

Urbanization and Environment
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Module - 04
Urban environmental social sciences frameworks
Lecture - 23
Urban Environmental History: Europe Part II: Recent Advances

Alright. So, with this we enter into the 2nd part of the lecture on European Urban Environmental History. We would be basically discussing the recent advances, the recent research directions in European urban environmental history. And I will basically take you through a tour a historical story, graphical tour discussing three major works which I think are quite influential, and which you know of our recent time.

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CONCEPTS COVERED/ ROUTE MAP

➤ **recent advances**

- Soens et al. (2019)
- Haumann et al. (2020)
- Van Bavel (2020)

So, you can see that you know this the two volumes by Haumann and Van Bavel, these two books were published last year. And the volume edited by Soens et al, it was published urbanizing nature was published in 2019. And all the chapters that are there, the book chapters that are there in this edited volume, so Van Bavel is not an edited volume, but the other two are.

So, and it is a, it is a very fascinating rich and robust compilation shedding light on multiple perspectives of you know or on European urban environmental history, and

where historians they have not only you know limited their methods and methodologies so far as history or historical scales are concerned.

But definitely they have integrated, they have borrowed, and they have also informed you know frameworks and paradigms of I mean other frameworks and paradigms including environmental justice, environmental humanities, political ecology etcetera. So, definitely I would have my own arguments analysis, when I take you through this historiographical ride.

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So, the first book that I would like to discuss is urbanizing nature, actors and agencies. So, please also concentrate on you know the title. And on this particular part actors and agencies disconnecting cities and nature since 1500. So, a long temporal scale and also it shows that how you know historians also definitely borrowed from the actor network theory.

And also, like the discussion surrounding this major question on agency who are the agents, who are the key players, who are the actors, who are the actants, who keep shaping, reshaping you know, this urban environment and in turn get shaped very much by this multi-layered and complex and deep processes.

So, this book you know, the several chapters in this book and if you also go through this editorial introduction, you will find that how this editors they set you know this

particular argument that City Is Nature, City Is Nature. So, the first argument is that of course, they are not antithetical and how a city is actually nature. But, then how cities also change nature, along, I mean along its very own history along particular histories of particular cityscapes and vice versa; how nature also change cities and how these you know these processes should combine and comprise urban environmental historical trajectory, to explain particular cities and their urban environmental interactions.

So, this book is very very significant in terms of you know addressing the issue of hybrids or hybridity. The editors ask that is demonstrating hybridity the role of a historian. And then they say, yes, of course, because historians they are they are added, they are equipped to provide temporal skills you know to social nature hybrids.

And this temporal analysis also remains so very significant in terms of understanding how apparatus and arrangements in urban side a kind of co-constitute each other. So, for example, you know on this particular topic or question of hybridity there is a book chapter in this particular book by Eva Jacobsson. And Jacobsson has walked on you know on water in Stockholm and across a very long-term temporal scale.

And she says for example, that water is she discusses how water has been modified and how humans you know they have altered water in Stockholm in order to cater to some fundamental needs. Like for example, the construction of flood production measures and to cater to transportation needs, and also, sometimes how water also kind of has been manipulated to make way to beautification, city beautification etcetera.

But then, the major point she raises is that that human altered water, but water was not quote unquote waiting out there to get modified and manipulated by human beings. So, by this, she then makes us aware of the agential attributes of water. So, water also has agency, water also had agencies.

So, when humans started altering water, humans also you know I mean they did not really have control on all the micro cosmic or kind of micro scalar processes so far as geophysics or so far as you know hydrological components were concerned. So, whole lot of hydrological and a geophysical components remain which were beyond the control of human beings or human agencies.

So, she does not use you know hydro social, she does not use this particular terminology, but I myself when I go through the work I definitely find a whole lot of I mean the essence, the hydro social essence there in her historical analysis of urban waters so far as the Stockholm city is actually concerned.

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- **“split” (Hughes 2009) between nature and culture as the agent**
- **flows; “inputs” and “outputs”**
- **ecological footprints of the urban beyond the urba**
- **metabolic externalization by European cities**
 - **deep forests in Alpine mountain regions**

Now, this book again it definitely exposes us to a urban metabolism, but more importantly metabolic externalization. So, I told you, I discussed we I mentioned earlier in my last lecture that how urban metabolism is such a fundamental tenet you know in European urban environmental history.

And here you know in this particular book urbanizing nature, there are book chapters that actually discusses this a metabolic externalization by European cities. And it is such an, and these European historians make us so much aware about, so very aware you know about this externalization costs, you know at the externalization cost at the cost of at the expense of you know urban development.

So, what are the what are the cost of this urban development? Why it is important for urban planners and experts to remain extremely careful you know about this externalization or externalization costs? So, for example, I just remember that there was a survey which was published which just showed, I mean there was a report actually which in 2002 which showed that how the ecological footprint, urban foot footprint of London was 300 times more or beyond its own periphery.

So, one can imagine the kind of implications that this urban development actually have on its wider environment. So, this is again a very important theme in European history, and the various case studies that are there in this particular book discuss this in different ways, in different manners. And as these are different case studies, so we become more aware of the very many ways you know through which this a metabolic externalization actually takes place or took place.

So, flows, inputs and outputs that and you know I think that reason Walker Nagel, they make, their works make us very aware about this ecological footprint and they said that you know how it should be calculated. So, it should be calculated as a land from where a city derives its inputs in the form of food, other raw materials, water, you know woods, other substances, etcetera. And also, the land which is there to absorb you know the cities footprint. So, the outputs of the city, so where the city can actually dispose its wastewater or sewage.

And ecological footprints as I mentioned of course, the urban ecological footprint, they I mean the special scale is far flung, far stretched, and much beyond its urban limit much much beyond their urban limits or urban territory. So, there are case studies in this book. So, for example, there is a book chapter which discusses how this deep forest in alpine mountain regions were open you know to large scale modern infrastructures and how tunnels were constructed in mountains and canals were excavated for logging and I mean the change that deep forest underwent due to these modern transformations.

And how I mean how wood cultivation was also, I mean how wood cultivation was kind of encouraged and how all these were very much I mean kind of tied to the needs of the distant urban markets. So, there is an article by Schott Dieter Schott himself in this book that discusses this. Then, there is again ah case studies which show that how Lake Malaren, near Stockholm was absolutely tamed and manipulated to cater to the utility needs of the city of Stockholm.

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...cities are socio-ecological systems with a specific metabolism, one which is characterized by permanent 'externalization' (Barles and Knoll, 2019)

- asymmetries of actors and power relations
- degree of metabolic externalization matters
 - scale of the city
 - amount of internal recycling of resources
 - size of the hinterland
 - specific historical conditions and actors; spatial dimensions
 - 'inherent conflict between the 'universal' aspirations of technologies and tl

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So, now the fascinating you know part of this book or why I really enjoyed reading this book is the fact that this, the editors and the authors they consider cities has socio ecological system.

But, they also you know sensitize us to the limits of this particular restricted reductionist perception, that cities should be understood and viewed as social ecological system, but at the same time you know if we only perceive cities are socio ecological system, then we blind ourselves to the processes, to the actors, who play a very important role you know in socio ecological metabolism.

So, metabolic externalization is very much imbued with power equations and asymmetries. And I think here these historians have to a great extent been influenced by and they have derived from a particular ecologists. And you know all of us definitely know the works by Erik Swyngedouw, the Belgium geographer and scholar, who make made us aware how that you know cities should be understood as a social natural side implicating you know this hierarchies and power equations.

So, and this metabolic externalization is also not something which is constant. It keeps changing across temporal and spatial scales. And the degree of you know metabolic externalization varies, and it matters not only along the scale of the city, but also several other variables and factors like amount of internal recycling of resources, the size of the hinterland.

Because the hinterland is so important you know because the city derives input from the hinterland and disposes or the hinterland also absorbs the outputs. So, the size of the hinterland along with the size of the city and the density of population also you know matters.

But again, not only restricted to this because only if we restrict our understanding to these ideas, then again you know we derive linear conclusion. So, which is not the case with European urban environmental history very fortunately because it is so, it has become so very advance you know in recent times.

So, they also discuss you know, the historians also discuss specific historical conditions and actors, and particular special dimensions that make the urban environmental trajectory of particular city so very unique and different from the rest. So, for example, the in this book there is again this work by Dieter Schott, where Dieter Schott says that how in 1900 gas works, I mean the electricity with the introduction of electricity there was an understanding that the gas works, the gas works will actually be replaced.

But this actually did not happen so far as German cities are concerned. And why did this not happen? Because the commercial and the commercialized and private you know gas production or gas producing lobbies, they were so powerful that, they and they could really you know convince, and they could promote and sell the idea that why gas works were more I mean were more relevant to be used for heating and you know cooking purposes.

So, we see that you know that in German cities actually, some, most of the German cities, electricity, modern electricity actually could not replace gas works. So, the actors, the lobby play such an important role. Then, also the these the historical works, this historical urban environmental historical scholarship, also make us aware of the inherent conflict between the universal aspirations of technologies and the local social natural con.

So, why the local? Why place is so important right? So, there has to be a place-based narrative, place based historical narrative, so far as particular places or particular cities are concerned. And then again, this book has a particular chapter by Carol Devine, where on you know on hydraulic expertise, and hydraulic experts, and on the transplantation of technologies, and what kind of different you know implications, I mean what kind of

different implications actually the cities were exposed to when these technologies were transplanted from Europe.

So, and the technologies not only this, modern infrastructures not only kind of shaped European cities, but of course, as Europe had colonies. So, the colonial cities also definitely they were exposed to the implications and impacts of technology transplantation. And this is something which will definitely discuss a lot when we discuss South Asian history in the next chunk.

But, yes, I was discussing this article by or the book chapter by David's, who that I mean it is a book chapter that sheds light on three case studies. So, the how lake was drained in the city of Mexico and what happened. Then, I mean the kind of urban environmental fate that Batavia was exposed to, and also what happened when Philadelphia you know became networked.

So, these three fascinating case studies, and we can understand that why the local, while why place based historical narratives are so very important so far as urban environmental history is concerned. And European historians really have done fascinating job, so far as this place based historical narratives are concerned.

So, yes, the book chapters in the in this particular book urbanizing nature is also important because it absolutely kind of validates how actors are responsible for changes in the city nature nexus. And the actors also operate in particular socio political and socio natural configurations.

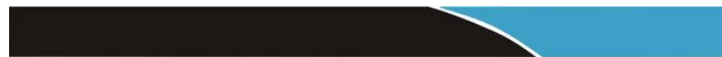
So, any activity in a city should be understood as a networked activity. As a network activity amid socio natural, socio political, socio technical, and social material you know settings. So, and this network activity you know they also remain kind of inseparable to the wider networks of the surrounding world. So, this is a key idea that I think this book the book chapters have been able to successfully you know place before us.

Finally, you know today environmental if you see, environmental humanity scholarship, so multi-species intersectionality such a key theme such an important theme. So, one of the days when you know we used to understand human agency as intentional actions by humans.

So, Anthony Giddens for example, I remember Anthony Giddens and Max Weber who talked about this intentional actions, by humans. But, now we know that you know how our human agencies how our agencies remain so very limited, and why it is important for us to kind of enlarge you know the agencies from human to the non-human world. Why and how it is important for us to engage ourselves with you know this more than human entanglements.

So, I think again you know this book really has done a good job in terms of making us understand why a city should be understood you know as a conglomerate, as a messy assemblage comprising the mix of human actors, non-human actants as well as power relations which bind them together.

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- **“looking beyond modernity”**
- **beyond linear chronologies and non-linear continuities**
- **‘...a more complex story of multiple transitions and layers**

...we should highlight the many non-linear processes of ‘urbanizing nature’, the multiple temporalities and turning points, but also the long-term continuities and ‘simultaneit practices, technologies and narratives, and even the exam

So, finally, you know another major thing that I would really like to discuss when I am now trying to kind of wrap up the discussion on this particular book urbanizing nature. So, I think again the book chapters is very significant because it says that yes modern period or modern, so-called modern infrastructure can be regarded as a watershed period.

But it is also important for historians to look beyond this quote unquote modernity because there are I mean non-linear continuities I will give examples from the book itself which will validate my point or you know the point by which has been put forward by the editors in this volume. So, why it is important for us to go beyond linear chronology

like you know pre-modern and this 2 or 3 centuries, 3, 4, 5 centuries you know dedicated to that period.

Then, modern period with the industrial revolution because of course, there was a significant a transition, there was a significant energy transition when you know there was a transition to the fossil fuel the; so, to the fossil fuel energy. But then is it right, is it absolutely correct to kind of understand things from this kind of linear chronological perspective or is it also important for specially for urban environmental historians to capture you know the non-linear continuities and simultaneities, right.

So, I think the I again I find this book to be very important because the editors they say, and the book chapters, they prove that why you know this urban environmental history, so far as the European cities are concerned should be more complex story of multiple transitions and layered transformations.

So, we should highlight. So, I am quoting the editors here. So, they say that, we should highlight the many non-linear processes of urbanizing nature, the multiple temporalities and turning points, but also the long-term continuities and simultaneous and I really love this word simultaneities, right.

So, parallel processes complex parallel processes tied up with each other, which cannot be separated you know which should be understood as an enmeshed hole. So, simultaneities of practices, technologies, and narratives and even the examples of reversal or regression.

I will give an example. As seen for instance, in the collapse of modern technology. So, for example, this book again make us aware that you know the for example, in London, London started using coal since the 16th century. And the earlier days of you know the urban revolution, where we have a whole lot of stories about this Dutch golden moment was very much propelled by Pete.

So, Pete how would you consider that? You know it should be contextualized with, I mean it should be understood this transition you know between organic and this fossil fuel energy transformation. So, and also like there are several examples in this book which show that how different cities from Senna to Bruges, actually where I mean they kind of become networked and because they had this piped network facility, piped water

facilities which was initially you know the connections were made to the municipal and monastic wells and fountains.

But then, it also reached the private households. And this is something which started taking place in some of the cities long back, since the dawn of the 13th century. So, I mean, so this modernity, the lens of modern is important, but at the same time it is important for historians to look beyond you know modernity. So, this is one.

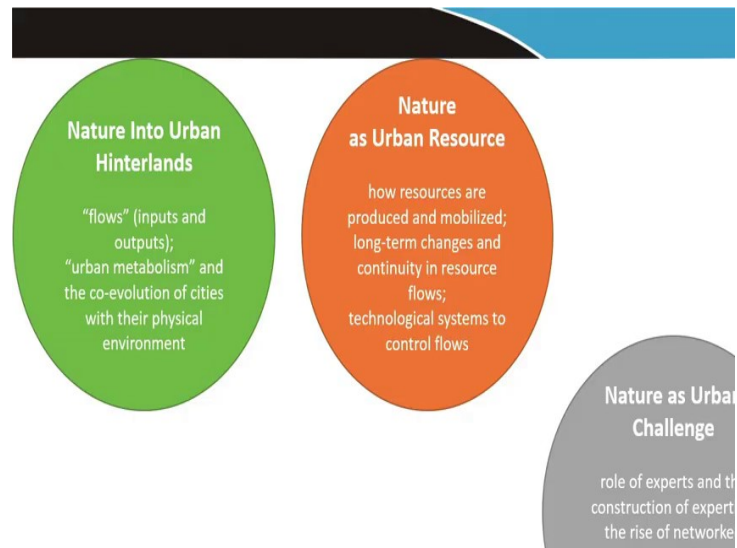
The second is that you know when new systems were introduced, it does not mean that everywhere the old actually absolutely perished. So, it did not happen like that because in several cities the transitions were very seem to be very gradual, slow. In several cities, the you know old systems continued and coexisted with the new system or the modern system.

So, for example, you know again in this volume from this volume we get to know that when modern waste management was introduced. So, for example, when the closed metabolism was replaced, and the collection the waste was no more collected, and kind of disposed in the municipal landfills, but rather in more sanitary landfills.

But, the way the scavengers, they started searching and sorting waste it was a very pre modern system actually, but then you know this pre this system also continued in several European cities at least in 1960s. And you know the Europeans still did they celebrate you know this practice and the scavengers. For example, Germany there is a festival day dedicated you know to them to this social group and this is so much there this has entered into the folkloric tradition of for at least you know for Germany.

So, these are I mean significant things which or you know I mean these are they cannot be applied at scales, but they are specific stories. They are specificities which historian must engage into and make you know other social science disciplines or I mean planning circles about these specific trajectories which were unfold you know as cities started making their transition from one political mode of economic mode of production to the other.

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So, the key themes of this book are you know nature into urban hinterlands, flows, this we have discussed sufficiently I guess in the last lecture. So, the co-evolution of cities with their physical environment, and the far-flung implication of cities on their wider environments and the city nature relationship you know beyond the urban territory. And when a flow remain a sustainable flow or metabolic flow, and when it can actually get transformed into you know a kind of a truncated flow. So, this we know now quite a lot I guess.

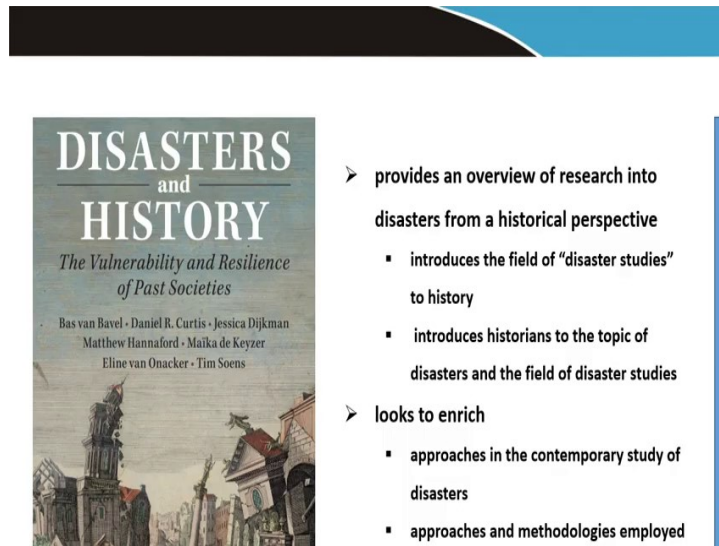
Then, the second theme, I think this book this book discusses its nature as urban resource. So, how resources are produced and mobilized as well, and long term changes and continuities in resource flows, technological systems to control flows and how technology also in turn gets affected with the with resource flows for that matter.

Then, nature is urban challenge. So, role of experts and construction of a bit of you know this techno chauvinist element. And we will discuss this in detail. I am feeling already excited now. By now that you know that yes, I will definitely you know discuss this South Asian urban environmental history.

And we will see that what kind of like responses were elicited by particular cities and the various actors, how what kind of role did the native actors also play in this whole story, in this game, in different metropolitan cities of India as well when technologies were actually transplanted.

And in this volume, as I have already discussed the work by David's you know where he discusses the three case studies, Barabara, Philadelphia, and Mexico. And the kind of impacts you know the different, variegated impacts, that these cities kind of were exposed to when top-down into, top-down technologies were implemented as part of environmental engineering. And finally, visions of urban nature.

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So, vulnerability and resilience of past societies, is it important for us to kind of unfold the past history of disasters what kind of like contribution can this make. This is significant, they argue why. And they argue in this book that why this kind of research, disasters and history kind of you know provides an overview of research into disasters from a historical perspective.

So, it introduces the field of disaster studies to history. On the other hand, it also introduces historians to the topic of disaster in the field of disaster studies. And this is so very important. And this book actually, it enriches approaches in contemporary study of disasters and approaches and methodology employed in the discipline of history. So, it probably you know kind of enriches disaster studies and also historical studies on disasters.

Multi-layered, multi-variegated narratives, what is not natural in natural hazards? The major question raised by political ecologist and answered by historians through a

detailed robust temporal scale of analysis. And, I have taken this quote again a long one, from this book. And you know this book was a recent one just published last year.

And by the time the world was torn apart, it was done upside down by this pandemic which we are still encountering. And in the introduction the authors argue that you know at the very least, the Covid-19 pandemic shows again how both over emphasis on inevitable mechanistic frameworks and professional processional narratives about progress and technology are unfounded and obscure the real effects on people, more particularly the different effects on different groups of people.

So, this requires a better deeper understanding of the causes of resilience and vulnerability of societies in the face of natural hazards to which this book with analysis based on the historical record hopes to (Refer Time: 29:53), so why history is important. And there are whole lot of I mean there are, I mean there are parts and components dedicated you know to urban disasters.

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CONCLUSION: Key highlights

- expansion of the field, recent advances
- validation of the EUEH as a distinct (sub)domain (Soens et al)
- incorporation of political ecology, environmental justice per

So, we have discussed the expansion of the field by taking into consideration the recent advancements and in research directions in EUEH. We have also like you know these books, if you go through these books it also talks about and validates why European Urban Environmental History is also a kind of a distinct sub-domain within the domain of urban environmental issue.

Because you know the European cities they have a relative political economy, the collective leadership history is also very different and they very like dense conglomeration which also led the context for the deployment of modern you know utilities or infrastructures.

So, it is an altogether distinct experience and that is why it needs I mean distinct frame of analysis. So, and recently, very recently European urban environmental historians they have borrowed from and they have enriched, they have been enriched by the other fields like political ecology environmental justice perspectives.

And this European urban environmental history, if you see the works now, very recent works the book chapters that are discussed here, that have discussed here you will see that how historians have they become, urban environmental European urban environmental historians have become ever more dedicated to reform urban research.

So, they really want to develop a kind of his sustainability-oriented urbanism and this is how they are dedicated and motivated to kind of complement you know the theories and understanding of the urban experts, designers, planners, and architects.

So, and this establishes quite well that why urban environmental history should be regarded as a conceptual breakthrough. And, why I mean anyone or everyone discussing the urban working with the urban really need to consider temporal scalar analysis as significant if they really want to kind of develop sustainability-oriented urbanism.

Thank you.