

EVDA 523.02/ARST 457.02
History of Architecture and Human Settlement II: 1750 to Present
Tuesdays and Thursdays, 11:00 -12:20, Room 2160
Instructor: Dr. Graham Livesey
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Teaching Assistant: Charlea Grieg

EVDS, University of Calgary
H(3-0) Winter 2017

(Revised: Dec. 1, 2016)

INTRODUCTION

This is the second course (including EVDA 523.01/ARST 457.01) in a survey examining the history of architecture and settlement from the prehistoric world until the present. This course will address the traditions of the Western world from the Industrial Revolution until the present, and will be delivered in a lecture format. The course examines technological, social, and political changes that have transformed the history of architecture since the late eighteenth century. It also presents major movements, figures, and building typologies, along with a particular emphasis on the evolving city during the nineteenth and twentieth centuries. New approaches to representation and its impacts on architecture are also studied, along with the changing role of the architect (including the history of women in architecture). Broad cultural questions of modernity and post-modernity are explored, including such critiques of modernism as critical regionalism (with an emphasis on Japan and Canada).

OBJECTIVES

- Students are expected to learn of the changes in worldview that have altered the course of Western architecture and to become familiar with important works, practitioners, theorists and themes. Slide tests are used as the method for evaluating this.
- As history courses are a required part of a professional architecture program, architectural history is understood to be necessary for understanding diverse culture and behaviours. In a multi-cultural world, history provides a dynamic source for the exploration of questions relevant to contemporary architectural practice. The book review and term paper are intended to be articulate studies of questions addressed to historical works.
- To develop and refine skills in research, critical reading, synthesis, visual analysis, oral and written communication. The course addresses the following CACB Student Performance Criteria:

Primary: A1. Critical Thinking Skills, A2. Research Skills, A4. Verbal and Writing Skills, A8. History and Theory, A9. Precedents

Secondary: A6. Human Behaviour, A7. Cultural Diversity

EVALUATION

Slide Tests: Two tests will be given during the term to evaluate students understanding of the key concepts covered in the course. Each test will involve writing short essay-type responses to five pairs of images.

Book Review: Write a 1000 word book review based on a treatise on architecture, urbanism, or gardens (suggestions are found elsewhere in this outline).

Term Paper: Write a 3000-4000 word research paper based on a topic related to the course material. It is recommended that you discuss the topic with the instructor.

Book Review	20%	Due: February 2, 2107
Term Paper	40%	Due: March 28, 2017
Slide Tests	20%	Test 1: March 2, 2017
	20%	Test 2: April 6, 2017

Readings and tests: Students are expected to complete required readings, suggested readings are provided for reference. Two slide tests will be given during the semester. There will not be a Registrar-scheduled final exam.

Your written assignments will be marked for grammatical accuracy, stylistic clarity, and organization as well as for demonstrated understanding of the topic, logical argumentation, and originality of critical comments. Students must use the *Chicago Manual of Style* – see below. Students must undertake research that demonstrates an ability to appropriately select and interpret sources (primary versus secondary, print versus digital) – the extensive use of web based research is discouraged. Papers should include supporting imagery (architectural drawings, photographs, etc.). For further information see:

Chicago Manual of Style Quick Citation: http://www.chicagomanualofstyle.org/tools_citationguide.html

How to write a book review: <https://www.trentu.ca/history/workbook/bookreviews.php>

How to write a term paper: <http://hist.ucalgary.ca/sites/hist.ucalgary.ca/files/EssayHandbook1.pdf>

General References

Ariès, P. and Duby, G. eds., A History of Private Life (5 vols.).

Benevolo, L., The History of the City.

Collins, P., Changing Ideals in Modern Architecture.

Curtis, W.J.R., Modern Architecture Since 1900 (Third edition).

Kostof, S., A History of Architecture: Settings and Rituals.

Schoenauer, N., 6,000 Years of Housing.

COURSE OUTLINE & READING LIST

Lecture 1 – January 10, 2017.

Introduction/course requirements. A thematic approach to history. Importance of history for contemporary practice.

Required Reading

Frampton, K., “Introduction,” in Modern Architecture: A Critical History (4th Edition), pp. 8-10.

Lecture 2 – January 12

Nineteenth Century 1: Revivalism, Nationalism, and New Building Types. Karl Friedrich Schinkel (1781-1841), Leo von Lenze (1784-1864), A.W.N. Pugin (1812-1852), Sir Charles Barry (1795-1860), William Butterfield (1814-1900), Alfred Waterhouse (1830-1905).

Required Readings

Frampton, K., “1. Cultural Transformations: Neoclassical Architecture 1750-1900,” in Modern Architecture: A Critical History (4th Edition), pp. 12-19.

Collins, P., “9. Gothic Nationalism” in Changing Ideals in Modern Architecture (Montreal: McGill-Queen’s Press, 1965), pp. 100-105, ISBN 0 7735 0048 0, 309 pages.

Suggested Readings

Clark, K., The Gothic Revival - NA610 C63, 8.

Bergdoll, B., “5. Nationalism and Stylistic Debates in Architecture,” in European Architecture: 1750-1890.

Pugin, A.W.N., An Apology for The Revival of Christian Architecture in England.

Ruskin, J., The Stones of Venice.

Ruskin, J., The Seven Lamps of Architecture.

Bergdoll, B. and E. Lessing, Karl Friedrich Schinkel.

Summerson, J., “William Butterfield, or the Glory of Ugliness,” in Heavenly Mansions.

Sir Robert Cooke, The Palace of Westminster: Houses of Parliament (London: Burton Skira, Ltd., 1987).

Lecture 3 – January 17

Nineteenth Century 2: Rationalism, the Influence of Engineering, and New Materials. Jean-Nicholas-Louis Durand (1760-1834), H. Labrouste (1801-1875), Joseph Paxton (1803-1865), I.K. Brunel (1806-1859), Gustave Eiffel (1832-1923), and Auguste Perret (1874-1954).

Required Readings

Frampton, K., “3. Technical Transformations: Structural Engineering 1775-1939,” in Modern Architecture: A Critical History (4th Edition), pp. 29-40.

Giedion, Sigfried, “The Great Exhibition, London, 1851 [Crystal Palace],” in Space, Time and Architecture

(Cambridge, Mass.; Harvard University Press, 1982), pp. 249-255. ISBN 0-674-83040-7, 898 pages.

Suggested Readings

Collins, P., "18. The Influence of Civil and Military Engineers," in Changing Ideals in Modern Architecture.
Straub, H., A History of Civil Engineering, Chaps. 7 and 8.

Collins, P., Concrete: The Vision of a New Architecture - NA4125 C64.

Ellul, J., The Technological Society.

Pérez-Gómez, A., "9. Durand and Functionalism," in Architecture and the Crisis of Modern Science.

Villari, S., J.N.L. Durand 1760-1834: Art and Science of Architecture.

Viollet-le-Duc, E.E., The Architectural Theory of Viollet-le-Duc.

Lecture 4 – January 19

Nineteenth Century 3: The Arts and Crafts Movement. John Ruskin (1819-1900), Philip Webb (1831-1915), William Morris (1834-1896), C.F.A. Voysey (1857-1941), and Edwin Lutyens (1896-1944).

Required Readings

Frampton, K., "1. News from Nowhere: England 1836-1924," in Modern Architecture: A Critical History (4th Edition), pp. 42-50.

Davey, P., "The pathfinder," in Architecture of the Arts and Crafts Movement (London: Phaidon, 1995), pp. 89-94, 96-97, 99. ISBN 0 7148 2874 2, 256 pages.

Suggested Readings

Ruskin, J., The Seven Lamps of Architecture.

Morris, W., News From Nowhere and Selected Writings.

Rybczynski, W., Home: A Short History of an Idea - NA7125 R93.

Hollamby, Edward, Philip Webb: Red House, Bexleyheath, 1859.

Lecture 5 – January 24

Nineteenth Century 4: American Architecture, the Chicago School, and the Skyscraper. Form follows Function.

H.H. Richardson (1838-1886), Frank Furness (1839-1912), W.L. Jenney (1832-1907), Dankmar Adler (1844-1900) and Louis Sullivan (1856-1924).

Required Readings

Frampton, K., "2. Adler and Sullivan: the Auditorium and the high rise 1886-95," in Modern Architecture: A Critical History (4th Edition), pp. 51-56.

Twombly, Robert, "X. Proud, Soaring, and Alone [Wainright Building]," in Louis Sullivan: His Life and Work (New York: Viking Penguin Inc., 1986), pp. 285-293, 502. ISBN 0-670-80459-2, 530 pages.

Suggested Readings

Rowe, C., "Chicago Frame," in Mathematics and The Ideal Villa and Other Essays.

Sullivan, L., "The Tall Building Artistically Considered," in Kindergarten Chats.

Scully, V., American Architecture and Urbanism.

Condit, C.W., The Chicago School of Architecture.

Hitchcock, H.-R., The Architecture of H.H. Richardson - NA737 R5H56.

Upton, D., Architecture in the United States.

Lecture 6 – January 26

Nineteenth Century City: Paris and Baron Haussmann (1809-1891); Barcelona and Ildafonso Cerda (1815-1876); Daniel Burnham (1846-1912) and the City Beautiful Movement.

Required Readings

Frampton, K., "2. Territorial Transformations: urban developments 1800-1909," in Modern Architecture: A Critical History (4th Edition), pp. 20-28.

Berman, Marshall, "The Family of Eyes," in All That is Solid Melts into Air (New York: Penguin Books, 1988), pp. 148-155, 359. ISBN 0-14-010962-5, 384 pages.

Suggested Readings

Morris, A.E.J., History of Urban Form - HT166 M65.

Tafuri, M. and F. Dal Co, Modern Architecture/1.

Choay, F., The Modern City: Planning in the 19th Century.

Sutcliffe, A., Paris: An Architectural History.

Louer, F., Paris, Nineteenth Century - NA1050 L6713.
Sennett, R., The Fall of Public Man.

Lecture 7 – January 31

Ebenezer Howard (1850-1928) and the Emergence of the Garden City

Required Readings

Creese, W.L., “9. The First Garden City of Letchworth,” in The Search for Environment: The Garden City Before and After (Baltimore: Johns Hopkins University Press, 1992), pp. 203-218. ISBN 0-8018-4363-4, 390 pages.
Howard, Ebenezer, “The Town-Country Magnet,” in Garden Cities of To-Morrow (Cambridge, Mass.: MIT Press, 1965), pp. 50-57. ISBN 0-262-58002-0, 168 pages.

Suggested Readings

Fishman, R., Urban Utopias in the Twentieth Century.
Miller, M., Letchworth: The First Garden City.
Purdom, C.B., The Garden City: A Study in the Development of a Modern Town.
Unwin, R., Town Planning in Practice.
Cranz, G., The Politics of Park Design: A History of Urban Parks in America.

Lecture 8 – February 2

Art Nouveau architecture and the search for new forms. Victor Horta (1861-1947), Charles Rennie Mackintosh (1868-1928), Antoni y Cornet Gaudi (1852-1926), J.M. Olbrich (1867-1908), Josef Hoffmann (1870-1956), Adolf Loos (1870-1933).

Required Readings

Frampton, K., “4. Structural Rationalism and the Influence of Viollet-le-Duc: Gaudi, Horta, Guimard and Berlage 1880-1910,” “5. Charles Rennie Mackintosh and the Glasgow School 1896-1916,” “6. The Sacred Spring: Wagner, Olbrich and Hoffman 1886-1912,” and “8. Adolf Loos and the crisis of culture 1896-1912,” in Modern Architecture: A Critical History (4th Edition), pp. 64-73, 74-77, 78-83, 90-95.
Gravagnuolo, Benedetto, “Müller House, Prague, 1930,” in Adolf Loos, Theory and Works (New York: Rizzoli, 1982), pp. 201-203. ISBN 0-8478-0414-3, 228 pages.

Suggested Readings

Pevsner, “Art Nouveau,” in Pioneers of Modern Design.
Schmutzler, R., Art Nouveau - N6490 S28.
Collins, G.R., Antonio Gaudi - NA1313 G3A56.
Martinell, C., Gaudi - NA1313 G3M351.
Borsi, F, and Portoghesi, P., Victor Horta - NA1173 H6B6512.
Howarth, T., Charles Rennie Mackintosh - NA997 M22H67.
Brett, D., Charles Rennie Mackintosh: The Poetics of Workmanship.
Loos, A., “Ornament and Crime,” in Harrison-Moore and Rowe, Architecture and Design.

Lecture 9 – February 7

Frank Lloyd Wright (1867-1959) and new concepts of architectural space.

Required Readings

Frampton, K., “3. Frank Lloyd Wright and the myth of the Prairie 1890-1916,” and “21. Frank Lloyd Wright and the Disappearing City 1929-63,” in Modern Architecture: A Critical History (4th Edition), pp. 57-63, 186-91.
Wright, Frank Lloyd Wright, “The Usonian House I [Jacobs House],” in The Natural House (New York: Meridian, 1970), pp. 66-73, 76-81. 224 pages.

Suggested Readings

McCarter, R., ed., On and By Frank Lloyd Wright.
Kaufmann, E. and Raeburn, B., eds., Frank Lloyd Wright: Writings and Buildings.
Collins, P., “24. New Concepts of Space,” in Changing Ideals in Modern Architecture.
Brooks, H.A., ed., Writings on Wright.
Gill, B., Many Masks: A Life of Frank Lloyd Wright - NA737 W7G54.
Hildebrand, G., The Wright Space - NA737 W7H46.
Hitchcock, H.-R., In the Nature of Materials 1887-1941.

Quinan, J., Frank Lloyd Wright's Martin House: Architecture as Portraiture.
Wright, F.L., An Autobiography.

Lecture 10 – February 9

Representation from 1400 to the Present: Perspective to Cubism.

Required Readings

Porter, T., "1. Short History of Spatial Representation," in How Architects Visualize (London: Studio Vista, 1979), pp. 1-14, 115. ISBN 0-289-70862-1, 120 pages.
Evans, R., "Translations from Drawing to Building," in AA Files, No. 12, (Summer 1986), pp. 3-18. ISSN 0261-6823, 112 pages.

Suggested Readings

Panofsky, E., Perspective as Symbolic Form - NC750 P2313.
White, J., The Birth and Rebirth of Pictorial Space - NC750 W48.
Wilton-Ely, J., The Mind and Art of Giovanni Battista Piranesi - NE662 P5W54.
Evans, R., The Projective Cast.
Pérez-Gómez, A. and Pelletier, L., Architectural Representation and the Perspective Hinge.
Fry, E., Cubism.

Lecture 11 – February 14

The Influence of Painting and Sculpture 1: the Avant-Garde Movements (Deutscher Werkbund, Expressionism, the Bauhaus). Peter Behrens (1868-1940), Bruno Taut (1880-1938), E. Mendelsohn (1887-1953), Walter Gropius (1883-1969).

Required Readings

Frampton, K., "12. The Deutsche Werkbund 1898-1927," "13. The Glass Chain: European Architectural Expressionism 1919-25," and "14. The Bauhaus: the evolution of an idea 1919-32," in Modern Architecture: A Critical History (4th Edition), pp.109-15, 116-22, 123-29.
Banham, Reyner, "26. The Bauhaus," in Theory and Design in the First Machine Age (London: The Architectural Press, 1967), pp. 276-288. 338 pages.

Suggested Readings

Muthesius, H., The English House.
Sharp, D., Modern Architecture and Expressionism.
Gropius, W., "Programme of the Staatliche Bauhaus...," in Harrison-Moore and Rowe, Architecture and Design.
Gropius, W., The New Architecture and the Bauhaus.
Sharp, Dennis, Bauhaus, Dessau, Walter Gropius.
Naylor, G., Bauhaus.
Nerdinger, W., Walter Gropius.
Jacques, A., "The Programmes of the Architectural Section of the Ecole des Beaux-Arts," in R. Middleton, ed., The Beaux-Arts and Nineteenth-Century French Architecture.

Lecture 12 – February 16

The Influence of Painting and Sculpture 2: the Avante-Garde Movements (Cubism, Futurism, De Stijl, Constructivism). Antonio Sant'Elia (1880-1916), Theo van Doesburg (1883-1931), Gerrit Rietveld (1888-1964), El Lissitzky (1890-1941), Vladimir Tatlin (1885-1953), Konstantin Melnikov (1890-1974), Ivan Leonidov (1902-1959).

Required Readings

Frampton, K., "7. Antonio Sant'Elia and Futurist architecture 1909-14," "16. De Stijl: the evolution and dissolution of Neo-Plasticism 1917-31," and "19. The New Collectivity: art and architecture in the Soviet Union 1918-32," in Modern Architecture: A Critical History (4th Edition), pp. 84-89, 142-48, 167-77.
Norberg-Schulz, Christian, "Schröder House," in Architecture: Meaning and Place (New York: Rizzoli, 1988), pp. 141-143, 147-148, 151-152. ISBN 0-8478-0847-5, 254 pages.

Suggested Readings

Collins, P., "23. The Influence of Paining and Sculpture," Changing Ideals in Modern Architecture.
Banham, R., "Architecture and the Cubist Tradition," in Theory and Design in the First Machine Age.

Warncke, C.-P., De Stijl 1917-31.

Doig, A., Theo van Doesburg: Painting into Architecture, Theory and Practice.

De Stijl, "Manifesto V," in Conrads, U., Programs and manifestoes on 20th-century arch.

Sant'Elia, A. and Marinetti, F.T., "Futurist Architecture," in Conrads, U., Programs and manifestoes on 20th-century arch.

El Lissitzky, Russia: An Architecture for World Revolution.

Cooke, C., Russian Avant-Garde: Theories of Art, Architecture and the City.

Alberta Family Day – February 20, 2017

Block Week/Reading Week – February 21-24, 2017

Lecture 13 – February 28

Le Corbusier (1887-1965), Form, and the Mechanical Analogy.

Required Readings

Frampton, K., "17. Le Corbusier and the Esprit Nouveau 1907-31," "20. Le Corbusier and the Ville Radieuse 1928-46," and "25. Le Corbusier and the monumentalization of the vernacular 1930-60," in Modern Architecture: A Critical History (4th Edition), pp. 149-60, 178-85, 224-30.

Rowe, Colin, "La Tourette," in The Mathematics of the Ideal Villa and Other Essays (Cambridge, Mass.: MIT Press, 1982), pp. 185-201. ISBN 0-262-68037-8, 226 pages.

Suggested Readings

Le Corbusier, Towards a New Architecture.

Raeburn, M. and Wilson, V., eds., Le Corbusier: Architect of the Century.

Frampton, K., Le Corbusier.

Benton, T., The Villas of Le Corbusier, 1920-1930.

Curtis, W.J.R., Le Corbusier: Ideas and Forms.

Rowe, C., The Mathematics of the Ideal Villa and Other Essays.

von Moos, S., Le Corbusier: Elements of a Synthesis.

Cohen, Jean-Louis, ed., Le Corbusier: An Atlas of Modern Landscapes.

Lecture 14 – March 2

Slide Test 1 (material up to Lecture 12)

Lecture 15 – March 7

New Objectivity, the International Style and the Modernist City (CIAM). Tony Garnier (1869-1948), Richard Neutra (1892-1970), M. Brinkman (1902-1949) & L.C. van der Vlugt (1894-1936), G. Howe (1886-1955) & W. Lescaze (1896-1969), and O. Niemeyer (1907-).

Required Readings

Frampton, K., "15. The New Objectivity: Germany, Holland and Switzerland 1923-33," and "1. The International Style: theme and variations 1925-65," in Modern Architecture: A Critical History (4th Edition), pp. 130-41, 248-61.

Hines, Thomas S., "Breakthrough, 1926-1930 [Lovell Health House]" in Richard Neutra and the Search for Modern Architecture (New York: Oxford University Press, 1982), pp. 75-81, 84, 86, 89, 91, 325-327. ISBN 0-19-503028-1, 356 pages.

Suggested Readings

Hitchcock, H.-R., and Johnson, P., The International Style.

Weston, R., Modernism.

Colquhoun, A., Modern Architecture.

"Leen Van der Vlugt," Wiederhall 14.

Neutra, R., Survival Through Design.

Niemeyer, O., The Curves of Time: the Memoirs of Oscar Niemeyer.

Mumford, E., The CIAM Discourse on Urbanism, 1928-1960.

Pommer, R., Weissenhof 1927 and the Modern Movement in Architecture.

Frampton, K. et al, Building Brasilia.

Lecture 16 – March 9

Masters of Modern Architecture: Mies van der Rohe (1886-1969), Alvar Aalto (1896-1976), and Louis Kahn (1901-1974).

Required Readings

- Frampton, K., “18. Mies van der Rohe and the significance of fact 1921-33,” “22. Alvar Aalto and the Nordic Tradition: National Romanticism and the Doricist sensibility 1895-1957,” “26. Mies van der Rohe and the monumentalization of technique 1933-67,” and “27. The Eclipse of the New Deal: Buckminster Fuller, Philip Johnson and Louis Kahn 1934-64,” in Modern Architecture: A Critical History (4th Edition), pp. 161-66, 192-202, 231-37, 238-246.
- Pallasmaa, Juhani, “Villa Mairea – fusion of Utopia and Tradition,” in Yukio Futagawa, ed., Alvar Aalto: Villa Mairea, Noormarkku, Finland, 1937-39 (Tokyo: A.D.A. Edita/Global Architecture, 1985), pp. 2-7, ISBN 4-87140-067-0, 44 pages.

Suggested Readings

- Lambert, P., ed., Mies in America.
- Zukowsky, T., ed., Mies Reconsidered.
- Pallasmaa, J., ed., Alvar Aalto: Villa Mairea.
- Weston, R., Alvar Aalto.
- Weston, R., Town Hall, Saynatsalo (Alvar Aalto).
- Aalto, A., “The Trout and the Stream,” in Schildt, G., Alvar Aalto, In His Own Words.
- Brownlee, D.B. and De Long, D.C., Louis I. Kahn: In the Realm of Architecture.
- Benedikt, M., Deconstructing the Kimbell.
- Steele, J., Salk Institute (Louis I. Kahn).
- Frampton, K., Studies in Tectonic Culture.

Lecture 17 – March 14

Architecture and the State. Berlin and the Third Reich, 1929-41. Fascist Rome, 1931-42. Soviet Moscow, 1931-38.

Required Readings

- Frampton, K., “23. Giuseppe Terragni and the architecture of Italian Rationalism 1926-43,” and “24. Architecture and the State: ideology and representation 1914-43,” in Modern Architecture: A Critical History (4th Edition), pp. 203-09, 210-23.
- Blundell Jones, Peter, “10. Giuseppe Terragni: Casa del Fascio, Como, 1932-36,” in Modern Architecture Through Case Studies (Oxford: Architectural Press, 2002), pp. 149-160. ISBN 0-7506-3805-2, 256 pages.

Suggested Readings

- Benevolo, L., History of Modern Architecture.
- Borsi, F., The Monumental Era: European Architecture and Design 1929-39.
- Kostof, S., The Third Rome 1870-1950.
- Miller Lane, B., Architecture and Politics in Germany 1918-1945.
- Speer, A., Inside the Third Reich, Memoirs.
- Van Pelt, R.J. and Dwork, D., Auschwitz, 1270 to the Present.
- Paxton, R.O., The Anatomy of Fascism.

Lecture 18 – March 16

Critiques of Modernism 1: New Brutalism, Team 10, Rationalism. Alison Smithson (1928-1993), Peter Smithson (1923-2003), Aldo Van Eyck (1918-1999), Aldo Rossi (1931-1997).

Required Readings

- Frampton, K., “2. New Brutalism and the architecture of the Welfare State: England 1949-59,” “3. The vicissitudes of ideology: CIAM and Team X, critique and counter-critique 1928-68,” in Modern Architecture: A Critical History (4th Edition), pp. 262-68, 269-79.
- Colquhoun, Alan, “Centraal Beheer,” in Essays in Architectural Criticism: Modern Architecture and Historical Change (Cambridge, Mass.: MIT Press, 1981), pp. 104-105, 108-109, 205. ISBN 0-262-03076-4, 216 pages.

Suggested Readings

- Banham, R., Theory and Design in the First Machine Age.
- Smithson, A., Team 10 Primer.
- Rossi, A., The Architecture of the City.

Rossi, A., A Scientific Autobiography.

Lecture 19 – March 21

Critiques of Modernism 2: Post-Modernism/Populism, High-Tech (Archigram, Metabolism), Deconstruction. Robert Venturi (1925-), Charles Moore (1925-1993), James Stirling (1926-1992), Peter Cook (1936-), Norman Foster (1935-), Richard Rogers (1933-), Renzo Piano (1937-), Peter Eisenman (1932-), Frank Gehry (1929-), Daniel Libeskind (1946-), Rem Koolhaas (1944-), Bernard Tschumi (1944-).

Required Readings

Frampton, K., “4. Place, Production and Scenography: international theory and practice since 1962,” in Modern Architecture: A Critical History (4th Edition), pp. 280-313.

Venturi, R., “Residence in Chestnut Hill, Pa.,” in Complexity and Contradiction in Architecture (New York: Museum of Modern Art, 1977), pp. 118-119. ISBN 0-87070-282-3. 136 pages.

Suggested Readings

Jencks, C., The Language of Post-Modern Architecture.

Venturi, R., Complexity and Contradiction in Architecture.

Frampton, K., “7. Architecture in the Age of Globalization: topography, morphology, sustainability, materiality, habitat and civic form 1975-2007,” in Modern Architecture: A Critical History (Fourth Edition).

Koolhaas, R., Delirious New York.

Koolhaas, R., S, M, L, XL.

Bedard, J.F., ed., Cities of Artificial Excavation: The Work of Peter Eisenman, 1978-88.

Norris, C. and A. Benjamin, What is Deconstruction?

Wigley, M. and P. Johnson, Deconstructivist Architecture.

Eisenman, Peter, Ten Canonical Buildings, 1950-2000.

Lecture 20 – March 23

Critiques of Moderns 3: Critical Regionalism: Luis Barragan (1902-1987), Carlo Scarpa (1906-1978), Jørn Utzon (1918-2008), Alvaro Siza (1933-), Glenn Murcutt (1936-). Modern Architecture in Japan: Kenzo Tange (1913-2005), Kazuo Shinohara (1925-2006), Fumihiko Maki (1928-), Arata Isozaki (1931-), Kisho Kurokawa (1934-2007), Tadao Ando (1941-), Toyo Ito (1941-), Kazuyo Sejima (1956-), Shigeru Ban (1957-).

Required Readings

Frampton, K., “5. Critical Regionalism: modern architecture and cultural identity,” in Modern Architecture: A Critical History (4th Edition), pp. 314-327.

Frampton, K., “The Work of Tadao Ando,” in Labour, Work and Architecture (London: Phaidon, 2002), pp. 305-317. ISBN 0 7148 4080 7, 352 pages.

Suggested Readings

Frampton, K., “6. World architecture and reflective practice,” in Modern Architecture: A Critical History.

Lefaivre, L. and A. Tzonis, Critical Regionalism: Architecture and Identity in a Globalized World.

Tzonis, A. and L. Lefaivre, “The Grid and the Pathway,” Architecture in Greece, No. 5, (1981).

Frampton, K., “Towards a Critical Regionalism...,” in H. Foster, ed., Postmodern Culture.

Dal Co, F. and Mazzariol, G., Carlo Scarpa: The Complete Works.

Frampton, K., Alvaro Siza: Complete Works.

Barragan Foundation, Luis Barragan: The Quiet Revolution.

Weston, R., Jørn Utzon.

Dal Co., F., Tadao Ando: Complete Works.

Isozaki, A., Japan-ness in Architecture.

Lecture 21 – March 28

Modern Architecture in Canada 1: West Coast, Central Canada, and Expo 67. Ron Thom (1923-1986), Arcop Associates, Ray Affleck (1922-1989), Arthur Erickson (1924-2009), J. Diamond (1932-) & B. Myers (1934-), Patricia Patkau (1950-) and John Patkau (1947-).

Required Readings

Whiteson, Leon, “Modern Canadian Architecture: A General Introduction,” in Modern Canadian Architecture (Edmonton: Hurtig Publishers Ltd., 1983), pp. 9-21. ISBN 0-88830-248-7, 272 pages.

Thom, Ron, “Modern Architecture on the West Coast,” in Whiteson, Leon, Modern Canadian Architecture

(Edmonton: Hurtig Publishers Ltd., 1983), pp. 22-23. ISBN 0-88830-248-7, 272 pages.
Erickson, Arthur, "Museum of Anthropology," in The Architecture of Arthur Erickson (Vancouver: Douglas & McIntyre, 1988), pp. 83-85, 87-89. ISBN 0-88894-610-4, 228 pages.

Suggested Readings

Kalman, H., A History of Canadian Architecture, Volume 2, pp. 779-808, 826-833.
Moore Ede, C., Canadian Architecture 1960/70.
Cawker, R. and Bernstein, W., Contemporary Canadian Architecture.
Simmins, G., Documents in Canadian Architecture.
Rochon, L., Up North.
Shadbolt, D., Ron Thom.
Gruft, A., Patkau Architects.
Gruft, A., Substance Over Spectacle: Contemporary Canadian Architecture.

Lecture 22 – March 30

Modern Architecture in Canada 2: the Prairies. Jack Long (1925-2001), Clifford Wiens (1926-), Peter Hemingway (1929-1995), Etienne Gaboury (1930-), Douglas Cardinal (1934-), Gordon Atkins (1937-), Fred Valentine (1939-).

Required Readings

Hemingway, Peter, "Prairie Architecture: An Introduction," in Whiteson, Leon, Modern Canadian Architecture (Edmonton: Hurtig Publishers Ltd., 1983), pp. 68-69. ISBN 0-88830-248-7, 272 pages.
Boddy, Trevor, "St. Mary's Church," in The Architecture of Douglas Cardinal (Edmonton: NeWest Press, 1989), pp. 31-37, 39-40, 43. ISBN 0-920897-44-4, 150 pages.

Suggested Readings

Kalman, H., A History of Canadian Architecture, Volume 2, pp. 812-826.
Buchanan, P., "Back to the Future," in Canadian Architect, March 1994.
Keshavjee, S., ed., Winnipeg Modern.
Boddy, T., Modern Architecture in Alberta.
Simmins, G., ed., Calgary Modern.
Flaman, B., Character and Controversy...Modernist Architecture in Saskatchewan.
Livesey, G., Gordon Atkins: Architecture 1960-1995.
Gaboury, E., Etienne Gaboury.
Ylitalo, K., ed., L.F. Valentine: Career Works 1963-2005.

Lecture 23 – April 4

A Brief History of Women in Architecture. Catharine Beecher (1800-1878), Julia Morgan (1872-1957), Eileen Gray (1878-1976), Zaha Hadid (1950-2016).

Required Readings

Wright, G., "10. On the Fringe of the Profession: Women in American Architecture," in S. Kostof, ed., The Architect: Chapters in the History of the Profession (Berkeley: U. of California Press, 2000), pp. 280-308. ISBN 0-520-22604-6, 386 pages.
Lemco van Ginkel, Blanche, "Slowly and Surely (But Somewhat Painfully) More or Less the History of Women in Architecture in Canada," The Canadian Architect, (November 1993), pp. 15-17.
Rykwert, J., "Two Houses by Eileen Gray," in The Necessity of Artifice (New York: Rizzoli, 1982), pp. 51-52, 54, 56-57. ISBN 0-8478-0402-X, 143 pages.

Suggested Readings

Arnold, D., "Reading Architectural Herstories: The Discourses of Gender" in Reading Architectural History.
Walker, L., "Women and Architecture," in Harrison-Moore and Rowe, Architecture and Design.
Torre, S., ed. Women in Architecture: A Historic and Contemporary Perspective.
Hayden, D., The Grand Domestic Revolution.
Berkeley, E.P., ed., Architecture: A Place for Women - NA1997 A74.
Cole, D., From Tipi to Skyscraper: A History of Women in Architecture.
Boutelle, S., Julia Morgan, Architect.
Kanes-Weisman, L., Discrimination By Design.

Lecture 24 – April 6

Slide Test 2 – To be confirmed (material from lectures 13-23)

Lecture 25 – April 11

No Class

SUGGESTED BOOK REVIEW TEXTS

- A.W.N. Pugin, The True Principles of Pointed or Christian Architecture (1841).
John Ruskin, The Stones of Venice (1851).
Catherine Beecher and Harriet Beecher Stowe, The American Woman's Home (1869).
Eugene E. Viollet-le-Duc, Entretiens sur l'architecture (1863-72).
E. Bellamy, Looking Backwards, (1888).
W.R. Lethaby, Architecture, Mysticism and Myth (1892).
C. Sitte, City Planning According to Artistic Principles (1899).
Louis Sullivan, Kindergarten Chats and Other Writings (1885-1906).
Barry Parker and Raymond Unwin, The Art of Building a Home (1901).
Raymond Unwin, Town Planning in Practice (1909).
Louis Sullivan, The Autobiography of an Idea (1924).
K. Teige, The Minimum Dwelling (1932).
El Lissitzky, Russia: An Architecture for World Revolution (1920s).
M. Ginzburg, Style and Epoch (1924).
W. Gropius, The New Architecture and the Bauhaus (1925).
Le Corbusier, The City of To-morrow and its Planning (1929).
Le Corbusier, Precisions (1930).
H.R. Hitchcock and P. Johnson, The International Style (1932).
F.L. Wright, The Natural House (1954).
Richard Neutra, Survival Through Design (1954).
Gaston Bachelard, The Poetics of Space (1958).
Reyner Banham, Theory and Design in the First Machine Age (1960).
Robert Venturi, Complexity and Contradiction in Architecture (1966).
Aldo Rossi, The Architecture of the City (1966).
Alison Smithson, Team 10 Primer (1968).
R. Buckminster Fuller, Operating Manual for Spaceship Earth (1968).
Robert Venturi et al, Learning from Las Vegas (1972).
Peter Cook, Archigram (1972).
H. Fathy, Architecture For the Poor (1973).
Manfredo Tafuri, Architecture and Utopia (1973).
Shadrach Woods, The Man in the Street (1975).
Yona Friedman, Toward a Scientific Architecture (1975).
C. Rowe and F. Koetter, Collage City (1975).
Rem Koolhaas, Delirious New York (1978).
Christopher Alexander, The Timeless Way of Building (1979).
Christian Norberg-Schulz, Genius Loci: Towards a Phenomenology of Architecture (1980).
Aldo Rossi, A Scientific Autobiography (1981).
M. Wigley and P. Johnson, Deconstructivist Architecture (1988).
Herman Hertzberger, Lessons for Students in Architecture (1991).
Diana Agrest, Architecture from Without (1991).
Kisho Kurokawa, Intercultural Architecture: The Philosophy of Symbiosis (1991).
W.J. Mitchell, City of Bits (1995).
Vittorio Gregotti, Inside Architecture (1996).
Albert Pope, Ladders (1996).
Oscar Niemeyer, The Curves of Time: the Memoirs of... (2000).
P. Eisenman: G. Terragni: Transformations, Decompositions, Critiques (2003).
S. Kieran and J. Timberlake, Refabricating Architecture (2004).
Reiser and Umemoto, Atlas of Novel Tectonics (2006).

SUGGESTED ESSAY TOPICS

Select one of the following topics and examine:

- the concept of 'ugliness' in the work of William Butterfield.
- the notion of Edinburgh as the "Athens of the North."
- the impact of F.L. Olmsted's Central Park as a romantic landscape.
- the systematic development of reinforced concrete construction in the Perret brothers office in Paris.
- notions of 'home' in the work of C.F.A. Voysey.
- the relationship between house and garden in the works of Edwin Lutyens and Gertrude Jekyll.
- the role of Dankmar Adler in the Adler and Sullivan practice.
- the emergence of large professional architectural offices in late 19th century Chicago.
- Daniel Burnham and the spread of City Beautiful principles.
- the Garden City cottage as a minimum dwelling.
- the Freudian interpretation of Frank Lloyd Wright's work in the writings of Vincent Scully and others.
- the role of drawing in the career of Marion Mahoney Griffin.
- the role of collaboration in the work of Charles Rennie Mackintosh.
- Joseph Maria Olbrich's design of the artists colony in Darmstadt.
- the use of architectural metaphor in the work of Antoni Gaudi.
- the concept of the 'raumplan' in the houses of Adolf Loos.
- the influence of vernacular and regional factors on Le Corbusier's work of the 1930s.
- the foundation design course developed by Josef Albers at the Bauhaus.
- the role of furniture in Eileen Gray's house designs.
- desert themes in the architecture of Mary Colter.
- the modernist development of the Garden City model at Frankfurt in the 1920s.
- Le Corbusier's project for the Maisons Loucheur.
- themes in the work of Johannes Duiker.
- representations of Fascism in the architecture of A. Libera.
- themes in the Constructivist work of Ivan Leonidov.
- the role of representation in Mies van der Rohe's architecture.
- the concepts behind the geodesic structures of Buckminster Fuller.
- the expressive modern architecture of Oscar Niemeyer.
- the use of non-rectilinear geometry in late work by Frank Lloyd Wright.
- Alvar Aalto's use of wood in his architecture.
- the poetics of Louis I. Kahn's architecture.
- the concept of the "casbah" in Team 10 design.
- Catherine Bauer's studies of housing.
- the curriculum of the Hochschule für Gestaltung at Ulm in the 1950s.
- the early curriculum of the College of Environmental Design at UC Berkeley in the 1960s.
- Alison and Peter Smithson's concepts for basic house design.
- themes in the work of Cedric Price.
- urban theories of Shadrach Woods.
- the concepts of the Japanese Metabolist movement.
- Daniel Libeskind's "Micro-megas" drawings.
- the sculptural approach to design in Frank Gehry's architecture.
- the use of landscape in the architecture of Luis Barragan.
- Peter Eisenman's concept of "archaeology" in his work of the 1980s.
- themes in the work of Shin Takamatsu.
- the role of "event" in the early work of Bernard Tschumi.
- the 1970s hi-tech architecture of Diamond and Myers.
- the role of landscape in the work of Canadian Prairie architects.
- themes in Arthur Erickson's designs for houses.
- digital processes in the design work of Zaha Hadid.

LIST OF KEY BUILDINGS

2.	Karl Friedrich Schinkel C. Barry and A.W.N. Pugin	Altes Museum, Berlin Houses of Parliament, Westminster	1828-1830 1840-1870*
3.	Joseph Paxton Henri Labrouste J.A. and W.A. Roebling Gustave Eiffel	Crystal Palace, London Bibliothèque Nationale, Paris Brooklyn Bridge, New York Eiffel Tower, Paris	1851* 1860-1868 1883 1889
4.	Philip Webb C.F.A. Voysey	Red House, Bexleyheath Broadleys, Cumbria	1859 1898*
5.	H.H. Richardson Adler & Sullivan Burnham & Root William Le Baron Jenney Adler & Sullivan	Marshall Field Store, Chicago Auditorium Building, Chicago Monadnock Building, Chicago Fair Store, Chicago Wainwright Building, St. Louis	1885-1887 1887-1889 1889-1892 1890-1891 1891*
6.	Baron Haussmann et al Ildafonso Cerda Frederick Law Olmsted	Transformation of Paris Barcelona Riverside, Chicago	1853- 1858 1869
7.	Barry Parker & Raymond Unwin	Letchworth Garden City	1903-*
8.	Victor Horta Hector Guimard Antoni Gaudi Antoni Gaudi Antoni Gaudi Charles Rennie Mackintosh Charles Rennie Mackintosh Joseph Maria Olbrich Joseph Hoffmann Adolf Loos Adolf Loos	Hôtel Tassel, Brussels Metropolitain Entrances, Paris Casa Battló, Barcelona Casa Milà, Barcelona Sagrada Familia, Barcelona Glasgow School of Art Hill House, Helensburgh Secession Building, Vienna Palais Stoclet, Brussels Steiner House, Vienna Müller House, Prague	1892 1899-1904 1905-1907 1906-1910 1882-Present 1896-1909 1902-1903 1898 1905-1910 1910 1930*
9.	Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright Frank Lloyd Wright	Winslow House, River Forest Martin House, Buffalo Unity Park Temple, Oak Park Robie House, Chicago Broadacre City Falling Water, Bear Run Johnson Wax Admin. Building, Racine Jacobs House, Madison Guggenheim Museum, New York	1893-1894 1904 1904-1906 1908-1909 1934-1958 1936 1936-1939, 1944-1950 1936-1937* 1943
11.	Peter Behrens Walter Gropius and Adolf Meyer Walter Gropius and Adolf Meyer Bruno Taut Erich Mendelsohn Walter Gropius	AEG Turbine Factory, Berlin Fagus Factory, Alfred-an-der-Leine Werkbund Exhibition, Cologne Glass Pavilion, Cologne Einstein Tower, Potsdam Bauhaus, Dessau	1908-1909 1911 1914 1914 1917-1921 1925-1926*
12.	Antonio Sant'Elia Gerrit Rietveld Konstantin Melikov Vladimir Tatlin	Città Nuova Project Schröder House, Utrecht USSR Pavilion, Paris Monument to the Third International Project	1914 1924* 1925 1919-1920
14.	Le Corbusier	Maison Dom-Ino Project	1915

	Le Corbusier	Ville Contemporaine Project	1922
	Le Corbusier	Villa da Monzie, Garches	1927
	Le Corbusier	Villa Savoye, Poissy	1929-1931
	Le Corbusier	Ville Radieuse Project	1931
	Le Corbusier	Weekend House, Paris	1935
	Le Corbusier	Unité d'Habitation, Marseilles	1947-1952
	Le Corbusier	La Tourette, near Lyons	1957-1960*
	Le Corbusier	Nôtre Dame du Haut, Ronchamp, near Belfort	1950-1955
	Le Corbusier	Chandigarh	1951-1965
15.	Hannes Meyer	League of Nations Project, Geneva	1926-1927
	Brinkman and Van der Vlugt	Van Nelle Factory, Rotterdam	1927-1929
	May and Rudloff	Bruchfeldstrasse Estate, Frankfurt	1925
	Richard Neutra	Lovell Health House, Los Angeles	1927*
	Richard Neutra	Kaufmann Desert House, Palm Springs	1946-1947
	Niemeyer and Costa	Brasilia	1956-1963
16.	Mies van der Rohe	Project for Brick Country House	1923
	Mies van der Rohe	German Pavilion, Barcelona	1929
	Mies van der Rohe	Farnsworth House, Plano	1946-1950
	Mies van der Rohe	Crown Hall, IIT, Chicago	1952-1956
	Mies van der Rohe	Seagram Building, New York	1958
	Alvar Aalto	Sanitorium, Paimio	1929-1933
	Alvar Aalto	Library, Viipuri	1927-1935
	Alvar Aalto	Villa Mairea, Moormarku	1938-1939*
	Alvar Aalto	Town Hall, Säynätsalo	1949-1952
	Louis Kahn	Yale U. Art Gallery, New Haven	1950-1954
	Louis Kahn	Richards Labs, Philadelphia	1957-1961
	Louis Kahn	Salk Institute, La Jolla	1959-1965
17.	Giuseppe Terragni	Casa del Fascio, Como	1932-1936*
	B.N. Iofan	Palace of the Soviets, Moscow	1934
	Albert Speer	Stadium, Nuremberg	1937
18.	Alison and Peter Smithson	School, Hunstanton	1949-1954
	Stirling and Gowan	Engineering Building, Leicester U.	1959
	Candilis, Josic and Woods	Project, Frankfurt-Römerberg	1963
	Woods and Schiedhelm	Free University, Berlin	1963-1973
	Herman Hertzberger	Central Beheer Building, Apeldoorn	1974*
	Aldo Rossi	Gallaratese Housing, Milan	1969-1973
	Aldo Rossi	Cemetery of San Cataldo, Modena	1971-
19.	Venturi & Rauch	Vanna Venturi House, Chestnut Hill, Pa.	1962*
	Charles Moore	Piazza d'Italia, New Orleans	1975-1979
	Michael Graves	Portland Building, Portland	1979-1982
	James Stirling	Staatsgalerie, Stuttgart	1980-1983
	Ron Herron	Walking Cities Project	1962
	Frei Otto	German Pavillion, Montreal (Expo)	1967
	K. Kurokawa	Nakagin Capsule Tower, Tokyo	1971
	Piano and Rogers	Centre Pompidou, Paris	1972-1977
	Norman Foster	Willis-Faber and Dumas Building, Ipswich	1975
	Norman Foster	Hong and Shanghai Bank, Hong Kong	1979-1984
	Frank Gehry	Gehry House, Santa Monica	1979
	Peter Eisenman	Wexner Center, Columbus	1983-1989
	Bernard Tschumi	Parc de la Villette, Paris	1984
	Daniel Libeskind	Jewish Museum, Berlin	1989-1999
20.	Jørn Utzon	Bagsvaerd Church, near Copenhagen	1976
	Carlo Scarpa	Castelvecchio Museum, Verona	1957-1974
	Tadao Ando	Koshino House, Osaka	1981*

21.	Ron Thom Ron Thom Erickson and Massey ARCOP Diamond and Myers Zeider Partnership Arthur Erickson	Massey College, Toronto Trent University, Peterborough Smith House, West Vancouver Place Bonaventure, Montreal HUB Mall, U. of Alberta, Edmonton McMaster U. Health Sciences Centre, Hamilton Museum of Anthropology, Vancouver	1960-1963 1963- 1965 1964-1968 1972 1972 1976*
22.	Etienne Gaboury Douglas Cardinal	Eglise de Precieux Sang, St. Boniface St. Mary's, Red Deer	1967-1968 1968*
23.	Eileen Gray	E-1027 House, Roquebrune-Cap-Martin	1927*

* Described in Course Reader.

NOTES

1. Written work, term assignments and other course related work may only be submitted by e-mail if prior permission to do so has been obtained from the course instructor.
2. Academic Accommodations. Students who require an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to their Instructor or the designated contact person in EVDS, Jennifer Taillefer (jtaillef@ucalgary.ca). Students who require an accommodation unrelated to their coursework or the requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Vice-Provost (Student Experience). For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/
3. Plagiarism - Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when:(a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test),(b) parts of the work are taken from another source without reference to the original author,(c) the whole work (e.g., an essay) is copied from another source, and/or,(d) a student submits or presents work in one course which has also been submitted in another course(although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. It is recognized that clause (d) does not prevent a graduate student incorporating work previously done by him or her in a thesis. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.
4. Information regarding the Freedom of Information and Protection of Privacy Act (<http://www.ucalgary.ca/secretariat/privacy>) and how this impacts the receipt and delivery of course material
5. Emergency Evacuation/Assembly Points (<http://www.ucalgary.ca/emergencyplan/assemblypoints>)
6. Safewalk information (<http://www.ucalgary.ca/security/safewalk>)
7. Contact Info for: Student Union (<http://www.su.ucalgary.ca/page/affordability-accessibility/su-structure/contact-info>); Graduate Student representative(<http://www.ucalgary.ca/gsa/>) and Student Ombudsman's Office (<http://www.su.ucalgary.ca/page/quality-education/academic-services/student-rights>).
8. At the discretion of the instructor, assignments submitted after the deadline **may** be penalized with the loss of a grade (e.g.: A- to B+) for each day late. The following equivalencies (the University of Calgary has no official percentage scale system) will be used in calculating grades: **A+** (95.0-100.0); **A** (90.0-94.99); **A-** (85.0-89.99); **B+** (80.0-84.99); **B** (75.0-79.99); **B-** (70.0-74.99); **C+** (65.0-69.99); **C** (60.0-64.99); **C-** (55.0-59.99); **D+** (50.0-54.99); **D** (45.0-49.99); **F** (0.0-44.99).
9. A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript. Final grades will be reported as letter grades, with the final grade calculated according to a 4-point range. Assignments will be evaluated by percentage grades with their letter grade equivalents as shown. The final grade is an aggregate of all individual assignment grades.

The work of the conference is aimed at providing an opportunity for scientists, graduate students and representatives of the construction industry to generalise the recent achievements results in the field of industrial and civil construction (design, organisation of all types of work, construction materials, etc.), discussing promising directions for the construction industry development and establishing useful partner relationships for future Presents papers presented during the XIII International Scientific Conference on Architecture and Construction 2020 held to commemorate the 90th anniversary of Novosibirsk State University of Architecture and Civil Engineering on September 22â€“24, 2020. Contains the latest research reports in the field of sustainable organization of construction production of housing and industrial construction. Includes practical methods to reduce the energy intensity of production processes for the construction of buildings and structures. see more benefits. Buy this book. Architecture E-books - Architecture history. Collection. folkscanomy_architecture; folkscanomy; additional_collections. Language. English. Architecture E-books - Architecture history. Addeddate. 2017-09-17 15:12:44. Identifier. AGlobalHistoryOfArchitecture. Identifier-ark. ark:/13960/t4tj4qp5f.