MITOCW | 26. Conclusion: Towards a Theory of City Form

JULIAN BEINART: I should thank Kevin Lynch. 37 years ago, he stopped me in the corridor. I was teaching in the design program, and that was before we had a separate section for architecture and urbanism.

And he said, you know, I'm going to stop teaching this class. He had already taught it since 1956. I said, why? It's an important class. It's the only place where people learn about the form of cities in a systematic way.

And he said, no, the students are bored by it. There's just a lapse in interest. So I said, are you crazy.

He said, OK, well, you're interested in theory, aren't you? And I said, well, I am not sure. He said--

[LAUGHTER]

--I'll make a deal with you. If you teach it with me for the next period, I'll continue. So we taught it together for two years, and he just announced that he's retiring, leaving the whole damn thing to me. That was 34 years ago. I have to thank him for giving me the opportunity.

Curiously enough, Kevin and I have now taught this class from 1956 to 2013, which is a long stretch. Neither of us will have any formal education in urban history. We don't teach urban history formally. You can do a degree in city planning without knowing where Priene was.

It said neither Harvard nor MIT have treated urban history with the dignity that it deserves. We had an alphabet, but I suppose seeing that Lynch and I-- you will see here as I go through this class-- how much history there is in it. It's not history for the sake of history.

It's based on a fundamental idea that accumulated knowledge makes sense critically. The modern movement in architecture abjured the notion of looking at the past. They were so existentially bound up with the present, nor the future, for that matter-- I'll be covering some of this. I'm just digressing warming up.

[LAUGHTER]

It's a class tradition to do the last class. I'm not doing the last class because it's the last class for me. I'm doing the last class as I've always done it for 34 years. That is, it's an attempt to summarize the material we've done. And as difficult as that is, I'm going to go through it tediously. I hope those of you who've taken this class will forgive me for going over what you already know.

There are two things that I learned from Lynch. The one is that when you posit an idea or theory, theory is perhaps an overblown word. I inherited the title of this class from him and never changed it. You have to, where possible, supplement it with a fact.

If you go down the corridor to Lynch's archives, you'll find his high school notes on Kant and philosophers. We always thought that if we were teaching this class in France, we would never provide any evidence for the theory and just produce more theories based on the theories that preceded us. So I have the Chicago tradition to follow, which says that you have facts to supplement theory-- a very American idea, if I might say so.

The second thing is that details are important. So when I tell you that Joseph Bazalgette used 300 million bricks to build the three cross London sewage tunnels because of cholera in the Thames, you will understand 300 million is a useful figure-- for some people anyway. The last thing that Lynch tried to argue was that, difficult though it is to find evidence, the easy relationship between space and society, and even if you had to make blind cases, it was better than nothing at all.

So, for instance, I argue that the invention in Birmingham in 1830 of the mortgage system had profound effects on British home ownership. The United States lagged behind, and there are reasons to believe that the Great Depression in this country was the cause of there only being balloon or standard loans. The mortgage system provides security, and in the absence of curious crooked landlords, you dealt with a bank, which provided security, as microfinancing in the Third World is now providing security for home ownership to people who've lived in insecure situations all their life.

But I can't argue that whilst I guess that the mortgage system reduced the density of London by spreading it out as opposed to Paris, which didn't-- the density of Paris is about twice as much as that of London-- but I have to guess that the mortgage system has something to do with it. There are not many people who attempt the steering business of connecting space and society. I one edited an Italian version of a magazine by their name [SPEAKING ITALIAN], so I guess I've spent my life trying to understand the relationship. And I'm not sure after 34 years of slogging away in this room that I'm any clearer.

So what I'm going to do is go through the material we've done in this class. I'll try to be as brief as possible. If you get bored, I can't offer you a drink. You have to wait.

I'll try to make as many connections as I can in the material, but I'm going to go through it as if I'm talking to this class, some of whom are here, and they are the only ones who are allowed to ask questions. The rest of you are in a time warp.

[LAUGHTER]

Remind me of that movie-- I can't remember the title-- where the time was changed, where the past became the present. It's very strange to see all of you. We start at the beginning.

About 1,000 miles from where I was born, archaeologists, such as [? Broome, ?] Dart, and Tobias, discovered a 3-million-year-old skull, which they called Australopithecus africanus, a fundamental link between animal and man. The brain size of Australopithecus was about 400 cubic centimeters, about 35% of our contemporary brain size. The argument is that the increase of brain size is largely due to nutritional change, such as Leakey's first discovery of the first [? index ?] in the Olduvai Gorge in Kenya, which dates back to about 2.6 million years.

Nutrition, and a little change, is argued as fundamental to brain increase. I don't know how much larger the human brain can become seeing we still reproduce children through female organs, which are not infinite in size, though some people would wish they were. I've often wondered when the first item for storage of food occurred. I think potter's wheels must come very early. I can't imagine any other permanent form of change in nutrition.

But the British anthropologist Robin Dunbar hypothesizes that human brains grew faster when surrounded by 150 others, a number he still holds true for modern societies, even in social media groups. You're supposed to know only 150 people. His argument is that brain size increases when you're in a society. It's fundamental to the premise of the city.

He goes on to even insinuate that gossip or grooming of newcomers requires language, and language comes from that need rather than any other. It's often been assumed the language derives from men hunting. I use this beginning to indicate the importance of the educative potential of the social city. And secondly, despite all the talk about the city, it's still in its relative infancy, at most 10,000 years in about 3 million years of human development.

We've only been going for 10,000 years at most. It's nothing. It took us 3 million years to get a big brain, and we've wasted it over the last 10,000 years. It says that those of you who are going to be graduating still have a chance to improve. Your brain's not going to get any larger, but your capacity in the use will increase.

From there, we switch to Kevin's three theories of city form. The first is the so-called cosmic view of the city. According to [INAUDIBLE], archaic city form had to do with centeredness, the celestial system, ritual, and circular time. The earliest cities were religious in nature and form, superintended over be omnipotent priests, who secluded their treasure in secret in remote holy of holies, such as the Temple of Marduk on the 200-foot high tower of Babel in Babylon.

The Tower of Babel is at its extreme height for a compression structure without independent support. And you put the temple of the city at the top of it, as you do in-- I did a small case of Jerusalem to make an important point. I was fortunate to work in Jerusalem, both for the Palestinians and the Israelis, and had the chance to autodidact a lot of its history.

Solomon built the first temple in Jerusalem in 1,000 BC, a typical compression fortress with remote sanctuary and no public access. Sacrifice is part of the ritual. In the 7th, 6th century BC, the temple is destroyed by Nebuchadnezzar, and the Jews are taken into exile in Babylon, the greatest city on Earth. There they, deprived of a temple, turn to pray in homes, schools, et cetera. Despite having the prophet Ezekiel with them, which covers six chapters in the Old Testament detailing measures of an envisioned temple, they learn not to miss the temple any longer. They invent a new form of democratic religion.

What the relationship is between deprival and innovation in cities is an interesting idea. It's sometimes justifies, in theorists' minds, the notion that people should be deprived. When I showed my work in Johannesburg in London at the ICA one day a long time ago, I showed the [INAUDIBLE] Township wall paintings. And a man in the audience stood up and said, if I were in Germany, would I be collecting Jewish scribbles on walls? I'd always seen the anarchistic reaction to survival as an important fundamental human condition. He was turning it around and saying, one shouldn't record the blemishes of the past which have succeeded in providing an avenue for improvement.

Anyway, back to Johannesburg. The Jews returned from Babylon to Jerusalem, and Ezra-- the same name of my grandson, not he-- read the Bible, and the people wept. Towards the end of the millennium, Herod rebuilds the temple. Now priests, under the embodiment of the threat to the priests in Germany because the synagogue is appearing and democratic religion is becoming an argument-- before he dies, Christ appears as a radical threat. He is the embodiment of the threat to the priests in Germany.

In his famous statement in the forecourt of Herod's Temple, after years harassed the merchants, he says, "Soon the temple will be destroyed. Don't despair. From then on, my body will be your temple."

Here is a form of substitution, from autocracy to democracy. This is the origin of the church, the origin of the mosque, the origin of the synagogue, the origin of any form of communal prayer-- at least in my view it is. I, therefore, not as a Christian, do not think Christ's death is terribly important. It's only important as a major transition from the archaic state of the world to a beginning of a new communal democracy, at least in religion, not in society.

70 years later, the Romans destroyed the temple, and the Jews had a temple again. The Jews lived in diaspora with their synagogue and book, the Christians with the celebration of Christ's body. The Catholic church still, in miraculous ways, uses the mass to celebrate Christ's body. And my argument is that it comes from this time.

I'm not a Christian, so I can be scatological about religion. I keep on being that way. Nothing convinces me. Nobody uses this argument in the literature that I read, because it's also theocratically ordered that it can't-- this is a classic case in which nobody's making the radical argument that the Son of God can, in fact, change an important function in the world.

We briefly discus the cosmic idea in China and India. We also point to the wide use of the idea in urban metaphysics, for instance, when Joseph Reckford refers to the rationalist Roman town as a dream, when Aldo Rossi refers to two perceived cities, the real and the simultaneously ideally imagined, when the French sociologist Maurice Hauriou refers to the stabilizing power of urban memory, and so on. Lynch's second theoretical model-- I'm going to have to go on quickly, because there's a lot of stuff. Fall asleep if you need to.

Lynch's second theoretical model, the mechanical model or the machine model, covers a wide range of places built for rapid construction, often for colonial settlements, be they for Egyptian [? watery-side ?] workers, Greek colonies where [INAUDIBLE] links the colonial grid and the needs of modern commerce, Roman castramentation and centuriation. The Romans built 5,627 separate civic bodies across the world's vast empire largely through a central financing system and a central spatial system which encompassed both city and country-- castramentation is towards the form of the city, centuriation is a continuation into standard.

If you look at the area around Imola in Italy, for instance, you can still see these Roman traces of squares, each made by what an ox can do in one day using a site chosen by an [INAUDIBLE]. Roman centuriation or Roman--

[DOOR OPENING]

[LAUGHTER]

I don't know who you are.

AUDIENCE: Oh, Andrew Woodmore.

JULIAN BEINART: Andrew, you've lost your hair.

[LAUGHTER]

AUDIENCE: Yeah, it depends on your [INAUDIBLE]. It's good to see you.

[LAUGHTER]

JULIAN BEINART: And Andrew is one of our numerous illustrious graduates. He did his PhD at UCLA, and he just published a book with Sam Bass Warner, which you should all have. We go on to other examples of the mechanical model-- the French Bastide towns in the southwest of France, and the enormous impact of the Spanish laws of the Indies on Latin American cities.

Spanish Latin American cities are founded on the rules of the laws of the Indies. And still today, have-- you take a-- it's not take. In the United States, the laws of the Indies were pronounced from St. Augustine in Florida in 1565 to Los Angeles in 1781. You take a town like Albuquerque, which is the subject of one of our theses, you will see it is a hybrid town, mixed using the rules of the laws of the Indies.

One of the rules of the laws of the Indies is interesting. It refuses to allow-- it forbids Indians to be allowed to enter the stockade before the Spanish cathedral is completed. A perfect example of architectural and urban form serving a mixture of blatant colonial, financial, and missionary purposes.

It's not different, very different, from Edwin LaChance's use of classical form in Delhi. LaChance, after all, claimed the Native Indians didn't have any talent at all, and if he were asked to do a capital in Australia, he wondered whether he would use the marsupial style. We also briefly reviewed on numerous examples of the application of machine ideas to city form, be they as distant to each other as Captain Chambless' moving linear American city and the brutally efficient consignment of Africans in Johannesburg to the barren land of Soweto using one model of a horse as its basis and repeating endlessly.

The organic model, the third of Lynch's models, focus on the interpretation of nature in some form or other as an adequate lesson in the making of city form at some scalar another, either as real or synthetic landscape. The other class focused on a few theories, none as significant as the great Scottish biologist, Patrick Gedde's-- whose work I've attempted to follow as best I could-- whose writings and work in Palestine and in India introduced the central application of sensitive urban surgery, the derivation of local culture, the stable valley section, and others. I regard he and his son-in-laws plan for the Hebrew University in Jerusalem as one of the great pieces of organic architecture-- not biomorphism, which I hate, and find silly, and elusive. But the design for the Hebrew University was much like MIT's. It is a set of corridor systems oriented towards a single center.

You move from one discipline through another to another, much like you do or your body seems to operate. At the center, you have a dome as the coverage. The dome is not trivial. The dome is a biological version of what all religions appreciate. It's the architectural synthesis for Arabs, Jews, and Christians. So this is, to me, a brilliant and logical use of an idea. He doesn't have to have curved forms, like biomorphist architectures do, in order to satisfy the deep structure of biology. It's one of my favorite buildings. It's never built.

To examine the relativity of nature, we examine the USA's most significant regional plan, the TVA, and as many as seven different [INAUDIBLE] attributed to nature. The pre-TVA, Southern agrarian resistant to change. Prior to '33, Roosevelt.

Henry Ford's view of nature's embedded in agriculture. His belief that American industrialization, such as Detroit, without agriculture was a threat to the survival of this country, the good survival of this country. He proposed buying from Congress one of the dams at Muscle Shoals in Alabama, the southern end of the TVA, and building a 75-mile linear city combining agriculture and industry. His view of nature was agricultural.

Roosevelt's vision of the recuperative power of water and green-- he used the term water and green in 1933-- as beneficent to nature. The locating of the anti-nature war-oriented research of Oak Ridge in the TVA caused another reading of anti-nature. The replacement of water supply, energy by coal, and ensuring coal ash disaster in Kingston in 2008 caused *The New York Times* to call this the greatest environmental disaster in America's history.

This is also in-- nature is both a beauty and a beast. We tend only to see the beauty in nature. Survival sees the beast as well.

Why did archaic people look up to the stability of the stars and the sun system? Why is the God Ra in Egypt a permanent sign of heliocentricity? Because it's stable. If you don't understand half the things that happen to you when you have to survive, you look for stability.

Tenancy is a security. Much though Hoover and Roosevelt promoted taxation policies for making homeownership easy in the United States and abjuring the notion of rentership, the argument was that a stable world comes from a world which owns land and property. In the case of Diadema in Sao Paulo, which I will talk about at the end, you will see the return to this fundamental notion.

Really, in some ways, ideas don't change that much. They're just reinterpreted differently. Back to the TVA, the victory of the snail darter by environmentalists taken to the Supreme Court, and causing America to pay more attention to endangered species, was the first great victory for modern environmentalism in this country.

Today, water supplies only about 20% of the energy requirements in the TVA. Nuclear energy and coal supply the rest. Another ecological perspective on nature at the moment is pressing the contemporary TVA to use appropriate sources of energy. Tomorrow, for those of you-- you can see [? Kristen ?] [? Zibert's ?] thesis on what to do about the TVA today.

I only use the TVA as an example of the often radically different uses that the idea of nature has to supplement an ideological position-- not an ideological-- perhaps a scientifically ideological position. We spend two classes looking at other theories of city form other than Lynch's. Wherever possible, the theory was connected to an example. So, for example, when we looked at the apparently value-free [INAUDIBLE] agricultural production map in Southern Germany, we locate it next to Gedde's good valley section.

When we spoke of the zone of transition in the Chicago school concentric circle model of a city, we saw its zone of transition as an important element in the successful fulfillment of the invasion succession model in the American city. The American city has been built by invasion and succession. And when Homer Hoyt ransacked a model of the American city, we mapped it against a plan of apartheid Johannesburg and Atlanta. And when Manual Castells, in one of his wilder days, used the term with *The Wild City* to apply to the American city, we argued it in the light of American consumerism.

We also looked at a number of architects who've made recent propositions about the city as theory, on the one hand, and practice, on the other, other than Lynch, Alexander, [INAUDIBLE], and Martin, and [INAUDIBLE]. I want to get on to the next section, and the next section deals with the 19th century.

In starting this section of the class, I argued that the 19th century was the most important century for you and urbanism. The so-called Industrial Revolution was the biggest event in human history. Again, I dispute Muhammad, and Christ, and all of these guys-- all of these gods-- and reply, the reality which so fascinated Engels and Marx in London and Manchester was a reality which was the most inevitably transforming of human civilization.

I think sometimes this is possible, because I studied the history of modern architecture at Harvard with Sigfried Giedion, who discredited the 19th century completely. He used to come back from weekends in Zurich and say that he arrived on Sunday and walked around Boston and saw the horrible furniture in the stores in Boston's windows. They weren't any modern shops yet.

He was filled with energy about the bad smell of the ruling taste in European 19th century design. He said the only light was the light sought by the French painters and by the good form of the British Swiss builders of bridges. That the French painters were interested in a wider range of things than Giedion didn't illuminate his discourse. So perhaps I'm a 19th centuriest by exclusion.

The sudden advent of modern industrialism and its occurrence in England has never been fully explained. So we refer to a recent widely published version of this, the work of Greg Clark, who argues, amongst others, in studying wills and other evidence, that many, many behaviors in the English were transmitted throughout their society which led to the acceptance of regular working hours, less fighting, and the acceptance of other social norms suited to the industrial process. He argues this in a kind of biogenetic model and the transfer from the wealthy, who lived longer, to the poor, who lived shorter.

He doesn't exactly say how it works, but it's a very controversial new version. So, for instance, cruelty to animals, common in medieval games, such as bearfighting and cockfighting-- you'll remember that Hemingway called bullfighting the most vestigial sport-- was forsworn. And activities, such as boxing, fought between dwarves and giants to amuse medieval crowds on Sunday or Saturday, whichever day they chose, was rationalized in 1850s by rules of equal weights and times. More happened in London between 1851-- the Crystal Palace, the most significant building of the 19th century-- and 1965 or '76 than happened in history in one city in its time. I'll go through London in a minute.

This industrial story has had many tellings. The denial of the long-standing Malthusian trap is one of the most significant. You'll recall that the Malthusian trap consists of the equation, the demographic equation, that population can only grow when there's a food supply.

And this has not been possible until-- well, Malthus wrote in 1799. He was still preoccupied by the presence of the Malthusian. The Malthusian trap was totally destroyed by industrialism, and cities began to grow.

So the denial of the long-standing Malthusian trap, the increases in per capita income, the massive industrial-technological advances, the organization of labor, the rise of participatory democracy, Engels in Manchester watched, with Marx, the rise of English democracy. They were bored by it. Engels' relationship to the chartist movement is interesting.

You see, they were asking for too little. Eventually, of course, they were moved to advocate revolution, which they failed in 1848 in Paris. And then subsequently, Engels traipsed around Europe selling a new dogma-- the elimination of epidemic disease.

Jon Snow discovery three years after the Crystal Palace of the bacillus, which caused the Thames to be a shit hole and produce the bacillus of cholera in waves across England, particularly London, the Soho part of London, John Snow's identification of the bacillus led to the immediate construction of a bypass system to remove garbage from the Thames. The 400 million bricks that Joseph Bazalgette used to build, finish in 1865 of the three east-west tunnels and the two embankments-- one of the things about cities is that you perceive them through your eyes, not your feet. If you walk on the Thames embankment, do you realize that it's one of Bazalgette's last, final attempt to capture sewage before it reaches the river?

I shouldn't denounce the visual. 42% of the brain is occupied with visual perception. There are 10 to the 12 neurons, each connected to 5,000 other cells which equip us to see intelligently.

When Charles [INAUDIBLE] and I worked on the design of the brain in the cognitive science center, I learned a bit of this stuff. And amazing business that goes on, if you've seen [INAUDIBLE] research and how we see. We don't see pictures.

We see billions of pixels appearing on the screen of our eyes, and we have to make sense of what is static and what is moving, what is new, what is not, what happens to that. All of this is coded into the electrical system of the brain. It is to make-- I can't remember who said it. Maybe Leon Wieseltier-- I don't know. Peter, you would know.

Seeing is not-- oh, I don't know. Forgive me. I don't know everything.

[LAUGHTER]

The evil side in the 19th century was also on display. Engels wrote about Manchester's poverty with aid of his illiterate Irish worker mistress, Mary Burns. Engels did something-- I mean, I'm sorry to go on about Engels, but the condition of the working class in England in your book written in your 20s is not a bad piece of legacy to leave.

But what Engels did-- and I often compare him to John Ruskin-- Engels walked in the city. He tried to use his body to pick up. He asked his-- he would ask his illiterate Irish worker friend, why do they have no windows? She'd give an answer.

He'd say, why do the main roads not pass through the town, through the slums? She'd give him an answer. John Ruskin, who later in his life after becoming the poet laureate of England, wrote books like, *Unto This Last,* for the working class of England, both combined a social intelligence with a physical intelligence-- not Raskin so much. Raskin says he learned to see by looking through the window of his childhood bedroom and counting the bricks on the building next door. For somebody who wrote the conditional-- at least the first book on English painting, on English contemporary painting, it's a lot.

Anyway, I'm losing my way. I'm getting carried away. I always do. There's something in my brain which suggests stories rather than evidence.

[LAUGHTER]

Stories are always much more fun to tell. The extraordinary thing about the British Industrial Revolution, and why I'm so fascinated by these tropes, is that between Peterloo in 1819 and Bloody Sunday in Northern Ireland in 1972-- that's a 150-year period-- British troops nor police killed no more than 11 citizens. It's an extraordinary-- it transformed the world at the cost of 11 people.

Oh, people died in poverty and in childbirth. I'll later tell you the story of Ann Lee. Who is Ann Lee? Somebody in this class must remember something. Who is Ann Lee?

AUDIENCE: Shakers.

JULIAN BEINART: Yes. Good. There we go.

Ann Lee worked 10 hours a day when she was a kid. She gave birth to four-- no, not stillborn. One was stillborn. Three died in infancy.

She screamed out that sexual intercourse is the evil of the world. She got onto a boat in 1774, and came to New York, and started the anti-sex movement called Shakerdom. This is part of our tradition of the transference from physical-- not perversion-- physical pain to social behavior. The Enclosure Acts, the violence of the Enclosure Acts, removing independent agriculture from the disenfranchised, and the invention of charity, British charity, which never could, and as it never can, compensate for the amassed wealth that Marx started calling capital.

I decided that the way to respond to these conditions was not as general as this, but to look at five cities and the reaction to these conditions. The first was London.

London was the world's large-- I'm watching my-- London is the world's largest in 1850, and so on, and so on. I've spoken of a Joseph Basalgette. The greatest stage that's provided for the emerging middle class, the first subway ran from Paddington to Finches Street in 1876, making the first stage in the world's best metropolitan public transport system. That, in part, enabled London some 20 years later to invest in automobile pricing. Charles Booth made the first map showing urban poverty, and the effects of the invention of the residential mortgage system were an effect.

Paris, in contrast, followed centuries of royal preoccupation. Distances in France is still measured from the center. Unlike London, again, Paris kept building-- unlike London, which had only-- the further west you go, the less you need in Europe for-- the biggest walls start appearing in Vienna and Cyprus.

London hardly had any walls to contend with. Paris kept on building walls into the 19th century, often-- I won't make the relationship. It's a tangentious one.

Paris reforming largely due to 20 years of a new form of urban management under the Prefect of the Seine, who is allowed, after others refused to engage in the act, to engage in a new form of financing, namely, borrowing capital to be repaid on the increased value of the improved city. The idea of deficit spending used here for the first time has become current track urban practice now. It's national practice as well.

In fact, it separates ideologies in this country around the size of the debt that we are allowed to carry. Economists are only right in one sense. The other's all wrong.

For Haussmann, an immutable budget was never adequate to account for the wealthy of the city. It's a brilliant idea. It's the idea that you see only an idea of economic progress and investment. So in line with banks also finding their way in the new real estate, Paris engaged in municipal loans paid back only 60 years later.

Haussmann didn't invent a plan for the city. He's often accused of inventing a plan for the city. The idea of boulevards was taken by Marie de Medici from Raynaud's Renaissance Florence, where the old idea of playing in streets was part of the construction of streets.

The etymology of the word, the American word, "mall," a place where you go to shop, comes from the Italian words used to describe the playing of games in streets. [SPEAKING ITALIAN] Is that right, Antonio? [SPEAKING ITALIAN] "to hit the ball."

Pall Mall in London and the American mall come from the idea of playing in streets. Maybe there's some metaphysical relationship between playing in streets and shopping in a mall. I don't know. I never discovered it.

Haussmann didn't invent a new plan for the city. One existed-- the whole idea of making a town like a forest. Like a [INAUDIBLE] system, it was very fundamental. And there were competitions in the 18th century for Paris, and the famous one, after the Revolution, a commission of artist plan.

So Paris added boulevards, avenues, trees, parks, improved public transport services, buildings, extended street enclosure. Haussmann, despite all of the negative qualities that he arouses in architecture, at least had and made an attempt to adjust architecture to urban situations. He believed that the city needed to look and believed that architecture could render it.

Since the individualism of architecture is so rampant and so few people attempt, even today, to create an architecture based on an urban identity, however, an identity is created by great stars, individualists like Zaha Hadid, when it comes to making a plan for Istanbul, does the most awful inappropriate pieces of nonsense. So I'm more of a supporter of Haussmann's thinking perhaps more than his acts. I disagree with Richard Sennett on that score.

Bracketed between two communal uprisings, the [INAUDIBLE] to the north remains unformed, and it's not been helped much by the recent international competition for its reshaping. We'll go onto Vienna.

Vienna's is largely one of captivating unused infrastructure, the mess of wards and [INAUDIBLE] surrounding the city from Danube to Danube, fortifications that barely resisted the Muslim attacks some 200 years before. The world would have been enormously different had one day not taken place in 1683 when the Muslims almost captured Vienna. Vienna had been dug under, the walls, and had it not been the Catholic world-- it would have been impossible to stop Islam had it not been for the intervention of the Polish King Sobieski, with his armed troops coming from the north. The Muslims always attacked the city from the south. Christianity prevailed over Islam in 1683, and the walls and their removal have always played a role in the psyche of the city.

The renovations of the walls and the [INAUDIBLE] took the form of a long string of a street, called the Ringstrassa, with all kinds of non-religious, liberal enterprises-- government, education, music, culture, housing-- along its street. This is a continuous system of urbanism, much an elevated form of the American strip. It puts into question two great theoriests-- well, not such a great theorist, but a builder-- Otto Wagner, who conceived of these plans for Vienna as being modern.

There's an expandable endless stretching out looking outwards versus Camillo Sitte, who's, I think, wrongly described by Schorske as an archaist. He wasn't an archaist. He was somebody who believed in the limited experience of human perception, and therefore, wanted the Ringstrassa to be a set of monuments, each associated with an enclosed open space. His idea for the ideal piazza was an enclosure, not a system of movement.

Barcelona-- the most common approach to urban expansion, to 19th century urban expansion, took the form of taking down this old city walls and expanding the city horizontally onto flat land where possible. You have plans, like Antonelli's plan for Torino, [INAUDIBLE] plan for Bali. In the Barcelona example, you have the largest housing development in Europe.

[INAUDIBLE], an engineer, returns to Barcelona, but does extensive research on the terrible conditions in the old city first. He even studies health and nutrition, diet, age. He enters a competition for the city's expansion plan. He wins it despite Trias' neoclassical entry. Cerdás' plan is a set of truncated 113 meter squared blocks, each with open green space, stretching far beyond its connection with the walless old city, with avenues, such like the Passeig de Grácia, one of Europe's great streets reaching to the village of Grácia in the hills. The Ensanche, as it's called, is not so successful, but it's been built at many times the density and coverage of Cerdá by subsequent city authorities.

Who was right? Was the city right to grant development privileges to the subsequent builders, both of height and density, obliterating much of the green space? To what is the-- we don't know how to measure these things.

Maybe Cerdás' plan would have been very boring at the density that he proposed-- too much green space. Would the Passeig de Grácia be as great a street as it is if it weren't as dense? We're dumb. In Barcelona, they can do nothing else but cheer Cerdá as much as a hero as Guadí.

There's a story, which I haven't got time to tell, which the Barcelonans don't like, and that is of Cerdá belonging to a socialist group in Barcelona influenced by a crazy French communalist, called Étienne Cabet, who came to the United States with a group of people, including one of Cerdá's colleagues, and bought a piece of land in New Orleans, almost died. They moved northwards and bought the town of Nouveau in Illinois, which had been the site of one of the Mormon treks westward-- almost Stalinist plan of a town. But God learn us, that it had anything to do with Cerdás.

Each of these city forms that I've just discussed produced a unique housing type. It's another strange connection, that if you do urbanism well, you produce a good version of shelter. There is a residential square in London, the boulevard apartment in Paris, the [INAUDIBLE] and the Hof in Vienna. I haven't got time to go into the invention of Karl-Marx-Hof in [INAUDIBLE] in 1927-- the reaction to the war and the establishment of Red Vienna building communal environments even before the Russians attempted the social condensers and [INAUDIBLE].

I'll just take a detour with Chicago. Chicago is one of the few cities established in the 19th century like Johannesburg. The name of Chicago is taken from the tribe that lived there. It means wild garlic in whatever language.

The big idea of Chicago was to link the Great Lakes and the Mississippi. Thus, providing a continuous water system from Europe to the east. Well, that's before the canal, the South American canal. This never worked.

But in 1830, it established the beginning of a market for residential land, which was endless. In 1848, this was amplified by the building of the United States cross-country railroad system. 125th of the world's railroads crossed in Chicago in 1893. This is in 50 years.

Chicago's notion of breadths of politicians is not associated with wind. It's associated with hubris. This is the most-- I don't know what the adjective of hubris is. This is the most hubrist city.

It's the capitalist model. Hoyt described 100 years of land values in Chicago according to peaks and valleys in a very cyclical model. For every great absolute mad investment follows a depression.

Nothing fascinates me more than the immense authority of the private sector. I think Frank Lloyd Wright was fascinated by his clients, or so the book about his clients suggests. People who had the gumption to invent zippers had the gumption to buy his houses. Everybody was in a mad sense of invention.

The most extraordinary story is the building of 60 miles of illegal subway at night as if lying telephone cables. The idea that you can build the underneath of a city for 60 miles of illegal subway-- people were being killed on the surface of the streets, because there was no traffic plan. So the merchant class decided to dig in the mud.

It's a mud city. So the soft underbelly of the city can be excavated over time. This was only discovered in 1962, when the thing started flooding and nobody knew where the floods came from in Chicago, because of an accident.

Now, Cronon's book, *Nature's Metropolis,* is a sardonic reference to the use of anti-nature. You can see I'm not a lover of nature. I'm afraid of nature. It causes you to die.

[LAUGHTER]

I suppose I shouldn't say that on my last class. But 20 skyscrapers were already built in 1893 by the time of the Colombian exhibition, all of these on sand. Where is a less propitious place to build a skyscraper than in Chicago on mud? And yet, they did it.

One of the lessons from the private sector investment in Chicago is there was no attention. There was a needless attention to be paid to the public. It's perhaps best explained in the novel, *Devil in the White City,* which targets Holmes, the psychopath, who took over a hotel outside the grand ensemble of the World's Fair and started killing women.

There was no public authority to supervise this man. There was no police force to investigate it. Women just disappeared, young women, who came innocently to the fair.

Holmes was not eventually traced for all his murders by Chicago. He was traced by an insurance consultant in Philadelphia who couldn't explain some of these deaths. It's an enormous disadvertisement for a city which is built, as some cities are today, on the apparently creative impulse of the private sector.

It's a dramatic economic system. But it pays its prices in other ways. Chicago politics is-- I shouldn't talk about Chicago politics. I know nothing about its history.

Burnham, the great manager of the Chicago World's Fair, proposed a plan in a number of years afterwards. His plan was to build a six-mile arch around the grid to centralize the city to give it culture. Some people have taken on the idea that it's important in developing countries to build a city first to make money, and then to invest the money in upgrading its culture. It's a sort of transformative staged process.

It may have some merit. In Chicago, the idea of Louis Sullivan's grand auditorium building with the most wonderful toilets in the world attracting people who walk through the mud is an interesting kind of combination. I disagree with Mumford and Sennett's view of the capitalist grid as commodity.

There was as much speculation in Boston with its non-grid city as there was in Chicago. Reducing space to a commodity is not only a capitalist phenomenon. It is an intriguing aspect of the devaluation of land. I'm going to have to speed up. We've got a lot still to cover.

We took a look at panopticism and the idea of the gays. This was largely helped by David Friedman's work on the evolution of the late medieval street, from a street of work and multiple invasions to a street dedicated to image and control. As examples, we compared, in some detail, the multi-monumental and multi-use Nevsky Prospect in St. Petersburg, and Hitler and Albert Speers' proposed central axis for Berlin.

We also took a brief look at utopianism. I must say, I suffer from a disinterest in utopian speculation. I find it either like as dull as science fiction, and as absolutely devoid of understanding of cities as most science fiction is. But we covered some of the territory.

I was fascinated by Thomas Moore's invention of the word utopia. It has both the prefix e-topia and the prefix e-u-topia, which mean different things in Greek. Who is our Greek friend? One is good and one is what? Nowhere.

AUDIENCE: Utopia? [INAUDIBLE]

JULIAN BEINART: Yeah. One is good and one is nowhere. So Thomas Moore's island, 1516 book, is about an island. It's nowhere.

It has shared-- it is a socialist republic, which God learn us, how you thought about it in 1516. There's terminal limits to the amount of the houses you can occupy. It reminds me of a little-- oh, forget about what it reminds me of.

[LAUGHTER]

We looked at a number of other cases-- Pullman, Illinois, Ann Lee and Shakerdom. We also examined three architects with utopian propensities-- Le Corbusier and his endless search for the right plan, be it in 1922 for Paris with a capitalist center, later for Moscow after the revolution there was a syndicalist plan, and later in frustration because the citizens of Algiers refused his many [INAUDIBLE] plans. He appealed for help to the fascist Vichy government and eventually to Mussolini for help.

This is the strange notion that-- it's not so strange if you're an architect-- you find a solution which emanates out of your soul. It brings together almost everything that is creative about all. All your juices are flowing.

It's the right one. You examined 1,000, and this is the right one. Whoever is going to buy the right one is OK.

Ideology doesn't matter. Society doesn't matter. Space is what matters.

This is what drove Lynch crazy when I had the only argument I ever had with him in this class, which we jointly taught for two years, about Aldo Rossi. When I introduced Aldo Rossi's book, *The Architect in the City,* in this class, Kevin writes about it, in fact, his anger. Sorry.

We looked at Frank Lloyd Wright's tiny Broadacre City as an evocation of usonian democracy, which used Henry George's mantra of profit made by development in the city needing to be returned to the public good. We looked then briefly at 20th century resolutions.

We looked to Great Britain, the New Towns expansion program from the small towns of cities-- 30,000. By the way, there's another curious phenomenon. Plato's ideal size for a city is 30,000. Leonardo's is 30,000.

Ebenezer Howard, in 1910, later within in London Garden City, are 30,000. Why? It's demographic, I'm sure.

30,000 is probably the amount of people that you could, in disease-prone society, maintain a certain size. Given the Malthusian trap situation, it probably works that way. So the British built their first new towns, likely Corby and Harlow, at what size? 30,000.

They became tired of 30,000 size. Space-time suggested larger size. So mark two shifts to 50 to 100,000, the towns of Hook-- the best book on New Town planning studies, the book of *Hook*-- Runcorn, Cumbernauld, and the mark three towns of Milton Keynes, now 250,000. Milton Keynes is a postmodern attempt at a city, mixed land use is using performance dimensions instead of zoning, a 1 kilometer by 1 kilometer space frame grids to take maximum traffic loads. The earlier towns had no predictive mix and tight fit. Cumbernauld Center was recently voted the ugliest building in England.

We looked at Russia between 1918 and 1932. We looked at the work of urbanists looking at the possibilities of new urbanism in the state which had clients controlling the means of production, land use, and apparently illuminated and dedicated population. Little gardens came from Marx. A time of great experimentation, the acronyms [INAUDIBLE], the invention of the essential social condenser in housing taken from the French Fourier utopias.

I'm tempted to tell this little story. The Republican Party in this country was started in a town called Ripon in Wisconsin. Ripon was started by a bunch of Fourier socialists. The Ripon Society is still a branch of the Republican Party.

I'm not explaining the full transition. I haven't got time, but the overlapping of systems is one thing that keeps on intriguing me. One of the great adventures of contemporary urbanism is its search for overlappingness and multi-purposeness, as both an avenue to deal with complexity and the unknown future.

I'm just going to skip a lot of this. We look at the La Ville [? Vale ?] competition, a competition for tired workers to escape from their daily work routine. And Melnikov-- the great genius architect who invented the idea of sleep enhancement so that the Radio City Music Hall people came running to Russia to see whether they should put smells in Rockefeller Center-- he allowed that wild animals should patrol the streets. Anyway, I'd like to go on about the later reactions, Khrushchev's 1956 edicts, and so on.

The next section dealt with a question, what's the relationship between-- is there any significant relationship between how a city is made and its form? Nine categories were listed as possible methods of city management and four selected for close examination. First of all, they're relying on a super figure.

We examine the effects of Robert Moses, the greatest builder in American history, on the form of New York. We also took as a case study the process for the replacement of the World Trade towers and conjured how different it would have been under Moses-- an interesting speculation. We looked at the role of the media, the media participation system, S-O-M, and Silverstein, on and so, and a whole bunch of things, and didn't come to much of a conclusion.

The idea that a single architect who hadn't taken part in the so-called competition would be chosen as the final client, final architect, is an interesting resolution. In reducing social imbalances, we discussed the idea of advocacy planning using the Cambridge and the freeway connectors, our case study. Thirdly, will reviewed the many notions of changing people as a modality to urban change, projects such as potteries, [INAUDIBLE] schools without walls, [INAUDIBLE] situations in Paris, metro education in Montreal, and so on.

OK, I'm going to jump things. We're going to finish a little after 2:00. I thought there was too much in 40 hours to condense to-- what do you do? Maybe we can go on for a few minutes.

Dealing with the difficult question, the relationship between social structure and spatial structure, I decided to review the literature. And it was too difficult to isolate the relationship. So I decided, as a professor of pathology would do, to take extreme cases in order to learn about this more trivial cases.

AUDIENCE: [INAUDIBLE]

JULIAN BEINART: Sure, don't worry. Don't worry. I'm in an emergency as well.

[LAUGHTER]

So I invented the notion of bipolarity, where I could isolate significant aspects of space and society and see them in some relationship. We analyzed five cities on this basis, and I'm going to have to go very quickly through these. Jerusalem-- the assembly of polarities ranging from religion, ethnicity, nationalism, history, and others. Jerusalem, by the way, has never been the capital of any country other than the Crusaders and Israel. So it's a rather remarkable status.

To conjure up a solution which was shared equitably by all allowed free access to religious sites and performed as a capital city for two nations, despite problems securing customs was attempted. This is a difficult piece of work. We had to go through the history from David onwards, even dispute the history of David that the Jews give as opposed to the Palestinian history of David.

The idea of David building a temple as opposed to circulating the ark amongst a nomadic people was discussed. Corbusier does a wonderful drawing of the Jews as nomadic people. All of this came into our vacation and understanding of Jerusalem. How successfully, I didn't know.

The world doesn't have a solution to the problems of Jerusalem. Why should we? We are an advanced class in urbanism, but we can't do magic.

After all, Jerusalem has been going for 3,000 years. It's gone through-- it's been the most disabled city in history, the most destroyed, the most rebuilt. It may well suffer as a cross for the rest of the world. It's an interesting idea, that it's destined to be a kind of crucible of some kind.

In Johannesburg, the second city, we looked at the spatial pattern. We traced explicitly on race, and with it, income. We traced the city through its first stages to its absolute distinction of race in 1948, locating population to the southwest, and finally, and so on. We also did a study of municipal waste in the native township, a black community of 15,000 renters, who were being removed after 50 years to Soweto, improve their housing over the 50 years with additions in a communal language of wall decoration. It's a study I did in Johannesburg, which was on the cover of three architectural magazines in September 1966.

We studied the 11 [INAUDIBLE] cities on the 2000-mile border between the US and Mexico looking at the polarities of nationality, and culture, and so-called development. We looked at El Paso, Juarez, operating as a single major metropolitan area, with each sector choosing to maximize its options on either side of the border. We looked at colonial Delhi and New Delhi as sites of distance between colonial and native as polarities, the form of the colonial settlement conscious of difference, chose amalgams of nature architecture. The bungalow, on the one hand, is suitable for climate, while using formal facades to indicate separateness and superiority-- the same phenomenon we found in the laws of the Indies.

Similarly, the many plans for New Delhi-- forget about [INAUDIBLE] and New Delhi. We did a short trip to the dialectical relationship between country and city in Havana and Cuba. After the revolution, Havana was deemed a frustrated city, while agricultural land, such as the Picardura Valley, it was deemed by the state to be more important in the national consciousness and economy.

It's interesting. Henry Ford, who is an arch anti-communist and anti-Semite, by the way, at the same time-- interesting that you can be both-- argued for the same advancement of agricultural form in relation to industrial form. Curious patterns that emerge when you go through this kind of survey and look for these. So it's not unusual that Lenin Park outside Havana places the major recreational element of the city on the outskirts of the city, much like [INAUDIBLE] plan for Moscow. If you compare [INAUDIBLE] plan for Moscow, one of the post-1918 plans, you can see a similar configuration.

The last section of class-- and thank God we've got here-- looks at four models, contemporary or recent four models. We first deal with the modern movement's interest in the form of cities. The class follows the discourse of CIAM from La Sarraz in 1928 to Waterloo in 1960, and the conception of the city as a pristine assembly of distinctly different parts, as evidenced by Jose Sert's book, *Can Our City Survive,* for which Lewis Mumford refused to write the forward.

So this notion of the city refused to admit any knowledge of the past. Rather, Corbusier tossed out the traditional streets in his books and replaced it in his [INAUDIBLE] plan with elevated highways. It also refused the idea that cities inevitably change. Its source of learning about the city was not in response to everyday life, but to a technical adjustments, such as extents minimums. When [INAUDIBLE]-- forget about [INAUDIBLE], and so on.

One of the first reactions to the urban conventions of the modern movement is a group of young European architects, who [INAUDIBLE] many [INAUDIBLE], advocating intense interactionism-- [INAUDIBLE]. Smithson's doubling up of streets in the Berlin Hauptstadt competition or the making wide residential corridors to resemble continuous pedestrian streets in Parkhill, Sheffield. The urban world had to be understood as a more complex reality, seeking merit in change, both short-term and long-term, and users playing a role in the making environment, a phenomenon they called, the wonderful word, "socio-plastics." Perhaps we all engage in socio-plastics.

We looked at a number of attempts to theorize about this period, the [INAUDIBLE] adaptive urbanism, strategy for dealing with growth, [INAUDIBLE] work at the MIT on the MIT campus extending itself systematically with a kind of intricate DNA of corridor with single-centered staircases, facades, and so on. We followed with three case study-- the first of New University plans from the orthodox Sussex campus plan through the universal 50 foot by 50 foot by 13 foot high Loughborough model, the whole idea being here that a university can be predicted-- use can be predicted in the USA by preventing-- by oversupplying each regular item with sufficient energy and system to allow it to change freely-- not a very sophisticated idea, ultimately to the Free University in Berlin, where the designers predicted a future form to be created by the university users.

So this is the ultimate dedication to the idea that anybody can design without any rules, that, as Chomsky suggests we are dedicated learners of language, we are dedicated learners of building. It's a very current idea in the work of Slum Dwellers International, the great new paradigm for the Third World. We have-- I hope I've got time to do a very brief case study of Diadema with you at the end.

We looked at the idea of temporary accommodation in two cases. The live-in Euro rotation cycle of temporary exhibitions in the center of Paris from 1855 to 2000. Almost every 11 years, Paris was transformed in its center in want the playwright, [INAUDIBLE], calls a transvestite center to a stone site city. You can see Kevin Lynch's interest in time zoning in *What Time Is This Place?* That the city adjusts at different rates, that you build at different rates, that you associate space with time in a-- I'm saying ritualistic manner, not in the archaic ritualism of Madurai.

This is the wrong class. Sorry. Hey, it's Alexander.

I couldn't see you that far. I've got my glasses on. Fine, then. Come and sit here in front. We're just about done.

We looked at the idea of the role of temporariness in cities, in major cities, as I said, with the 1855 to 2000 cycle, changes to the center of Paris. Curiously enough, this time-centeredness is evident again in the various attempts to build these temporary exhibitions. The building across the Seine looks like a wedding cake. The Eiffel Tower is finally allowed to be built, because it looks temporary.

The Eiffel Tower remains as the major producer of income for Paris other than taxes. The rest is disappeared. So what looks to them temporary is plaster and wood or metal, and what is temporary becomes permanent. And the third case, the second case, is we follow the Olympic games, which over a century now has become a four-year temporary visit to world cities. We looked at it from 1896 to London again. London has had it three times.

We looked at St. Louis in 1904, Paris in 1900, the invention of the first Olympic games housing project in Los Angeles in '32, the greatest games of all in '32 in Los Angeles. We looked at the reciprocal version of it in '36 in Berlin, all seen as temporary. Hitler, of course, didn't understand temporariness.

He pulled down the glass. He had the glass taken out of the stadium which they used and replaced with concrete. Albert Speer designed a new stadium for 400,000 people, admitting that you couldn't see anything, but only admitting that you'd have to change the rules of the Olympic games in order to hold it there.

Hitler said, don't worry. It's going to be-- in four years' time, it's going to be in Tokyo, and then it's going to return to Berlin. It won't be temporary any longer. It will be in Berlin forever.

Hitler was an extraordinary urban mind. He understand that to devise the '36 games, at the time, that the concentration camps with Avery Brundage, the leader of the Americans, denounced this fact by accusing America to be run by *The New York Times* and by Jews. What a fairly common ploy. OK, we dealt with-- I'm sorry, we need another five minute.

AUDIENCE: It's 2:00, though.

JULIAN BEINART: I know. This is a special class.

[LAUGHTER]

OK, we looked at Aldo Rossi's philosophy about permanence, and Léon Krier's advertisement for classicism is a timely solution to urban development. I became intrigued by the two forms of knowledge of the past, history and memory, at the conference I chaired in Jerusalem. Memory has a long association with the physical environment. Ruskin's memory is one of his seven lamps of architecture.

The mnemonic was used in architecture in Greek times. People paraded in the book on the magical palace of Matteo Ricci, you learn to debate by entering a house, making your argument in the center, going to the right to make cause, going back to the center to reinforce your argument, going up the stairs, going to the left and the right. We know very little about the relationship between memory, and architecture, and urbanism. We know that about Paradise Lost and Cain calling his first city in the Bible after his son, Enoch.

The great French sociologist, Maurice Halbwachs, and the power of collective memory-- I haven't got time to go into it-- one of my most fascinating stories-- not stories-- a great theorist. He wrote the book, *Collective Memory,* and is I think the single most penetrating mind about urban metaphysics in all. That's saying a lot.

I didn't talk about contemporary memory systems. Robert Musso's claim that nothing becomes more invisible than a monument. The Navy and Air Force, which are-- the Air Force Memorial in Washington, which I had something to do with, having the notion of updating a system of keeping up with time.

I go into the apparent dichotomy between public and private, using a metrics of user ownership, access, meaning to demonstrate the overlapping between public and private. I shall talk about the private law courts in the anonymous states [INAUDIBLE] in Boston and the federal court building, which faces the sea, and only McDonald's faces the public city. We then go on and on about the American spirit, the various agencies, which contest-- I spend a few minutes denouncing the new urbanism as a solution to social equity and to transportation.

I then, in the last class, deal with the global South. The statistics are alarming. I just have time to quote one or two.

Almost half the global population lives on less than $2.50 a day. That is more than 3 billion people, almost all in developing countries. According to The World Bank, the richest 20% of the world's population accounts for 76% of all consumption, while the bottom 40% account for only 1.5%.

The world will have to build 1 city of 1 million people every 5 days for the next 42 years. It predicts that 31 villagers will arrive in an Indian city every minute for the next 43 years-- 700 million people in all. Coupled with climate change, 40% of the world's population lives on or near coastlines.

The combination of poverty and climate change is a drastic disaster token for the next phase of world urbanism. I try to talk about the Slum Dwellers International paradigm of self-help instead of governmental help. I talk about the lack of hope that we have in world agreements.

I remember Woodrow Wilson in Paris. Woodrow Wilson in 1919 attracted the largest crowd in the history of Paris, because he came to cement the League of Nations as an international governing phenomenon. We haven't, with Kyoto, a miserable Kyoto in Copenhagen, we haven't even reached a crowd. I talk about microfinancing and then talk about the success of microenvironments.

Diadema, a slum 15 kilometers from Sao Paulo, and its success, it's just attracted its first shopping center there-- the fifth most violent homicide rate in Brazil. Education rates were pathetic. Child birth rates were off the charts.

It's now reversed all of these indices. It's used the Workers' Party to stimulate trust to find financing mechanisms for new housing for the subdivision of land for the creation of tenure. Trust and security are what a writer about microfinancing from Thailand suggests is what helps develop-- is one of the sources of development for the future city in the poverty world.

I'm sorry it's been so rushed. I'm sorry that I have to keep people outside, but we've got a story to tell. Thanks, again, for all of you for coming. I hope it hasn't been boring listening to what you heard 34 years ago.

I hope I've changed. In the meantime, I've become more arrogant and more angry with large theories about things without Lynch's attachment to detail. OK, thanks a lot.

[APPLAUSE]