Nineteenth Century Architectural Heritage in Europe – ROCARE, Paris 2012 – Manfred Koller (Vienna)

A Century of Constrasts: Architecture between Tradition, Revival and Innovation

1. From classical Tradition (Antiquity – Medieval – Renaissance) to Pluralism of Styles
2. Development of Towns: Building Regulations
3. Meaning and Importance of Facades: Representation for the Public
4. Urbanistic Structures – municipal and metropolitan Development
5. Urban Facades - Regulation of Colouring 1800 – 1850

6. Historical technical Literature and international Exchange (new professional journals)

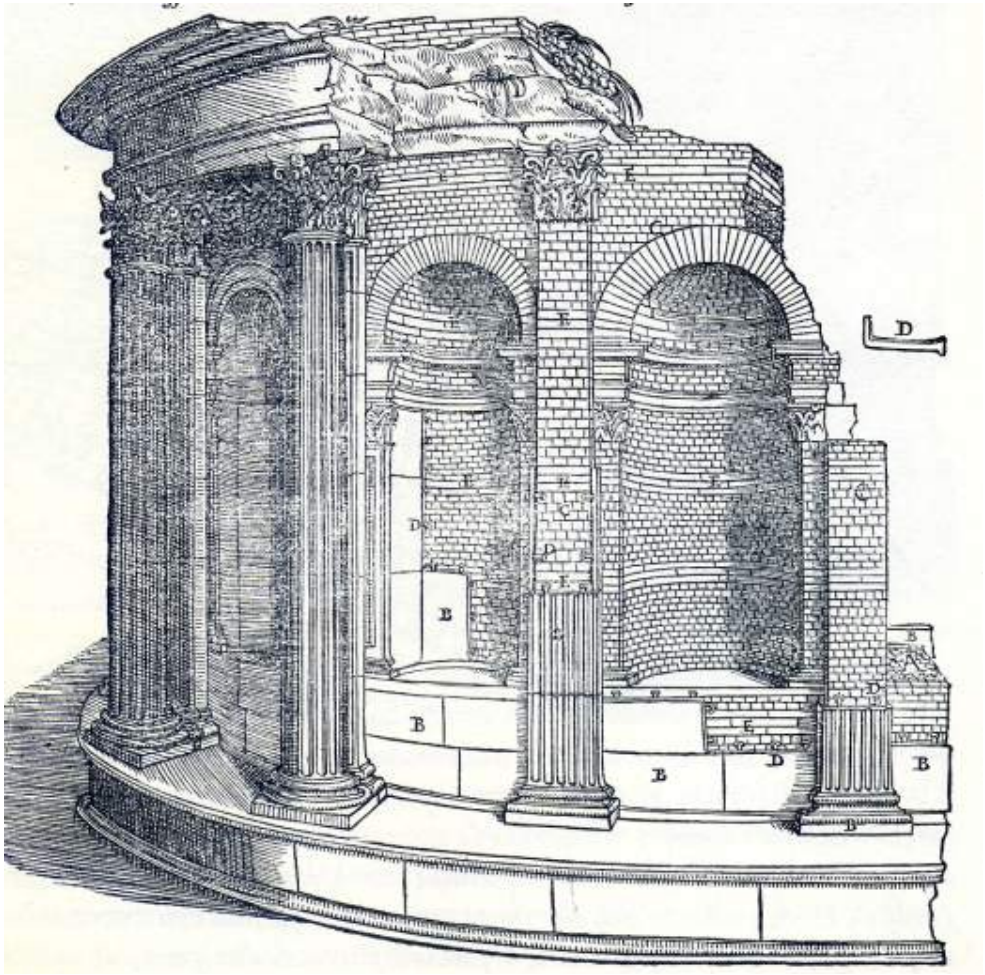
7. 1800 – 1850 New Building Types, Techniques and Materials, Stylistic Pluralism
8. 1850 – 1900 World Exhibitions
9. 1850 – 1900 Historizism/Belle Epoche (Plaster - Sgraffito – Brickworks - Stone)
10. 1890 - 1910 Style Liberty (moulded + textured Plaster – ceramic Tiles – Metal ecc.)

11. Finishings of Masonry of Bricks on Facades (Surface and Joints)
12. Development of artificial Cements in England
13. Roman Cement („Hydrauer“) for the *Ringstraße* in Vienna
14. Actual Problems of Restoration: Purification, Falsification or integrate Preservation

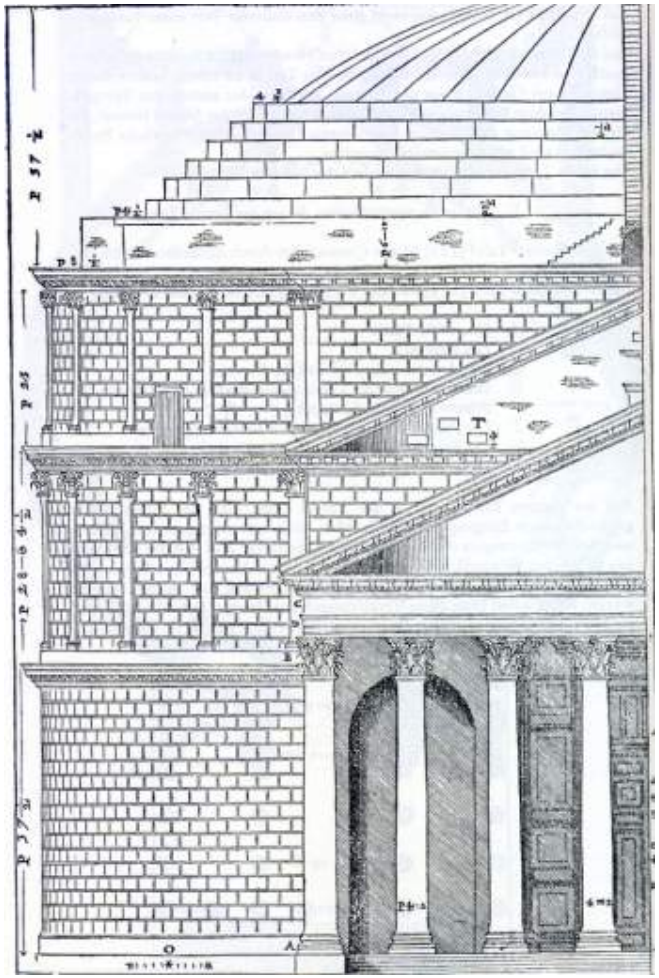
15. Selected Bibliography

Antique Roman building tradition and its transformation since italian Renaissance

Vitruvs basic rules for building: 1. *firmitas* (stability) – 2. *utilitas* (function) – 3. *venustas* (grace)
Venustas = 1.ordinatio, 2.dispositio (3.eurhythmia, 4.symmetria), 5.decor, 6. distributio



Vitruv-Rusconi II, Venedig 1590



Andrea Palladio IV, Venedig 1570

Nineteenth Century Architecture from Revolution to Modernism – from Ledoux to Loos



Claude-Nicolas Ledoux: Saltern Arc-et-Senans 1775-1779 – His treatise on architecture from 1804 quotes: *Ornamental details are without moral value and fatigue the eye…* About his Custom houses around Paris people mocked*:* *„Le mur murant Paris rend Paris murmurant“*

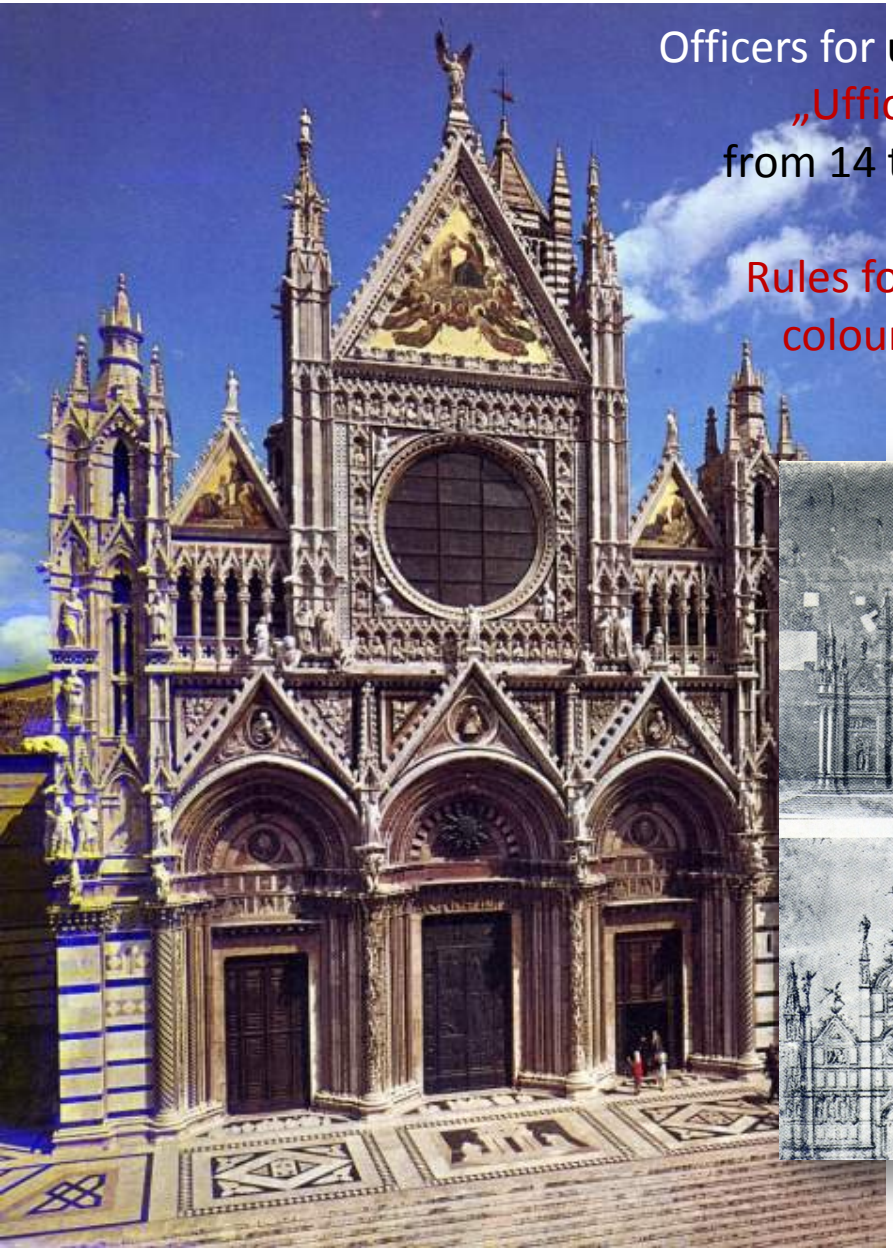


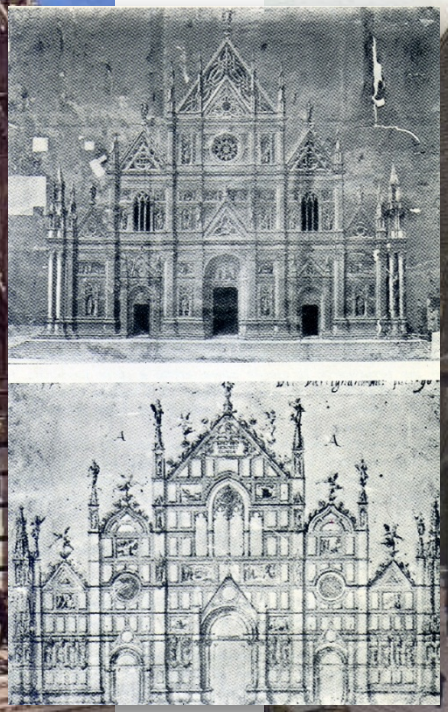
Adolf Loos, Wien 1,Michaelerplatz 1909-11
His pamphlet titels 1908: *Ornament is a crime…*
People were mocking about the *„new granary“* vis a vis the imperial court.

Importance of Facies/faccia/facciata (Italy 14th c.) – Face/Façade (Philib.de l'Orme 1568

Officers for urban buildings in Italy
„Ufficiali del Ornato“
from 14 th to 19th century:

Rules for facades, towers,
colour + competitions

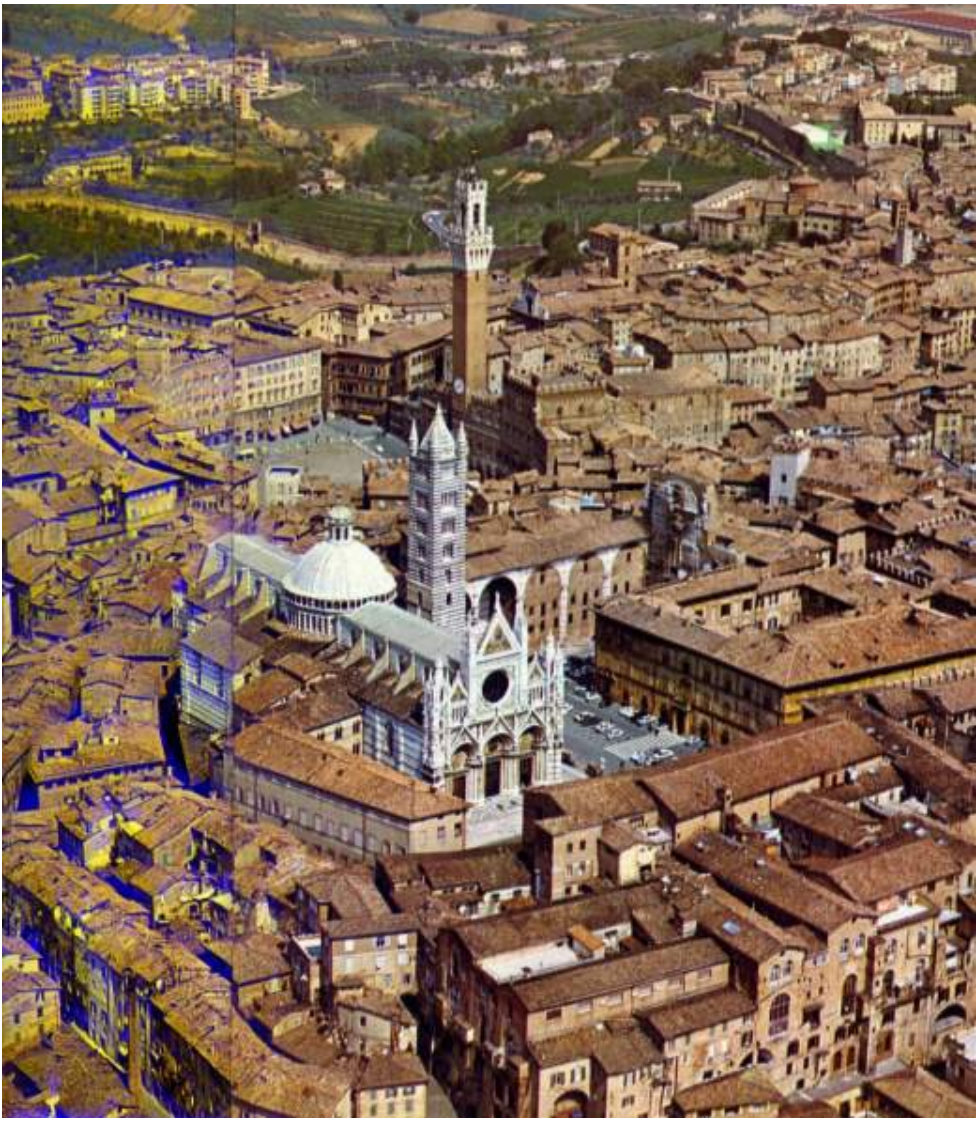






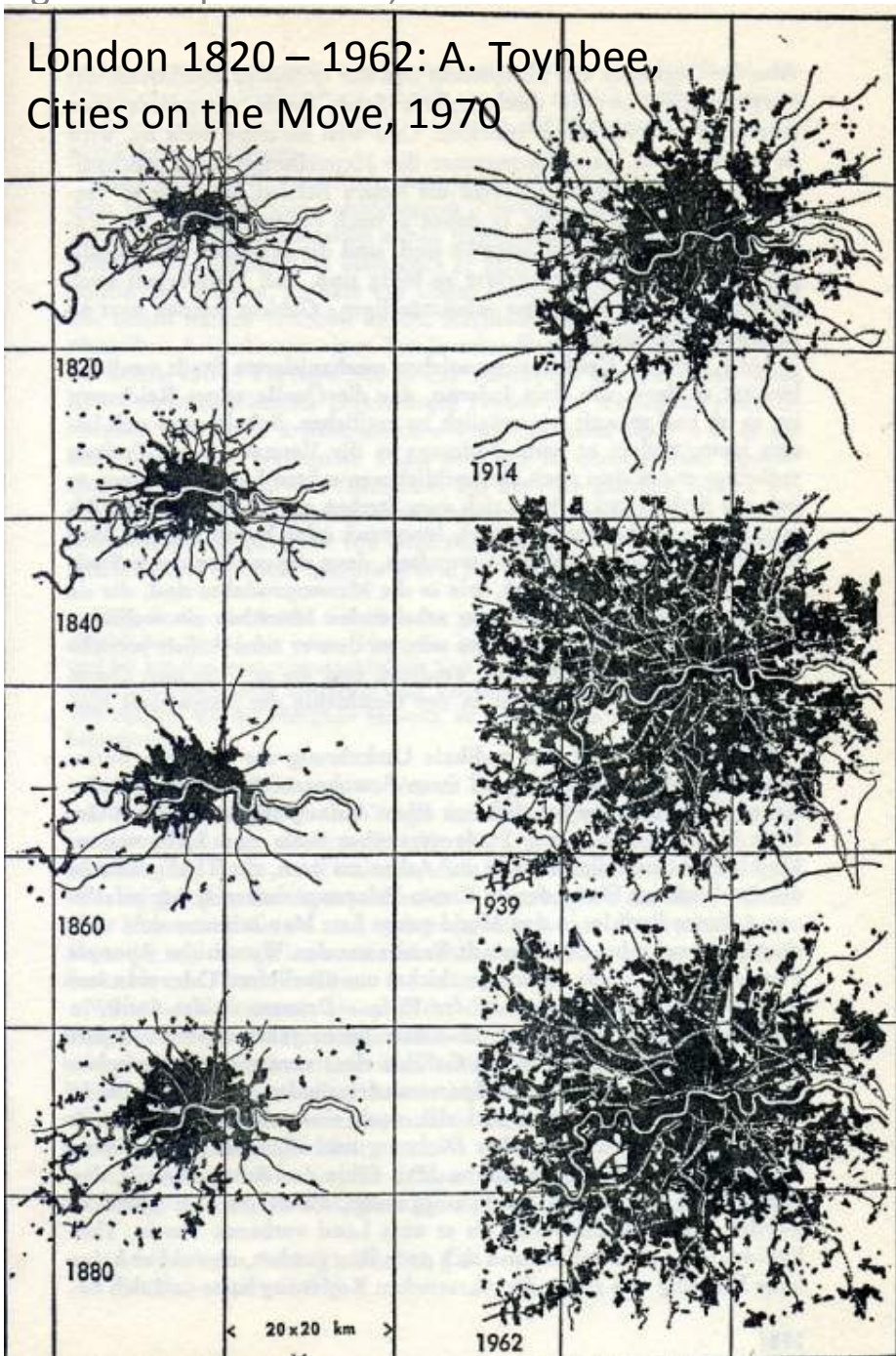
Siena, cathedral, facade 1284 Giov.Pisano-finished1377! - Bologna, cathedral, facade 13-unfinishe

Cities and Building Rules since 14th cent. Italy



Siena: actual arial view of the citycenter

London 1820 – 1962: A. Toynbee, Cities on the Move, 1970



1800 – 1850: Development of New Types for independant Public Buildings

- Museums, Theatres and Operahouses, Schools and Universities
- Houses of Parliament, Courts of Justice, Hospitals
- Railwaystations, Poststations, Markets, Department Stores
- Industrial and Exhibition Buildings, Workmen‘s Houses

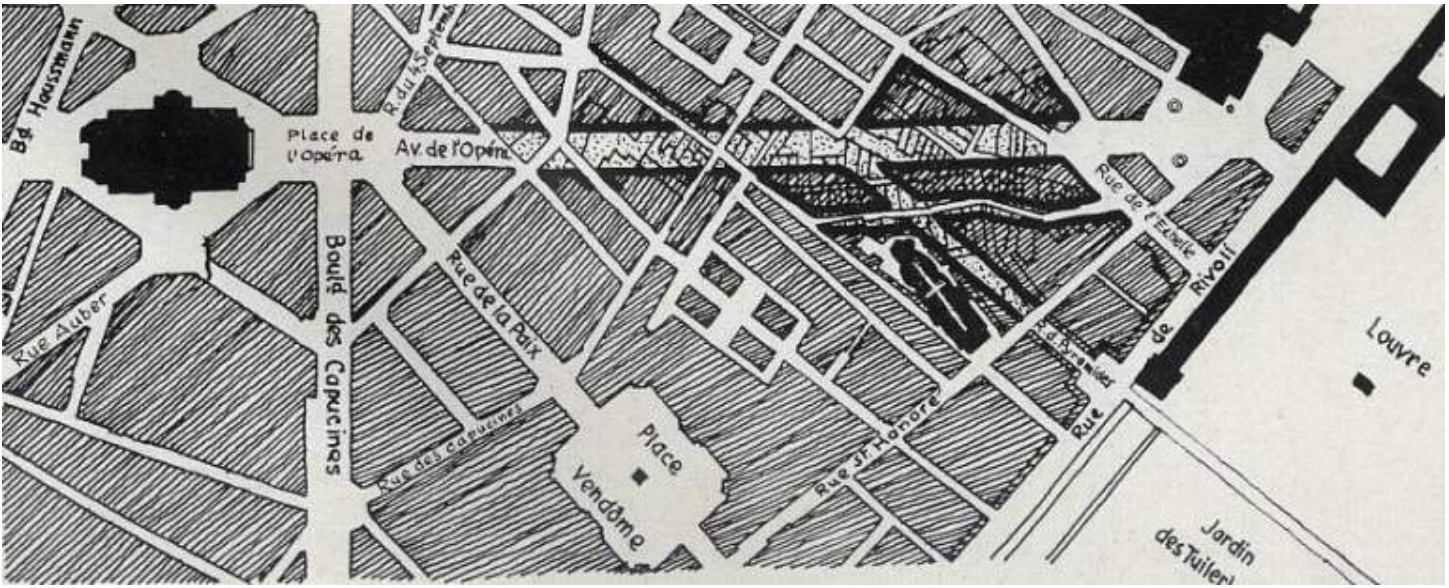
1800 - 1850: Plurality of Styles (Neo-Classizism - Empire - Romantic Historizism)

- From stylistic Uniformity to Diversity according to different Types of Buildings
- Selection of new Materials with regional Priorities
- Reglementation of outside Colours after urbanistic Viewpoints

1800 – 1850: Protection of Monuments (Restoration and Reconstruction)

- Protection of historic Monuments (since 1815 german architects Schinkel, Weinbrenner, Klenze, Offices 1835 in Bavaria and Belgium, 1843 in Prussia, 1834 *Commission des monuments historiques* with Prosper Merimée in France, 1850 *Central Commission* in Austria, 1866 (1807) *Regolamento Edilizio e Commissione per l‘Ornato* in Venice
- Reconstruction or Completion of historic Monuments (Cathedrals Cologne, Florence ecc.)
- Discussion about colouring temples and statues in antiquity

After 1848: Modernizing historic capitals: Paris –Berlin (new Boulevards + representative Facades)



Paris, 1852-1870:
Napoleon III,
George Haussmann

Linear axes and perspectives

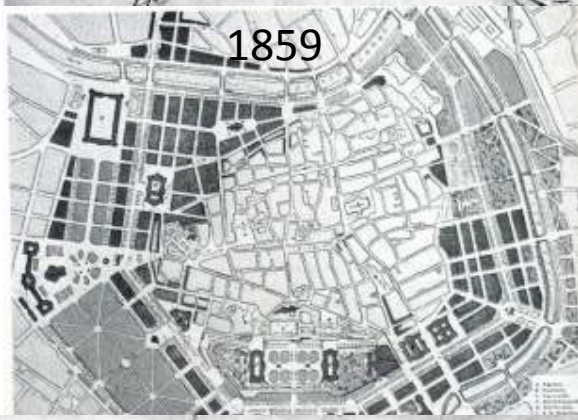
Berlin, Groß-Berlin



After 1848: Modernizing historic capitals: Vienna - Budapest







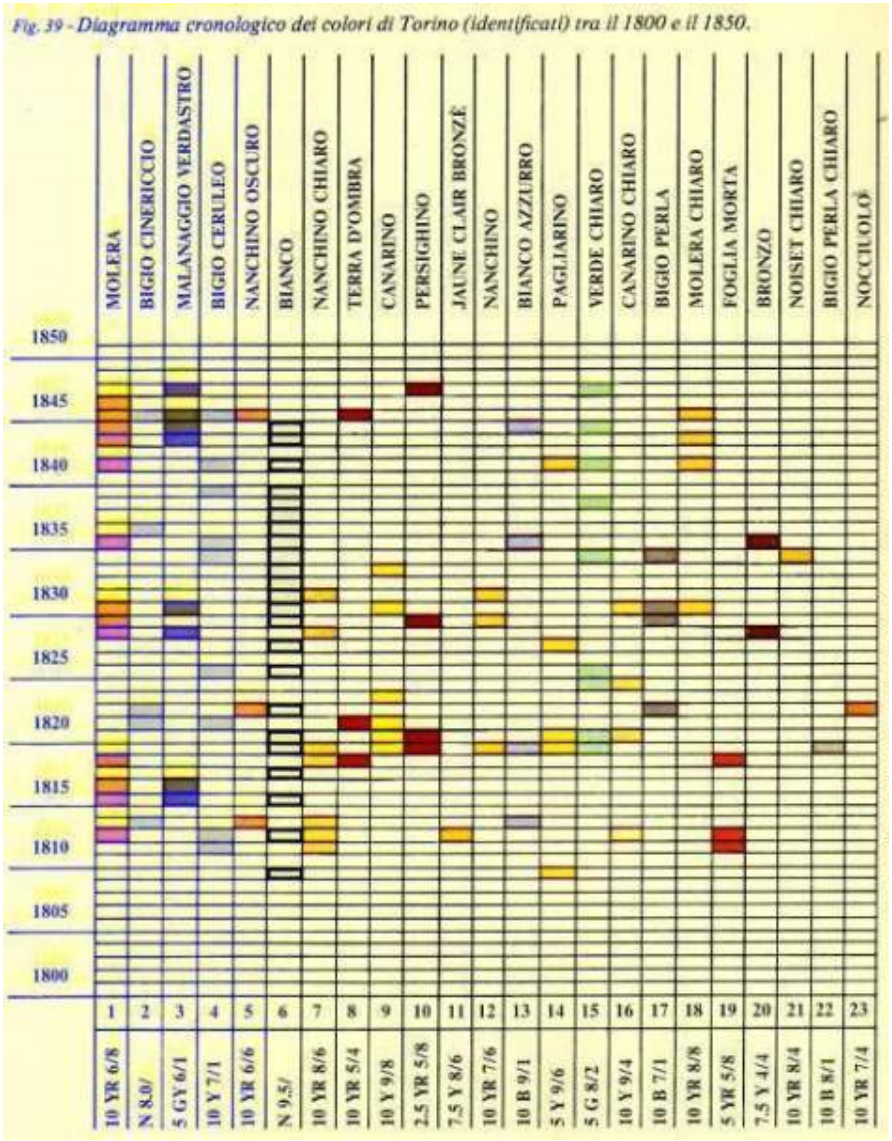
Wien 1873 G.Veith

Circular avenues
in place of prior
fortifications („Ring“)

spreaded from Vienna
to many capitals of
east central Europe



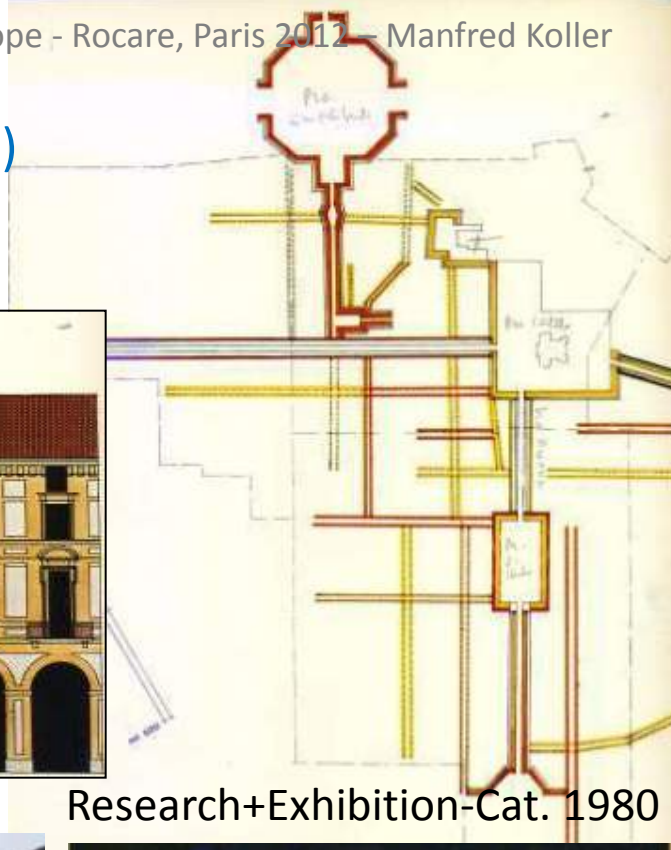
1800 - 1850: Torino – Il Piano del Colore
(Official Regulation of Colours and urbanistic Planning)



Contemporary colournames and Munsell-colour codes



Via del Po



Research+Exhibition-Cat. 1980







Quatremère de Quincy 1841

Autore: **Antoine Chrysostome Quatremère de Quincy**
Anno: 1788-1832
Testo di riferimento: Antoine Chrysostome Quatremère de Quincy, *Dizionario storico di architettura*, Mantova, F.lli Negretti, 1842.

Ricetta QQ. 1

MALTA CON CALCE E BORRA PER INTONACO

Composizione/lavorazione - Vol. I (p. 238)

Mortar with Lime and Fleece for Finishings

Bianco (Blanc en bourre) - È un composto di cui si fa uso in alcune provincie della Francia dove il gesso è raro, e giova per fare intonachi e plafoni. Esso consiste in un miscuglio di terra bianca un po' grassa, di calce e di borra. Si danno per lo più due mani di questo bianco. Per la prima che suol essere di 3 o 4 linee di spessore mette in opera la parte men fina della terra, e si impasta con borra di conciatore e calcina; se la terra è mediocremente grassa, vi si mescola un sesto di calce e altrettanto di borra. Il secondo strato si fa con calce estinta da tre mesi per lo meno, e con borra fina da cimato e quando la terra sia di un bianco bello, se ne può mescolare un poco con calce dopo averla ridotta in polvere finissima: questo miscuglio rende l'intonaco più consistente.
I rivestimenti con questo bianco acquistano una bellezza superiore a quelli che si fanno in gesso ma non ha però la stessa solidità.
Si fa uso pur anche di questa materia per plafonare, per fare cornici, quadri o profili, i quali vengono sagomati con maggiore nettezza di quelli in gesso. [...] Questo bianco si fa con calce, sabbia, terra vergine, argilla, creta, marna; la miglior materia però è la terra bianca argillosa.

Ricetta schematica

(INTONACO IN USO NELLE PROVINCE FRANCESI)

- Impastare:
  - terra bianca "un po' grassa"
  - calce
  - *borra*
- Applicare due strati di questo intonaco.
- Realizzare il primo strato di 3 o 4 linee di spessore con:
  - terra bianca "mediocremente grassa"
  - calcina 1/6
  - *borra di conciatore* 1/6
- Realizzare il secondo strato con:
  - calce estinta da tre mesi
  - *borra fina da cimato*
  - terra bianca in polvere finissima
- Utilizzare questo composto per fare cornici, quadri e profili.

La terra migliore è quella bianca argillosa.

Ricetta QQ. 2

MALTA CON COCCIO PESTO PER PAVIMENTO

Composizione/applicazione - Vol. I (p. 494)

Mortar with crushed bricks for pavements

Composto - (Composto) Parola italiana, di cui si servono anche i francesi per indicare una mistura con cui formasi il pavimento degli appartamenti di diversi luoghi d'Italia, soprattutto a Venezia, ove chiamasi anche terrazzo o battuto. [...]
Il *composto* in Italia formasi con pezzi di tegole e di mattoni ben cotti, per lo più mescolati insieme. La sua preparazione consiste in tre parti di questo miscuglio e di una parte di calce. Si sminuzzola ben bene il tutto sinché formi uno smalto mezzamente grasso.
Se il *composto* dev'essere fatto sopra un soffitto si cuopre prima il legname con paglia; indi si stende in una sola volta uno strato di questo smalto, dell'altezza di un decimetro incirca; dopo di averlo bene adeguato con un rastrello a denti di ferro, lo si lascia riposare per uno o due giorni, secondo la stagione; preso che abbia una certa consistenza, lo si batte con stanga di ferro piegata, la cui parte destinata a battere è stiacciata e rotonda a foggia di lingua. Dopo la prima battuta, si lascia riposare il massiccio per un giorno, indi si batte nuovamente, avvertendo che i colpi incrocino quelli della prima battuta. Allorchè si conosce per la reazione della battuta che lo strato ha acquistato sufficiente solidità, se ne stende un secondo alto un quarto di decimetro, composto di pezzi di tegole infrante, molto più fine e passate al vaglio.

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Recipes for mortars and renders 15-19th cent:

- With lime and sand
- With natural hydraulic binders (pozzolana)
- With brickpowder
- With marble dust
- Adhesive morters with pitch and brickpowder
- Particular mortars (with milk and saffron, with animal fats and milk or fig-juice, with lime and boiled cones from pine

Professional Periodicals for Architects, Technicians, Historians ecc.

f.e. Försters Allgemeine Bauzeitung, Wien 1836 – 1914:

From 1836 until c. 1860 mixed articles of technical and historical, reports about new buildings, in Germany, France, USA:

- Colours and techniques of colouring in architecture, prohibition of painting facades in neoclassical white (Berlin 1836, Munich 1840 or Vienna 1859)
- Report on the use of „Marmorino“ in Venice (1836)
- Sgraffitodecoration in Hamburg 1848 (house by arch. Gottfried Semper)
- Fabrication of artificial building stone with hydraulic lime (1849)
- Report on Paxtons crystal palace in London 1850 (+ decorative oilpainting on iron)
- Report on Labroust‘s bibl. S.Geneviève in Paris 1851 (iron construction painted, airheating)
- Prepartion of joints in walls 1851 (coloured and profiled)
- Restoration of the Erechtheion in Athens 1851 (with antique inscription on paint and gilding)
- Repair and Restoration of medieval monuments 1851 (after rules practized in France)
- Against scraping off on buildings, painting of churches (1852)
- Static stability of building materials 1853 (stones, wood, columns from cast iron)
- Perfect marble-plaster in Roman manner 1855 (Clinton‘s patent in New York)
- Conservation of stones with potassium silicate 1854 (Rochas 1852 for Notre Dame, Paris)
- Geometric brick-wall decoration on houses in Moulins, France, 1858
- Painting cast zinc objects in bronze colour (1858)
- Artificial stone fabrication of Mr. Lebrun 1859 (called „Hydro“ – after Bull. Presse scientifique)

From 1860 onwards technical articles and architects reports on their buildings for Ringstraße ecc.

1800 - 1850: Style and Material/Neo-Classizism to Romantic Historizism

- Stylistic Uniformity changes to Puralism according to different Types of Buildings
- Selection and Development of new Materials with regional Priorities and Progress
- Innovative technical Solutions presented with historical Coverings or Patterns

Munich: Stone + Stoneimitation



Leo v. Klenze, 1814-28:
München, Glyptothek

Berlin: Brickwork , Zinc



Friedrich Schinkel, 1824:
Berlin, Werdersche Kirche

London: Iron and Glass
(Paxton, Crystal Palace 1851)



Thomas Deane u.a., 1855-60:
Oxford, University museum

World-Exhibitions: Exchange of Productions and Inventions – Competition of Nations

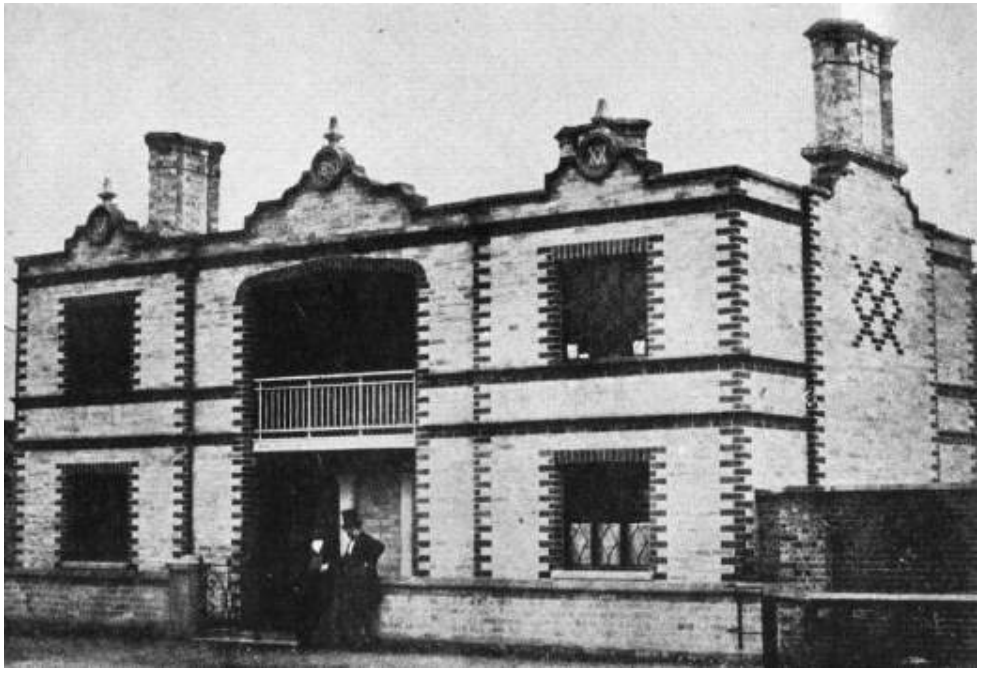
London 1851,1862 – Paris 1855,1867,1878,1889,1900 – Wien 1873 – Philadelphia 1876 – Chicago 1893



1851 and 1855 first presentation of vulcanized rubber-Arch. Semper hoped for ideal material for stable facades

First World-Exhibition 1851 in London:

Crystal Palace von Joseph Paxton (Iron-glass exhibition-building with possible transfer of place) together with a



Model-House for 4 Workerfamilies, by Prince Albert

Florence: 1800 – 1900 stoneimitating Plaster, Sgraffito, Painting, Scratching („scrape“)

- Artificial stone and stone imitating plasters after 1800 (french admin., G.Valadier) and 1870
- Sgraffito since c.1830 [Viollet-le-Duc publ.1836]
- Scraping off historical finishings from stone

From 1860 onwards a „fever of restoration“ (after the Italian unification 1867) destroyed lots of historic surfaces [after Danzl 1995]



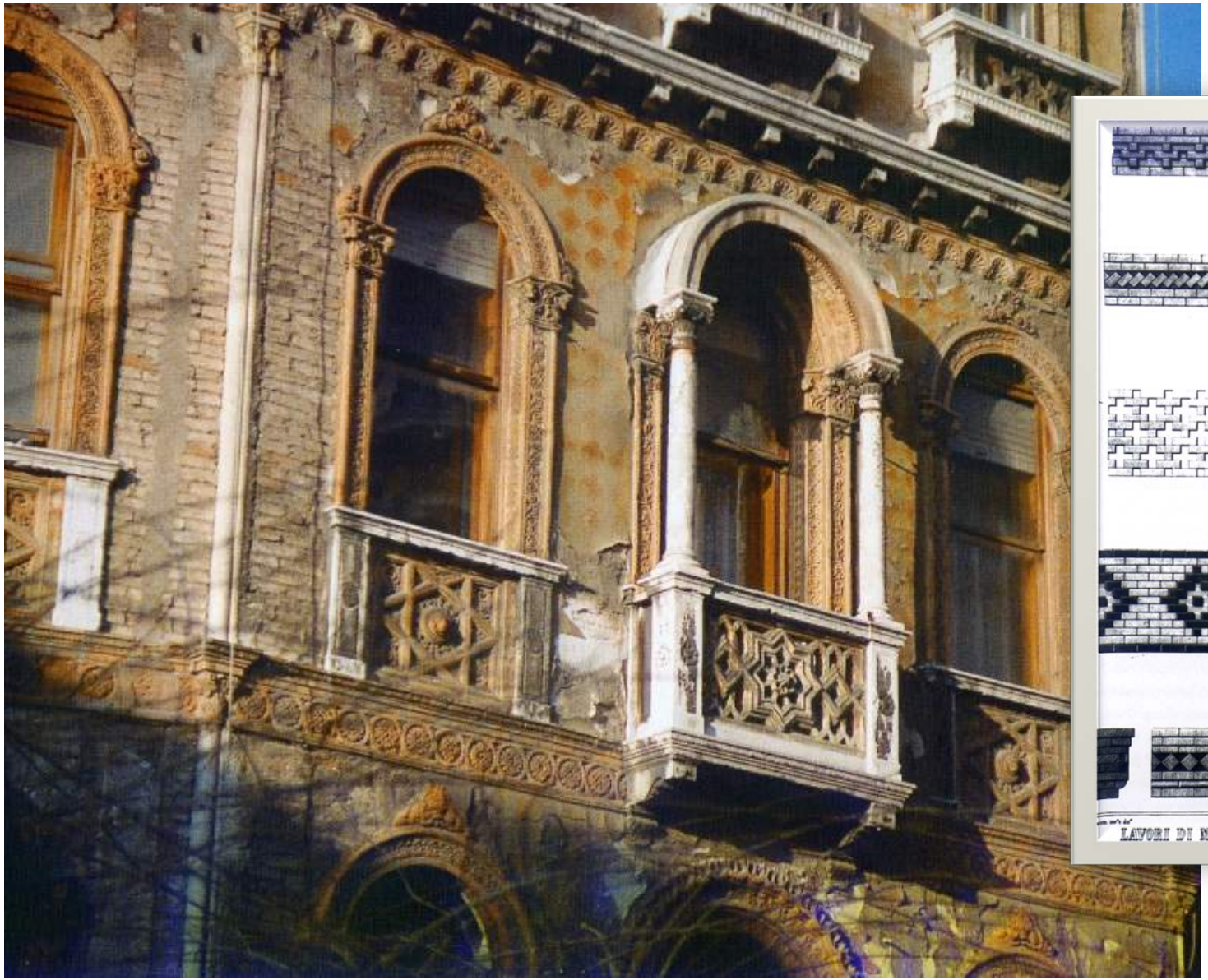




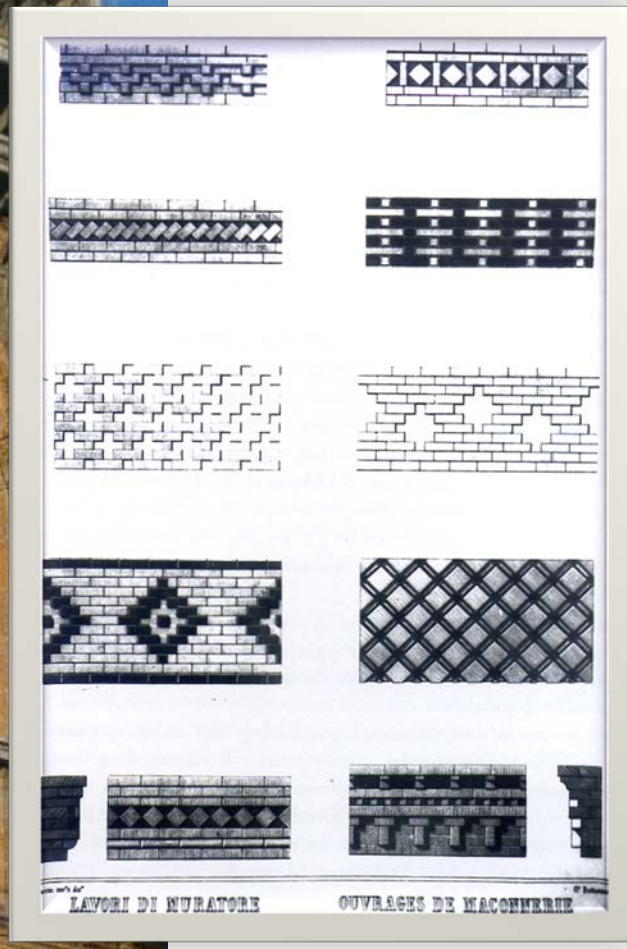
19th cent. facades near Or San Michele, behind Palazzo Strozzi and near Battistero, state 1996

Venice: Stone – Terracotta – Painted Plaster

After: Stefan Schrammel, Architektur u. Farbe in Venedig, 1866-1914, Berlin 1998



Venice, Palazzo Marioni-Mainella by Lodovico Cadorin 1858



From: Lodovico Cadorin, Nuova Encyclopedia Artistca,Venice 1864

Revival of Oriental-Medieval geometric patterns in Europe



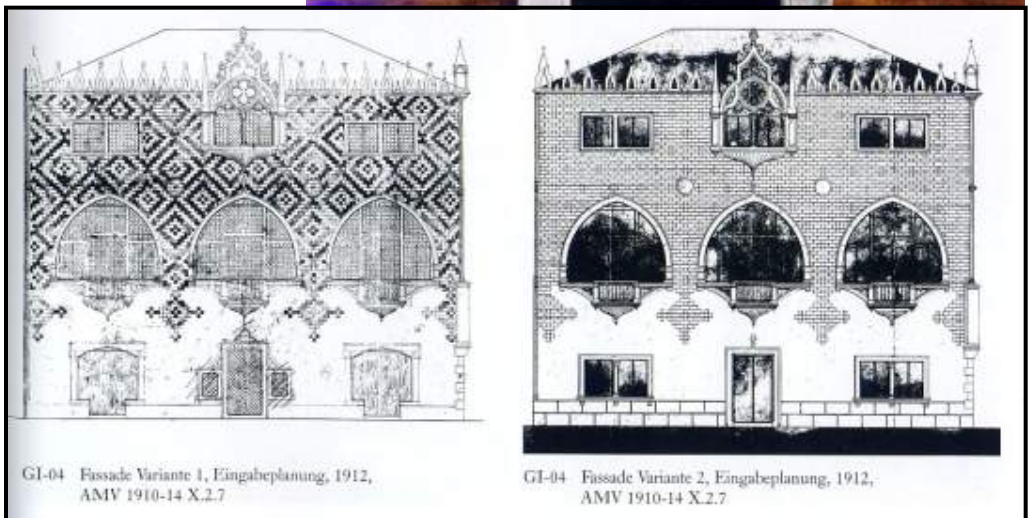
Munich, Türkenstr. 30, ca. 1845



Venice, Giudecca, House of Arch.de Maria1912: Alternative concepts (Schrammel1998)



Paris, Metro St. Jacques, um 1890



GI-04 Fassade Variante 1, Eingabeplanung, 1912, AMV 1910-14 X.2.7

GI-04 Fassade Variante 2, Eingabeplanung, 1912, AMV 1910-14 X.2.7

Style Liberty: Budapest c. 1900 – composed Materials (Zsolnay-ceramic,stone,plaster)



Museum of Applied Arts: Ödön Lechner 1893-97



1903 by Emil Vidor
Condition 1998 (EU-project Rendec 1999



Brick-Masonry: Surface + Joints– innovative Use by Friedrich Schinkel in Berlin 1820 /30

Berlin, Academy for Building 1828:
Axis for reconstruction 2011



Berlin, Church
on Werder-marke
1824-30: Profiled
Joints unpainted

1850 – 1875 Finishings of Brick-Masonry in Vienna





V.3, Arsenal, Förster-Hansen 1855-59: Overall paint red + ochre, black lined profiled joints



V.3, St.Marx Cemetery, c. 1850: like Arsenal above



Vienna 1, Greek-orth.cathedral byTh.Hansen 1858: pro-filed plaster-joints like Schinkel



V.1, Academy for Appl.Arts, by H.Ferstl 1875-77: bricks unpainted, red coloured plaster of joints, lined in black

19th Cent. Renders for Stone Imitation in England – resp.Patents (after Ian Bristow 1997):



Plate 6 Fragment of Roman cement from exterior of wing added by Decimus Burton in 1833–5 to St John's Lodge, Regent's Park (immured 1844–6) showing remains of early washes on surface. Overall width 87 mm.



Plate 8 Fragment probably of Bailey's indurated cement from rear of exterior parapet (now immured), St John's Lodge, Regent's Park. Width of broken surface 50 mm.



Plate 7 Fragment of Hamelin's mastic from interior of the Court House, Lincoln (1822–6), back face. Overall width, 40 mm. Sample kindly made available by Stafford Holmes of Rodney Melville & Partners.

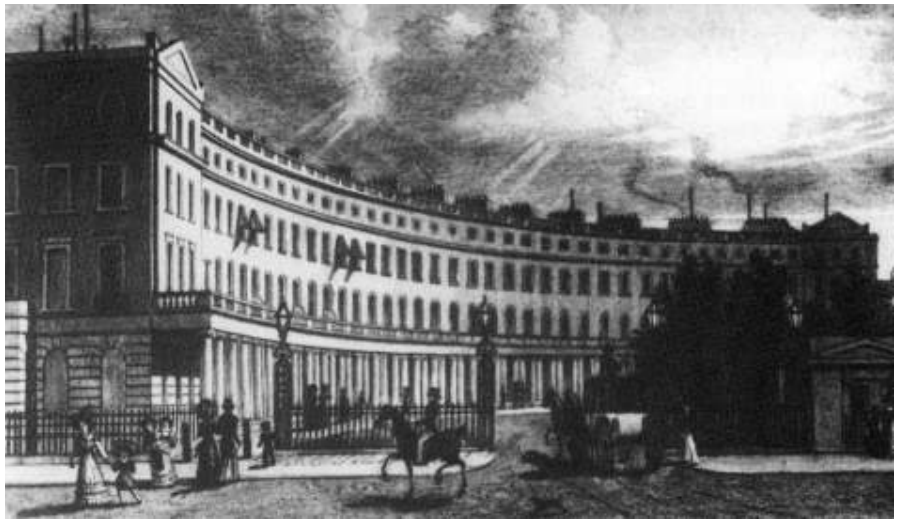


Plate 9 Fragment probably of metallic cement from exterior of east front, Hill Hall, Essex (1844). Overall width, 57 mm.

Dark aspects of artificial cements needed often washes for imitating the natural colours of various stones
(Bath-, Portland-stone ecc.)

1765 David Wark: *Stone Paste*
From sand,brick-dust, linseed oil ecc.
1774 Ant.Joseph Loriot : *Cement and artificial Stone* from brickdust, sand, mature and quick lime
1779 Higgins: *Water Cement or Stucco* frome lime, sand, bone-ash, lime-water (users Arch. Wyatt)
1796 James Parker: *Cement for Building Purposes* from broken, burnt and powdered noddles of Septaria, called Roman Cement and linked with Higgins Cement (John Nash)
1817 Peter Hamelin Composition for *Ornaments and Statues,artificial Bricks* from brick-dust, sand, lead-pigments, litharge, linseed-oil (= oil mastic)
1820 W Lockwood *Portland Stone Cement*
1832 N Troughton Metallic Cement with crushed slag and lime, 2-3 coatings+polish
1824 Joseph Aspdin *Portland Cement* from roasted limestone and clay was 1841 improved by burning at higher temperatur for a dark green clinker, that needed no painting

19th Cent. Renders for Stone Imitation in England (after Ian Bristow 1997)



London, Park Crescent 1812 John Nash, with *Parkers Stucco Cement coloured and jointed to imitate Stone*

Dark cements became firstly water-based washes for imitating stone, to renew every 4 jears - Since 1851 oil-paint was introduced for colouring. The ideal of leaving cement-surfaces unpainted lasted in many cases of pratice only a few years.



London, StPhilip‘s Chapel Lower Regent Street 1820, East front and iron cupola with *Hamlin‘s Cement* (oil)



London, Carlton House Terrace, J.Pennethorn after Nash, 1862-64, with surface from *Portland cement* stucco, unpainted, 1870 „black and dirty“- painted in oil in „Bath stone tint“, repainted in 1898 (foto!)

Roman Cement (Hydrauer) in Vienna: Palais Ephrussi, Theophil Hansen, 1874













Roman Cement (Hydrauer) in Vienna: Academy of Fine Art, Theophil Hansen 1876



from: Förster‘s Allgemeine Bauzeitung 1876





White = Limeplaster taken instead of Hydrauer



Roman Cement (Hydrauer) in Vienna: Palais Epstein, Theophil Hansen 1871





Ringstraße, Palace Epstein 2003 after restoration:
Hydrauer with
-black lining imitating joints
- Application of gravel for squares
- nude terracotta
- cornice with painted kymation





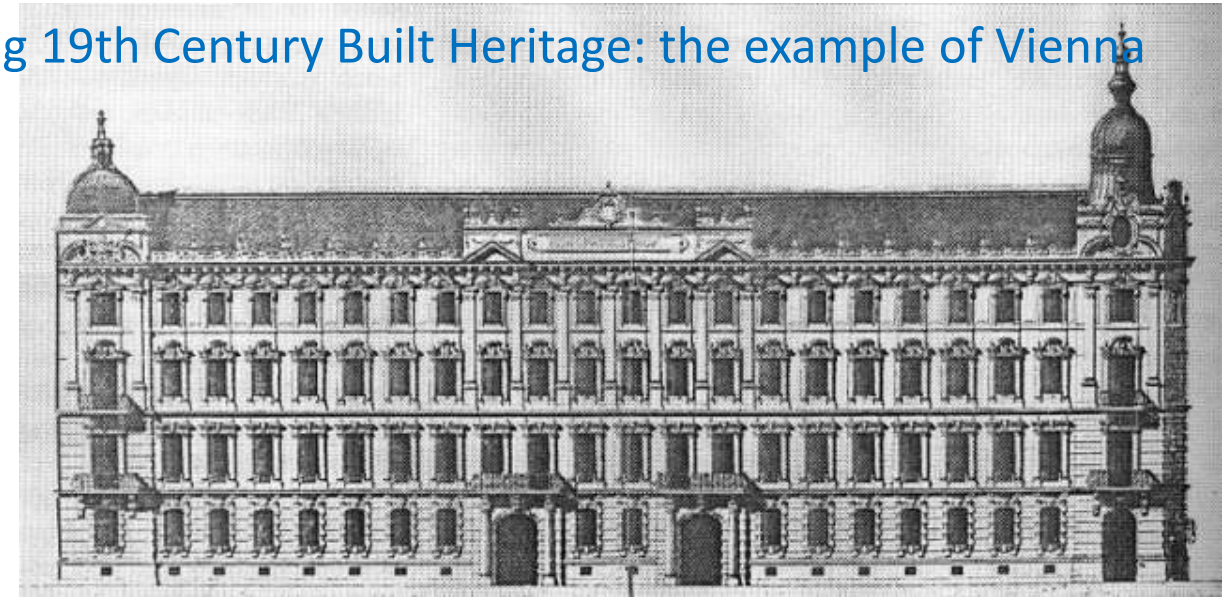


Academy f.A.. south facade, framings of the frescoes of 9 muses - 1990 reconstruction of oilgilding on terracotta

Actual Problems of Preserving 19th Century Built Heritage: the example of Vienna



Losses of Urban View – the last 50 Years in Vienna, publ. 2005

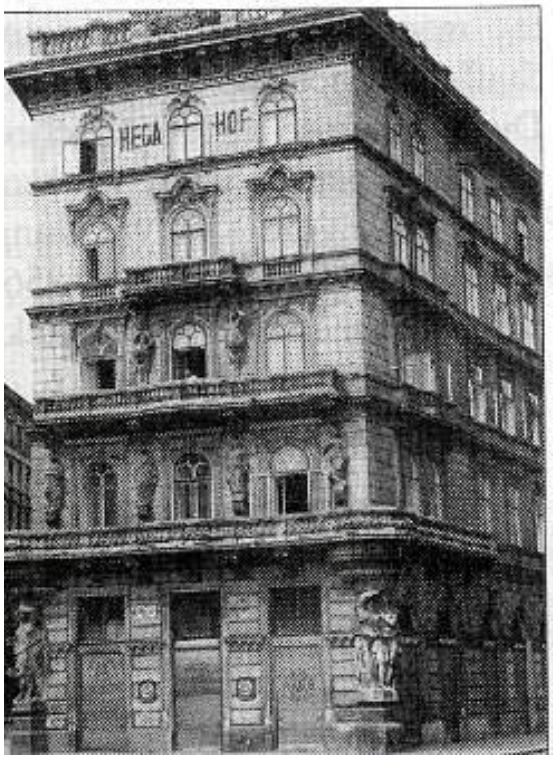


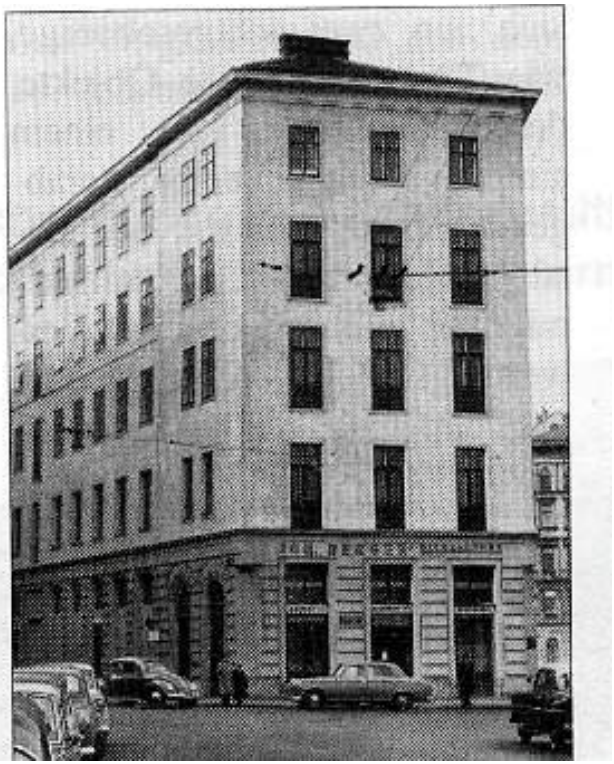
Vienna 9, Porzellanstr. 44-48: Miserofsky 1894 + actual state



Actual Problems of Preserving 19th Century Built Heritage: the example of Vienna

Original 1862, state 1941 | Purification 1960 | Falsification by „Repair“ 1993







Vienna 1, Salzgries 2 („Hega-Hof“) 1862,
sulptor Franz Melnitzky

Vienna‘s Technical University cancelled around 1970 teaching of morphology in historical architecture within the program for formation of architects

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