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


Venustas = 1. ordinatio, 2. dispositio (3. eurhythmia, 4. symmetria), 5. decor, 6. distributio
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 murmurerant*“

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 14th to 19th century:

Rules for facades, towers, colour + competitions

Siena, cathedral, facade 1284 Giov. Pisano-finished 1377! - Bologna, cathedral, facade 13-unfinished
Siena: actual aerial view of the citycenter
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 Commissions 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

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)
Recipes for mortars and renders 15-19th cent:

- With lime and sand
- With natural hydraulic binders (pozzolana)
- With brickpowder
- With marble dust
- Adhesive mortars 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
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
Berlin: Brickwork, Zinc
London: Iron and Glass
(Paxton, Crystal Palace 1851)

Leo v. Klenze, 1814-28: München, Glyptothek
Friedrich Schinkel, 1824: Berlin, Werdersche Kirche
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 stone imitating 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]
Venice: Stone – Terracotta – Painted Plaster

Venice, Palazzo Marioni-Mainella by Lodovico Cadorin 1858

From: Lodovico Cadorin, Nuova Encyclopedia Artistica, 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
Nineteenth Century Architectural Heritage in Europe - Rocare, Paris 2012 – Manfred Koller

**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: Profilled Joints unpainted
1850 – 1875 Finishings of Brick-Masonry in Vienna

Vienna 1, Greek-orth. cathedral by Th. Hansen 1858: profiled 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

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

1765 David Wark: Stone Paste From sand, brick-dust, linseed oil etc.

1774 Ant. Joseph Loriot: Cement and artificial Stone from brick dust, sand, mature and quick lime

1779 Higgins: Water Cement or Stucco from lime, sand, bone-ash, lime-water (users Arch. Wyatt)

1796 James Parker: Cement for Building Purposes from broken, burnt and powdered nodules 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 improved by burning at higher temperature for a dark green clinker, that needed no painting

Dark aspects of artificial cements needed often washes for imitating the natural colours of various stones (Bath-, Portland-stone etc.)
Dark cements became firstly water-based washes for imitating stone, to renew every 4 years. Since 1851 oil-paint was introduced for colouring. The ideal of leaving cement-surfaces unpainted lasted in many cases of practice only a few years.

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

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

Before Rest. 1985

1974

1985 before

After Rest. 1985

1995
Roman Cement (Hydrauer) in Vienna: Academy of Fine Art, Theophil Hansen 1876

from: Förster’s Allgemeine Bauzeitung 1876

1976

1990 Restoration

1997

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

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

Losses of Urban View – the last 50 Years in Vienna, publ. 2005
Actual Problems of Preserving 19th Century Built Heritage: the example of Vienna

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

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

Arcolao Carla, Le ricette del restauro. Malte, intonaci, stucchi dal XV al XIX secolo, Venezia 1998


Biscontin Guido, Driussi Guido (eds), Architettura e Materiali del Novecento. Scienza e Beni Culturali XX, Convegno Bressanone 2004


Buff Albert, Bauordnung im Wandel. Historisch-politische, soziologische und technische Aspekte, München 1971 [refers to Germany and Austria]


Klein Dieter, Kupf Martin, Schediwy Robert, Stadtbildverluste in Wien, Wien 2005

Kruft Hanno-Walter, Geschichte der Architekturtheorie, München 1985

Neubarth Karl, Krist Gabriela (eds.), Decorated Renders around 1900 in Europe (EU-rendec), Wien 1999


Schrammel Stefan, Architektur und Farbe in Venedig 1866-1914, Berlin 1998


Viollet-le-Duc Eugène, Le voyage d’Italie, Paris 1836-37