolo, the segment with the *Piazza Navona*, and the segment to the east of it with a part of the Forum, the Fontana di Trevi, the church of San Carlo alle Quattro Fontane, and the Palazzo Barberini. In his text, Brinckmann opposes the 19th century’s ‘Neubauten, Korrekturen, Straßendurchbrüche und die Sanierung ganzer Quartiere’<sup>13/13a</sup>. He views the Rome of the 18th century—as shown by the Nolli Map—as ‘organisches Gewächs’<sup>14/14a</sup>. In this context, Brinckmann reveals himself as being an exponent of an organicist architectural theory oriented towards the human body (which is how this theory differs from functionalism; see Porschke, 2016). He postulates a systemic interaction in which every element adopts its clearly defined duties, creating a whole. This organicist architectural theory was widespread in Germany. Its exponents see medieval cities as representative of the ideal implementation of their theory. Owing to the fact that Brinckmann draws attention to the *Piazza Navona* section of the Nolli Map—not the Vatican and not antique Rome, with its solitary monuments—we can assume that his motives are his unrealistic, imagination-based idealism and his organicism.

In 1957 and in 1959, Steen Eiler Rasmussen referenced the segment of the Nolli Map with the *Piazza Navona* that Brinckmann so valued. Rasmussen (1898–1990) was a Danish architect, university lecturer in Copenhagen, and guest professor in the US (at MIT, Yale, UPenn, and UCA) whose book *Om at opleve arkitektur* (1957<sup>15</sup>)—English edition: *Experiencing Architecture* (1959); German edition: *Architektur-Erlebnis* (1980)—is a work of architectural history and architectural theory dealing with the relationship between building and space. In his use of the Nolli Map, as well as in his theoretical approach, Rasmussen had most certainly been influenced by A. E. Brinckmann’s publications on urban architecture (*Stadtbaukunst*, see above) and on plasticity and space (*Plastik und Raum*, 1922), an assumption that is evidenced by his adoption of the focus on and the illustrations of the church *Santa Maria della Pace*.

In his 1957 book, Rasmussen explains his own theory, e.g. with reference to *Santa Maria della Pace*, and, for this purpose, uses the *Piazza-Navona* segment of the Nolli Map. However, on this section of the Map, the church *Santa Maria della Pace* (marked green in Fig. 7) is not located in the center (marked yellow in Fig. 7). With this segment, which was actually inappropriate for his purposes because the *Santa Maria della Pace* is barely noticeable and the large scale does nothing to support his assertions regarding the spatial mixture of square and church he once again shows a reference to Brinckmann and, at the same time, passes on to his pupils and readers the *Piazza-Navona* segment of the Nolli Map that Brinckmann introduced into the discourse, albeit without adopting Brinckmann’s organicist thinking. Rasmussen noted the following with respect to his analysis:

To understand the conditions for which the building was designed we must imagine ourselves back in the old Rome so excellently presented on Giambattista Nolli's map from the middle of the 18th century (p. 68). On it the house blocks are indicated by the dark hatchings and in between the narrow streets form a weird, light pattern. But not only the streets and squares are shown in white; also entrance courts and church interiors appear as light cavities in the dark mass.<sup>16</sup>

In his approach, Rasmussen is not concerned with a contextualism, nor does he think in the categories of private and public space. Instead, his aim is to present an understanding of architecture as having two architectural substances of equal value, the solid and the cavity, as well as an unnamed transitional area that Rowe would later describe as *poché*. He sees the entrance court of *Santa Maria della Pace* (ground plan see figure 36, page 141) as a church interior that has been pushed out into the street space<sup>17</sup>. This also becomes clear in the reference to the Palazzo Massimo alle Colonne:

Here we find our palace lying in the narrow, curving Strada della Valle, at the end of an even narrower street, Strada del Paradiso. With its quite small dimensions the building fits perfectly into its surroundings, its lovely convex facade following the curve of the street. At that time it was impossible to stand off from it far enough to see the building in its entirety. From the opposite sidewalk you could command a view of the open loggia of the ground floor, which seemed to form a continuation of the street. Instead of the arched entrance of most Renaissance houses it has a deep, murky cavity cut into the solid block, a cavity that seems even darker behind the light pairs of columns.<sup>18/19</sup>

David Crane, a lecturer at the University of Pennsylvania in Philadelphia, was most certainly familiar with the English translation of Rasmussen's book<sup>20</sup> and presumably shared these ideas with his students Denise Scott Brown and Robert Venturi.

In his own writings, Crane reasons that humans have a basic need to bring given complexes into a whole, and that this tendency can already be seen at an early age, e.g. in the way that young children have a need to immediately add arms and legs to a drawing of a human torso with the appendages missing. With his demands for improvement and for the consideration of the wholeness and identity of a city, Crane aligns himself with Lynch, whose Gestalt-psychology-oriented book, *The Image of the City* (1960), had at this time been published.

According to Crane, a serious shortcoming was developing from a lack of public pressure, from regulations, from planning approaches that lack an understanding of urban development, from pure cosmetics, and from the principles of modern architecture: 'Urban spaces are now what is left over between individual buildings of no communal importance'<sup>21</sup>. He reasons that hills are being flattened, paths are being straightened into streets, and the appearance



Fig. 7 Rasmussen 1959: p. 71

16 Rasmussen 1959: p. 62.

17 Rasmussen 1959: p. 70.

18 Rasmussen 1959: p. 62.

19 Owing to the fact that this transitional space described by Rasmussen inside and outside of the buildings bears a very strong resemblance to the phenomenon that was later described by Colin Rowe as *poché*, we can assume that Rowe was influenced by Rasmussen.

20 In the late 1950s, Rasmussen was awarded a visiting professorship at the University of Pennsylvania in Philadelphia. This was where he met David Crane and Robert Geddes, who took part in a research project on West Philadelphia in 1959 under his leadership (McHarg, 1996: pp. 137, 344).

21 Crane 1960: p. 281.

of today's cities is reminiscent of a pieced-together 'Frankenstein's monster.' In his opinion, this represents a strong contrast to the praiseworthy cities of Paris, Rome, Siena, or Beijing.

In particular, Crane draws attention to the work of Napoleon III and Baron Haussmann in Paris and of Pope Sixtus V in Rome, although he describes them as socially myopic<sup>22</sup>. He also notes that, in large US cities, ordinances and insurance policies (related to fire hazards) place value on the distances between individual buildings. According to Crane, a satisfactory solution for the problems of urban development cannot be found in many of the common approaches, such as the 'City Freestanding,' which is only oriented towards the 'functional' and in which all individual buildings strive to symbolically convey their own special identity, the 'City Beautiful,' which immobilizes the city and has thankfully died a well-deserved death, the 'City Social' with its slum removals, or the 'City Procedural,' which is constantly questioning itself. Crane is particularly strongly opposed to the 'City Cosmetic':

**22** Crane 1960: p. 282.

The City Cosmetic (City of Planned Chaos) is led by 'humanists', 'self-styled' antiplanners, who find art in any convenient place and work hard at copying out of context the spontaneous physical accidents of time or citizen genius. The humanists are joined by a number of other surface-minded cults, among them the cults of the piazza, the spontaneous townscape, a new baroque, and the charming vista.<sup>23</sup>

**23** Crane 1960: p. 284.

What was missing in these urban-planning approaches, according to Crane, was above all the dimensions of the temporality and spatiality, both of which, in his opinion, always had a symbolic effect as well.

**24** This also makes it clear that Crane was a source of ideas for Venturi's analyses of Las Vegas.

On the basis of an unverified quote from Louis Kahn ('the street wants to be a building'), Crane argues that the planning process should focus on the spatiality and temporality of streets,<sup>24</sup> for which, in his opinion, there are openness and scope for the interpretation and continuation of the guidelines. In this context, Crane also speaks of a 'Dynamic City'<sup>25</sup> and of a 'Capital Web' as the infrastructure of all public facilities of a city<sup>26</sup>. Four aspects are important to him: 'symbolic location,' 'space-shelter continuity,' 'generality of structure,' and 'systematic rhythm.'

**25** Crane 1960b.

**26** Ibid.

There are three basic media by which a city conveys perceptible messages to its users: by the meaningful facial characteristics of buildings, spaces, or other artifacts; by relative location or place within a known geographic area or a memorable sequence of physical events; and, obviously, by means of verbal signs and other overt heraldry.<sup>27</sup>

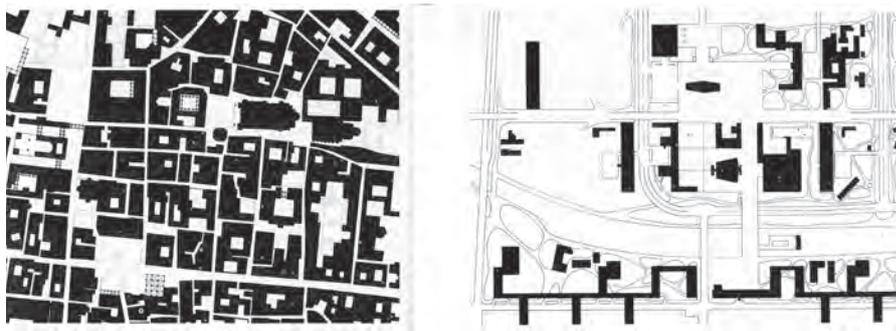
**27** Crane 1960: p. 285.

**28** The couple met as university students and married in 1967.

Crane had a strong influence on his students and colleagues, including Denise Scott Brown and Robert Venturi.<sup>28</sup> In this context, the focus was often on the *Nuova Pianta di Roma*<sup>29</sup>, albeit under Crane's special spatial-temporal perspective.

**29** See Harteveld and Scott Brown 2007: p. 72.

At this point, it is important to at least mention the fact that several architecture-related analyses of public space in the US were carried out at the same time. For example, Kevin Lynch published a Gestalt-psychology approach (*The Image of the City*, 1960) and Jane Jacobs's social-psychology-oriented publication *The Death and Life of Great American Cities* (1961) examined social interactions between the residential interior space and the urban exterior space, viewing them as prerequisite for the creation of a peaceful urban environment. Both base their analyses on human considerations. Two other re-



**Fig. 8** Rowe and Koetter 1978: p. 88.

**Fig. 9** Rowe and Koetter 1978: pp. 62-63

searchers, Chermayeff and Alexander (*Community and Privacy*, 1965), took a different approach, viewing both interior and exterior space as specific, objectified substances, that must be clearly differentiated as well as conciliated in their autonomy. These more modern approaches had no influence on the postmodern treatment of the Nolli Map.

## Further steps towards the canonization of the *Nuova Pianta di Roma*

### *Collage City*

In 1978, the book *Collage City* was published by Colin Rowe and Fred Koetter. It also contains a section of the Nolli Map. In the work of Rowe and Koetter, it is used as one of the many examples for their theory of—as I would describe it—an ambivalence of being, namely of being one way and not the opposite and, at the same time, also being able to be the other way, the opposite. Using a citation by Lévi-Strauss, the authors argue that being is a precarious balance 'between structure and event, necessity and contingency, the internal and the external—constantly threatened by forces which act in one direction or the other according to fluctuation in fashion, style and general social conditions'<sup>30</sup>.

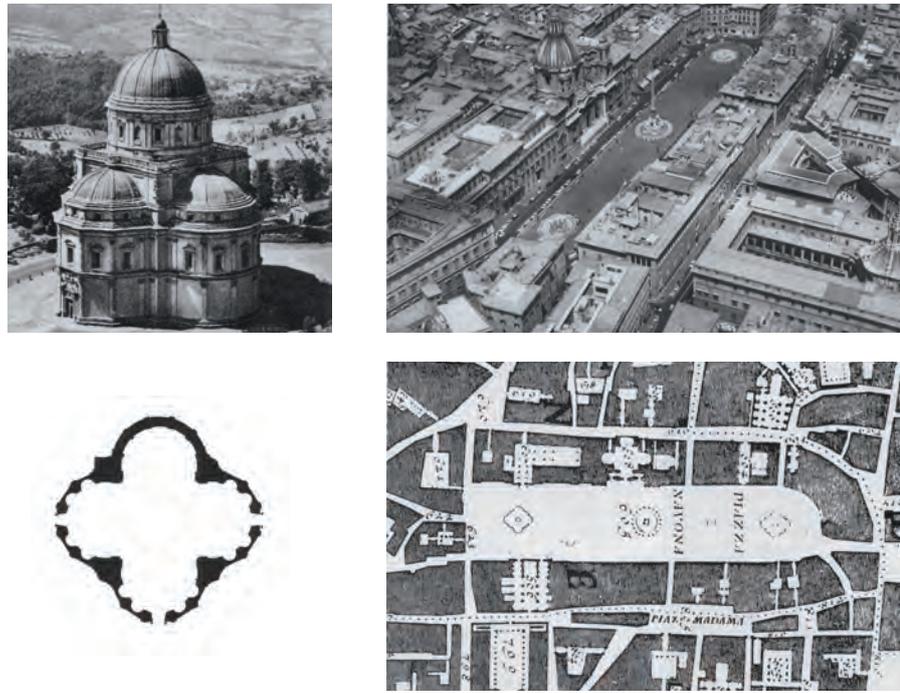
As examples, Rowe and Koetter refer to the ambivalence in the collages of the surrealists<sup>31</sup>, the ambivalence of planning and crafting, and the ambivalence of building and space, which in the German translation is presented schematically with an ambiguous image of figure and ground that is commonly used in Berlin Gestalt psychology<sup>32</sup>.

**30** Rowe and Koetter 1978, German translation 1984: p. 136.

**31** Picasso *Tête de Taureau*, 1943.

**32** Rowe and Koetter 1978; German translation: 1984: p. 88.

Fig. 10–13 Rowe and Koetter 1978: p. 76



As an example of this ambivalence of object and space, Rowe and Koetter discuss the Roman church *Sant'Agnese* in *Piazza Navona*. In this context, they show the aforementioned segment of the Nolli Map (which, in the German edition, is rotated so that the west edge is facing upwards), as well as the *Sant'Agnese* church both as a building and as a wall of the *Piazza Navona*.

So the reading of *Sant'Agnese* continuously fluctuates between an interpretation of the building as object and its reinterpretation as texture; but, if the church may be sometimes an ideal object and sometimes a function of the piazza wall, yet another Roman instance of such figure-ground alternation—of both meanings and forms—might still be cited.<sup>33</sup>

However, the thus formulated ambivalence was actually not compared surrealistically, meaning as a kind of subversive cancellation of the identities and creative redefinition, but instead understood as equivalent. A debate in which victory consists in each component emerging undefeated, the imagined condition is a type of solid-void dialectic which might allow for the joint existence of the overtly planned and the genuinely unplanned, of the set-piece and the accident, of the public and the private, the state and the individual.<sup>34</sup>

In this sense, Rowe and Koetter connect the discussion of the contextual with the clear separation of the public (white) from the private (black), which are additionally equated to the state and the individual, respectively. Rowe and Koetter see the *poché* as a link between these two identities; according to the authors, it is a structure's ability 'as a solid, to engage or be engaged by adjacent voids, to act as both figure and ground'<sup>35</sup>.

33 Rowe and Koetter 1978: p. 77.

34 Rowe and Koetter 1978: p. 83.

35 Rowe and Koetter 1978: p. 79.

### *Incontri Internazionali d'Arte: Roma interrotta*

It was also in the year 1978 that the association *Incontri Internazionali d'Arte* invited 12 architects to the Mercati di Trajano for a design workshop focused on the Nolli Map. The aim of this project, titled 'Roma interrotta,' was to investigate the lost coherence of Rome's urban structure over the previous 100 years<sup>36</sup>. The curators were Giulio Carlo Argan and Christian Norberg-Schulz. Twelve architects and architectural theorists were invited, one for each of the 12 sheets of the Nolli Map: Piero Sartogo, Constantino Dardi, Antoine Grumbach, James Stirling, Paolo Portoghesi, Romaldo Giurgola, Denise Scott Brown with Robert Venturi and John Rauch, Colin Rowe, Michael Graves, Robert Krier, Aldo Rossi, and Léon Krier.

36 See also Delbeke 2011.

The results of their work were exhibited first at the Mercati di Trajano and subsequently in Mexico, London, Bilbao, New York, Toronto, Paris, Zurich, and Sao Paulo. An Italian-language catalog (edited by Marisa Cerruti) was published in 1978 and later printed—translated into English—as a special journal issue of *Architectural Design* (1979, Vol. 49, No. 3-4) guest edited by Michael Graves.

In his foreword, Michael Graves adopts the interpretation of 'black = private' and 'white = public' previously used by Venturi et al. and—incorporating the ideas of Colin Rowe—speaks of the coexistence of two different figures of equal value, of building and open space ('figural void'), or of positively formed private substance and of public substance that has been positively brought into a gestalt. For Graves, the focus is no longer on a comparison between the Rome of the 1940s and 1960s—as proposed by Venturi and Scott Brown—but instead on the differences between the 18th century and the late 20th century<sup>37</sup>. For him and his colleagues, the focus is also no longer on the temporality of the space. Graves once again places emphasis on the two-dimensional representation of the *Nuova Pianta di Roma*, which, in his opinion, is able to show much more clearly the relationships between the plazas and the threshold spaces, as well as the public spaces inside buildings.

37 Graves 1979: p. 4.

The publications include three other theoretical texts that interpret the *Nuova Pianta di Roma* very heterogeneously:

Caroline Constant, who worked at the firm of Michael Graves, writes what is primarily a brief history of architecture in Rome from the 15th to the late 16th century, the period referred to as *Mannerism* in modern times. She uses the architectural history to differentiate fundamentally, in reference to Graves<sup>38</sup>, between subjective experience ('immediate sensual realm of perception, experienced subjectively') and cognitive rationality ('abstract intellectual realm of cognition'). According to Constant, the latter, 'our intellectual experience of architecture,' is based on 'its more abstract organisational principles, its plan and the relationship among its parts'<sup>39</sup>. In reference to Mannerism, she concludes that the two aspects fuse together because the objective order results solely by means of movement, i.e. subjectively.

38 Graves 1975.

39 All citations from Constant 1979: p. 19.

Giulio Argan, an art historian who at the time was also mayor of Rome, only wrote a brief introduction for the publication of the design outcomes. In

this text, he uses very figurative language to argue that the Nolli Map marks the interface between the imaginative of a city and its simple planning, between ‘the city Bernini and Borromini had imagined as an unearthly space’ and the modern city ‘as flat and shapeless as an unmoulded polenta.’ In his words, the ‘Roma interrotta’ project was an attempt at a ‘series of gymnastic exercises of imagination paralleling memory’<sup>40</sup>.

40 All citations from Argan 1979: p. 37.

Christian Norberg-Schulz sees Rome as an Eternal City because, in his opinion, it has preserved its identity unchanged over the ages. Norberg-Schulz suggests that Rome, unlike many typical Roman cities, does not follow any geometrical order. In comparison to the Greek cities ‘as articulate bodies composed of “individual” members,’ he argues that Rome is ‘conceived as an integrated whole, as an enclosed space rather than a body.’ Quoting L’Orange, he emphasizes the character of Rome as follows: ‘...the self-satisfied, enclosed world of the street is the characteristic quality of old Rome: a complete world, a small universe, an Eden from which Nordic man is expelled; the idyll of the street, I should say.’ Then, continuing in his own words:

And he goes on describing the concrete properties of the Roman street, its enclosure and continuity which are determined by the lack of sidewalks and stairs in front of the entrances, its colours and smells, and its pulsating, multifarious life. The Roman street does not separate the houses, it unifies them, and gives you a feeling of being inside when you are out. The street is an urban interior where life takes place, in the full sense of the word. In the piazza this character is emphasised; the houses surround the space, and the centre is usually marked by a fountain.<sup>41</sup>

41 Norberg-Schulz 1979: p. 50.

In this sense, Norberg-Schulz draws attention to the ‘gestalt character’ of the exterior space, gives it phenomenological content (‘where life takes place’), dissolves the strict separation between the private (areas shown in black) and public (areas shown in white), and additionally differentiates it as an independent entity. Norberg-Schulz also argues that Rome gained its ‘first and urbanistically most significant urban interior’ with the completion of the *Piazza del Campidoglio* (Capitoline Square)<sup>42</sup>, which Michelangelo was commissioned to redesign in the first third of the 16th century but could not be more or less finalized until the 1660s. In this context, he refers to the symbolic character of this ‘interior’ as the new ‘Caput Mundi’ and, with only a few words of interpretation, draws attention to the dynamic character of the square as specific identity, as a ‘genius loci.’

42 Norberg-Schulz 1979: p. 52.

He also sees the space surrounded by architectural fabrics as a designed substance with its own specific identity, referring to St. Peter’s Square and later also to the *Piazza Navona*, and describes the appearance of the streets as hollowed-out spaces in rocks.<sup>43</sup> It has been said that Rome is a city where one feels ‘inside’ while being outside.<sup>44</sup>

43 ‘On the Campo Marzio and especially in Trastevere the streets often look like hollowed-out spaces in tufa rocks rather than built environments.’ (Norberg-Schulz, 1979: p. 53)

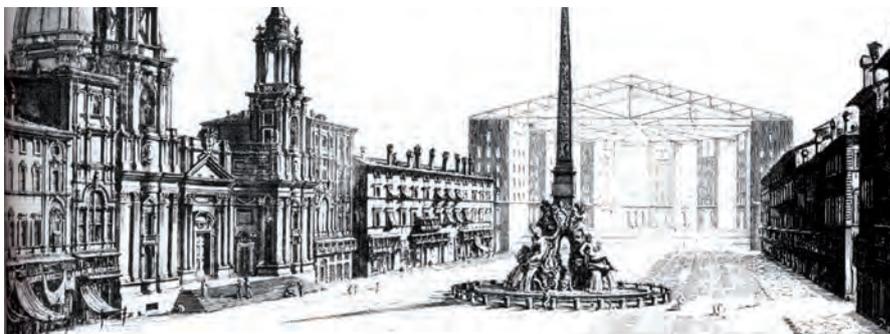
44 Norberg-Schulz 1979: p. 52.

Applying the classical orders to the boundaries of interiors and urban spaces, they transformed the amorphous enclosure into a structured whole where the properties of the boundaries determine the character of the space.<sup>45</sup>

45 Norberg-Schulz 1979: p. 54.

In this context, Norberg-Schulz does not refer to public and private space, but instead to space and body, or rather to architectural bodies and to spatial bodies (whereas these are not the terms he uses).

The three texts – Constant’s on Mannerism as a unity of objective reality and subjective appropriation, Argan’s on the contradiction between tradition (‘unearthly space’) and modern times (‘unmoulded polenta’), and Norberg-Schulz’s on the characterful physical identity of the exterior space – show very different understandings of the *Nuova Pianta di Roma*, but all agree in their praise of the urban-design quality shown in the *Nuova Pianta di Roma*. This variation in understandings of the *Nuova Pianta di Roma* can also be seen in the individual competition outcomes.



**Fig. 14 and 15** Léon Krier’s design for the *Piazza Navona*

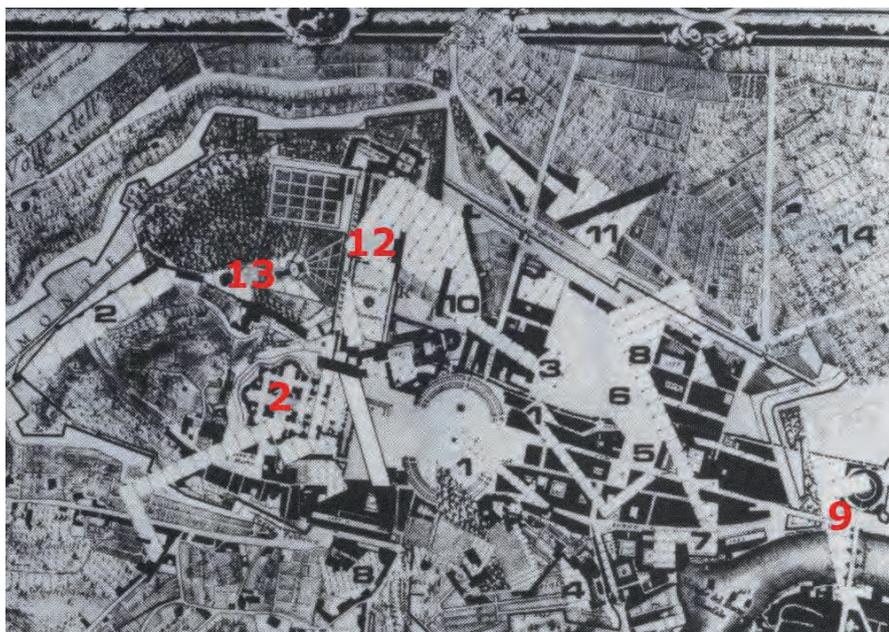
As the basis for his ‘interventions,’ Léon Krier took the left segment with the allegorical representation of ancient Rome, which had fallen into a ruin-like state by the 18th century, and the right lower segment with 18th-century Rome. He reworked these two representations, e.g. by integrating his own designs. As his own design for the Nolli segment, he proposes a monumental complex derived from a type of Primitive Hut, each consisting of 9 towers in a square with a tent-like roof. Their purpose is to serve as new cultural centers in the individual rioni (administrative divisions of Rome). Léon Krier had already proposed these types of centers for the downtown area of Leinfelden (1971), for the center of his design for the Sprengel Museum in Hanover (1972), as a ‘Monumento con le tende rosse’ (1974) and—with the corresponding roof—also as a ‘Neue Herrlichkeit’ (‘new splendor’) for Bremen (1978).

In Rome, the new center inserts itself like a wedge into St. Peter’s Square, positioned as an antipode across from St. Peter’s Basilica. To grasp the significance of the center’s height, one must recognize its symbolism as the self-confidence or self-identity of the citizens of Rome against the religious and political power of the Church.

Léon Krier designed other centers with the same purpose for the individual rioni. However, because they have a different architectural context, their political intention and function lose all meaning. These district centers do not protect people from rain, wind, or sun; they are beyond human scale, thereby

**Fig. 16** Sartogo (red highlighting added by EF)

- 1 Seristry
- 2 Opera House
- 3 Communal kitchen
- 4 Centre for Amorous Relationships
- 5 Caravanserai
- 6 Parade Square
- 7 Winter Garden
- 8 Housing, shops, commercial centre
- 9 Orgy Museum
- 10 Large workshops, factories
- 11 Rural buildings, stalls, stables
- 12 Energy centre
- 13 Temple
- 14 Cultivations



46 As cited in Franchina 1979: p. 195.

47 Sartogo cites several of Fourier's texts from the *Theory of the Four Movements* but, in this context, discusses neither the structure of the Fourierist perspectives on a future harmonious society, nor the well-known architectural and urbanist ideas put forth by him and his followers. I cannot go into greater detail here, but this much can be said: Fourier's texts include a theory of passions, which he lists and describes individually (friendship, ambition, rivalry, etc.). Although, from a historical perspective, these passions have had a destructive effect, Fourier does not think they should be viewed as negative per se. Instead, he believes that people should interlink their various passions in such a way that they weigh each other out and form a harmony. One way of achieving this, in his opinion, is through the organization of huge living communities, which he calls *phalanxes*—on the basis of mathematical calculations (e.g. housed in places like the Chateau de Versailles). In the 1970s, Fourier was regarded a critic of the middle-class family and a prophet for passion-oriented self-realization.

48 I deliberately refrained from using the term *deconstruction*, because it would have required an abundance of clarifying explanations and delineations, e.g. to deconstructivism in architecture, which differ again from the philosophical theories. In my opinion, Sartogo's approach has more in common with the 'Mouldiness Manifesto' of Hundertwasser than the *deconstructions* of Eisenman, Tschumi, or Gehry.

demonstrating to the citizens of Rome a gigantic uselessness and senselessness. The purpose of the new center for the rione Parione is to form the northern—semi-circular—boundary of the *Piazza Navona*. To this day, the *Piazza Navona* creates an open space that, in spite of its great length from north to south, maintains a human scale. Krier's center breaks out of this scale. Furthermore, this is a residential neighborhood for the lower and middle classes (see below), who would be displaced as a result.

It is said that Krier intended these centers as a criticism of functionalist urbanism, 'to stop the bureaucratic transformation of the city into purified and controlled functional areas'<sup>46</sup>. However, instead of creating a human-scale alternative, Krier designs oversized empty spaces, which he describes as 'purified and controlled' voids. Piero Sartogo goes even further with his revision of the Vatican sector of the *Nuova Pianta di Roma*.

On the basis of the social philosophy of Charles Fourier,<sup>47</sup> Sartogo designs a new fabric for the city of Rome in order to destroy the old, as documented in the Nolli Map of 1748, through new buildings and new public spaces.<sup>48</sup> However, Sartogo adheres to the interpretation of white as public and black as private, because the aim of his destructive interventions is a reorganization of public space with respect to aesthetic design and functionality.

Robert Venturi and Denise Scott Brown contributed a very brief text, repeating their arguments from *Learning from Las Vegas* (see above).

The other participants of the *Incontri* project largely share the criticism of the allegedly inhuman and amnesiac modern world. For the most part, they assign themselves tasks that are interesting from an urban-development perspective but have little to do with Nolli's special cartographic approach in his representation of Rome or with the interpretation of this representation since the 1970s as a source of information on private and public space. This is why I will not discuss them in detail here.

In 1979, a complete English translation of the *Incontri Internazionali d'Arte* project was published as a special issue of the journal *Architectural Design* (guest editor: Michael Graves). In the same year, the *New York Times* printed a review of the New York exhibition (at the Cooper-Hewitt Museum) by Ada L. Huxtable, who did not mince her words:

A new form of cruel and unusual punishment has been invented; architects are writing as much as they are building, and those of us who report on their activities are forced to struggle through masses of pretentious and glutinous prose, seeking the flash of insight, the buried diamond of revelation, the key to the architectural revolution that is rumored to be in process now. They should try doing it on a deadline. There ought to be a formula fixed by law about time wasted and information gleaned. If architects put buildings together with the same obscure gropings, the same appallingly unnecessary complexity and dubious detail, the same lack of understanding of the basic beauty of an expressive economy of means, architecture would be in a very bad way. (I have just had a chilling thought; some really do build the way they think, if that is the right word for what is going on in their heads.)<sup>49</sup>

Huxtable's review also included very brief descriptions of the individual designs and conveyed her negative attitude towards them without going into detailed analyses. The only participant who earned praise by the author was Argan, who, in her opinion, wrote 'with grace, intelligence and flair.'

There is no question that the *Nuova Pianta di Roma* was interpreted very differently in the competition works and associated texts. However, although they do not always refer to 'public' and 'private' spaces, all of the interpretations generate a broad range of connotations for these two terms. It is regrettable that, in the following decades, this range of connotations was not used as the basis for dealing with the understanding of public space in a more thorough, sophisticated, and productive manner.

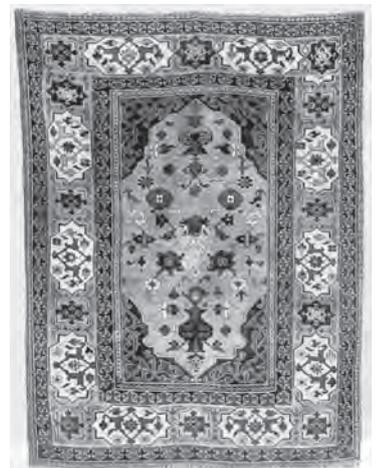
#### *Additional publications to date*

The *Nuova Pianta di Roma* was not yet used in the first edition (1977) of Jencks's book *The Language of Post-Modern Architecture*, which focuses almost entirely on individual buildings. It was not until 1978, most likely in reaction to the *Incontri* project, that Jencks included the map. There, it appears in the context of his description of the Contextual Design approach and is characterized as follows:

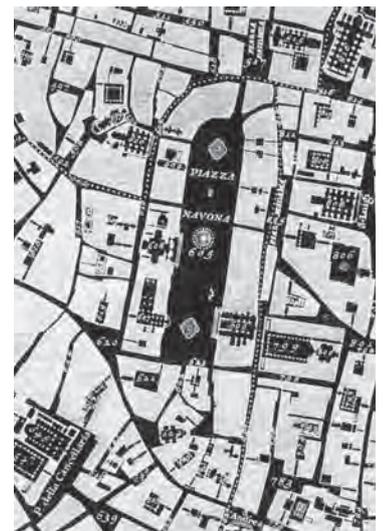
Private building in gray crosshatching is hollowed out by public space in white. The latter may be a street, piazza, courtyard, or church interior. The map gives an idea of semipublic space and how it mediates between the major antinomy, public and private.<sup>50</sup>

<sup>49</sup> Huxtable 1979: pp. 25.

<sup>50</sup> Jencks 1978: p. 110.



**Fig. 17** Prayer rug



**Fig. 18** Alexander 2005: Nollli Map with inverted black-white values, Alexander 2002

51 Jencks 1978: p. 78.

The same description is used in the 2002 reissue of his book—which is re-titled *The New Paradigm in Architecture*. Here, Jencks combines this simplifying analysis with a criticism of modern times: ‘... the failure of Modern architecture and planning, very briefly, was its lack of understanding the urban context [bold added by EF for emphasis: see title of Chap. III], its over-emphasis on object rather than tissue between them’<sup>51</sup>.

Subsequently, Christopher Alexander also aligned himself with this understanding: *The Nuova Pianta di Roma* was already pictured in Book 1 of *The Nature of Order*. It is used here in the context of the formal-aesthetic topic of the echo and is accompanied by a picture of an ornamental Turkish prayer rug and a picture of a house in Alberobello (Southern Italy), in which the individual sections of roof are connected to each other as ‘round shapes, dominated by cone shapes’<sup>52</sup>. The author argues that, although the *Nuova Pianta di Roma* uses different means, it creates the same vivid and holistic harmony:

52 Alexander 2002: 219.

A great deal of the nature and meaning of positive space may be seen in a plan drawing, with reference to black and white. When we look at a place which has positive space, if we see the plan in which the space is drawn white, and the rest black [...], then the white spaces have a feeling almost as if they are carved out, literally, from the solid rock, like a series of caves, connected by tunnels. When we reverse the black and white [...] we see the spaces black, and the building white; now, when it is good, the space looks almost like a series of buildings and halls, connected by passages.

53 Alexander 2005: 73.

In the *Nuova Pianta di Roma* drawn c. 1700 [! EF], the space consists of squares, streets, and churches. These are the public spaces. The dark part of the drawing refers to all the private buildings and includes all the private gardens that are not accessible to the public. So one sees with enormous clarity the beautiful hull-like character of the public space.<sup>53</sup>

54 Hayes 2013: 185.

55 Dietsch’s publication is an attempt to give a layperson a general overview of how architecture works. The entire series, and particularly this book, is not as bad as its name suggests.

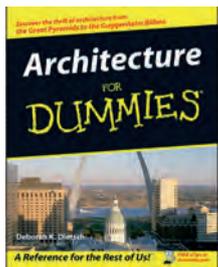


Fig. 19 Front cover of *Architecture for Dummies*

In 2013, Richard W. Hayes, whose work has been well-received in the US, became the next author to uncritically repeat the interpretation of white as public space and black as private space based on Venturi et al.<sup>54</sup>

And—to complete the list of publications that have adopted this unanalytical and uncritical interpretation of the black and white features on the Nolli Map—the book *Architecture for Dummies*<sup>55</sup> by Dietsch, which is actually not at all ‘dumb,’ summarizes the situation as follows:

56 Dietsch 2002: p. 232.

Many architects consider the huge map of Rome created by Giambattista Nolli [...] as the holy grail of urban cartography. [...] The original purpose of the map was for tax assessment. But its aerial view of the city’s layout came to be viewed as a valuable tool in revealing the relationships between private and public spaces. Nolli drew a clear distinction between solid building blocks, which were colored in dark tones, and open spaces, such as streets and interior public spaces, which were left blank.<sup>56</sup>

The American Planning Society has taken a somewhat more cautious approach by not interpreting the black areas as private. At the same time, however, it places particularly strong emphasis on the interpretation of the white areas as ‘public space’:

Nolli’s maps denote the public space both outside and inside buildings, such that the interiors of schools, city halls, and community centers, for example, read as part of the overall network of public space. This type of analysis can be helpful in understanding the use of ground floors of buildings to augment the public realm, providing guidance for future developments.<sup>57</sup>

In 2016, the online journal *Portico* wrote the following in its May 8th issue:

The map is most famous for convincingly communicating the idea that a city can be experienced as a series of spaces, rather than a series of objects. To communicate this through drawing, Nolli decided to show the interiors of churches as open, public space – drawing them, or not drawing them, as negative space, exactly the same as the public streets and access ways around the buildings. The result? The streets seem to flow into the cavernous naves of the various churches, giving a sense of how publics understood and occupied the city at the time.<sup>58</sup>

The American understanding of public space has since spread to Europe<sup>59</sup>. A publication with articles from a Foucault-oriented conference on Heterotopia<sup>60</sup> pictures the *Piazza-Navona* segment of the Nolli Map on its cover. With regard to the map, the editors argue that the manner in which the church interiors are drawn by Nolli provides ‘an elegant visual expression of the ambiguous status of these “sacred” spaces that defy easy categorization within the private-public/black-white binary logic of the map’<sup>61</sup>. Another, somewhat later, reference: ‘The black and white contrast of the original map is a graphically eloquent representation of the city in terms of the public-private binary opposition’<sup>62</sup>. At the same time, the editors view the Nolli Map as proof of the tradition of central-urban heterotopias: ‘This centrality is most elegantly represented on Nolli’s famous map – a representation of Rome in the eighteenth century: the churches of Borromini prominently surrounding the *Piazza Navona*, with the Pantheon a bit further to the east’<sup>63</sup>. This observation runs contrary to the views of the Incontri project participants, who see the map as the epitome of a harmonious city and as a homotopia.

## Summary

The *Nuova Pianta die Roma* by Nolli has made a name for itself in the history of modern architecture. It is primarily a tool for the interpretation of architecture and its aesthetic qualities for urban space. In this context, the map has been described, for example, as a representation of an intact world in con-

57 Steiner 2006: p. 464.

58 Portico 2016.

59 e.g. Mönninger 2015.

60 Dehaene and De Cauter 2008.

61 Dehaene and De Cauter 2008: p. 2.

62 Dehaene and De Cauter 2008: p. 5f.

63 Ibid.

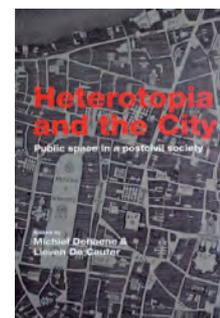


Fig. 20 Dehaene and De Cauter 2008

trast to the contemporary architecture (Argan), as a Mannerist connection between rationality and subjectivity (Constant), and as a depiction of a spiritual quality, the *genius loci* described by Norberg-Schulz. Recently, it has also been used as an illustration of the heterotopia of the city<sup>64</sup>.

However, for American architects and architectural theorists, it is primarily interpreted as a representation of public and private space, or the understanding of exterior space (street space and plaza space) as a separate aesthetic substance (i.e. not as ‘background’ for the ‘figures’ of architecture), as an example of a harmoniously balanced city (whereby the difference between mapping and the mapped, meaning between a scaled-down and aesthetic representation and a real city, is forgotten), and for the discussion of its *poché* as a successful integration of building and space. As a result, the individual strands of understandings that have been identified in this essay are diffusely penetrating the theory and practice of design.

The Nolli Map was seen by the postmodernists, with their romantic-dreamy view of the past, as an accumulation of all the architecture that—in their opinion—was still of the highest quality and to which we should return, undoing the decline of the 19th and 20th centuries.

### The rehistorization of the *Nuova Pianta di Roma* (context and intentions of Giovanni Battista Nolli’s map in the mid-18th century)

#### *A brief introduction to the modes of cartographic representation*

In general, we have to distinguish between three different types of representations. First, there are maps showing three-dimensional buildings from an oblique aerial perspective (Antonio Tempesta, 1593) or executed with a vertical, isometry-like projection (Giovanni Battista Falda, 1667/1676). These differ from the second type: two-dimensional maps in which drawings of individual three-dimensional buildings are sometimes included (Matteo Gregorio de Rossi, 1668).<sup>65</sup> Third, there are the *veduta* drawings with individual views based on symbolism or allegory, as well as cataloging and explanatory descriptions. While the graphic representations are better able to convey the aesthetic qualities of buildings and spaces, the descriptions are more suitable for additionally conveying typological and functional information.

#### *The cartographic context of the Nuova Pianta di Roma*

The other maps of Rome that were published shortly before or shortly after the *Nuova Pianta di Roma* can help us understand Nolli’s approach.

For example, in 1697, Antonio Barbey published a map (see segment below) with all built-up areas shown in gray without differentiation, the ground plans of churches and palaces embedded and numbered, and their names listed in an index. Somewhat later (in 1700), as Nicolas de Fer published a map of Rome on which a few churches and palaces are drawn three-dimensionally.

65 See Zänker 1973

Not long before the Nolli Map was published, Bernardino Bernardini produced a city guide on the individual rioni in written form (1744) with a topographic map on which the rioni boundaries are marked. The descriptions he provides on the rione Parione with respect to the functions of individual buildings are not only very detailed, but also grouped typologically as churches, oratories, hospices, colleges, hospitals, palaces, towers, squares, streets, courts, *luoghi pubblici* (*Palazzo della Cancelleria Apostolica, Palazzo del Governo, Scuole pie pubbliche*), theaters, and notaries' offices. He also mentions 7 spezierie (pharmacies), 4 bakeries, 5 butchers' shops, and 44 apartment buildings (*isole circondate di strade*)<sup>66</sup>.

66 Bernadini 1744: p. 117.

*Analysis of the image representation of the Nuova Pianta di Roma with respect to image theory and cartography*

Firstly, from the perspective of an image theorist, it can be said that the original version of the *Nuova Pianta di Roma* in its entirety is made up of multiple images nested within each other: primarily an image of the Nolli Map and two vedute of Rome. In addition, the Nolli Map itself is an image within an image—as Jürgen Zänker concluded as early as 1973, which was after the essay and book by Venturi et al. but prior to the *Incontri* project.<sup>67</sup> From the more exacting, media-critical vantage point of the present day, it can be more accurately described as an image within an image within an image because, with respect to the map, the first image is a cross section through the built-up area of the city of Rome at close-to-ground level (see Fig. 21). This image is printed on an image carrier. These representations are two-dimensional; they are depicted in perspective on one of the image carriers (see curled edges) (Fig. 22).

67 The postmodern Nolli-Map theorists were apparently unaware of Zänker's excellent art-historical analysis from 1973.

This image of an image is collaged this time as an image within an image within an image: the city of Rome is expressed and graphically represented as an allegory in two moments of its history (left in ancient times, right in the 18th century) (Fig. 21), and the three image planes of the map are pieced together with these two image planes of the allegorical representation to create an overall image of the *Nuova Pianta di Roma*.

In this context, Zänker speaks of a map and vedute, offering a very convincing analysis of the selection of motifs as a celebration of papal Rome. In other words, the entire *Nuova Pianta di Roma* is neither a travel guide nor a map for pilgrims or travelers on educational journeys, but instead a celebra-



Fig. 21 The two parts of the Nolli Map

Fig. 22 Section of the Nolli Map

68 See Zänker 1973: p. 331.

69 Unfortunately, Benevolo does not give any exact dates or sources for his illustrations.



Fig. 23 Nolli

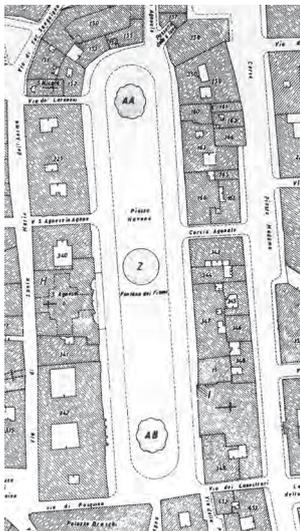


Fig. 24 Piazza Navona (Benevolo, 1972, from the period after 1945)

70 See <http://search.getty.edu/gateway/search?q=Barbey&cat=&rows=10&srt=&dir=s&dsp=0&img=0&pg=4>

tory publication honoring the Pope and a promotional item for members of the Roman upper class who wanted to take part in honoring the Pope by purchasing the map in its entirety. The map was less suitable for use as a Rome guide because there are no three-dimensional representations of buildings that a layperson could use for finding their way around,<sup>68</sup> and it was also much too large for this purpose.

A third plane of Nolli's *Nuova Pianta di Roma* is not mentioned by Zänker: the textual identification of individual buildings through numbering on the map and two lists, one according to the rioni and a second according to functions.

When comparing the Nolli Map with pictorial maps from the same period, it is their high information density, similar to that of a three-dimensional representation, that stands out. One can see the different sizes of the building ground plans and the various heights of the structures. As a result, it is possible, with an understanding of the historical context, to gain insights into the social status of the inhabitants. Furthermore, the viewer can also reconstruct the vertical dimensions of the open spaces, and, on this basis, make a realistic assessment of their aesthetic qualities.

## Differentiating analysis of the buildings and the urban spaces (the luck (!) of understanding of the urban context)

### *Nolli's simplifications*

On the Nolli Map, the black areas are highly abstracted, as becomes apparent when one places cadastres over the black areas and studies the ground plans of the buildings located there (see below).

Nolli himself abstracted the white areas from reality, which is why it is not surprising that his plan can be read in retrospect as a geometric pattern. For example, if we compare Nolli's representation of the buildings around the Piazza Navona with a map of the same area from Leonardo Benevolo's *Storia della Città* (1972),<sup>69</sup> it is clear (although Benevolo's undated map must have come from the period after 1945) that the narrow air spaces, which were most certainly the same in the 18th century and which should actually have been white, were made black by Nolli and therefore designated as being part of the structure of a building.

Furthermore, Benevolo shows the property lines, whereas Nolli does not. However, the property lines make it clear that the black areas are also not homogeneous blocks, but instead used heterogeneously.

### *Nolli's homogeneous white areas and their complex realities*

#### *Interior spaces*

#### *Right of access and social affiliation*

For his map, Nolli used a homogeneous white for indicating not only streets, squares, and the uncovered courtyards of palaces, but also larger interior spaces under roofs. This approach was nothing new in the mid-18th century. As early as 1697, Antonio Barbey and Domenico de Rossi had produced their

*Nvova pianta della città di Roma coll'indice de tempij palazzi et altre fabbriche antiche e moderne, e divisa nelli suoi XIII. rioni*<sup>70</sup> in a similar manner with roughly drawn ground plans for the churches (e.g. see the ground plan of the Pantheon).

Nolli himself made no mention of public and private spaces or their designation as white or black.

It is obvious that not every inhabitant of Rome was able to walk into the courtyards and rooms of the palaces; no historical research is needed to confirm this assumption. However, in the case of churches, the general impression today is that they have always been open to the public—albeit only at certain times of day. The fact is, though, that this open access to church buildings for all periods of history cannot be automatically assumed, i.e. not without historical research.

And on closer inspection, it quickly becomes evident that, even today, not all parts of a church are accessible to the public: inside church buildings, access to the choir, individual chapels, pulpits, and sacristies are restricted to certain individuals, and this was no different in the 18th century. In addition, not every building that is used as a church is accessible to the public. For example, oratories, private churches, and rooms for worship services in monasteries are not open.

Unfortunately, no dedicated research on this subject has been undertaken to date, owing to the fact that the accessibility and actual use of churches have never been subjects of significant interest to scholars.

In the canon law of the Roman Catholic Church, *jus adeundi* ('open access') was not added until 1981 (*Codex Juris Canonici*, 1981, Can 1214). The same section of the previous *Codex Juris Canonici* from 1917<sup>71</sup> only defined what a church (building) is. In the *Corpus Juris Canonici* from 1582, which remained in force until 1917 and is therefore also relevant to the interpretation of the Nolli Map, there are no provisions that apply to access. However, there are ample regulations on the church interior: 'Heiligkeit gebührt dem Haus des Herrn. Denn es ist angemessen, dass dem Orte, welcher zu Seiner Ehre geweiht worden, die geziemende Ehrfurcht gezollt werde'<sup>72/73</sup>. When speaking God's name, worshippers must bend their knees. No one is permitted to cause a stir, cry out, or attack another person. In the churches, no business meetings or community assemblies can be held, and no chit-chat is permitted. Business activities of any kind are prohibited in the churches and their forecourts. Inside the church, canon law is the only law that applies. Therefore, no secular court hearings can be held. 'Free' persons can be granted church asylum, but not serfs.<sup>74</sup>

Ironically, some of the information that we have about Nolli himself offers insight into church access in the 18th century. Faccioli reports that, on August 13, 1736, Nolli was granted a *Lasciapassare* (entry permit) that gave him and his employees free access to all churches and monasteries in the city of Rome<sup>75</sup>; this permit was also published on August 18, 1736, in the *Diario Ordinario*, a weekly newspaper. Such a permit would only have been required if the churches were not open to the general public.

**72** 'Holiness adorns the house of the Lord. For it is appropriate that the proper reverence is paid in the place which has been dedicated to His glory.'

**73** Schilling and Sintenis 1834: p. 309.

**74** Schilling and Sintenis 1834: pp. 302-304.

**75** Faccioli 1966: 416-418.

LUOGHI PUBBLICI		
Accademia degli Arcadi 1193	Conforteria 1529	Luogo ove Sermoneggiano 1
Accademia di Francia 285	Consulta 174	PP. della Congreg. dell'Oratorio 209
Bastioni di S. Spirito 377	Curia Innocenziana 339	Memoria di Enrico IV 43
Bastioni di Paolo III 1074	Dataria Apostolica 349	Monte di Pietà 725
Bastioni di S. Spirito 1220	Dogana della Graglia 926	Mura della Città fatte da S. Leone IV 1283
Cancellaria Apostolica 627	Dogana di Ripa Grande 126	Orto Botanico 192
Carcere di Campidoglio 920	Dogana di Ripetta 493	Palaz. dell'Inquisizione 1264
Carcere di Correzione per i Bambini 123	Dogana del Vero 125	Polveriera 933
Carcere per le Donne 133	Fabbrica del Tabacco 195	Porta Antica di Roma, e Corri d'oro di Alessandro VI 1291
Carcere nuove 662	Governo 614	Porta S. Spirito 1237
Cinque Scuole degli Ebrei 197	Granari Pubblici 197	Porta S. Spirito 1237
Catalana, Siciliana, Castigliana nuova, e Scuola del Tempio 1030	Granari Pubblici 197	Quartiere della Guardia Reale 253
	Granari Pubblici 197	Quartiere della Guardia Svizzera 1290
	Granari Pubblici 197	Scuola di S. Agata in Trastevere 1156
	Granari Pubblici 197	Scuole pubbliche del Collegio Romano 847
	Granari Pubblici 197	Scuole pubbliche di S. Lorenzo in Piscibus 1257
	Granari Pubblici 197	Scuole pubbliche di S. Pantaleone 622
	Granari Pubblici 197	Scuole nuove de' PP. delle Scuole Pie 891
	Granari Pubblici 197	Scuole delle Maestre Pie 864
	Granari Pubblici 197	Sepoltura degli Ebrei 1037
	Granari Pubblici 197	Sepoltura degli Imperanti 202
	Granari Pubblici 197	Sepoltura de' Protestanti 201
	Granari Pubblici 197	Sepoltura de' Protiganti 1069
	Granari Pubblici 197	Teatro Alibert 206
	Granari Pubblici 197	Teatro Argentina 771
	Granari Pubblici 197	Teatro Capranica 332
	Granari Pubblici 197	Teatro de' Granari 618
	Granari Pubblici 197	Teatro della Pace 611
	Granari Pubblici 197	Teatro della Pallacorda 444
	Granari Pubblici 197	Teatro di Tordinona 536
	Granari Pubblici 197	Teatro della Valle 797
	Granari Pubblici 197	Zecca 1288

Fig. 25 Nolli, *Luoghi pubblici* (literally 'public places', but perhaps best translated as 'public institutions')

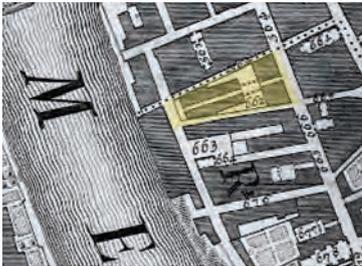


Fig. 26 Carceri nuove (662) in the *Nuova Pianta di Roma* (yellow highlighting added by EF)

Let us consider the three churches located on or near the *Piazza Navona* whose interior spaces are shown by Nolli in white but were nevertheless only accessible to a small group of people:

San Nicola dei Lorenesi was built in the 17th century as a church of the Duchy of Lorraine. However, shortly after the publication of Nolli's Map, the Duchy was annexed by France. Located nearby is *Santa Maria del Anime*, the church of the Germans.

These two churches, along with *Sant'Agnese*, which I will discuss in more detail below, were not parish churches, but instead were intended for a very specific group of worshippers, namely Lorrainers (or later, French people), Germans, or the Pamphili family. This designation of the churches meant that other visitors were excluded as non-members.

Furthermore, one could even argue that it is impossible to describe Catholic churches as public spaces, particularly if we use the term *public space* in the same ideal manner as Jürgen Habermas, as the result of a discursive and rationalized communication between all affected parties assuming basic access for everyone, the possibility for individuals of unknown identity to participate, and the acceptance of any subject matter. For example, the worshippers in the churches were supposed to engage in a dialog with God (either directly or through one of his earthly representatives), but not in open communication (chit-chat) with their fellow worshippers or in business meetings or community assemblies.

In addition, one should not forget that, although the direct communication with God most certainly took place in the individual's mother tongue, the masses were read in Latin and therefore could only be understood by people with the appropriate level of education. This language barrier also included some individuals while excluding others.

### Ground plans of the white interior spaces

In the legends shown on the *Nuova Pianta di Roma*, Nolli only lists a few of the buildings as *luoghi pubblici*.

The list includes academies, bastions, the Apostolic Chancery, prisons, schools, the headquarters of the Royal Guard and Swiss Guard, theaters, city gates, custom houses, granaries, etc., i.e. institutions under state or church administration with only limited public accessibility. The definition of the listed buildings as *luoghi pubblici* ('public places') is based not on the na-

ture of their space, but instead on their public function, i.e. as municipal or church-administrative institutions.

If we consider, for example, the prison on the Tiber River (Carceri Nuove)—which was built in the mid-17th century by Pope Innocent X (original building still in existence), is listed (as no. 662) under *luoghi pubblici* on the *Nuova Pianta di Roma*, and is shown on the map with several white areas inside the prison—it becomes clear that the undifferentiated interpretation of white markings as public spaces is very problematic.

Nolli used the term *luoghi pubblici* to describe buildings that were the property of the municipality, the territorial lord, or the state. In addition, the properties that were listed as *luoghi pubblici* on Nolli's map are not shown entirely in white, but instead only contain some white areas, such as paths, courtyards, or central interior spaces. Moreover, under *luoghi pubblici*, Nolli does not list places that were frequented by citizens in everyday life, such as pharmacies, bakeries, or butchers' shops. The churches and the palaces, with their white inner courtyards and ballrooms, are also missing in the list.

### *Sant'Agnese in Piazza Navona*

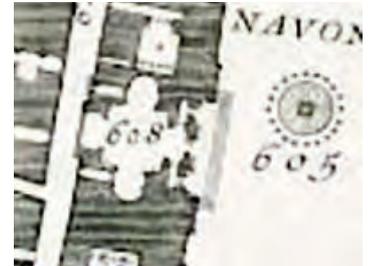
Let us take a closer look at the church *Sant'Agnese* as a further example of the lack of differentiation:

It had been a parish church prior to its reconstruction. Then, the parish was moved to another church, and *Sant'Agnese* became the house church of the Pamphili family and a memorial church for Pope Innocent X, who had been a member of this family. Nolli used the same undifferentiated white for indicating the interior spaces that were used by and accessible to these various groups.

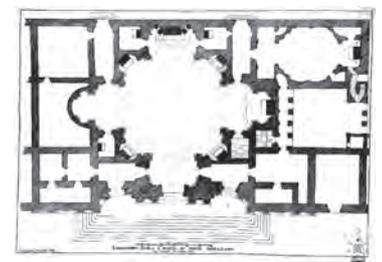
If we compare a detailed ground plan of *Sant'Agnese*<sup>76</sup> with Nolli's ground plan on the *Nuova Pianta di Roma* from 1748, taking into consideration the large differences in scale, we can in fact conclude that the Nolli Map offered a realistic representation. At the same time, it must be pointed out that neither of the ground plans even comes close to showing the complex aesthetic quality of the interior space. This is not even possible with drawings or photographs (which accordingly cannot be shown here, nor can an adequately detailed representation of the iconographic and aesthetic content of the frescoes and sculptures). In short: in order to recognize the different qualities of spaces that depend on the location and height of the visitor's point of focus, the division and separation of spaces, and their inconsistencies and transformations into each other – the viewer must spend ample time on site, engaging with the visual content and complex structures. The white of the ground plan on Nolli's *Nuova Pianta di Roma* cannot even come close to representing these spatial-construction and spatial-transformation processes.

### *Exterior spaces*

These complex differentiations apply not only to spaces inside buildings, but also to exterior spaces. The following are three examples of how Nolli used white in exterior contexts:



**Fig. 27** Interior of *Sant'Agnese* in Piazza Navona on the Nolli Map



**Fig. 28** Ground plan of *Sant'Agnese* from Rossi, 1683

<sup>76</sup> Rossi 1683.



**Fig. 29** Roman Ghetto on the Nolli Map (yellow highlighting added by EF)

77 For more information, see Gruber 2013.

78 Nolli and Brinckmann show the original oval before it was repaved by Italy's Fascist government.

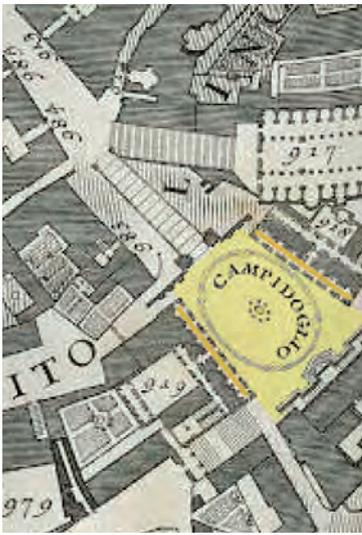


Fig. 30 Nolli, *Piazza del Campidoglio* (yellow highlighting added by EF)



Fig. 31 *Piazza del Campidoglio* by Dupérac (1568), Wikipedia

The Jewish ghetto was established in 1555 by Pope Paul IV (see highlighting on Nolli Map, Fig. 29) in order to force all Jews, who had previously been scattered throughout the city, to move into a single area. The ghetto was surrounded by walls and secured with gates<sup>77</sup>. This is not apparent on the Nolli Map. The white areas of the property are also undifferentiated.

The white of the streets and squares in the ghetto is the same white as that of the streets and squares outside. If this white was meant to designate public accessibility, then the different types of public accessibility in the ghetto and in the other street and building spaces would most certainly have to be indicated. The undifferentiated interpretation of white as public space is not helpful at all in this context.

The *Piazza del Campidoglio* on the top of Capitoline Hill has a trapezoidal shape and is shown as such on the Nolli Map. Nolli used white for the piazza. Instead of going into detail on its complicated architectural history, I will only offer a brief description of the urban-planning situation since the 17th century. At the head of the trapezoid is the *Palazzo Senatorio* (*Senatorial Palace*). If you were to stand in the piazza facing this palace, then the *Palazzo dei Conservatori* (*Palace of the Conservators*) would be on your right and the *Palazzo Nuovo* (New Palace) on your left. In the center of the piazza's paved oval field is an equestrian statue of Marcus Aurelius.<sup>78</sup> Owing to the significance of these three buildings, the piazza is one of Rome's main centers. The Nolli Map shows the two colonnades of the *Palazzo dei Conservatori* and the *Palazzo Nuovo*, which, following Nolli's logic, are left white. There is a fountain in front of the *Palazzo Senatorio*. It is also possible to recognize the stairs (*cordonata*) that ascend Capitoline Hill.

People experience the public space on this piazza in various ways: individuals who hold offices experience it as their place, while visitors sense that they are only visitors. The two colonnades that offer protection from the weather create another public-space experience related to the respective palace. To some extent, the people in the colonnade area, who are partially shielded from view from the piazza, become spectators of the happenings on the piazza—similar to audience members in theater boxes.

The self-perception of the visitor and the visitor's perception of the piazza space depend strongly on their line of movement (and this brings us back to Crane, as well as to the 'ceremonial space' described by Scott Brown and Venturi): the visitor climbs the stairs (*cordonata*), experiences physical exhaustion (or struggles as a rider with his horse), and then delights at the view of the piazza and its buildings. The shape of the piazza is obscured by its oval paving pattern and equestrian statue; owing to habits of perception, one is more likely to perceive the shape as a square than as a trapezoid. (Dupérac's bird's eye view is not possible for a person in the piazza.) The *Palazzo Senatorio*, which extends across the end of the square, almost touching the rear corners of the two other palaces, is perceived as very wide by the visitor when first walking onto the piazza. This is a perceptual illusion that results from the subjective assumption that the piazza is square and that the distance between the two pal-

aces at the front of the piazza is the same as the distance at the far end of the piazza. We measure the front distance through a reference to our own physical size. As the visitor draws closer to the *Palazzo Senatorio*, he recognizes—again in reference to his own physical size—that it is narrower than initially assumed. With every step that he takes towards the *Palazzo Senatorio*, it appears somewhat smaller.<sup>79</sup> In other words: people tend to feel slightly larger with every step they take towards the palace.<sup>80</sup> This transformation can only be experienced through movement and only in the three-dimensional representation. This is what Crane describes as ‘dynamic space’ and also what Venturi et al. later describe as ‘ceremonial space,’ as the temporality of the space in its use. This process is not recognizable with Nolli’s map.

Basically the same applies to the *Piazza Navona*: the piazza is part of three different rioni. Its designations, uses, and social functions have changed over the years (see the extensive analysis by Hennings on this issue). The inner area of the piazza is approx. 258 meters long and 55 meters wide; one of the short sides is rounded, and the other is straight, which has something to do with its original use as a stadium for games and gladiator fights.

The piazza actually has a difficult format. The aesthetic, socio-aesthetic, and sociological differentiations within the space have existed since the Baroque era. Aesthetically, it was initially divided by two fountains (the Fontana del Nettuno and the Fontana del Moro, 1574 by Giacomo della Porta). These fountains created two centered subspaces at the ends that served as a kind of foreshadow for the primarily empty space between them. When Bernini created his obelisk-topped Fontana dei Quattro Fiumi (Fountain of the Four Rivers) in the middle of the *Piazza Navona*, a total of three subspaces were created. The entire piazza was then centered around the prominent middle fountain and additionally defined by its height. However, this center is not a place, but a space, a subspace within the overall space of the piazza.

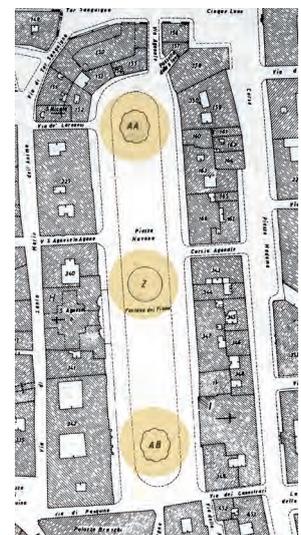
In addition to this formal-aesthetic structuring, the central subspace and thereby also the entire piazza is symbolically charged by the *Fontana dei Quattro Fiumi*: the four personified rivers are the Nile, the Danube, the Ganges, and the Río de la Plata. This iconographic program places the *Piazza Navona* at the center of the world.

From a socio-aesthetic perspective, the visitors will see the spaces of the fountain as potential spaces for communication with each other. The awnings in front of the buildings, on the other hand, constitute *poché*, a mixing of the building’s foreshadow and the plaza space. This space is hodological: i.e. it is a path space that would be used preferentially in conditions of rain and strong sunshine.

The graphically presented results of an analysis by Travaglini and Lelo (see Fig. 34 below) provide an overview of the piazza from a sociological perspective: according to their map, churches, church-administrative buildings, and a palace were located at the southern and central edges of the square, and residential buildings for the lower and middle classes at the north and northeastern edges. This provides yet another level of differentiation for the spatial zones on the *Piazza Navona*.

**79** I am familiar with the interpretation to the contrary, namely, that the Palazzo Senatorio appears larger as the viewer’s distance decreases; however, I consider this to be false from the perspective of perceptual psychology. Readers can judge this for themselves on site.

**80** This process of perception makes sense because, since the mid-17th century, the Campidoglio has been a station on the route of the *possesto*, a ceremonial passage with which new senators and popes ‘took possession’ of Rome (Smithers, 2013, pp. 179–182). Pápste, mit der sie von Rom Besitz ergriffen (Smithers 2013: 179-182).



**Fig. 32** Marking of the interior spaces of the *Piazza Navona* on Benevolo’s map



**Fig. 33** *Fontana dei Quattro Fiumi* (Bernini) (print by Falda)

### *Nolli's homogeneous black areas and their complex realities*

The problems associated with the postmodern understanding of the Nolli Map and the interpretation of white as public space and black as private space are also demonstrated by Nolli's use of black. These issues are best illustrated by the residential buildings shown on the map.

81 Benevolo Travaglini and Lelo 2013.

If you were to place a cadastre over the Nolli Map<sup>81</sup>, you would be able to see the manifold subdivisions of the black blocks shown by Nolli. If you compare the respective ground plans<sup>82</sup>, it is even easier to see how fragmented the black areas are in terms of their uses.

82 Friedman 2012.

### *Social structure in the rione Parione in the 18th century*

In 1748, a total of 4,842 individuals lived in 1,109 families in the parish of San Lorenzo in Damaso<sup>83</sup>; of these parishioners, approx. 17–18% were children up to 10 years of age, and approx. 17% were young people between 10 and 20 years of age.<sup>84</sup> Of the 1,506 parishioners in 1705 (and 1,502 in 1797), 388 were Romans (723 in 1797), 1,029 came from Northern and Southern Italy (745 in 1797), and 89 were from other countries (34 in 1797). The total number of parishioners listed as German (whomever they counted) was 19 in 1705 and 16 in 1797. Among the immigrants listed in 1705, all professions were represented. Most of the 32 artists came from Flanders, Germany, or France. By 1797, the only foreign group with artisans was the Swiss. Otherwise, most of the foreign residents worked in commerce, in the liberal professions, or as artists. No data is available on the mid-18th century, but the percentages of the various professions actually remained consistent over the course of the century. The aristocrats (signori) were the only group whose numbers decreased rapidly in the parish, most likely due to the fear that the French Revolution could incite a revolution in Italy.

83 Gemini 1992: 69.

84 In 1992, Fiorenza Gemini studied two parishes of Rome, the parish of Santa Prassede, which is adjacent to that of Santa Maria Maggiore, and the parish of San Lorenzo in Damaso, which includes the buildings on the lower west side of the *Piazza Navona*. She compared data for the years 1705 and 1797. With respect to the age composition of the population, Gemini listed figures for 1730 and 1761 that were very similar; I used the mean values for each group.

From the 1,484 people in the parish of San Lorenzo in Damaso in 1705 whose professions were documented, 117 held ecclesiastical positions, 10

**Fig. 34** Land-use plan (Travaglini & Lelo, 2013). The white buildings contain apartments for the lower and middle classes.

The other colors show fountains, gardens, and other features that are not as relevant in this context.



- Paläste
- Kirchliche Gebäude
- Kollegien und Seminare
- Öffentliche und Kommerzielle Einrichtungen
- Spitäler
- Hospize (ohne Kirche)

served in the military, 32 were Cariche ed impieghi, 86 were free artists, 328 were private servants, 39 were public servants, 306 were tradespeople, 552 were artisans, and 8 worked in construction<sup>85</sup>. The only major changes to these figures in 1797 were the numbers of military personnel (34 people), servants (424), and construction-related jobs (22). Gemini summarizes her data on the parish of San Lorenzo in Damaso as follows:

85 Gemini 1992: p. 143.

Infatti già nel '500 il rione Parione, ...risulta avere una popolazione composta nella stragrande maggioranza di immigrati. Certo, una volta passato il momento di massimo splendore della corte papale, con l'inizio della decadenza del potere temporale della Chiesa, anche il movimento degli stranieri cominciò ad attenuarsi, senza che la città perdesse mai, in ogni caso, il suo tipico carattere cosmopolita. Ancora nel '700—a parte la graduale sostituzione di un movimento di turisti puri e semplici al tradizionale flusso di pellegrini - il numero degli immigrati fra i parrocchiani di S. Lorenzo rimane molto alto, per quanto tendenzialmente decrescente.<sup>86/87</sup>

86 Gemini 1992: p. 145.

87 A rough translation: 'In fact, the rione Parione had a population made up of an overwhelming majority of immigrants as early as the 16th century. Once the moment of maximum splendor of the papal court had passed and the worldly power of the Church had begun to wane, the influx of immigrants also decreased, although the city did not lose its cosmopolitan character. In the 18th century, irrespective of a gradual shift from traditional pilgrims to people who had travelled to Rome for cultural reasons—the number of immigrants in the parish of San Lorenzo remained very high.'

### *Nolli's black areas and the complex reality of the cadastres and buildings*

A few years ago, Travaglini and Lelo (2013) published an in-depth study on the rioni and quartiere around the *Piazza Navona*. Their findings provide information on not only the social structures, but also the functions of individual buildings that were relevant to the public. For example, the bakeries are scattered across the entire area (which was to be expected). There is a series of hostels that are also scattered but somewhat concentrated on the streets that lead to the bridges over the Tiber. Nolli's black obscured this lively mixture of instances of communication between people while going about their different activities. As a result, owing to Nolli's black, various types of public spaces—depending on the situation—remain undifferentiated and have been interpreted as private spaces by postmodern theorists.

### *The interplay between interior and exterior spaces (poché)*

Let us take a closer look at the church *Santa Maria della Pace* and compare the corresponding section of Nolli's map with a three-dimensional representation:

Pietro da Cortona designed the church's façade in a sophisticated manner in that he placed it on the right side in front of a narrow street and incorporated the back of the church *Santa Maria della Anima* as part of his own façade. As a result, he created an interplay between two contrasting spatial organizations: at the ground-floor level is a convex columned loggia in front of two flat side façades, and at the upper floor level is a flat main façade in front of a concave surrounding wall (marked yellow and green respectively in Figure 36). There is a similar interplay in the upper part of the façade.

This real sophistication of the façade and the interplay of its spatialities are not shown by Nolli and would also be impossible to represent on a two-dimensional map. Nolli only emphasizes the nave of the church. Furthermore, the right and left flat sections of the façade are not shown on his map. As a

Fig. 35 Façade of *Santa Maria della Pace*

Fig. 36 Analysis of the spatiality of the façade of *Santa Maria della Pace* (EF)

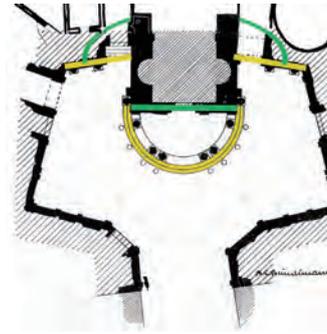


Fig. 37 *Santa Maria della Pace* and surroundings as shown by the *Nuova Pianta di Roma*

result, the sophisticated incorporation of the back of *Santa Maria al Anima* as part of the façade of *Santa Maria della Pace* goes undocumented. Nolli shows the interior space of the square, the concave loggia, and the interior of the church in the same white, in spite of the fact that these spaces differ in terms of not only their functions but also their aesthetic spatial identities.

The poché is also used in association with other buildings, such as the *Palazzo Pamphilj*, where it is only marked by a pavement, or the *Sant’Agnese* church, where it is only marked by a staircase leading to the *Piazza Navona*. However, both have differing spatial-conveyance characters with respect to aesthetic development—i.e. taken seriously in their sensory concreteness; in spatial-aesthetic terms, they are different types of poché. These differing spatial-aesthetic characters are also not ascertainable in the two-dimensional *Nuova Pianta di Roma*.

We must also take into consideration the temporary features, like the awnings and the built-on wooden verandas in their poché functions, which are very easily ascertainable in the vedute of the 18th century (see illustrations in essay by Hennings).

Furthermore, one would also have had to investigate the behavior of the people in the space and take into consideration the resulting mixture of buildings and spaces, of interior and exterior, and likewise the creation of various private and public spaces and their intermixing.

## Conclusion

From the above discussion, we can conclude that Nolli’s white is used in an exterior context for streets and piazzas, as well as for spaces on private properties that have no roof, and in an interior context for extremely large and high rooms within buildings.

We can also infer that these spaces most certainly give their users the subjective feeling of width and height. This quality could perhaps be described as openness. However, this openness implies neither open access (uncontrolled access provided free of charge to anyone) nor public space, as has been created since the late 18th century. The simplistic interpretation of the feeling of openness as public space makes it difficult to analyze and understand the respective public spaces because the white—both literally and metaphorically—masks every differentiation.

The *Nuova Pianta di Roma* is no longer an adequate representation of reality; i.e. it should actually not be used for attempting to understand urban situations in retrospect or as a basis for planning and designing, because the information that would be required for these purposes is excluded. The twelve participants of the Incontri project created their designs on the basis of the *Nuova Pianta di Roma* in accordance with the requirements of the competition. However, they did not design within the existing (resulting from history, procedurally on-going, architectural, social, societal, etc.) space of the city, but instead on a two-dimensional pattern. The impacts of their map games would have been catastrophic for the inhabitants of Rome and would not have even remotely contributed to the solution of their problems.

The postmodern theorists seem to have directed their admiration towards this reduction, i.e. towards the aestheticity of the pattern. The interpretation of the black as private space and the white as public space was never suggested by Nolli, nor did it appear in early publications following the rediscovery of the Nolli Map in the early 20th century. It is solely the result of the ideas proposed by Robert Venturi and Denise Scott Brown and the adoption of this understanding into American architectural theory to this day. To make it absolutely clear: it was not Nolli who equated black with private space and white with public space, but instead postmodern architects who came up with this interpretation and applied it retrospectively to the Nolli Map.

If we compare the interpretation of the black and white areas on the Nolli Map as private and public space with the discussions that took place and the works that were published on private and public space during the same period, it is obvious that postmodernism, first of all, shows a formalistic understanding that is completely out of touch with the philosophical and sociological research and theoretical considerations and, second of all, views the Nolli Map as the foundation for the condemnation of the modern age and the celebration of an allegedly ideal and harmonious past. The only reason why the postmodernists have been able to use the Nolli Map of 1748 as a model for postmodern urban development is because they have neither analyzed nor understood it: history (the past) is being referenced without acknowledging history (through analytical and contextualized historical research).

(Translated by Leslie Ocker)

## Author

Eduard Fuehr is 'emeritus' of the Chair Theory of Architecture at the Brandenburg Technical University at Cottbus. He is founder and one of the editors of W|C|B.

## Literature

*Alexander, C. (2002):* The nature of order: An essay on the art of the building and the nature of the universe, Book 1. Berkeley, California: Center for Environmental Structure, pp. 173-174.

*Alexander, C. (2005):* The nature of order: A vision of a living world, Book 3. Berkeley, California: Center for Environmental Structure.

*Steiner, F.R., Sendich, E., & American Planning Association. (2006):* Planning and urban design standards (1st ed.). Hoboken, New Jersey: John Wiley & Sons.

*Argan, G. (1979):* Roma interrotta. Roma interrotta; English version in: Architectural Design, Profile 20, 49(3-4), p. 37.

*Benevolo, L. (1975):* Storia della Città. Rome: Laterza.

*Bernardini, B. (1744):* Descrizione del nuovo ripartimento de' rioni di Roma fatto per ordine di N.S. papa Benedetto XIV. Con la notizia di quanto in essi si contiene. Rome: G. Salomone.

*Bevilacqua, M. & Nolli, G.B. (Ill.). (1998):* Roma nel secolo dei lumi. Architettura erudizione scienza nella Pianta di G. B. Nolli 'celebre geometra'. Napoli: Electa Napoli.

*Bevilacqua, M. (c. 2004):* Nolli, Vasi, Piranesi: Immagine di Roma antica e moderna. Rappresentare e conoscere la metropoli dei lumi. Rome: Artemide (catalog of an exhibition at the Palazzo Fontana di Trevi, November 27, 2004 – February 7, 2005).

*Brinckmann, A.E. (1920):* Stadtbaukunst. Berlin: Akademische Verlagsgesellschaft Athenaion m.b.h.

*Brinckmann, A.E. (1922):* Plastik und Raum. Munich: R. Piper.

*Bollerey, F. (1977):* Architekturkonzeption der utopischen Sozialisten. Alternative Planung und Architektur für den gesellschaftlichen Prozeß. Munich: Moos u. Partner.

*Bosticco, S. (Ed.). (1978):* Piazza Navona: Isola dei Pamphilj. Rome: M. Spada.

*Cancellieri, F. (1811/1911):* Il mercato, il lago dell'acqua vergine ed il Palazzo Panfiliano nel Circo Agonale detto volgarmente Piazza Navona : descritti ... con un appendice di 32 documenti. Rome: Per Francesco Bourlie.

*Carandente, G. (1975):* Palazzo Doria Pamphilj. Milan: Electra.

*Ceen, A. (1990).* Piranesi and Nolli. In Rome recorded (exhibition catalog). New York, pp. 17–22

*Chermayeff, S. & Alexander, C. (1965).* Community and privacy: Toward a new architecture of humanism. Garden City, New York: Doubleday

*Crane, D.A. (1960a):* The dynamic city. Architectural Design, 30(4), pp. 158-162.

*Crane, D.A. (1960b):* The city symbolic. Journal of the American Institute of Planners, 26(4).

*Dal Co, F. (1978):* Roma interrotta. Oppositions, 12, pp. 108-118.

*Dehaene, M. & De Cauter, L. (Eds.). (2008):* Heterotopia and the city: Public space in a postcivil society. London & New York: Routledge.

- Delbeke, M. (2011):* Roma interrotta: Barok Rome als een (post-)modernistisch model. Oase, 86, pp. 74-85.
- Dietsch, D.K. (2002):* Architecture for Dummies (foreword by Robert A. Stern). Hoboken, New Jersey: Wiley.
- Ehrle, F. (1932):* Roma al tempo di Benedetto XIV. La pianta di Roma del 1748. Vatican City.
- Eimer, G. (1970/1971):* La Fabbrica di Sant' Agnese in Navona (2 Volumes). Stockholm/Innsbruck: Almqvist & Wiksell.
- Falda, G.B. & de Rossi, G.G. (1676):* Nvova pianta et alzata della città di Roma con tvtte le strade, piazze et edifici de tempi, palazzi, giardini et altre fabbriche antiche e moderne come si trovano al presente nel pontificato di N.S. Papa Innocentio XI con le loro dichiarazioni nomi et indice copiosissimo. Rome.
- Friedman, D. (2012):* Visual documents, property archives, and the map of the city of Rome. Journal of the Society of Architectural Historians, 71(3), pp. 278-305.
- Frutaz, A.P. (Ed.). (1962):* Le Piante di Roma. Rome: Istituto di studi romani.
- Gadayne, J. & Smith, G. (Eds.). (2016):* Perspectives on public space in Rome, from antiquity to the present day. London/New York: Routledge.
- Freiesleben, C.H. (Ed.). (1783):* Gregorii Papæ IX. decretales, una cum libro sexto, clementinis et extravagantibus, ad veteres codices restitutæ et notis illustratæ. Quibus accedunt septimus decretalium et Jo. Pauli Lancelotti institutiones Juris canonici, cum indicibus necessariis. Tomus secundus, Vol II. Basle: Coloniae Munationae.
- Gnoli, D. (1903):* Mostra di topografia romana ordinata in occasione del Congresso storico inaugurato in Roma li 2 aprile del 1903. Rome.
- Graves, M. (1979).* Roma interrotta. Architectural Design, Profile 20, 49(3-4)
- Gruber, S.D. (2013):* Mapping jews: Cartography and topography in Rome's ghetto. In I. Verstegen & A. Ceen (Eds.). Giambattista Nolli and Rome: Mapping the City before and after the Pianta Grande (pp. 121-132). Rome: Studium Urbis.
- Habermas, J. (1962):* Strukturwandel der Öffentlichkeit. Neuwied/Berlin: Luchterhand.
- Harteveld, M. & Scott Brown, D. (2007):* On public interior space. In T. Weaver (Ed.). AA Files 56 (pp. 64-73). London: Architectural Association Publications.
- Huxtable, A.L. (1979, July 15):* Rome and the artistic fantasy. New York Times, p. 25f. Incontri internazionali d'arti e officina edizioni Roma (Ed.). (1978). Roma Interrotta. Rome.
- Jacobs, J. (1961):* The death and life of great American cities. New York: Random House.
- Jencks, C. (1977):* The language of post-modern architecture. New York, revised 1978, 3rd ed. 1980, 4th ed. 1984, 5th ed. 1988, 6th ed. 1991.
- Jencks, C. (1978):* Die Sprache der postmodernen Architektur. Stuttgart.
- Jencks, C. (2002):* The new paradigm in architecture. New Haven: Yale University Press.
- Lelo, K. & Travaglini, C.M. (2013):* Old sources and new tools for the analysis of urban space: Eighteenth century Rome as measured by G.B. Nolli. In D. Calabi (Ed.). Built city, designed city, virtual city: The museum of the city (1st ed., pp. 199-213). Rome: Croma - University Roma Tre.
- L'Orange, H.P. (1952):* Romersk idyll. Oslo.
- Lynch, K. (1960):* The image of the city. Cambridge, Massachusetts: MIT Press.
- McHarg, I.L. (1996):* A quest for life. An autobiography. New York: John Wiley & Sons.

*Mönninger, M. (2015):* Stadt der Zwischenräume. Die Rhetorik der Schwarzpläne im städtebaulichen Reformdenken um 1900. In S. Hillnhütter (Ed.). *Planbilder: Medien der Architekturgestaltung* (pp. 63-71). Berlin/Boston: De Gruyter.

*Moretti, L. (1974):* Structures and sequences of space. *Oppositions*, 4, pp. 123-139.

*Museo Nazionale delle Arti del XXI Secolo (MAXXI). (2014):* Roma interrotta. Dodici interventi sulla Pianta di Roma del Nolli (exhibition catalog). Monza.

*Poerschke, U. (2016):* Architectural theory of modernism: Relating functions and forms. New York/London: Routledge.

*Portico. (2016, May 8):* Architectural drawings: The figure ground. Retrieved from <http://portico.space/journal//architectural-drawings-the-figure-ground>.

*Rasmussen, S.E. (1957):* Om at opleve arkitektur. Copenhagen: G.E.C. Gads, (Engl: Cambridge MA 1959, German: Stuttgart 1980).

*Raspe, M. (1996):* Borromini und Sant'Agnese in Piazza Navona. Von der päpstlichen Grablege zur Residenzkirche der Pamphili. *Römisches Jahrbuch der Bibliotheca Hertziana*, 31, pp. 313-368.

*Rowe, C. & Koetter, F. (1978):* Collage city. Cambridge, Massachusetts: MIT Press.

*Rykwert, J. (1977):* Introduction. In *Nuova Pianta di Roma data in luce da Giambattista Nolli*, l'anno MDCCXLVII. London: Architecture Unit, Polytechnic of Central London.

*Salerno, L. (1978):* Urbanistica. In S. Bosticco (Ed.). *Piazza Navona: Isola dei Pamphilj* (pp. 19-37). Rome: M. Spada.

*Schilling, B. & Sintenis, C.F.F. (1834):* Das Corpus Juris Canonici in seinen wichtigsten und anwendbarsten Theilen. Leipzig: Focke.

*Smith, G. & Gadeyne, J. (Eds.). (2013):* Perspectives on public space in Rome, from antiquity to the present day. Farnham, Surrey & Burlington, VT: Ashgate.

*Smithers, T. (2013):* SPQR./Capitolium restitvit. The renovation of the Campidoglio and Michelangelo's Use of the Giant Order. In G. Smith & J. Gadeyne (Eds.). *Perspectives on public space in Rome, from antiquity to the present day* (pp. 157-183). Farnham, Surrey & Burlington, VT: Ashgate.

*Travaglini, C.M. & Lelo, K. (Eds.). (2013):* Roma nel Settecento: Immagini e realtà di una capitale attraverso la pianta di G. B. Nolli (2 volumes). Rome: CROMA, Università degli studi Roma Tre, Centro di ateneo per lo studio di Roma.

*Venturi, R. & Scott Brown, D. (1968):* Significance for A&I parking lots or learning from Las Vegas. *The Architectural Forum*, 123(2), pp. 36-43, 89, 91.

*Venturi, R., Scott Brown, D., & Izenour, C. (1972):* Learning from Las Vegas. Cambridge, Massachusetts: MIT Press.

*Verstegen, J. & Ceen, A. (Eds.). (2013):* Giambattista Nolli and Rome: Mapping the city before and after the Pianta grande. Rome: Studium Urbis.

*Zänker, J. (1973):* Die Nuova Pianta di Roma von Giovanni Baptista Nolli (1748). *Wallraf-Richartz-Jahrbuch*, 35, pp. 309-342.

## Figures

*Figs. 1, 21-23, 25-27, 29-30, 37* <http://lupa.biblhertz.it/portable/Dg140-3481.pdf>  
edited by EF

*Figs. 2-4* Venturi et al., 1972

*Figs. 5, 35, 36* Brinckmann, 1920

*Figs. 6, 7* Rasmussen, 1959

*Figs. 7-13* Rowe and Koetter, 1984

*Figs. 14-16* Graves, 1979

*Figs. 17, 18* Alexander, 2002

*Fig. 19* Dietsch, 2002

*Fig. 20* Dehaene and de Caeter, 2008

*Fig. 34* Segment of an illustration from Travaglini and Lelo, 2013

## Recommended Citation

Führ, Eduard (2018): "Black and White Thinking." In: Feldhusen, Sebastian and Eduard Führ (ed.): Public Space in Architecture. Cloud-Cuckoo-Land, International Journal of Architectural Theory, vol. 23, no. 37, [www.cloud-cuckoo.net/leadadmin/issues\\_en/issue\\_37/article\\_fuehr.pdf](http://www.cloud-cuckoo.net/leadadmin/issues_en/issue_37/article_fuehr.pdf) (enquiry date): 115–147.