

Keynote Address: Geographies of Power/ Architectures of Centrality

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What I am trying to do this morning is talk a bit about what I think of as the geography of power and really the idea is that there are several geographies of power. And then attempt something which is somewhat of an experiment and that is to connect it with questions of architecture, particularly certain questions of architecture.

The notion that to some extent what I think of as an architecture of centrality, and I should clarify in case you haven't guessed yet that I am not an architect and have never studied architecture. I am a political economist who is interested in space and via that venue sort of keeps stumbling onto architecture and questions about architecture and am increasing intrigued by them. But in terms of power I repeat the notion that something which one could think of as an architecture of centrality has been a key factor, of course, in the representation of power. Really in building those places where there is power mongering rather than perhaps power as such like Congress, parliaments, markets, stock exchanges, etc.

And then to what extent the new technologies which are reconfiguring space which are displacing a number of activi-

ties, economic activities, onto an electronic space, which is neutralizing to some extent places where power was presented. To what extent these develop, which entail, if you want, a sort of spatial virtualization of what used to be embedded into the physical. Alters, effects, transforms, raises a question about architecture in its capacity to represent power.

I feel pretty confident about what I have to say about the geographies of power. I feel far less confident certainly with

this audience in terms of my thoughts which are somewhat wild and perhaps at times errant thoughts about this question of architecture. But I leave a little ball with you to play with, so to speak, with those kinds of thoughts.

Now in terms of the geographies of power: telematics, computer networks, telecommunication, and economic mobilization have certainly altered in a very profound sense the organization of the economy. And it is particularly, I must say, economic power that I want to focus on and of which I am particularly a student.

Now telematics and globalization have altered the organization of the economy in two ways. In one sense because, as I said before, a whole number of activities have been displaced onto electronic space. The financial markets are an example of that and they are sort of something that I tend to write about and study. The other way is that these telematics and globalization have also reconfigured the geography of the built environment for economic activity. So they have had this dual impact if you want.

On the one hand to displace economic activities from physical material space onto an electronic space something

which is now increasingly referred to as the spatial virtualization. How's that for English and its capacity to invent new words of the growing share of activities. And then the second one is this reconfiguring of the built environment for economic activities which itself assumes two forms.

One of them is the formation of, if you want decent realized notes for economic growth, what in the United States I refer to as edge cities. The more descriptive term, "suburban office complexes," etc., I think we are all familiar with these forms. The second way in which the geography of the built environment has been reconfigured is through what it has done to the downtowns. The rise, the immense rise of built, of intelligent buildings, fiber optic cable served buildings mostly, and the greater density that we have seen in the 1980's, things such as that.

So this, the impact of telematics and economic globalization has really operated on two very very broad plans and brought with it very significant changes. The images that dominate the discourse about economic globalization about power, about the geographies of power, are two or three. And when I say the images that dominate I mean the images that dominate the mainstream account, the dominant narratives about this.

One is the question of hypermobility. The hypermobility of capital, the fact that capital is liquid now and finance is, of course, the ultimate accomplishment on this front. But I must say you now do have manufacturers who will tell you we are hypermobile. I don't know exactly what they have in mind but we used to talk about flight by night garment shops, footwear shops. Yes, now we have flight by night steel mills. In other words, steel operators move into an area and do their job and then move out. It takes them six months. I mean isn't a one second operation but in talking with business people and I do spend a bit of my time doing research talking with business; because I am interested in the stories that they have to tell about what's happening to them.

When I find manufactures telling me that they are hypermobile, all my critical senses as a social scientist are sort of awakened and I say, "what exactly does this mean." And so one of the things I want to do today is to, if you allow me the term, deconstruct this notion of the hypermobility of capital. What exactly does it mean, how much spatial virtualization has there been, where does that leave place, where does that leave the physical coverlets of power.

A second image that dominates, which is not unconnected to the first one, is this question of the neutralization of place, of distance. And again here I want to sort of raise some critical questions about the extent to which there has been such a neutralization of place and distance. The extent to which we need to recover the ways in which place, materiality, etc. continue to be key properties in this particular kind of economic system indeed dominated by an industry like finance which is hypermobile.

These master images of the mainstream account of about what's happening today in terms of the economy, in terms of power, hypermobility and the neutralization of place, and

distance raise, of course, important questions about the future of cities and if I may, about the future of a certain kind of architecture. That architecture that I am referring to as an architecture of centrality, an architecture of the center.

Now they raised these question, these would be the futures of cities, really in terms of the leading economic sectors. It is not so much in our cities as great places with restaurants and theater and all of that. I mean that -- you know our older version of city that may remain but these would be the leading economic sectors which are characterized precisely by this hypermobility and by globalization. It does raise a question as to the possibility that cities become obsolete in terms of their economic functions.

It seems to me that historically and from the perspective of a political economist like myself you always intersect with the fact of architecture at particular junctures. And they are the junctures where architecture marks the whole notion of the center of centrality, where architecture marks the representation of power. Certain kinds of power but certainly economic, political, religious, etc.

This dominant narrative which suggest hypermobility, the neutralization of place and distance, clearly also signals the possibility at least of an end to that kind of form and that kind of vocabulary of power that architecture has helped to embed into physical forms. The growth of the displacement of economic activities onto electronic spaces also I would say dissolves some of the forms and activities that have been associated with architecture historically at least, not the question of housing. You know not all kinds of questions but these questions that I am thinking of as an architecture of centrality, which I think is one of the key spatial correlates of power. It is not power per say but it is the image of what houses power and as I said maybe much of the part of power that gets done in those "houses of power" is really power mongering, the dirty business of power, but it is still one of the physical correlates of power.

In other words, the virtualization, the spatial virtualization of the growing array of economic activities, especially dominant economic activities. We are saying economic power does serve to dissolve some of these functions about architecture. In that regard a recovery of place of the material reality of economic power, which is what I am trying to do today and which I have been trying to do for the last ten years, does also serve to remark, to give a new meaning to this question of architecture including the notion of an architecture of centrality. Or as I prefer to think of it, the many different architectures of centrality that we have seen historically and that we still see today.

Just a short hand to make it concrete to illustrate the corporate downtown center, whether that is in an edged city or in a suburban office park or whether it is in the traditional downtown, is clearly an embodiment of economic power, number one. Number two, it contains a displacement of what were once political functions onto the economic arena in the sense that corporate actors, be they financial markets, be they multi-national corporations, are today the locations where

power including the power which was once political power, is now embedded.

So in that sense this is one of the architectures of centrality when it comes to the new geography of power that I am thinking about. Now in beginning to think about these types of questions, the materiality of a lot of these processes continues to operate today. One of the ways to begin this type of inquiry, giving it a more abstract formulation, is to ask whether an economic system with strong tendency towards the concentration of ownership, of management, of control, of the appropriation of profit can have a space economy that lacks points of strong physical concentration. Can it have a space economy where you do not have an agglomeration but I am really thinking of the agglomeration of physical and material entities here.

Yet a more abstract version is can this power have spatial correlates. Power is a very abstract concept but it does have a multiplicity of attributes once you begin to deconstruct it. So that particular set of attributes that I am interested in and I think that probably deals directly with this question of architecture is the question as to whether power has spatial correlates.

So a way of recasting that question is can an economic system with these kinds of characteristics towards concentration lack spatial correlates in its power structure. Just to reduce the possible suspense about the answer to this question I believe yes, that this power does have spatial correlates and that from a very broad political perspective we gain by recognizing that power does have spatial correlates. That there are moments when power in itself is a very abstract property of the system whether political or economic or religious. That there are moments when power hits the ground and those are the moments that I am particularly interested in and those are the moments that I see embedded in this thing I called the global city which is to some extent an analytic construct.

Now there are sort of two key propositions that organize this inquiry. One of them is that global processes, global economic processes, it may also hold for other processes, when examined with great care which I will not have the time to do here today. But when examined with great care evidently materialize in place in a whole way, in a whole series of very distinct ways that can be empirically measured, established, etc. There is no such thing as a global economy out there. The global economy materializes in places, in institutional arrangements, etc.

One of the places where it materializes today is electronic space which then engenders a whole new series of problems and inquiries that are problematic about the extent to which electronic space is not just a space for transmission, but some sort of fantastic thoroughfare. But is also a space where structures for power are being constructed and constituted.

In other words, electronic space itself contains processes of structure which will sooner or later have an impact on broader sectors of the economy, of the population, of society. So that is one of the proposition that global processes

materialize in place, that it's not something that is floating out there. And a second proposition that is connected to this question of power is that the more globalized an economic system becomes and certainly all the advanced economies today are highly globalized economic systems. The more globalized it becomes, which means the more dispersed the planetary level, the importance of central functions also grows.

Some of these central functions have as their spatial correlate agglomeration office district, etc. Others are in electronic space; the foreign currency markets are mostly in electronic space. But the functions of the market, which is a gathering place whether it's the market that the anthropologies describe in villages or the financial markets we're dealing with today, their nexus is the points where things come together. So that whether it's markets, where it's the headquarters of multi-national corporations or some other equivalent entities. Yes, globalization, yes dispersal whether at a regional, metropolitan, or global level, but also a renewed importance of central functions and then the issue of the spatial correlation of these central functions.

These are sort of the two propositions through which I organize this subject. Let me take you with a bit a detail through a little tour of what actually happens in the financial industry. The financial industry is now one of the key sights of economic power. The international financial markets are setting policy for countries. When the crisis in Mexico City hit, the international financial markets had Argentina, Brazil, Thailand, etc. terrified into getting discipline and to making sure that they would not do what Mexico did.

The international financial markets do this to a much larger extent. They have this terrifying control capacity over countries, more than the IMF at this point does and certainly more than the United States Government does. So that when we talk about international finance we are talking about one of the new geographies of power for urbanist, for urban planners, for architects, etc. The question is this question of place in a way. International finance, a key geography of power: where does the question of place enter?

To begin to answer that question I want to, as I said, take you with a bit of detail through what actually happens in the international financial industry. What is it that they do. These are industries which are usually thought of in terms of expertise and if you want the hypermobility of the outputs. Both properties: expertise and hypermobility of outputs are thought of as not being placed bound. This is something that can float up there that is not all you know in need of any sort of place.

Well, when you look at what happens in Wall Street or in the City in London or in the financial center in Zurich or in the financial center in Frankfurt or in the financial center in Amsterdam, etc. what you see is that there actually is a work process involved and this work process consists of the experts, but expertise, is whether they like it or not, embodied, embedded in bodies, and these bodies have to sit somewhere. There are desks involved and there is a whole

matter of reality attached to that property which we call expertise. But more importantly to the production process in finance, lets just look at international finance, the most advanced of the information industries and one of the most powerful ones.

This involves a multiplicity of forms of expertise that have to come together in very concrete ways and particular moments at strategic junctures, etc. And this creates a work process and if you attach the whole variety of components that go with it, the buildings, the truckers who deliver the software, the secretaries who do the routine jobs, etc., you begin to see that there is actually a production complex involved in international finance. This, the most advanced, the most hypermobile of all the industries that we are dealing with today.

I always like the story in Toronto when they were building up the financial district in the mid 80's where they had by the way the chance to incorporate the latest technologies in the moment because it was just going through a massive process of expansion at that point. It was not like Wall Street where it was already a very very built up or the City of London, a very built up infrastructure.

They interviewed professionals in the international financial industry to see you know where should we locate these buildings. Should we put them out there in the metropolitan region where you have more space, you can have green parks around you, etc., etc.. And one of the key answers that came out of this survey of professionals in finance was that fifteen minutes is a long walk, put us very close together, in other words. The fact that they would even mention "walk" I found very interesting.

The notion that these people are totally wired up, they sit at their computers, you know they are dealing in electronic space most of the time and yet this notion of physical concentration, of being together, mattered immensely to them, and this is a story that you find over and over. In other words, there is a way in which the physical co-presence matters.

There is then this production complex within which international finance does the job it does. The geography of power that international finance represents is one that moves in electronic space, around the globe, but it also has in one of its key strategic moments this concentration of top level activities of the most innovative kinds of activities in a place. Because it is precisely the ones that are most innovative, most speculative, which require place. It is the routine operations that can disburse.

One way of interpreting this is to say that this is a geography of power which is indeed characterized by some sort of hyperspace, which is global but which has strategic places with immense concentration of a whole variety of resources, and this represents one of the spatial correlations of power. And I repeat when we talk about finance we are talking about an industry that today has incorporated, has absorbed, a whole series of functions that used to be the domain of governments.

This is something that begins to happen in the last ten years and it is now a very strong fact. There is a lot of debate in the social science literature about this issue. This is clearly a new development where the international financial industry has assumed functions that use to be government functions.

Places like the cities, the large cities, that are key international business and financial centers, fulfill this function as sight for a production process in the leading industries. They fulfill the function of being market places in the old-fashioned sense. For instance, just again to make it concrete in the United States, in England, and in Germany in all those countries, we now have legislation that makes some of the areas in this place, well, that allows for international financial transaction.

In other words, a Japanese firm can get together with a German firm in Amsterdam and do their business. They don't even have to bring in a Dutch firm. Same thing in the United States, same thing in England, in a whole number of these countries. The French are still are bit more particular about this but in many of the countries there really is a sort of free zone.

When you look carefully at what this legislation actually says, you see that it goes through certain kinds of entities. In the case of the United States, they are called international banking facilities. Well most of these facilities are actually located in particular places and they are New York, Miami, Chicago, LA, San Francisco and it is when you are there that you can engage in these kinds of activities.

So again on some level the legislation put it under the heading of deregulation suggests placelessness, it doesn't matter and it's true that in part the operations are done in electronic space. But when it comes the actual material set of activities that need to be engaged in to execute the operation, it turns out that place reenters the picture.

Now I started out by suggesting that the master images through which today we understand, we talk about globalization, hypermobility, etc. suggest that place no longer matters. And this suggests to what extent to which there is a strong ideologic component in this eviction of place from the account as to what is happening.

What does happen when we evict place from these accounts about economic globalization, international finance, hypermobility etc. When we evict place we are actually evicting a whole series of activities, a whole variety of types of people, types of communities, etc. and in that sense this account that evicts place is an ideological account and I as a social scientist have sort of found myself for the last ten years resisting and fighting against this type of ideological account.

For me to recover place as a strategic moment in that geography of power that international finance constitutes is an analytic operation but it is also a political activity in the sense that recovering place means recovering. All kinds of other factors are involved and it means at the edges of the analysis recovering the importance of other types of activi-

ties, and let me emphasize other here. Because what I'd like to mention is an illustration of the edges of this system in our centralization.

1987, the stock market crisis on Wall Street, massive sudden unemployment among the high income professionals on Wall Street, a lot of the press focused on that. What the press did not focus on was that same famous Monday, there was also massive unemployment. In Washington Heights, it is a part of Manhattan occupied mostly by Dominican immigrants and these Dominican immigrants are a large share of the cleaning work force on Wall Street.

The fact is that Wall Street does not only need its professionals but it also needs the cleaners. I am talking about janitors, etc. that you recover by focusing on place in this account of hypermobility and hyperspace and globalization, etc. By recovering place you recover a whole series of other activities and other economic spaces in the city that are part of the industry.

Now when we identify the centrality of place in this type of economic system, we wind up doing a couple other things. One is to recover a new geography of centrality, a new geography of the center that connects Wall Street, the City in London, downtown Zurich, downtown Frankfurt, with downtown São Paulo, downtown Taipei, downtown Buenos Aires, downtown Montevideo, etc. It's a geography of centrality that cuts across the north-south divide, which is a divide to which we have typically understood the world.

Along side this new geography of the center is, however, also a new geography of the margins or of the peripheral that also cuts across the north-south divide. So that poor people in the Bronx in New York or poor people in Harlem in the Bronx are part of this geography in the same way that poor people in São Paulo are and poor people in Buenos Aires are part of this new geography of the margins.

What globalization has done is indeed alter in a very significant way space, economic space, the organization of economic space. And one of the outcomes of that has been to create this new geography of the center that cuts across the north-south and the new geography of the margins that cuts across the north-south. It recasts the question of economic power and it recasts the question of poverty in new ways.

Now I emphasize these kinds of analytic constructs that I am throwing at you really hold only for certain types of inquiry. There are many many different kinds of intellectual inquiries that we can be engaged with and they do not hold for all the run on universals not even in this. So but for the purposes of certain analysis, analysis of economic space, analysis of geographies of power today given the dominance of telematics, given economic globalization.

For the purposes of these types of issues, this new geography that cuts across the old north-south divide I think is a very important one. Both to understand the economy, how the economy is organized and to understand questions of politics frankly. I do not worry about the elite in São Paulo. We can no longer just talk about poor countries. Brazil, sure there is a lot of poverty, but there is also an immense amount

of wealth. Same thing in the United States an immense amount of wealth and an immense growing amount of poverty.

So that for the purposes of certain types of inquiry this recasting of the question of economic wealth, of the question of economic poverty, of the question of economic power I think is a very important one to get at some of these kinds of issues, to understand what really is going on.

Now one of the things that I would like to do is to read briefly a section in this paper where I try to deal with this question of the architectures of centrality as sort of one of the very very physical correlates of this question of place. And again in a way there are more questions than answers and before doing that I should talk just a bit more about this question of the center of centrality.

One of the outcomes of telematics and globalization in this reorganization of economic space is that the whole notion of the center itself, of centrality itself, has been altered, has been changed, and to make sort of a very brief and somewhat simplistic statement of something that I have developed at greater length elsewhere. When I look at the world I see four forms of centrality and at least three of them are a function of these new developments, of this reconfiguring of economic space.

One of them is the traditional central business district, the traditional downtown and certainly what we see in the 80's going on in the 90's is a very significant bill top of that traditional center. It's in some ways the same concept that we had a hundred years ago. In other ways it is not. I think the question of telematics has altered that center. Here again just to be a bit concrete, New York City has the largest single concentration of fiber optic cable serving buildings, which is well over seven hundred.

So what does that mean? It is very interesting to see what that means. That means, of course, that it's deeply wired into the global economy but it also means something else and let me illustrate with a figure. Sixty percent of the transactions that happen in Manhattan that operate through the fiber optic cable network actually involve communications within Manhattan.

It's one reading of globalization. We need in Manhattan all these fiber optic cables serving buildings to be deeply connected which Manhattan is to the global economy. But it is quite noteworthy that half if not more of the operations through those facilities are localized. But those "localized" operations are, of course, dealing with global markets and global forces. It's another way of capturing this notion that the global forces materialize in places.

Now this traditional downtown is one form of centrality that has been altered by this new technologies. It's a different kind of CBD because it's so connected to the global economy and to some extent disconnected to the hinterland of this city. In other ways it may pay off to say that it is really quite a different CBD. A second form of centrality is the metropolitan grid of nodes, business nodes, etc., that it's highly connected by a digital highway.

The metropolitan region around Zurich or Frankfurt, around Toronto, are I think key illustrations of this. This is a center that covers a metropolitan region but really when you look at it carefully it consists of a whole multiplicity of nodes that are deeply connected via telecommunications and computer networks.

Here is an interesting sort of piece of evidence I found. In my last book I looked at cities like Zurich, Frankfurt, Sydney, Toronto, and Miami, which are very very different cities from New York, London, and Tokyo, which I looked at earlier. One of the interesting things about Zurich and Frankfurt, since we are here in Europe and these are deeply European cities, is that in both cases the downtown has undergone two types of changes.

One change is that it has become more specialized in finance. In other words, finance dominates the downtowns in Zurich and in Frankfurt in the way that it did not ten years ago. And the headquarters of businesses, and there are a lots of foreign business also in these two places have moved out to a metropolitan area where they constitute this grid, this metropolitan grid.

The second point that is interesting about both cities that also holds for Toronto and Sydney is that they now account for a larger share of all financial activities in their countries, Germany and Switzerland, than they did ten or fifteen years ago. So what you see in the center of these cities is a greater homogenization in terms of finance and its sister industries like international accounting, legal services, etc. and a greater concentration of all national financial activity. And by the way, both Germany and Switzerland, of course, are in the top six financial powers in the world so these are no little countries.

You see the same thing in Sydney and in Toronto where we are dealing with a continental scale and given a bit of time to develop this, which I do not have, one could really see how significant this actually is. That when we think Switzerland and Zurich we think little country, why shouldn't it all concentrate etc. We think Germany is a little bigger country but Australia and Canada after all are continents and Sydney now concentrates a higher share of all financial activity in Australia than it used to do and so does Toronto.

In fact Sydney has taken over a whole number of functions from Melbourne which is the old center of wealth and commerce in Australia and in the 80's you can see the shift of headquarters. Of the top hundred headquarters in Australia sixty are in Sydney. That is a very significant concentration for such a big country. But the same as I said you see in a way, in it's own way, in Zurich and in Frankfurt.

Now in these four cities, Sydney, Toronto, Zurich, and Frankfurt, the metropolitan area around the city becomes the site for headquarter locations. A lot of the headquarters are there and anybody who has gone to Toronto recently, for instance, it's sort of an architectural event to go out in the metropolitan area because you have these incredibly big buildings surrounded by highly landscaped parks, each one standing there by itself. It's really a rather impressive but

finance which could have followed that pattern is all bunched up downtown and really bunched up. Although in Toronto you have sense of a lot of space unlike Frankfurt but still this bunching up has happened.

Anyhow that second form of centrality that is in the metropolitan grid. A third form of centrality which is one that I tried to develop a bit in my work in New York, London, and Tokyo is transterritorial. Here we begin to deal with the transterritorial center which really consists of the transactions among these cities in the leading information industries mostly. It is transterritorial in two senses.

On the one hand because the center consists of a whole variety of transactions that happen to some extent in electronic space and to another extent in hyperspace. The hyperspace where the international business types travel, you know the world class airport, world class hotels, etc. but it is a certain kind of conception of space. And architects certainly have been a critical factor in building this hyperspace that we see emerging in the 1980's.

Now it's a transterritorial center also or a center in the second sense which I find very very important. I see mostly in the literature, the specialized economic literature, a failure to capture this particular form. And it is that what we're dealing with is an economic system or a sub system that has multiple locations and in that sense global or transnational. The image that dominates the literature, for example, on New York, London, and Tokyo thinks of it as three places competing for market share and that suggests self contained entities each competing to get as much as it can of the goodies that are there to be had.

In fact they do compete but they also represent a division of labor. A sort of a very gross image that I like to use is that Tokyo represents a plantation economy when it comes to finance; in the 80's particularly it's becoming a bit more sophisticated. But in the 80's what Tokyo does is concentrate the vast amounts of money that were being produced by the raw materials in Japan; it concentrates it, bundles it up and exports it to the world markets.

If you are a small investor in Uruguay or in Chad, you go to New York or to Tokyo and nobody's going to even open the door for you. But you could go to London and I do think that this is sort of a function of empire. You know, when I don't know what plane to call if I have to go to some far out place I call British Airways; the chances are they fly there. I do think that it is a function of empire, an inherited sort of administrative capacity to connect with the whole world.

And New York Wall Street was and remains the leading processing center. That is where the stuff, the raw material, really got processed and a job done on it. You know that is where they invented how to make money, massive amounts of money off debt, whether that's United States Government debt, the Brazilian Government debt or my debt on my house or my car or whatever, my credit card.

So that what is important to recover here is when we talk about economic globalization, unlike earlier forms of international economic system, we're talking about something

where you don't just have countries competing with each other. We have one system that implants itself in multiple locations and in that sense is a global system rather than separate systems competing with each other. Both are happening today but one of the key things about this third form of the center is this transterritorial set of transactions that are not simply separate national entities competing with each other.

And the fourth form is the kind of centrality that is being constituted in electronic space. Now here I would say that there is a lot of research to be done. There are probably more questions than answers. The basic notion, and I repeat what I said earlier, is that electronic space is not simply a space for communication. It is that, and for most of us that's what it is. However, when it comes to questions of power and new geographies of power, I think that electronic space itself contains a geography of power, which means that there is differentiation. And there are nodes where certain capacities come together that represent an electronic version of power which we tend to think of in other more familiar terms.

Again there is a lot of research to be done here and I am struggling with some of the questions both on the engineering side and on just the capacity side that electronic space allows for. But this is something that I think is emerging and that is, that the form of centrality that is constituted in electronic space entails a differentiation of that space. It is not all the same.

There is another way in which electronic space generates a new geography of power and that is if you want those places, and that means people and types of firms and types of workers, etc., that are left out of the new global grid constituted through electronic space. You hear now in the United States people who are beginning to speak of a technological underclass of places. It is very interesting. Those are the places that will be bypassed. This is an old story when the railroad was constructed it bypassed all kinds of places and brought about the decline of all kinds of places.

The question vis-a-vis the electronic capacities is whether being excluded from that grid, from the digital grid, is a more fundamental form, a more absolute form of exclusion than being excluded from the railroad circuit. And I don't have the answer but it is clear that far from connecting everything with everything else the super information highway is not going to stop in all places. In fact in the United States, the governor of Iowa a few years ago decided to make sure that every single community in Iowa, that's one of the states, would be served by the information highway.

Now that meant a massive investment in infrastructure in an immense number of places. Why even mention it; he ran out of money and was left with all kinds of places that will not be served by the information highway. There's this notion that it is so easy. You set up a little satellite or you set up a little lateral cut on the fiber optic. It just doesn't work that way. Every thing costs and when your dealing with a certain order of magnitude the cost accumulates. So that

there is a new geography of inequality that electronic technologies will contribute to, which you know raises its own set of questions.

A footnote, there is no doubt that e-mail is a cheap way of connecting with everybody else but you still need access and what is happening for instance in the United States now is that access is beginning to be curtailed. So it is true that once you have the whole infrastructure it's cheap and poor organizations in India are communicating by e-mail with organizations of the poor in the United States. But the question of access is the one that is now a sight for all kinds of struggle because access is being curtailed and it's going to cost money to have access.

Let me end by reading to you just one page of this paper on this question of architecture and architecture of centrality which I started out by saying is a slightly experimental attempt on my part because it is not really my field:

In this bundle of transformation lies possibly a new set of questions for architecture. As a political economist interested in this spatial organization of the economy and in the spatial correlates of economic power, it seems to me that a focus on place and infrastructure in the new global information economy creates a conceptual and practical opening for architecture. In other words, both at the level about how we think about it and at the level of practice.

And while such an opening, practical and conceptual, would seem to be less likely with a focus on the neutralization of place and the immateriality of information outputs. The emerging field of electrotecture, some people are talking about that especially at my university at Columbia, can be read as a form responsive to these conditions. In other words when recover place in infrastructure, we do create a practical and conceptual opening for architecture which, when we talk about the neutralization of place, the immateriality of outputs in leading economic sections, etc., we do not have.

At the same time this discussion around architecture as a form that can also take electronic forms and then the discussion that I am engaged in about the constitution of power structures or structures for power in electronic space, there is a bundle of issues there that would suggest that also in talking about electronic space ie. either neutralization of place, the immateriality of outputs, there is some interesting possibility there for architecture.

Architectural practice in theory, it seems to me, and this is more a question than an answer, can help us elaborate that point where the materiality of place and infrastructure intersects with those technologies and organizational forms that neutralize place and materiality. In other words, there is a nexus there, a bundle of possibilities, that both assume the form of a conceptional agenda and the form of an agenda of practice that I am particularly intrigued with.

Architecture has played a central role in constituting the idea of centrality in physical terms. Indeed one could say that a good part of architecture has been what I refer to as an architecture of centrality, of the center. The historical forms assumed by the architecture of centrality have to do

with ceremony, politics, religion. Over the last two decades we have seen a displacement onto the economy of some of the central functions traditionally embedded in the realm of politics. And architecture certainly was very instrumental in constituting visually this shift of power; and I am talking about the visual constitution of questions of power, this shift of certain aspects of power from the political to the economical.

The 1980's are emblematic of new architecture of centrality representing and housing new forms of economic power: the hyperspace of international business from corporate towers and corporate hotels to world class airports, the transterritorial space of centrality, a new geography of the built environment of centrality. But though transterritorial, this hyperspace is a form of place and has architecture fulfilled some of the conventional functions that it has fulfilled in the past?

Place, and here is again where architecture has an interesting role to play, is fundamental to the process of elite formation. When we bring in a concept which is far more concrete than economic power, but the concept of elite we reconnect with place in a very distinct way and, of course, a lot of architecture in the past certainly has been an architecture of elites. I think this brings in relief a whole new discussion in a way of thinking by non-elite forms of architecture, which are certainly most actual architectural events but they are less visible in a way.

So I repeat place is fundamental to the process of elite formation and place is where we can capture the new representations of power that used to be embedded in political institutions and now have been displaced onto the economic field. But the hierarchy in the economic system, which in the past assumed often rather transparent correlates in architecture and in urban form, has been partly be dematerialized

through this spatial virtualization of economic activities.

Economic globalization and the new information technologies have not only reconfigured centrality and its spatial correlates, they have also created a new space for centrality. There are new forms of economic power being shaped in electronic space. Some of the new forms of centrality cannot be experienced as a lived centrality the way a city central business district can give us that experience.

Furthermore, insofar as a good share of economic transactions has been displaced onto an electronic space it becomes more problematic to experience the density of economic activity as is with the case with traditional commerce on the street. What is the architecture of these dematerialized forms of centrality and what should a new architecture of centrality be like? What should it look like? What is this? Because if this geography of power continues to be a fact of economic life and it absolutely is hence my description of the strategic importance of place in international finance, the most mobile of the industries.

A focus on centrality in the economic system and the range of forms assumed by centrality today may contribute to a specification of some of the new economic contexts for architecture. I think of such an effort as providing a particular set of analytic pathways to these questions about architecture. In other words this effort to recapture the centrality of place in even the most mobile of the industries does provide a particular set of analytic pathways to these questions about architectures. Pathways that diverge from those provided by architecture per se, in other words architecture theory may have its own analytic pathways into these types of questions. Going at it as I try to do this morning from the perspective of political economy gives you a whole set of other pathways at how to reach that particular intersection that I've tried to elaborate this morning.