JULIAN BEINART: Early on in Russia, an estimate was made, and national policy would provide nine square meters of private space per person in housing as an official policy. This remained throughout, although it's much lower than any other European city. When St. Petersburg was two million people, they were still operating on a nine square meter policy, even under Khrushchev's Microraion policy.

Anyway, let's start with Great Britain. I'm not that interested in you following the details of the case. I have a bad cold, and I won't remember the difference between Milutin and, well, Melnikov. Of course I know the difference between Milutin and Melnikov, but some of the [? Bart ?] brothers, and the Vesnin brothers, and all the architects and urbanists who were involved in this intense period.

There was more examination of the formal options of cities between 1919 and 1925 in Russia in a compressed period than almost anywhere since. So it's worth us looking at it, both as theory and as practice. Let's look at Great Britain.

Joseph Paxton, the gardener who designed the Crystal Palace, said when he proposed the Victorian way in London, which was roughly the four by one and a half square box in the center of London, he said, "We in Britain solve all problems by common sense and technology." And that's the mantra, which precedes throughout the British 19th century, with the intense change being softened by social policy changes at the same, in some curious way providing enough intellectual freedom for Marx and Engels to create a new political philosophy, which changed Eastern Europe and led to the Soviet Union.

Now these relationships are not that direct, but nevertheless, had Marx and Engels been closeted in Germany, or even in France, and not given the intellectual freedom that they had in England, the outcomes of the 1918 Revolution in Russia would have probably been different. So here, you have an intersecting of two philosophies-- common sense and technology. You remember my statistics, that between Peterloo in Manchester in 1811 and Bloody Sunday in Northern Ireland in 19-- god knows when, over 100 years of time-- the British police or the army only killed something like 11 people.

That a society could transform itself without the state involving itself in violence is an incredible credit to any society. There are very few places that could [? end it. ?] So I said this is a preface to the British decision in 1946 to embark on a new towns policy.

The earlier years of the 20th century had been difficult for England. 13 out of the-- let me put on my glasses-- 13 out of the 46 years between 1899 and 1945, Britain had been involved in war. The number of males who were killed in the British army-- of course, hardly any women were in the British army during this period-- was a high proportion. You will notice Victorian novels which are adumbrated into TV movies like "Upstairs, Downstairs," one of the young men is always dressed in uniform.

There's a presence of the military in the British society which is oscillates from pop music to hero worship, preparing Britain for the worst confrontation of all between 1939 and 1945. Add these years of war to the Depression years, the international Depression years, from early 1930s onwards, and you have a country which is engaged in material affairs which are not really predominantly located inside England itself. In 1946, the Labor Party wins the election and decides to retool England.

When I was a student in England in the '50s England was barely off rationing food. The car population of England was what it was in the United States in 1927. So the British set out to work simultaneously on a number of innovative ideas about hospitals, about universities-- and I will show you some of the university plans in sequence in a later class as a demonstration of how you experiment with certain notions about university education, leading from categorical campus plans after Basil Spence in 1950 to the dematerialization of the physical structure of universities in the Loughborough College example, and so on.

As far as new talent was concerned, a number of things were to be taken into account. First of all, the British had a history of building new talent. Letchworth and Welwyn Garden City by Ebenezer Howard were both successful, privately sponsored, not state interventions at all.

That they should serve as a model for a new policy experience is interesting. It seems to me that even advanced societies, such as Great Britain, build on, in the common sense and technology model, build step by step on previous experience, extrapolating it. For instance, the new town's committee report, government publication, 1946-- let's read what it says about the size of these new towns.

"Our conclusions as to the range of size have been reinforced by the replies received to a broadcast on 15th January, 1946." This is pretty primitive participation. This is before television.

"Of those who stated they would prefer to live in a new town, the numbers in favor of 20,000, 40,000, and 60,000 were approximately equal, while only about one in seven were in favor of towns under 20,000 or over 60,000. If you ask a bunch of people a question like this, what do you expect? You expect you will get a culturally centralized argument.

Now, number 21-- "why do we believe the normal range of population should be between 30,000 to 50,000? Special consideration by the world may well justify the creation of a new town with less than 20,000 people." What is the population of Welwyn Garden City and Letchworth, the target population?

AUDIENCE: The target population?

JULIAN BEINART: Yeah.

AUDIENCE: 30.

JULIAN BEINART: 30, Yeah.

AUDIENCE: But they only got [? 15? ?]

JULIAN BEINART: I don't know what the population is today.

[INTERPOSING VOICES]

AUDIENCE: --not even half, close to half.

JULIAN BEINART: Yeah. Mark One, Harlow Stevenage, et cetera, population 30,000, towns which follow a model of a center or a single center, compartment the neighborhood around it by rail system, which runs through a tube parallel to London, or to Glasgow, to wherever these towns were, a modest city center, and a clear distribution of parts. The architectural paradigm at the time was the 1952, '51, yeah. New Britain Exposition in London-- don't worry about my handwriting. It's not important.

Mark Two towns were more experimental. So these are attached to the past. People were starting to wonder, particularly the architects, as to what innovations are possible beyond this nuclear town. So you get towns like Hook Cumbernauld C-U-M-B-E-R-N-A-U-L-D, Irvine, and Runcorn, R-U-N-C-O-R-N.

Hook is a town which established itself in a valley, so the center of the city occupies many levels. And the neighborhoods are in a linear city, within walking distance of the center. The social engineering is that you live on the periphery, you will have to walk through existing neighborhoods in order to get to the center of the city. The plan is a linear formation.

Cumbernauld establishes the first multi-level central city apparatus, with great fare, and enormously lauded by architects internationally. In the last page of what I've given you is the contemporary view of Cumbernauld. It's considered the ugliest building in England, and half of it's being torn down at the moment. It's on the last page.

Irvine is a linear town. And Runcorn is built on two hills, with a figure eight configuration for train system, with the center-- this is residential, residential. And the configuration is set by the topography and by the rail system, which meets in the center.

So these were all propositions, which said, look, there must be some innovations which are possible in the departure from the conventional version of a town. We can judge the success of these in prospect. This was followed by the mark three towns.

Here, the population was 50,000 to 100,000. The Mark Three towns were now plus 100,000, up to 250,000. And the most celebrated of them, of course, is Milton Keynes, which now introduces a grid system as the basic spatial structure of the town.

An enormous increase in affluence in England during this time representing, amongst other things, an increase in the use of automobiles, and the effects in its thinking of philosophers, like the American from the University of California at Berkeley, Melvin Webber. You'll read his writing a bit later in this class, arguing that community without propinquity is a new possibility, given improved communication technologies, and therefore, another set of imprimaturs need to be examined before you decide on priorities of pedestrian walking distances, and so on.

Milton Keynes-- anyway, what creates this enormous spike? I could make another graph on the blackboard, which shows that Plato represents 30,000 is the ideal size for a town. Leonardo represents [INAUDIBLE] 30,000. 30,000 seems to be the lingua franca of town size until about 1960, 1970.

What determines 30,000? Why 30,000? Why does it remain a generalist, classical architecture has remained as an attribute of our performance?

Is it demographic? The demography of Plato's time and the demography of the Renaissance are already different.

AUDIENCE: [INAUDIBLE]

JULIAN BEINART: From the Renaissance [INAUDIBLE] through the plague epidemic through enormous differences in life cycles, and so on, we end up with whatever [INAUDIBLE] at 30,000 again. I don't know of anybody who's actually studied this phenomenon. If some you are interested in the research to understand why 30,000 has remained an ideal estimator for new towns, until the Mark Two British towns decided they were too small.

Part of the switch to larger size in England is accompanied by greater affluence. Why do you need a larger town when you're wealthier?

AUDIENCE: People want more land.

JULIAN BEINART: There are more opportunities. Milton Keynes now has its own football club, and so on, and so on. The way land is rationed by the market or by the state changes, as it has in Russia, from nine square meters per person to what it is today. More than half the Russian housing today is in the private market. So I don't know what the estimate is of its current square foot status.

These are fundamental theoretical questions, which few people seem to be interested in engaging in. What is conservatism and innovation as a phenomenon in the decision about space? Russia took a completely different trajectory. They had no history other than a history which was miserable, and about which nobody wished to do anything.

They were in a fundamentally primitive state. Hannes Meyer was the Swiss guy who took over the Bauhaus after Gropius, was a good Communist himself, talks about visiting Russia, Moscow after the revolution. He talks about Moscow.

In the Arbat, the quarter of the city in which the wealthiest merchants lived, only 16% of all dwelling houses were connected to the water main. It's a phenomenal statistic, given the wealth of the czarist regime, and all of its courts. And in the [? Prison ?] [? Peratovski ?] region, a czarist, working-class area 0.6% had a water tap. This is in 1918.

Let's talk a little more about England before we finish and move to Russia. The British New Towns policy built something like 28 new towns-- 21 in England, two in Wales, five in Scotland. And according to a statistic I've used for a while, and I don't know if it's correct, 1.4 million people live in new towns in England now, about 1/60 out of the total population.

Much of the thinking came from a couple of what we now consider to be relatively primitive ideas, that Abercrombie's plan for London created a major investment in a green belt, on the grounds that agriculture should be preserved close to the central city. Imagine that to be the case of American cities. I wouldn't have any bananas for breakfast if I depended on agriculture within driving distance of Boston.

Secondly, that nature would be preserved, and that would be a good thing. And access to nature for citizens would be an advantage in urban life. Think about this-- Cambridge University in England is one of the great universities of the world, if not the most valuable. Anybody who has teachers such as Darwin and Newton and a couple of others could claim that category.

Cambridge controls the center of Cambridge. It's surrounded by a green belt in which much development has been frustrated. Occasional development has been allowed, which is one of the problems of the green belt philosophy-- that it's almost impossible to maintain, even in a very diligent government.

In Chandigarh, for instance, the sacred land north of the Capitol Complex depicted by Corbusier's drawings of the Himalayas in the distance and the Capitol Center in the foreground. When we did a studio in Chandigarh, of our students patrolled this area, and saw all kinds of signs of land being sold and available for purchase. The administrator of Chandigarh was appalled. He said he didn't know this.

So you can assume that even in England, the administration of public land in large quantities, as large as a green belt around London, is difficult, let alone open to avenues of corruption. Secondly, taking out of the market a significant portion of available land must have an effect on the value of the land which is not taken out.

So the abstract calculation of cities saying every city should have a green belt is as much nonsense, without taking into account the particular economic, socioeconomic context of the city that you're dealing with. They are, no doubt, cities in parts of the world in which the green belt would be a reasonably good idea.

Off the top of my head, some cities have topological features, like Bogota has a mountain. And they're right up against it, which prohibits significant development. Cities with enormous topography have access to natural vegetation, and natural open space, and probably don't need a green belt as much as a city on a plain.

My response is simply, a response to the large problem of urbanism is never absolutely correct. It's formulaic. My advice to you is always to question whether it's appropriate. Linguistically, city administrators pick up words.

The biggest problem of working, as I have, in the non-European/American world is not the cleverness of what your ideas are. It's how capable they are of being put into place. Try writing high-rise regulations for cities like Amman in Jordan, which we did after the Iraq explosion, and the enormous transfer of capital from Baghdad to Jordan.

There's no working stock exchange in Jordan. It's a poor country. And Iraqi money wanted to build skyscrapers immediately.

The mayor, the new mayor, asked us to provide him with some high-rise regulations. And how do you implement high-rise regulations without a sophisticated group of people? Putting a high-rise building in a valley is different from putting it in on top of a mountain. And the topography of Amman, just like the topography of Jerusalem, is undulating all over the place.

Secondly, does the meaning of a building by Renzo Piano have the same meaning as a building decorated with artificial cosmetics, and Islamic symbols, and so on? Thirdly, tall buildings in a flat city are very important. They stand out more.

Fourthly, the difference between a hotel and an office building is significant with regard to what? Come on, you're working in Amman. What is the difference between a developer who wants to build an office building versus one who wants to build a hotel?

Think about transportation. How many people commute to an office building every morning? How many people commute to a hotel every morning?

A hotel is revenue neutral as far as transportation is concerned. An office building is revenue active. I'm just giving you a list of the things that we listed.

The mayor of [? Arvan ?] has no planning staff, or maybe has an assistant or so on. What do you do? He simply says yes or no.

Given the political pressure on him to say yes, when money is to be made in a poor country, how are you going to expect a rational decision to preserve the quality of the built environment? It's a depressing prospect. It argues, on the one hand, for wanting to go for the few fundamentals that you can't live without.

Transportation is one of them, but the meaning of buildings is-- Boston itself has difficulty with the Design Review Committee, which John [? Lemonceau, ?] who's now an Emeritus Professor here, used to chair. What can you tell an architect colleague of yours about why his building is ugly? Anyway, enough-- the British manage somehow.

Amongst the reading I gave you-- and I want to switch because we otherwise we're going to have to take too much time. I gave you an article by Lionel March called "Why have new towns?" It's a pretty fundamental piece of writing. Why do you think America has not got a legacy of new towns?

Why are Columbia, and Reston, and the green-belt towns of Roosevelt exceptions? Come on, you should know this stuff. You're the most highly educated group of young people in the world. Guess. Why Chicago did not develop [? the state ?] of new towns? Why has Los Angeles or Phoenix just generalized the metropolitan area through suburban growth?

AUDIENCE: Because it takes-- I don't know. I was going to say something about it taking a centralized force similar to the state, not the state. [INAUDIBLE] think that far in advance. And with Columbia, it was sort of like that. And Columbia had the advantage of being in between two metropolitan centers.

JULIAN BEINART: Yeah, I think that's a good generalized answer. One of the problems about a new town is that the capital that you need to invest early on returns its return only after a long period of time. Somebody's got to hold the baby in the meantime, while you are out for dinner, if that analogy is any good. I don't know.

The state did it in England. The state controlled all of the land. First of all, the state controls more land in England than the state does in the United States, but given the authority that the TVA had in 1933 onwards, it could have built new towns. It built Norris, which is a small town in Tennessee, but we have relied on private development significantly more than our national development.

We have no national industrial policy, for instance. You may argue as to whether it's a good idea to have one. And there are many arguments both ways, but in Britain, it was acceptable for the state to decide that an industry should locate in the Potteries area of the Stoke Valley to deal with unemployment.

And the version of that in this country is under Clinton, the idea of giving subsidies to industries to locate next to poorer, inner-city communities. It was a policy which, in extremis, was applied by the South African government to slow down the growth of Johannesburg, Cape Town, and Durban, by giving enormous incentives to industry that would locate next to [? disadvantaged ?] areas.

I.e., you have to take account of the diseconomies of the location, and make up for the diseconomies of the location by subsidy. This is not-- if BMW wants to move to South Carolina, or Boeing wants to build its Dreamliner in South Carolina, the United States' democratic process is not one in which the state indulges itself in that decision. It will allow the states to compete in giving benefits to any decision that BMW or Boeing will make.

That Boeing decides to locate in the state which is not trade unionized, we smile. I'm talking out of class. I should shut up and just deal with the British new towns.

The British new towns have not-- one of the other paragraphs I could have read from the 1946 report was that the town should be balanced. You get a similar idea to balancing, which if you remember a couple of weeks ago, I used in talking about the Sunnyside Gardens [? redband ?] phenomenon in this country, Clarence Stein and Henry Wright. Lewis Mumford said you have a need for balanced community.

That is, you need workers, and elites, and artists, and professionals in one community. Most of the immigrant and unskilled workers emigrating to England go to the largest cities. So the whole Abercrombie argument that new towns slow the growth of established metropolitan areas doesn't work.

The market is still functioning in a way in larger-- you may say that in a large city, there's enough variety in the market to take care of more people than you can in the new town. My gut feeling is that this is correct. The range of rent per square foot in Los Angeles is probably much larger than the restricted range of rent in a British new town.

I throw these out because they are interesting arguments. You are going to be responsible for making decisions about the form of places. Just this morning, I've already drifted off into lots of intricate arguments about the relationship, for instance, between land economy and the form of places.

What are you going to tell the government of Pakistan, as I was asked, to design a new town parallel to Lahore, five years ago? That it's a bad idea? On what grounds going to-- what are you going to use for argument? There's no theory.

This is the only class in theory you ever going to take, except perhaps in social science. Architecture doesn't deal with theory. So what are you going to say to the governor of Pakistan or the governor of Lahore?

Yes, it's OK. This is land that the army doesn't need anymore. Pakistan is a growing enterprise, in terms of siphoning off from India work in advanced technologies, and electronic communication systems, huge markets, available trained people. Why not build a new city to attract American enterprises and into you know the story?

What are you going to do about migration to a new economic entity in Pakistan? A practical problem-- if you create a new economic opportunity like Chandigarh, if you're Corbusier, you keep on designing it as if nothing is ever going to-- and mutilate his concept. Fact is that people from poor areas migrate to limited economic opportunities in the region.

And sprawl-- they are called "squatters." What do you say to the people wanting to build a new town in Pakistan? How are you going to deal with it in the planning of the town? That's a big problem.

We'll ignore it. We'll get the military to pull down illegal housing. Where are you going to get a labor force to do the lowest income work? Seeing you have no decent economic policy for the poorest people in your country anyway, what the hell does it matter?

This is real practice. I'm talking about my experience five years ago. I'm not inventing this. I raised the question of trying to invent an economic system whereby free land, or land under some kind of indenture agreement, could help people build up capital that they earned in the new city, that the economic engine of capital creation and establishment could be-- and it's been tried in certain parts of the world.

And I think it's one of the answers to the use of land and the sharing of the increased value of land in a city. But I'm not an expert. I'm only a teacher at MIT.

I've just been asked whether I could possibly do a new strategic plan for Abu Dhabi, which I'm not going to do, because I haven't got the energy and time to do it. But just imagining how to do a strategic plan for Abu Dhabi involves taking into account a number of things, which I don't think you'd be allowed to take into account. Number one is the real ecology of the place.

I've done three projects in the Emirates, one of which was on Saadiyat Island, where a ecological firm from Philadelphia decided that the island should be left alone because it was an important migration center for birds from northern Europe moving systematically to the south in the winter, and other important considerations. None of that's been taken into account anyway. I'm sorry, I'm just deviating from our sad story.

Russia is simpler and much more complicated. You have a couple of things-- there's no precedent to build on. All of the intense rhetoric of Marx and Engels said three things about cities-- capital cities are dying. They must be an option.

Number two, integrate the country in the city. And number three I can't remember. Let me look at my notes. Separation of city and country, distribution of population over the whole territory, destruction of capital city-- you don't do very well with that as a kit bag of information.

When you're dealing with the largest country in the world, with 11 time zones from one side of the country to another, with a Marxist theoretical position which focused itself on the workers of the state and not the business of a state-- it's the largely agricultural region. If you want to read a good little book, "Ten Days That Shook the World" is the story of the first days of the first Russian cabinet. And this woman is given the keys to the Agriculture Department.

She comes there. She can't get into the building. The lights are not working, and she's got to feed the whole of the universe. It's remarkable that they survived.

However, there was an enormous attraction given to the fact that you had a new philosophy which governed then. The state controlled all of the land. You had a new, potentially educated proletariat who were educated to norms of goodness, and social equity, and certain givens, which you didn't find in the capitalist state. And we're having to go through this rather quickly.

The period of about 15 to 20 years set up an intense speculation. Given different attitudes towards technology, given different attitudes towards the distribution of society, different attitudes towards urbanization, none of which had a set of researched-- the Russians had built a garden city called Kazan in the early 20th century, which is relatively successful. And Kazan appears as a basis for some of the plans for Moscow, I think the most, if not the most of it. And I think [INAUDIBLE] plan.

There are three major institutions. They're now private firms. After the establishment or the disestablishment of the USSR, we took part with a group called [? Lengi ?] [? Progore ?] in a new plan for St. Petersburg. And [? Lengi ?] [? Progore ?] was with the Russian Institute.

And the Russian Institute, they had clients in Vladivostok. They would fly through 11 time zones to get to their clients-- an incredible apparatus. They'd never worked on a city problem themselves. It's interesting stories.

Anyway, there are three major academic practicing groups. They all have names based on shortened versions. ASNOVA was a formalist group-- the capitalist individualist prefers the horizontal line and immobile column. The socialist prefers the street climbing, horizontal line, the spiral, and so on, and so on. What is extraordinary in all of this revolutionary rhetoric is the significance of the visual image.

The propaganda train-- I mean, imagine building a propaganda train. You're in a civil war. You just about still fighting with Germany, and you paint a train to go through Russia celebrating the new idea of Russia.

The preference that people gave to the visual impact of power distribution-- you will see it after '35 in the return to what-- Marx was very impressed by the Rubens paintings, because they were large, and covered enormous things that you could identify with. His version of the emotional response of people to artifacts was exaggerated. Abstraction, which was really very much the platform of people like Malevich, and Lissitzky, and Chernikhov, and all of these people-- those are great artists-- were competing not around the social premise of the work, but who could, as in the ASNOVA group-- create a visual formula which would emotionally convince people that they were in an alternative setting.

I don't know of any other examples, other than in Fascist power principles, where a certain emphasis on verbal rhetoric was not very much use. People tend to see with their eyes without being trained. People can't-- most of the population of Russia couldn't read.

The second group, the OSA group, the group with Moisei Ginzburg, and the [? Bach ?] brothers, and the Vesnin brothers, and [? Lissitzky, ?] and so on was a functionalist group. They say it's scientific socialism and functionalism. The ideological value of proletarian architecture does not lie in the exterior forms, which act as organs of perception, but in the scientific functioning and spatial organization of the practical problems involved in the practical realization of socialism.

Khrushchev in 1957 said what a waste of money it was for Stalin to have wasted all of his money building [? Lermontov ?] University in the Palace of the Soviets, and all the shit decoration. He said, if we stripped those buildings of it, we could have housed another 300,000 students.

The third group was of [? VAPRA. ?] And they were also a group interested in the abstraction of form. Amongst the OSA polemics, there were groups which fundamentally are distinguished between the attitudes towards urbanization. The sociologist Sabsovich was an urbanist. He believed that the city was still the center where human activity will always take place. He recommended the idea of a pervasive network of new towns, about 40,000 people each, each town being totally collectivized, each [? evident ?] [? to ?] [? sell ?] and so on, such towns to be located next to industry or collective forms.

The disurbanists were a group of people who believed in the mobility of the individual-- light houses, small-scale equipment, linear settlements along roads joining industrial centers. They were very influenced by the work of Peter Kropotkin, who argued about the decentralization qualities of the electrical grid and other emerging technologies. For them, an ideal place was that you had-- there were apartment blocks being designed according to this formula, where each person in the apartment block had a cell of x number square meters, barely large enough for one person, and the rest of the space for collective activity. Or some of them even had, in turn, proposed internal gymnastic tracks.

The idea of the social condenser-- the ground floor of a building by Moisei Ginzburg had nothing other than place to condense. The vertical system had nothing other than Fourier's interior for people to meet accidentally and to socialize. The whole apartment block was conceived as a system of socialization, as in Krushchev's Microraion settlements.

Following [? Karmatzoff ?] in Vienna, an early environment broken down to about 1,800 people per block would form a collective in which the socialization element would be fundamental. I'm trying to rush through all of this as quickly as I can. So for OSA, notions of linear form based partly upon the American example of the conveyor belt-- "Let us take this storm of the revolution in Russia, united with the path of life in America, and do our work like a chronometer." That's Chernikhov.

Taylorism-- F. W. Taylor of Harvard University, literature about industrial affinity and management. Lenin exhorted his society to make use of Taylorism. Stalingrad tractor plants were prefabricated in Detroit by the Albert Kahn Company. [? Forzazia ?] became a premise [? Forderization. ?] "Men stand still, but things move," became a mantra.

The authors write, automobile factory Gor'kiy was designed under the supervision of the Ford Company. Albert Kahn, who is one of America's more interesting architects, his company had a hand in over 50 enterprises in the USA. He was supposed to work primarily for Henry Ford.

Interesting-- Albert Kahn's a Jew. Henry Ford is an anti-Semite. The Russians dislike Jews. But somehow, again, you have a complete breakdown of any kind of thing but skill.

Albert Kahn is the world's greatest industrial architect, probably ever. He provided things which the Russian society were willing to accept, even although he was a foreigner. And imagine Russia in this post-Czarist state, with a loose ideology, which we're all sitting in rooms trying to say, what does this all mean?

And here's the United States, churning away, building Ford automobiles in Detroit, and reading about Taylorism, and so on. And the society is coming closer together around the production of goods. As far as urbanization is concerned, it meant very little.

The linear plans for the competition in Magnitogorsk and Stalingrad, and [? Ortestroy ?] for the production of cars, tractors, and steel. The linear settlements-- linearity-- I wish I had five minutes to talk about the problems of linearity. Linearity offers great attraction to architects because it's elementary.

Expansion is feasible because you've got two open ends. You can provide public transportation system along the line, where it's most efficient. The crossings of the line are unimportant. In the Stalingrad plan, you have a park. You have housing, a park, industry, and so on, and so on, like a complicated McDonald's sandwich stretching infinitely in length.

One of the most interesting-- I'm jumping-- one of the most interesting competitions in urbanism-- competitions in urbanism are very difficult. If you examine the context of a city as closely as we've been examining them in this class, you probably would have to do a lot to provide a competition, unless it's for a small piece of a city, parts of the inner city. But a competition for a whole city, unless you're interested in big ideas, I don't know a successful urban design competition yet.

One of the more interesting cases is the case of the la Ville Vert competition. Just after the Revolution, the Russians decided that they needed to create a new town near Moscow, which would alleviate the workers from the strain of working so hard-- that they could come to this town to spend a week or two weeks just dealing with the world of fantasy, and so on. The three winning competitions were by Ladovsky, who built a town which balanced trains and automobiles, but did nothing particularly else.

The second prize competition was won by Moisei Ginzburg and his colleague-- I forget the name of his colleague-- who proposed the system of ribbon roads and the train system. But the basic system was a disurbanist proposition-- that people would have little huts, live in the countryside, connected by electricity, and basically living in the rural areas as if they were free, like animals. The housing was designed on the basis of one person per unit.

If you were married, you had a sliding door between the two of the units. You could transgress that part as freely as you wished. But if you didn't want to do it, you could be separate, and in an anarchic sense, perhaps choose another partner for the time that you were there.

The most interesting example came from a strange man called Melnikov, who was one of the most brilliant architects of the modern period anywhere, and one of the least understood. Melnikov did everything strange. He said that everything that the human being has to experience in my town is going to put him in a different state of mind.

So he said, [? let us ?] study sleep. He said we sleep for a third of our life. I'm going to try to influence the way people sleep. So the interior is units of sloping beds. And he plays sounds into the-- Roxy Roth of New York heard about this, and came to Russia to meet with Melnikov, to popularize the idea of putting smells into American radios and Radio City Music Hall.

Melnikov wanted wild animals to roam around, so that you could really be in contact with nature in a serious manner. How serious, I don't know. The intimacy between a wild animal and a human being is pretty serious.

He had a whole bunch of other things. He had an Institute for the Reform of Character. He had the virtual-- the edge of his city was almost like the walls of an ancient town, where people could go on long walks and meet other people. You enter his town by train. The train stopped in the station. I'll show you the slides.

You get out of the train and you sit in bleachers, and you are socialized. You're given large, dramatic presentations, and so on. It's an extraordinary place from its interest in the individual's experience throughout these two weeks there. In relation to nature, he used solar energy, had a solar energy pavilion. This was long before solar energy was appropriate in our society.

Let's look at some of illustrations. I'm sorry for this compressed version, but there's very good writing now available. And the [? Talkov's ?] basic book is still a very good source.

So let's look at some of these images-- Abercrombie's plan for London, the clearing away of the space around the center city and the creation of a green belt. Next-- I'm going to go through these very quickly-- the typical for Mark One town, one center, microcenters in the neighborhoods. This is Welwyn Garden City.

Next, Stevenage, and the center of a Mark One new town. Next, Mark Two-- Hook, a linear city with a linear center space, built above a tunnel. And as you can see, the arrows pointing in the upper section pointing to the fact that you have to move through others' neighborhoods. This is social engineering through the form of distribution of the housing. Next, Runcorn, one of the more revolutionary towns, based on a public transportation route in a figure eight, meeting in the center of the place.

Next, and the great Cumbernauld-- these are the diagrams of the center which fascinated the architecture world so greatly. Next, on the left, you can see the architecture use of airplanes and helicopters, which Frank Lloyd Wright used. I don't know why it's important to animate the sky in the depiction of a town. Everybody does it, but nobody suffers the disaster of Cumbernauld as Cumbernauld did.

Next, Irvine, the linear town, linking through-- no, don't change that, thank you. And an earlier version of Milton Keynes on the right, the distributed, gridded city. Next, Milton Keynes, the diagram on the right indicates the increase in affluence-- leisure, sport, automobiles, highways.

The plan of Milton Keynes is a sectorial plan, in which the grid system is carefully designed at one kilometer by one kilometer. One mile by one mile would have created the need for separated highway connections. The volume of automobiles at one kilometer restricts the system of connections to a traffic light.

Next, another principle here is an interesting principle for those of you who are interested in these kind of things. In architectural construction, if I create a truss between two points, I can load the system anywhere because the system will take care of the load distribution. The same principle is attempted here.

It's going the wrong way. OK, there we are, thank you. The system is designed so that the system, no matter where you locate, can be taken care of by the transportation system. In other words, you're creating the design of the town, a robust enough system of moving infrastructure so that any loading position-- say an industry which is to locate here, another industry here-- all of it is taken care of by the infrastructure design.

Next, here are just two examples from a Venezuelan project called El Tablazo, which is the same firm which did Milton Keynes, designed at the same time. The whole idea is that the center of the town would be a zone for squatters, that the incubation requirement in the middle of a city heightens the educational input into these people, and they can then migrate from here into an existing surrounding neighborhood. It was never built.

Next, Russia, hell on Earth, the image of contemporary capitalist industry-- this is from Miliutin's book, *Sotsgorod* in 1919, the use of visual material in the celebration of the new republic. Next, Ernst May of the German architects and his institute, who did the distributed plan for Moscow. Corbusier's plan on the bottom left.

Next, [INAUDIBLE]. This is one of the more interesting plans of Moscow, [? Kirov's ?] plan. Basically, if a city expands, the tension is in the environment around the area which it's expanding into. What do you do with that? You see all of these projects are uncertain.

You either have a green belt. You restrict growth. If you do growth, this one tries to capitalize on the communal environment at the edge of the city-- a huge infrastructure of sport, recreation, open space, and so on encircles Moscow.

The only version of this that I know is in Havana in Lenin Park surrounding Havana, where you have, in a sense, an encultured green belt of modest size. One of the [INAUDIBLE] [? Moscovit ?] plan, which is similar to Alan Smythe's plan-- that is to distribute roads and rail systems all around in fingered form, in linear form, and to have small interventions in linear form along these.

Next, this is [? Shushev's ?] plan, and the 1935 plan, which became the orthodox plan, which Moscow's followed roughly ever since. Next, this is the Ladovsky's plan for the Ville Vert competition. Next, this is Ginzburg's plan on the left, mainly with [INAUDIBLE], linear road systems, and green filled in between, in some version between a grid system and a dotted system. And on the right is the diagram of Melnikov's plan, with an elephant in the center and a bull up at the top.

Next, here is these entries to the city. This is how you enter into number 15. You are socialized on your entry. What that means, god alone knows.

Here's a bedroom, which is articulated in relation to the sun, and into sleep. And here's a solar pavilion on the left. Imagine designing a solar pavilion in 1919.

Next is extraordinary. That's one of his drawings on the right for the new Ministry of Industry. And this is in-- sketch from 1924, Exhibition Pavilion in Paris, which was built, but not quite as dramatically as the diagram.

Next, the OSA group, in all of their scientific formulations-- here are the two based on linearity. Next, the plan on the right is of a linear distribution of a connection between separated settlements and a linear system in Stalingrad. The drawing on the left is interesting.

One of the great skills of urban design is the skill of diagramming. You need to be able to diagram very well in order to convey your intentions to your colleagues, to other people, and so on. The diagramming system here uses simple forms of description to animate the big idea.

Next, here, you can see Leonidov's idea for distributed disurbanist environment, of huts connected and urban. Next, just a few glances at housing. Here in the diagram of this housing project on the right, the ground floor is, as you can see, occupied with people condensing-- condensing, playing sport, playing.

Here on the left is a diagram for projecting the power of the [INAUDIBLE] [? interior, ?] the central position, which links to a number of floors through the building. Next, Moisei Ginzburg's modern apartment block. The ground floor and the roof are totally given over to communal space, and the floors in between are small and compartmentalized.

Here's a project for a residential environment combining a number of the features of these intellectual groups, the advertising of the building giving the visual prominence to the shape of the building. There's a wheel. I don't know if the wheel articulates the idea of the elevator going up and down.

Next, this is the projection by one of these groups for the housing in the Magnitogorsk competition. This is, in fact, on the right, what was built as the result of the competition. Next, this is Melnikov's cinema in Moscow. Imagine making three separate buildings out of a cinema.

On the left is one of Corbusier's lesser-known buildings, this [? Enthroysius ?] building, a 1929 building for the United Workers Councils of Russia. It's now the Bureau of Statistics building. Next, the Dom-Kommuna building on the left, the social housing built under the Dom-Kommuna system. On the right is a club.

Next, these are just two diagrams. Here is Tatlin's famous Monument to the International on the left. On the right is Melnikov's the entry into the Pravda competition.

All of them involve the building moving at different rates. In the Pravda competition building, the separate cores of the building rotate the building at different speeds. It's the invasion of architecture by movement.

This Monument to the International has also rotating geometric forms which move at different speeds. It's much like when the Queen is in London, there's a flag on Buckingham Palace. You will know when Congress is in session by watching the speed of the-- more like an urban thermometer, somehow.