Saskia Sassen counts among the world's leading researchers on questions of the global political economy of cities. In her numerous publications she has been highlighting how cities, technology and capitalism form an interdependent nexus in which local urban specificity articulates with powerful systemic trends towards human extractivist relations with nature, the global production of both wealth and poverty, or class polarization within cities. In this interview Saskia Sassen addresses the potentials and pitfalls of urban digitization with a particular focus on the urban manifestations of financial capitalism and the risks of extractivist urban economies. The interview was conducted by Ulrich Ufer (ITAS/KIT)

TATuP: *Ms. Sassen, your research highlights the many forms of economic and technological connectivity between cities. However, let's begin this interview by considering the connections between cities and their surroundings – territories that seem not to belong to cities but are in fact deeply interwoven with what Henri Lefebvre called the "urban fabric."*

Saskia Sassen: We might start by reminding ourselves that much of the land on our planet is already used up, destroyed, or covered with buildings. Thus, we are beginning to see a rapidly expanding crisis of land scarcity. To the eyes of most of us, this is a rather invisible situation. Why? Because we see vast stretches of land not inhabited by people. Yet much of this seemingly uninhabited land has actually been transformed into a new state – it has been turned into land from which big firms and powerful actors and enterprises can extract a vast variety of elements. *De facto*, all land is being transformed into extractive domains – extractions to develop buildings, highways, plantations, mining.

I take your term "extractive domain" as a concept that can be applied to a vast

Urban digitization and financial capitalism

How do urban digitization and financial capitalism impact on the local transformation, sustainability and resilience of our cities?

array of natural, economic, and social spaces, referring to the extraction of both resources and economic surplus or labor. How do you look at cities as highly stratified centers of accumulation for these three elements?

Building a city requires vast amounts and vast mixes of all sorts of resources and materials that will generate all kinds of unhealthy emissions in a city – not to mention the environmental problems caused during extraction and processing before building materials enter a city. So a city can be thought of as a very distinctive apparatus that concentrates an immense mix of elements geared toward a very broad mix of needs and conditions. But a city also contains a variety of destructive and in many ways useless elements. In how far citizens can protect themselves from the latter runs the gamut from the very rich to the very poor. Some cities are reasonable in how they handle this – notably European cities tend to be far more

generous toward the poorer neighborhoods than is the case in the Americas and in many parts of the world. Most cities across the world are not geared toward enabling better lives and working conditions for poor and modest households. Cities are increasingly marked by two extreme conditions: vast, growing concentrations of wealth and vast expanses of residents who struggle to survive and who too often go to bed hungry … a condition that is only growing in many parts of the world. But beyond the fact of the super-rich and the very poor, a good 30 percent of residents in major cities are doing very well nowadays, and a two to ten percent have become extremely rich, rich beyond what we could have imagined or achieved 30 years ago. Indeed, in my reading, major cities have become sites for greatly increasing the wealth of a good third of residents … and for reducing the options of the rest. Not a healthy set of outcomes.

Your research on the "global city" has contributed significantly to the understanding that global dynamics of extractivism produce very local conditions of class struggle and polarization. In this context, what have been the technological and economic innovations that have shaped the rise and continuing power of global cities?

The global city is a concept I developed when I started to do research about significant concentrations of wealth and powerful actors in major cities – actors who also played a key role in creating active connections among major cities across the world. My analysis also led me to emphasize something overlooked at the time: in the 1990s, algorithmic math became one of the key factors that enabled such concentrations of wealth and power by allowing the transformation, or mutation, of more and more urban elements (from material to conceptual) into assets – specifically asset-backed "securities." The latter are one of the backbones of finance capitalism and one of the most flexible ways of gaining control over a diversity of urban conditions and capabil-

ities. The striking difference of finance capital is that it can transform just about anything into an asset that can then be bought and sold several times in a day. But it has to reach a certain concentration of items that can become a somewhat significant set of assets. An easy example of asset-backed securities would be the bundling of thousands of private mortgages into a financial product that can be sold and speculated on, as we all have come to know through the financial crisis 2008/2009. And, on the same principle, asset-backed securities are being traded for agricultural mortgages, corporate debts or, indeed, for municipal debts. The latter may help municipalities finance capital-intensive infrastructure projects, such as urban infrastructure or urban digitization. At the same time, they turn the local materiality of our cities into abstract financial products that circulate the globe within milliseconds. All this has led to great concentration of wealth, both geographically and in terms of class polarization, but increasingly now it does little to expand the options of the modest middle classes and working classes, or of the urban poor: these are all losing ground.

So this means that through asset-backed securities, debt is transformed from an economic relationship between lender and borrower into an abstract and tradable commodity. Can you give an example of what the local ramifications of this financial mechanism are for cities and citizens?

One example of the damage this can do to a neighborhood or a modest collective project is that big powerful firms which in the recent past would not have bothered with very modest housing or buildings are nowadays interested in getting their hands on all that, not because they can sell it but because they can make it work as asset-backed securities. They may fail at times in making the gains they hoped for, but basically this expands investment options. The main issue here is that a domain of urban space that once was of little interest to the rich is algorith-

mically transformed into an asset that can be sold over and again on global financial markets. This is a major threat to cities and their inhabitants. The United States is quite brutal in this, much more so than Europe, for example. The privatization of just about everything in the U.S. has meant that profits can be extracted from a very broad range of urban elements. For investors, this can mean that by bundling up, say, five major buildings for low-income residents into assets, these can be sold and bought in the financial markets. Also these financial markets are a very exclusive domain for making investments requiring special knowledge and capacities. And that also means that modest-income individuals are not going to get very

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far in these markets if they do not deal with a major financial firm – specifically a firm that is in the business of bundling lots of small investments.

Your analysis of the relationship between finance capitalism and cities points to some sort of "dislocation": While ur-

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ban materiality invokes a notion of place boundedness, i.e., immobile buildings in which capital is equally fixed, the mechanisms of financial extractivism you describe suggest that "all that is solid melts into air."

This is right, to understand what is really happening in our cities we need to change our perspective and recognize that what seems fixed and place-bound on the level of local materiality is, in fact, highly mobile at the level of global capitalism. And what is more: not only is the economic value of buildings getting dislocated from its local context. Urban digital technology itself, for example, digital technology within state-of-the-art office buildings, needs to be viewed as vital part of the infrastructure of global finance capitalism. Digital urban technology is not only the *result* of but also an *enabler* and important driving mechanism for the global hypermobility of capital.

In Germany, as in many other countries, some cities are being turned into living labs for experimenting with innovative urban technology, for example, by designating roads as test fields for automated driving or by setting up "smart quarters," such as the infamously failed Toronto Sidewalk Lab. What are the potentials and pitfalls of capital-intensive innovative urban technologies?

Some good things can come out of urban digitization. I could imagine that as urban places and quarters are increasingly inhabited by the new generations that have grown up with digital technologies of all sorts, some very interesting experiments and innovations can come out of it. But I would not romanticize urban high tech if it seeks to impress residents with a vision of urban technical utopia – this is something that loses its glamour rather quickly. Urban digitization should definitely be embedded in much more practical ways and much more local settings than just sending automated cars through the streets. For now it looks like much of the new urban digital technology may not be of great use to residents and the real winners will be big companies and investors for whom urban digitization opens up new territory.

When I think of projects in Germany like "District Future – Urban Lab" in Karlsruhe and "Gängeviertel" in Hamburg, or "Bâtiment 7" in Montréal, Canada, I see alternative approaches to urban innovation that favor close cooperation with local residents or are actually grassroots-driven social movements that seek to enhance, for example, local sustainability or circular economy. Where do you see the benefits and challenges of such locally rooted projects in relation to capital-intensive urban innovation?

Such projects are a very important move. Working with groups in one's neighborhood is still rare for researchers but promises to be of great benefit for both sides. Above all, local empowerment needs information and awareness. So, for example, it should be an obligation for local authorities and a task for researchers on urban technologies to communicate to the public who are the investors and what are their stakes in urban digitization. For example, citizens need to be aware that if the data gathered in smart or intelligent cities falls into the hands of oligopolistic companies, elements of their city are being turned into a commodity that will become part of the hypermobility of global capital.

How can residents respond to the challenges of urban finance capitalism?

I do think that average residents in a major city should be aware of options and risks in order to protect themselves. In digital or other urban development, municipalities as much as citizens have to avoid using the high-finance system whenever they can. It will always grab for itself some of what it offers to clients. This criticism does not concern traditional banking, which is rather different from high finance. Many people do not realize this, they often think it is the same type of system. But it is not. Problematic is the fact that high finance is now deploying its extractive capacities in diverse sectors that are taking many experts by surprise. As I said before, modest-income residential towers are now being captured and transformed via algorithmic math into assets. Every neighborhood should see the film "Push", which shows how large numbers of housing, including modest housing, are being concentrated into financial instruments that can play in the markets … This is great for investors and a big risk for modest-income sectors.

The global "right to the city" movement has been advocating that cities should primarily serve their residents, and the right to the city has been recognized at high levels of governance, for example, in the UNO's New Urban Agenda of Habitat III. Do you think the "right to the city" agenda needs sharpening with a view to urban digitization?

We can look at the right to the city through the lens of extractive economic actors. Franchises in cities continue to extract profit from local economies by providing all sorts of services that could easily be provided by local businesses, thereby withdrawing also much of the profits from local circulation. This concerns not only everyday services like coffee and food vending but also more complex services. Take construction work, for example. In an earlier period, a lot of the builders in our cities were smallish family operations. The new emergent

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conditions, think of 3-D printing in construction work, expel the small operators of the past, and this is to the disadvantage of local neighborhoods. Cities need to have local operators who can handle smallish operations and are part of the local set up, spending their earnings in the neighborhood. As in a nice mutually supportive cycle where expenditures, profits, and investments circulate back and forth at neighborhood or city level. The example of construction work shows that we have to be extremely careful about the economic flows of emergent digital urban economies. Urban digitization may be a helpful tool if it serves local communities. It goes the wrong way when it becomes a tool to extract capital from local economies.

At what urban level would cities need to experiment more with cultural innovations rather than focusing on financial and technical innovations to improve citizens' well-being?

Over the past decades, many municipalities have been concentrating almost exclusively on the commercialization of urban space, a trend that is now being pushed again by urban digitization. Even art has been increasingly commercial-

ized through big festivals and by being turned into an instrument of gentrification. To build local capacities, however, it needs support for local art and artists, the making of modest local spectacles, the presence of modest shops selling at least partly local products rather than imported products where an intermediary actor is likely to make the biggest profits rather than the neighborhood. These may all seem small needed changes, but they add up and generate a sense of empowerment and belonging for the residents of a neighborhood. And beyond the neighborhood, a sense that the city belongs to its residents and that they can make a difference. And they are positive when residents of modest neighborhoods understand that they have to work together, that they have to build alliances across neighborhoods that allow them to fight for their rights to housing or other urban rights. The opposite to this is the way in which modest citizens are being expelled from their neighborhoods, and technological innovation is among the key drivers of gentrification.

How should local authorities handle issues of urban access, empowerment, or democracy in relation to urban digitization?

How to handle urban digitization involves an enormous range of minor and major options, but focusing on citizens seems to me the most important element. I have long argued – starting way back when digital technologies first emerged many decades ago – that citizens need to be provided with access to digital capabilities. Instead, millions of citizens are merely users and consumers without any development of their own digital capabilities: they become a sort of basis for a digital economy of scale where small margins, extracted from modest households across diverse cities, become highly profitable for major firms … rather than for the residents of those modest neighborhoods. I find this deeply problematic when high-end digital urban innovation benefits only the few who own it and gain access. I would therefore like to point to the im-

portance of enabling the poor neighborhoods. I think this is a critical and mostly overlooked challenge and it should not be left to the tech companies but needs to involve a diversity of actors – from local authorities to NGOs to social movements. Else, the extractive capabilities of large oligopolistic companies risk to produce and reproduce highly diversified and uneven urban social geographies at multiple scales, from pocketed high-tech in select households, buildings, or urban quarters to global cities that rely on technological innovation to advance in interurban competition. Too often what is left out is the effort to enable digital access for the poor through education and access to adequate technology – this would make all the difference.

You raise the important issue of urban resilience being not only a technological but also a cultural and social undertaking.

Yes, cities need new kinds of resilience, but such solutions do not come ready-made, they have to be carefully adapted to local urban contexts. And this only happens when citizens, including the average modest resident, are enabled to become

top of the system but has not served to enable innovation for the benefit of local residents, not to speak of poor neighborhoods and households in our big cities.

Complementary to your critique of urban extractivism, your research also devises a more hopeful "third space." Can you describe the background and your vision for this third space?

We humans cannot manage, at least for now, to avoid a certain kind of extractivism in our relation with nature, i. e., the need to build roads, houses, schools, bridges, transform vast fields of many mixes of plants and animal life into vast monocultures or into stretches of cement, and so much more. By definition, humans are "extractors" in the context of today's world. Among the key efforts we should address in the current period therefore is the maximizing of elements that would bring together social spaces of our cities and the biospheric system within which they operate. The third space would ask for a radically different conception of cities and urban resilience since it involves a change of perspective: from dealing with the consequences of human extractivism in terms of adaptation and mitigation

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digital makers and are no longer reduced to the role of consumers. This, however, is a major challenge to our current culture, because it is increasingly dominated by powerful and also very smart companies that dominate both innovation and innovators. One way of putting it is that what could have been a shared tech culture – shaped by a growing array of small innovators whose innovations reflect local needs – has contributed to a further concentration of wealth and options at the

strategies to a more proactive use of local social and natural capacities. By deploying all the knowledge at hand, and this includes the natural, engineering, social and cultural sciences as well as citizens' local knowledge, we need to find more creative ways to deal with pollution, heat, storms, or floods, for example. We need to allow an enabled nature to co-habit in our cities and help us alleviate some of the negative urban consequences of extractivism.