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TOPIA. LOSING URBAN CONTROL

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Categories: Energy and sustainability, Essay, expanding design practices, Hagar Abiri, Middle Density, Politics and economics, Technology and fabrication, Territory and mobility, Urban Paradigms

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DESSAU 2013. The Bauhaus. A famous avant-garde institute, which changed a conservative approach that had existed for years. Situated in Dessau, in the Saxony-Anhalt region, in east Germany. When visiting Dessau, you learn there is more to it.



Population density per district

When you observe Dessau for a while you start looking at things a bit differently and you understand that

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this glorified structure, the Bauhaus, is the beating heart in a dying body. It seems like the locals were so busy keeping the history of the Bauhaus alive that they neglected to look into the future. Thus, what used to symbolize progress and innovation now symbolizes a shrinking city, riding on waves of the past.

For instance, the Bauhaus represents industrial mass production (among other things) – an approach that is no longer relevant. Instead of being inspired by what the Bauhaus represented in its early years – innovation and relevance – the foundation focuses on reviving its outdated traditions.

Dessau-Roßlau, a city located in the eastern part of Germany, had 84,969 citizens in 2013. With an average of one child per family, the city shows weak growth rate data. The largest age group, 40–59 years, stands at about 26,250 today. 19 42.7% are over the age of 40, while 11.7% are over the age of 75. Kids under the age of 19 make up only about 12% (or 10,344). 50% of them are likely to leave when they reach the age of 19.

In his book The Rise of The Creative Class, Richard Florida claims that bachelors between the ages of 19 and 26 are the most effective workforce and are important for the economic growth of the city. Today, this age group stands at about 5,600, or 6.6% of the population. Looking at what the city offers to its young people we understand the reasons why young people are leaving. First, there are not enough affordable small apartments available for rent, even though hundreds of buildings are standing empty. Second, there are not many places that provide entertainment, and even less nightlife. According to the last survey conducted in 2009,23 the unemployment rate was estimated at 13%. Today there are not a lot of job opportunities in the city, but this is not necessarily the main reason for abandonment.

Located in the east part of Germany, Dessau-Roßlau competes in an unfair battle with other large cosmopolitan cities such as Berlin, Munich, Frankfurt, Hamburg and Cologne, which offer much more opportunities for young people as well as a richer lifestyle. Unlike those cities, Dessau Roßlau also lacks tolerance toward foreigners. As of today, there are only 1,830 foreigners (2%) in Dessau-Roßlau which affects the lack of diversity and translates into a lack of interest in the city.

Due to high-speed Internet connections and advanced mobile devices, we don't have to live close to the people we care about and have strong ties with (family and very close friends) in order to maintain close relationships. Today it is possible to talk to them, see them and know everything they are doing at any given moment. Weak ties (acquaintances), which will not keep you in a place to begin with, can also be preserved via different social networks. Furthermore, those networks expose people to new places, experiences and lifestyles found elsewhere, which they come to desire for themselves, as they see new 'friends' uploading posts and photos.

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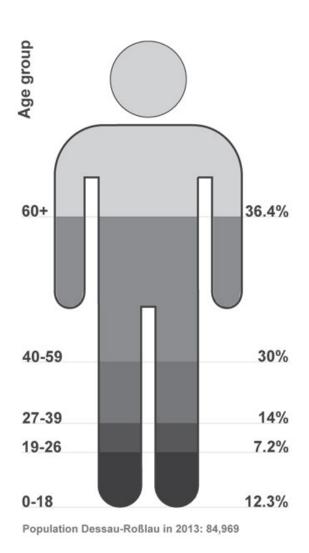
TODAY & TOMORROW

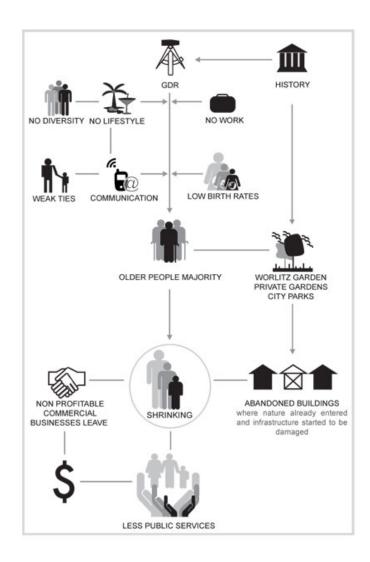
- local perspective -

Dessau's downsizing started after the reunification in 1990. Due to a weak economy and grey lifestyle, people moved to western parts of Germany which had everything the east could not offer. Many of the empty houses that were left behind are standing unclaimed; some have been left empty due to ownership disputes. Today, those buildings have begun to deteriorate. Nature is already started to bite into them, making renovations even more expensive.

Saxony–Anhalt, and Dessau in particular, is predicted to become Europe's old people's home. With the highest percentage of people over 65 in Europe, a mortality rate that is twice as high as the birth rate, and where the oldest population sector is the largest – what will Dessau's future be?

In better days, Dessau alone had more than 100,000 inhabitant and the infrastructure of the city was adapted to that number of people. When people leave the city, they leave behind infrastructure that is not designed to last without people: it requires routine maintenance at different levels.





Services

Dessau, which was not designed to reach a point where it was drained of people, is lacking the physical resilience needed to support the different functions still required by the city's inhabitants – now on a

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different, much smaller, scale. Today, when we look at a map of Dessau, after understanding the perspective rising from the streets, we see large abandoned industrial plants close to the city centre, creating "holes" in the urban fabric and splitting the city into islands both visually and tangibly. Parallel to the process of population shrinkage, services such as the education system, healthcare and government services are forced to adapt accordingly. Schools, today located in the different districts, will gradually lose students due to the low birth rate and young families leaving the city, to the point where they will have to merge with other schools in other districts. That will require transportation solutions, an additional financial burden, to bridge the distance. In addition, a reduction in staff will be needed; teachers and maintenance workers who will not be needed any more will lose their jobs and will leave the city to look for new jobs elsewhere. Over time, buildings will be emptied of their adult inhabitants, beginning with the buildings without elevators. New tenants will not be expected to move in, making it harder for other inhabitants who have stayed to maintain the buildings. Buildings constructed in the GDR period were planned with low budgets and without thermal insulation systems to protect the inhabitants during the cold winters. Having the building only partially populated makes it even more expensive to keep it warm. Residents who chose to live in the city for economic and convenience reasons will find those reasons are longer relevant, and eventually they will leave as well.

But even before that, the house management companies holding the housing market in Dessau will kneel under the financial burden of those half empty buildings. Trying to comply with the strict tenant protection laws that forbid them from evacuating tenants, house management companies will find it very difficult to reduce costs. At first, they will try to centralize the population that lives in those companies' houses to fewer structures in order to remove responsibility from depleting structures and to reduce maintenance costs, but people will not rush to leave their homes. Then, in some situations, radical measures will be taken and housing companies will look for other less legitimate ways of removing tenants. Mysterious fires of unknown origin may start in buildings around the city, forcing the residents to leave.

With a small productive sector, Dessau will be missing skilled workers. Rising fuel prices and reduced train frequencies will challenge company owners when it comes to finding new workers. Furthermore, maintaining a half empty building will only get costlier, and soon office holders will choose to move out of the city taking investors and any potential for economic development with them. For the same reasons, and due to a lack of paying customers, shop owners will be forced to close down and move out, starting with services that were already damaged by the entry of large chains and online retailers, as well as services that rely on the adult community such as travel agents, pharmacies, jewellery stores, old clothing stores and outdated cafes. This will leave voids, and the areas will attract fewer people until

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eventually other stores will have to close as well.

Government services will eventually move out to Magdeburg (the capital of Saxony-Anhalt) due to efficiency measures. Municipal services will eventually collapse, because there will not be enough funding to support the maintenance of a city whose people have abandoned. Yet its abandoned infrastructure requires even more maintenance now than before, because now there are not enough tenants to pay for it.

Physical Environment and Nature

At the same time, while people are moving out, nature will be moving in. The process of nature occupation has already started in the old empty structures (abandoned in the early 90s), which are spread around the city. Nature is only waiting for people to stop painting, sealing, harvesting and chopping so it can start separating plaster from stone, metal from concrete, and glass from wood in the adjacent buildings.

Dessau was almost completely destroyed during the second world war and great parts of the city were rebuilt in the GDR period, so one must wonder about the quality of the materials – mainly concrete, which was widely used. Concrete quality of depends on the amount of cement in the casting and at times where there is a great need for housing and no money, those houses must have been built quick and cheap. Using concrete with less cement is a way of quietly hiding those budgetary savings.

With weather changes and no heating to moderate the cold, with water penetration, and creepers and animals that will turn the empty spaces and exposed walls into their new home, the concrete will go through extreme changes until it cracks (and as its quality declines so does its resistance to natural damage). This will lead to a dangerous disintegration of structures that could trigger a chain reaction, making the entire built environment unsafe, especially for curious children.

Unlike concrete structures, stone buildings, like some of Dessau's heritage buildings, will be among the last to disappear or to be damaged. However, brick structures might suffer from the same budget problem as concrete structures – i.e., the quality of the material, as well as the amount of salt it contains (a major factor in disintegration), will determine the structures' rate of disintegration. Not surprisingly, wood constructions will be the first to go.

Asphalt also splits with weather changes, creating cracks which gather water. In freezing temperatures,

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the water expands and cracks wider holes in the asphalt, making room for vegetation to grow. In a thin layer of soil, seeds will sprout. When those seeds grow into plants, decay and die, they will pile up and add another layer of soil, which will conceal the asphalt and support the growth of further vegetation.

Streets will be flooded with water. With no one to clean up the leaves falling from the trees, the plastic bags and paper piling up (old newspapers, unclaimed mail, posters from billboards, etc.), the roots of unpulled weeds, the sewer grates will clog and since the water cannot percolate through the asphalt, streets will become streams.

Space Pioneers

Meanwhile, districts of the city will be cut off from water, gas and electricity while the infrastructures, pipes and wiring, will remain. The remaining population will be concentrated in fewer districts, such as the Bauhaus (the university) and the city centre. The city, in its new situation will attract a new type of people. Contractors and metal thieves will arrive in the empty districts of Dessau to reap the neglected spoils: bricks, tiles, copper pipes, cables and wires. Space pioneers – singles, young couples, individuals or groups, will arrive in Dessau looking for an alternative to the intense capitalist way of living which has only increased over the years. Space pioneers will invade abandoned houses, renewing old heating systems that are not dependent on the urban infrastructure, and turn them into communal areas. They will exploit the potential materials left in abandoned structures such as windows, doors, wood, metal cables and wires to create varied spaces for unconventional studies, dining rooms, social activities and, later, housing. In their search for alternative ways of living and new social values, the space pioneers will be dealing with the critical issue of food. Therefore, some of the empty houses will be converted into alternative greenhouses, while the city park and other smaller parks in the city centre will serve as agricultural spaces in the more traditional way, and more remote forested areas will be cultivated as forest-gardens. A small group of space pioneers will settle in the Schrebergärten (community garden) in order to cultivate the land in a more natural environment.

The Bauhaus

Due to its international importance and constant budget, the Bauhaus university and library structures have been consistently preserved. At first, the Bauhaus functioned as an island of tradition in the chaos

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of pirate-social-innovation but, over time, as visitors started to show interest in the changing city, no less than in the Bauhaus itself, the Bauhaus workshops turned into an interdisciplinary lab for upcycling and solving the damage done to the environment so far (such as plastic waste) through new design, engineering and science coming together. PhDs, specialists and interns work side by side with young people to create a new hybrid education system based on learning/teaching, while working within an interdisciplinary-collaborative environment. After more than 80 years, the Bauhaus once again carries the flag of innovation and progress.

TODAY & TOMORROW

- global perspective -

For years, humans have been violating the natural balance looking for a life of luxury and innovation, using natural resources without giving anything back in return. Today, nature cannot keep on giving anymore, putting the future of humanity in jeopardy. This raises questions about how we live today and how we will live tomorrow. Those issues, while reflected in Dessau's transformation, concern the whole world, performing as a super– organism.

Mind Shift

"It is net growth that has come to a standstill: the growth in the quality of life, in leisure and family time, in higher real wages, in a better infrastructure, and in greater economic security. We can't say with any confidence that America is growing because the index relied upon, the GDP, only measures money spent, not value received."

Whenever we talk about the future, we tend to describe the development of technology, sophisticated systems, vehicles that only the imagination can describe, but somehow we tend to take the development of man and society out of this equation. Man can be a developing force, but at the same time he continues to develop himself. Consequently, the society in which he lives in will be developed as well, and that will influence perceptions of the future and innovation. For instance: what if, in the future, we come to understand that the only way to fight car accidents (which cost more than \$150 billion per year) is not by designing stronger/smaller/bigger/faster/better cars, new roads, automatic driving systems, etc. but by simply not using cars? That paradigm shift will lead to far-reaching changes that will be reflected in almost all aspects of life – mainly in our economy and in both our physical and natural environments.

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Albert Einstein once said: "We cannot solve our problems with the same level of thinking that created them."

We are now at a point where we have to be radically critical about the way we live and be brave about the conclusions. As P. Hawken, A. Lovins and L.H. Lovins wrote in their book Natural Capitalism, "History has demonstrated that societies may act stupidly for a period of time, but eventually they move to the path of least economic resistance."

There are two ways in which a person might act. The first comes from pushing him to a limit, and then he will act out of desperation. The second comes from providing him with all the physical and spiritual support he needs, which gives him the space for creativity. In the past, most people in the world were struggling for survival. There was no room for dialogue about society's goals; there was only a concern for self–preservation, and some governments want to maintain that situation. Once a person is not busy surviving – in other words, preoccupied with financial concerns such as housing, food, bills, and so on – he has more time to observe and expand on creative ideas and new developments. Today, while most of the world is still struggling (whether they admit it or not), thanks to the virtual world and information moving faster than ever, we have people gathering around an idea to support one another, to feed one another with information in groups while consolidating their resources and acting to promote their values.

Virtual Reality

Today, we measure human development by technology and leisure, and not by the quality of life and social values. This will change by 2050, and the future is actually already here. Over time, thanks to social networks that break down political borders, people will be exposed to reality without the filters of interests: simple and true, just as ordinary people experience it in places hidden from sight – and they will no longer remain indifferent. Corporations will not be able to sell their products in the name of ignorance, and politicians will not be able to preach hatred sponsored by lies in order to control the weak. We will learn to think and act differently.

Over the last years, the use of social networks has increased and they have become a legitimate platform for knowledge, business, commerce, politics and culture, which we share on a daily basis. The virtual world does not indicate the end of human interaction; on the contrary, it encourages it. We still interact and we always will, we just do it (and we will keep on doing it) differently.

Another phenomenon brought on by the virtual world is a different way of working. The changes in

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physical space are expressed both in our behaviour with customers and colleagues and in the physical spaces we work in or rather work from. Changes in physical space have been derived from technological changes, which require adjustments due to ergonomics and efficiency reasons, but also from the nature of the work which has become more creative and virtual over time. In the future, under a new brave and fresh point of view, the whole concept of 'going to work' might change. Maybe the concept of work will wear off, or rather it will evolve into something new. We don't know, but we can guess that the future will be virtual. The networking, social networks, and creativity that will only increase over time, while reducing the direct interaction between human beings on a daily basis (or because of it), will increase the need for proximity to other humans as a basic, primary human need. Because of this need for close community relations, the physical world as we know it in the form of a 'city' or a 'village' in the local discussion will have to change – also due to other global circumstances such as the ecosystem's lack of balance.

Nature

As we let go of spaces, nature crawls in. Buildings, fields, roads, nature wants to regain all this territory and restore the prior situation – before there was a city.

For years, we have been abusing nature with direct or indirect actions, claiming to own it, violating the natural balance, trying to win a war against nature. The truth is, that if there were a war between nature and humans, nature would win. The battle is conducted on a small scale, as rust or a leaking roof, and on a bigger scale – pest control for crops or rivers that are "restrained". Humans need clean fresh water, clean air and food – these are all short names for giant, complex natural systems without which human beings cannot exist. On the other hand, if humans disappear, trees will flourish undisturbed, animals will reclaim their natural territory and (slowly) recover a balance. Marine life will thrive, and all traces of human beings will slowly vanish. At one point, nature might find a way to dismantle even plastic and other chemicals that have only been introduced in the last decade. By then, evidence of our existence will only be found deep in the ground. Nature does not need us. We hurt it, exploit it and destroy it. Therefore, nature is only waiting for us to clear the way so it can clean up after us. In this context, in his book The World Without Us, Alan Weisman quotes James Lovelock, the British atmospheric scientist, chemist and marine biologist: "The living planet is suffering a high fever, and we are the virus."

We learn from places that have been abandoned, like Chernobyl, Pripyat and Villa Epecuen, which have been standing empty for 27–28 years, that nature puts more effort into healing the concrete and metal wounds we caused by sending in extra "agents" as flowers, trees and animals, who all work quickly and

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with passion to clean up the soil and cover up the traces of humanity. This process will take decades, even eras; some materials will be decomposed into components of the original and will return to the ecosystem, some will stay longer until nature finds a way to decompose them in an intelligent way or to create a new material from them, and some might never decompose (such as bathroom tiles).

Another component of nature, one we have devoted ourselves to thoroughly destroying, is soil. In the documentary A Farm for The Future by Rebecca Hosking, soil is compared to human skin. Like skin wraps human parts and protects them, the soil wraps the Earth and protects its contents, because the contents are extremely valuable. Just like the skin contains multiple layers, blood vessels and living cells, so does the soil. The soil contains life. Reptiles, bacteria, fungus, nutrients that feed plants, which produce soil – without those lives you would have nothing to feed the plants with, to keep that system going. And so, for the same reasons we avoid cutting our skin, we should not cut through the soil – or rather, plough it. Ploughing is the most fundamental action in agriculture used for generations, but it will not be part of the future. Ploughing exposes these gentle lives, which produce life, to sunlight and birds that eat them. Ploughing time and again leaves the soil with nothing in it to feed the plants, or rather the food we grow in it.

Diversity creates balance in nature. Every plant and every living creature has an important role in preserving that system. Damage to one component, as tiny as it may be, is an injury to the entire system. After taking life from the soil, we started to use chemicals to fertilize the soil we had ruined. With no people around to till the soil, fertilize it with chemicals or breed the animals, after a while the soil will heal and the forest might take over.

Farming

The world's farming, as it is today, is based on a very narrow genetic base. There are 200,000 wild plant species, of which only a few thousand are eaten by humans, and just a few hundred have been domesticated. Three quarters of the world's food originates from seven crop species only. In any of these key crops, genetic diversity is disappearing as native habitats are destroyed. Decisions about what to grow, and how much, are based on economic considerations alone. This thought originates in the industrial era of mass production and not in public care that is affected directly by nature care – meaning diversity, which is crucial to maintaining an eco balance.

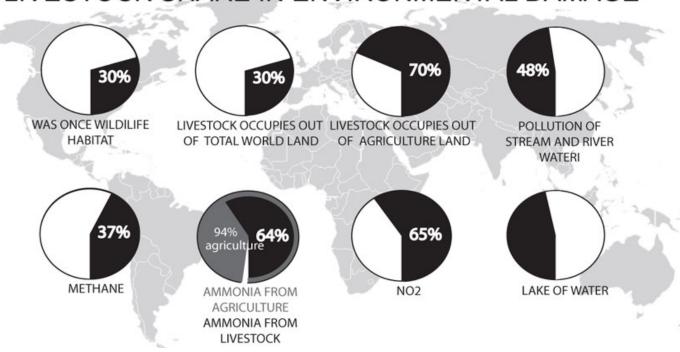
Today, there are new methods of growing fruits and vegetables such as aquaponics and hydroponics.

Both are based on the concept that plants need the nutrients contained in soil, but not necessarily dirt – which is basically the reverse of agriculture today (dirt without the nutrients). Also, old methods are being embraced again, such as forest gardening, with its basic assumption of trust in nature. Without investing energy (beyond planting and picking), nature's undisturbed ecosystem – with its different plants and animals – protects, fertilizes and nourishes the plants. The main difference between the two methods is that the second one is a low–maintenance method.

Food

In the future, most of the world's population will go vegan. Due to changes in values, high morals, environmental stress and health considerations, political economic motives will not control our plate.

LIVESTOCK SHARE IN ENVIRONMENTAL DAMAGE



Health

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Making money the centre of our existence has a direct impact on the quality of our food and, even more so, our health. In nature, a calf will consume 1000 litres of milk before weaning. In the milk industry, cows produce about 40-50 litres a day, almost 20,000 litres a year. To make this huge amount of milk, the cow must be pregnant all year long. Therefore, a cow is being milked while it is pregnant and its body is filled with hormones. Even earlier, beginning at birth in captivity, a cow is injected with hormones to speed growth so it can reach maturity and be used as an active part of the milk industry. All those hormones, along with the infections caused by over-milking and excessive milk production, are an integral part of the milk products and the meat we consume, and those hormones act as catalysts for the production of cancer cells. The ADA (American Dietetic Association) found that people who do not consume their food from livestock animals (which includes meat, milk and eggs) suffer less from heart disease, cancer and diabetes. Also, they have low levels of LDL (low-density lipoprotein cholesterol) and lower blood pressure. In addition, what harms our health and might cause these diseases, and more, are the many chemicals absorbed into the bodies of farm animals. Half of the antibiotics produced in the US are used in the livestock industry, along with more than 35% of pesticides. Both are needed to treat diseases and pests which develop due to the unnatural conditions of the livestock animals' care. Those chemicals are absorbed into the bodies of animals and then they are transferred to our bodies when we consume meat or milk.

Environment

Livestock's Long Shadow, a report conducted by the UN (FAO) in 2006, shows that the livestock industry is responsible for 18% of annual worldwide GHG (greenhouse gas) emissions, causing climate change. They found that 30% of the land this industry is using was once wildlife habitat and 30% of the world's land is occupied by livestock animals. 70% of that is agriculture land. Additional data shows that livestock animals produce 37% of methane emissions, 65% of nitrogen dioxide, and 64% of ammonia, which causes acid rain.

Another report from the World Watch Institute, conducted by Robert Goodland and Jeff Anhang in 2009, claims that due to political motives the UN report did not include all factors concerning the livestock industry and that the livestock industry is responsible for at least 51% of the annual worldwide GHG emissions. Some of those factors include the production of "by–products" such as leather, feathers and fur. Producing the packaging for animal products typically requires a lot more resources than other

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packaging alternatives. Processing and preserving meat generally requires more cooling than the alternatives, as does distributing it. Another factor involves the pharmaceutical industries manufacturing medicines for zoonosis diseases and chronic diseases associated with the consumption of animal products.

The National Water Quality Inventory report, conducted in 2000 by the Environmental Protection Agency (USA), claims that the livestock industry is responsible for 48% of polluted stream and river water, as well as 41% of polluted lake water in the world.

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