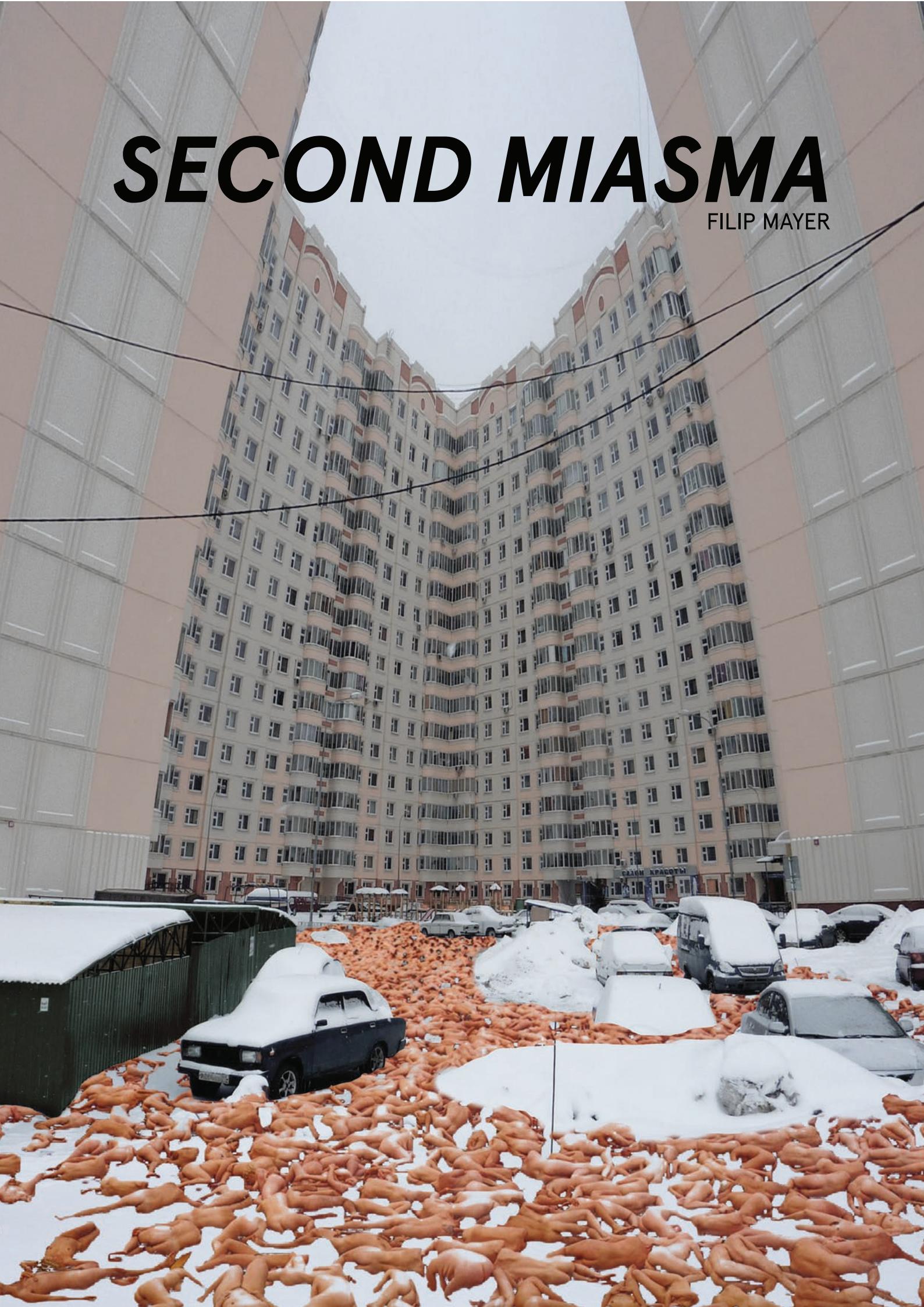


SECOND MIASMA

FILIP MAYER



SECOND MIASMA MANIFESTO

We are still living in fear of disease, even though so much effort has been put to remedy our society from it. The cities of today only battle with one part of this enemy within, the infectious disease, even though the danger of the chronic is growing greater than ever. Our vivid image of disease is still the one of the pathogen, the infected body, by the virus or bacteria. We fail to incorporate the notion of our way as a cause. That our ways of living are the ones to blame. And not only ways of living, but the stages to our lives, our environment, our cities. We have been conditioned by the presence of gadgets and quick fixes to think that we, our selves, have the ability to change this path of disease. But the reality is that the surroundings effect on us and the systems that dictate our contemporary lives continue to overpower us. And to change the systems and our life styles has proven to be incredibly difficult and ineffective.

The focus must then be set on our urban environment and well beyond, where the effect of the chronic is the greatest. In them, the codex of unhealth is so far entrenched in the urban fabric that we immediately submit to its rule and follow the guided path set out for us. As soon as you walk out of the door the pre-guided route kicks in; walk to car/metro/buss, sit in traffic jam/stand pressed in crowd, inhale fumes, get stressed, constant white noise washes over you, turn off your conscious mind in hope of some relaxation, arrive to your destination, have a cigarette to dampen stress, have a coffee to pick you up, then have this experience at least once more during the day, for the greater part of your adult life, if you are lucky.

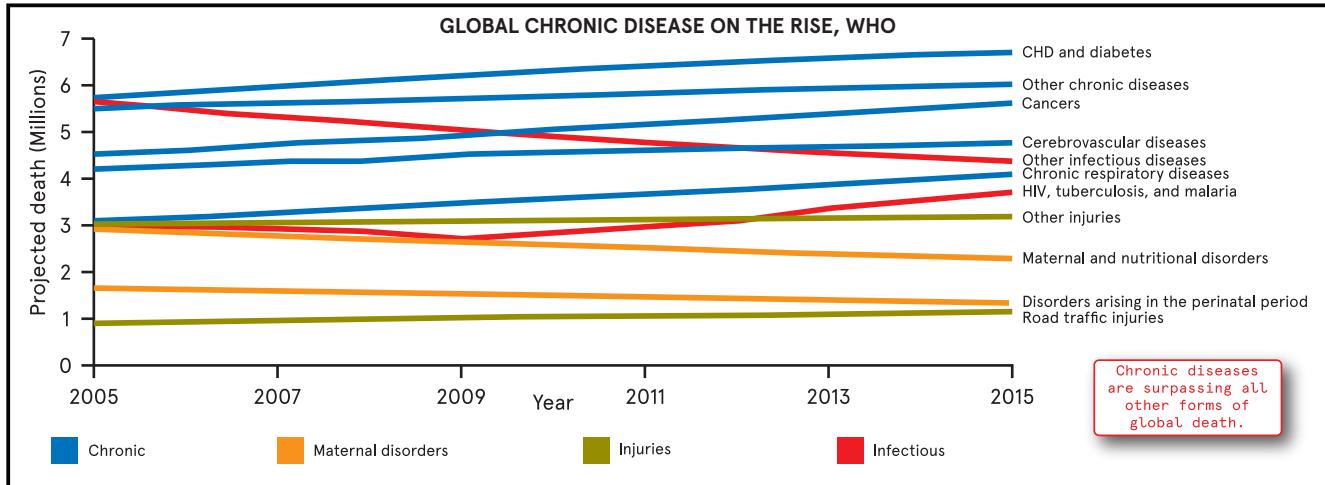
With the realization of these strong forces at work in our lives, we need to start hacking away at the old structures reinforcing the chronic diseases. Perhaps we are now at a turning point in our society and our way of living, where there can be alteration to the built environment as such, to stop the reign of these illnesses over our lives, to change these gridded patterns of cohabitation and to transform the fundamental building blocks of our cities. What must be said, is that this new way of constructing our cities has not yet found a fixed method or shape. It must be the task of visionaries to pursue and inhabit this new place in their minds then start imposing it on our environment.

What is of absolute necessity at this point is to fixate a notion that we can react upon, a unifying target that might be difficult to see, but we feel it's presence around us, every day. We need this target to be able to better understand our situation and what dangers lie within. Our situation is similar to the pressing times of the disease ridden 1850s. They were posed by the incredible danger of communicable disease. For us, it's the overwhelming presence of chronic disease.

In 2008, 7.3 million people died of ischemic heart disease, 6.2 million from stroke or another form of cerebrovascular disease¹, and these are only the major killers. In 2011, 64 % of death², globally, was attributed to chronic disease.

To put that in perspective, Spanish Flu killed between 50 million and 100 million, Bubonic Plague killed between 75 million and 200 million people. If only counting from 2008, chronic disease already reached 75 million dead in 2013, not even accounting for the constant rise death rate or previous mass death from chronic disease. In 2023 the numbers will match, but we can already consider chronic disease our time's Black Death, a new world suffering.

Again, this suffering needs to be articulated by a cause that we can work against, and in the vein of the societal reforms of the 1850 I propose to use the notion of Miasma, *a vaporous exhalation (as of a marshy region or of putrescent matter) formerly believed to cause disease*. This Second Miasma, that is upon our societies needs to be battled with the same vigour of transforming our cities as in the time of the Haussmann boulevard. It provided cleaner living, we need to provide healthier living.



CHRONIC /MIASMIC CLASSIFICATIONS

Second Miasma, term. All factors reinforcing chronic diseases in our societies in regards to the built environment. The environments lack of, or complete inability to, mitigate chronic diseases.

Chronic disease, term. Chronic disease has been defined as illness that is prolonged in duration, does not often resolve spontaneously, and is rarely cured completely. Chronic diseases are complex and varied in terms of their nature, how they are caused and the extent of their impact on the community.

Encycl. Philos. Second Miasma is based on the belief that the environment is reinforcing the effect of chronic diseases on our bodies. The state of our environment is able to affect us and to affect our health. In regard to the notion of the Second Miasma, the damaging effect of the environment can be implicative tied to the presence of chronic disease.

There can be a division of the notion as of how its effects in the environment:

• 1. Acute State

Stress, traffic, pollution, commerce and immobilizing environment are all in the same place.

• 2. Sub-acute State

When only one or two of above said factors are present in the environment.

• 3. Semi-Chronic State

When the built environment still is struggling with pathogens together with chronic factors.

This articulation of space according to the type of danger it poses to us together with a definition of the Second Miasma will give us the needed realm to operate in and a precise aim for our goal of health. But the way the city is constructed, exposure to above said environmental actors becomes a constant that reinforces chronic disease.

Stress, the most prevalent of the five, it is our fight or flight reaction to environments we instinctively perceive as threatening or harmful to us. Studies from 2011 show that urban dwellers have a 20 percent higher risk of developing anxiety disorders and a 40 percent of developing mood disorders. Stress also leads to the shortening of the 'protection caps' at both ends of our chromosomes, at the same time it suppresses the enzyme responsible for repairing these. When sufficient damage has been done to the cell and it no longer can divide and regenerate, this leads to premature ageing of the body.

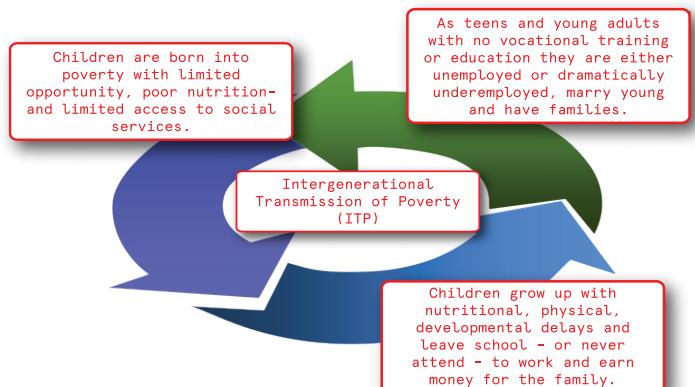
As for traffic, the threat has many layers. Starting from the obvious ones like pollution and noise, we know that these greatly contribute to the emergence of chronic diseases like

asthma, heart failure, hypothyroidism etc. But there is also the threat of accidents that seems to contribute to emergence of diseases like Multiple sclerosis.

With long exposure to pollutants like fumes, smog, industrial waste, and fine particle emission we most certainly will develop respiratory problems and heart disease that greatly decrease our mobility and stamina, and put us rapidly in a negative spiral towards premature death.

Commerce in itself does not affect us greatly from the point of health. But what commerce does together with certain built typologies, like outskirt malls, high competition market places in low income areas or microrayons, is that it degrades the quality of food products and very often creates so called food deserts.

Immobilizing environments like border highways, railways without passages and inaccessible vacant plots obstruct our pedestrian mobility greatly. A thing that is absolutely necessary to have any chance of battling chronic diseases.



Another crucial factor to how chronic disease has gotten to be the main health problem in the world is how it is connected to poverty, and especially poor areas. Intergenerational poverty is the mechanism that describes how poor living conditions, lack of education, bad health and violent behaviour are transferred between generations and keep certain socio-economic segments of society in this perpetual loop. In the paper *Biology as destiny? Short and long-run determinants of intergenerational transmission of birth weight*, authors, Janet Currie and Enrico Moretti, argue that there is a correlation between being born into a family of poor health and the later socio-economic status.

What this means in relation to space is that, when you live in poor conditions that reinforce your bad health, give you limited options of movement, both locally and regionally, and when you are a part of a community that has no access or relation to medical institutions there is an overwhelming probability of you following in the same footsteps. So to break this loop, one needs to attack all causes and in the case of Second Miasma, it's spatial qualities.

CHRONIC DISEASE IN RUSSIA

In the Russian Federation, a staggering 81% of all deaths has been ascribed to chronic disease.

Alone in 2005 the total projected deaths were about 2,424,000, which means that 1,956,000 lives were lost to these diseases. And according to WHO, from 2005 and ten years onwards there will be over 19 million deaths from these causes.

Between 1950 and 2002, the heart disease rates in the Russian Federation remained the same or increased. And this happened in opposition to countries that where effective programs to reduce heart disease death rates were introduced. Countries including Canada, United Kingdom and the united states managed to decrease the death rates from cardiovascular diseases dramatically.

The economic impact of chronic diseases is their ability to create large adverse, and underappreciated, economic impact on families communities and countries. This effect is especially present in low income and uneducated environments, and contributes to degradation the quality of life.

During 2005 the Russian Federation lost approximately 11 billion dollars in national income from premature deaths due to heart disease, stroke and diabetes. And contrary to what one might think, the enormous presence of chronic disease does not necessarily create sufficient awareness to make communities, municipalities or states to act actively against these health threats.

According to WHO the losses in the Russian Federation are projected to continue and increase, and during the period from 2005 - 2015 the accumulated losses due to premature death from chronic diseases would reach a staggering 303 billion dollars. That is almost 100 billion more than the GDP of Portugal.

And even though normally men are ascribed to have a higher death rate due to chronic disease, this was not the case in the Russian Federation. 7% more women died in 2008 even though they statistically seem to live healthier lives.

At least 80% of premature heart disease, stroke and type-2 diabetes and 40% of all cancer has the potential to be prevented through healthy diets, regular physical activity and avoidance of tobacco products.

Cost effective interventions exist, and have worked in many countries. And what seem to be the most effective strategies are to employ population-wide strategies together with interventions for individuals. And with estimates that an annual 2% reduction of chronic disease death rates in the Russian Federation over this 10 year period could have added up to a 20 billion dollar gain for the country.

But as simple as it may sound there are a lot of barriers that prevent from implementing any effective legislation or interventions, both on personal and societal level. Everything from socio-economic status, geographical position, lifestyle, genealogical background to the position of being able to actively pursue your own health, figure-in in the complex mycelium that constitutes our unhealth.

With this in mind, looking a space as one of the contributing factors, we find that there are many spacial functions that work for transporting us around efficiently but work against our health. And realizing that this is a systemic problem, it has to be addressed in a systemic way.

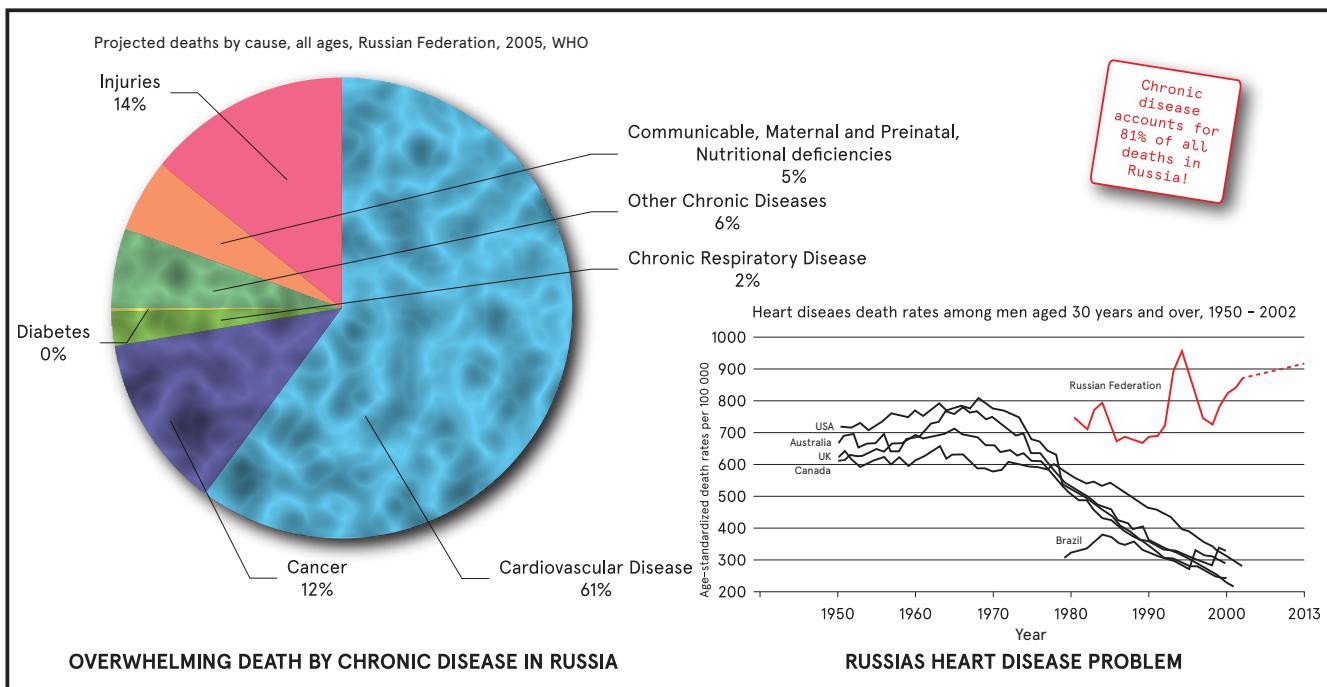


Perhaps the biggest effect of chronic disease can be seen in the societal costs and what the network of cause and effect leads to. Usually this breaks down into three categories.

The direct costs are the costs to the community of diseases directly related to chronic disease. The visits to the general practitioners, consultations with medical specialists, hospital admissions and medication.

The indirect costs are related to the loss of productivity caused by absenteeism and the spending related to disability pensions and premature death.

And the personal costs consist of earning less because of health discrimination, getting charged higher premiums from insurance companies exponentially to the nature of your situation. And perhaps the most obvious factor, the lack of mobility and stress one experiences.



CHRONIC DISEASES AND THEIR SPATIAL CONNECTIONS

This catalogue illustrates some of the major chronic disease's and how they emerge in urban environments.

As complex and unpredictable as chronic diseases are, it is important to understand that most of them have environmental causes that either are directly or indirectly interlinked with urban dwelling. The grouping of them together shows how quite ordinary elements of everyday life together affect us and make us ill. As we examine the different diseases we soon find that all of them are also linked to poor living conditions and to social and spatial isolation. The general pattern that one can see coming from analysing all of them is that not only do they affect the people that have it the worst the most. But also seem to coincide with the periurban, not fully developed typologies where the harshes social and economical conditions are. Also

the poor innercity dweller is greatly affected, but still has the luxury of proximity. The only chronic disease that seems to have an greater effect on rural life, ex. dacha life, is Parkinsons.

What is important to see is the whole picture these examples paint. How the illnesses are linked together and how the spaces are connected. If you have asthma for example, and live in a neighbourhood that does not promote health care, come from a socio-economic background that makes you more prone to relaps into sickness and stress everyday on your way to and from work in congestion. It is highly likely that the cumulative effect of that life will make you sick. While if you had opportunity, like walking, less stress, a community dedicated to health and a safe environment that would likely make you more motivated to pursue your health.



Asthma

Asthma is a common chronic inflammatory disease of the airways characterized by variable and recurring symptoms, reversible airflow obstruction, and bronchospasm. Common symptoms include wheezing, coughing, chest tightness, and shortness of breath.

The causes of Asthma are obviously complex, but include environmental exposures to allergens and pollutants, changing patterns of medication, and the psychosocial stresses of living in poor inner-city neighborhoods.¹



Chronic obstructive pulmonary disease (COPD)

COPD is the occurrence of chronic bronchitis or emphysema, a pair of commonly co-existing diseases of the lungs in which the airways narrow over time. This limits airflow to and from the lungs, causing shortness of breath (dyspnea).

Studies in many countries have found people who live in large cities have a higher rate of COPD compared to people who live in rural areas. Urban air pollution may be a contributing factor for COPD, as it is thought to slow the normal growth of the lungs.³



Heart failure (HF)

HF can cause a number of symptoms including shortness of breath, leg swelling, and exercise intolerance.

Extensive evidence indicates that environmental factors contribute to CVD risk, incidence, and severity. Several large population-based studies indicate that exposure to fine or ultrafine particulate air pollution increases CVD morbidity and mortality. Collectively, the data support the notion that chronic environmental stress is an important determinant of CVD risk.⁵



Chronic kidney disease (CKD)

CKD also known as **chronic renal disease**, is a progressive loss in renal function over a period of months or years. The symptoms of worsening kidney function are non-specific, and might include feeling generally unwell and experiencing a reduced appetite.

Three important components of the distressing or unhealthy social environments are (a) poor residential conditions, (b) economic deprivation at the household level, and (c) social stressors such as racism or discrimination.²



Hypertension (HTN)

HTN or **high blood pressure**, sometimes called **arterial hypertension**, is a chronic medical condition in which the blood pressure in the arteries is elevated.

This phenomenon, which varies markedly across populations, is determined largely by environmental factors. We argue that the most important factors in the development of hypertension at the population level are calorie excess (as manifest by obesity), high salt intake, low potassium intake, physical inactivity, heavy alcohol consumption and psychosocial stress.⁴



Crohn's disease

Crohn's primarily causes abdominal pain, diarrhea (which may be bloody if inflammation is at its worst), vomiting (can be continuous), or weight loss, but may also cause complications outside the gastrointestinal tract such as skin rashes, arthritis, inflammation of the eye, tiredness, and lack of concentration.

If you live in an urban area or in an industrialized country, you're more likely to develop Crohn's disease. People living in northern climates also seem to have a greater risk of the disease.⁶



Hypothyroidism

Hypothyroidism can result from the lack of a thyroid gland or from iodine-131 treatment, and can also be associated with increased stress. Severe hypothyroidism in infants can result in cretinism.

Stress's effect on thyroid function can be indirect, through its effects on blood sugar levels (dysglycemia), but it can also have more direct effects. Stress may cause hypothyroidism or reduced thyroid functioning by disrupting the HPA axis which down-regulates thyroid function.⁷



Multiple sclerosis (MS)

MS is an inflammatory disease in which the fatty myelin sheaths around the axons of the brain and spinal cord are damaged, leading to demyelination and scarring as well as a broad spectrum of signs and symptoms.

It has long been postulated that environmental events such as infection, emotional stress, or trauma play some role in triggering exacerbations, worsening of the disease, or even the onset of MS. There have been monetary awards by the courts based on possible influence on the disease following motor vehicle accidents.⁹



Schizophrenia

Schizophrenia is a mental disorder characterized by a breakdown of thought processes and by a deficit of typical emotional responses. Common symptoms include auditory hallucinations, paranoid or bizarre delusions, or disorganized speech and thinking, and it is accompanied by significant social or occupational dysfunction.

In adulthood different environmental stressors act—including social isolation, migrant status, and urban life—and this remains the case even when life events attributable to the incipient psychosis itself are excluded.¹¹



Parkinson's disease

Parkinson's is a degenerative disorder of the central nervous system.

Epidemiological studies have noted increased risks of developing Parkinson's disease with rural living, farming, drinking well water, and exposure to pesticides. Most of the pesticides disrupt mitochondrial function and generate oxidative stress, the two main processes implicated in degeneration of neurons. On the other hand, there have been intriguing and consistent findings of decreased risks of Parkinson's disease in people who smoke cigarettes or drink beverages containing caffeine.⁸



Diabetes mellitus

Diabetes is a group of metabolic diseases in which a person has high blood sugar. This high blood sugar produces the classical symptoms of polyuria (frequent urination), polydipsia (increased thirst) and polyphagia (increased hunger).

Ground-level ozone forms from the interaction of various air pollutants, including those found in car exhaust, with sunlight. Obesity and type 2 diabetes are among the most serious health pathologies worldwide. Stress has been proposed as a factor contributing to the development of these health risk factors.¹⁰



Coronary artery disease (CAD)

CAD is the most common type of heart disease and cause of heart attacks.

Neighborhood social interactions affect the wide set of affective, cognitive, and relational experiences individuals have in their neighborhoods, which in turn influence the psycho-cognitive antecedents of behavior and in the end shape health behavior.¹²

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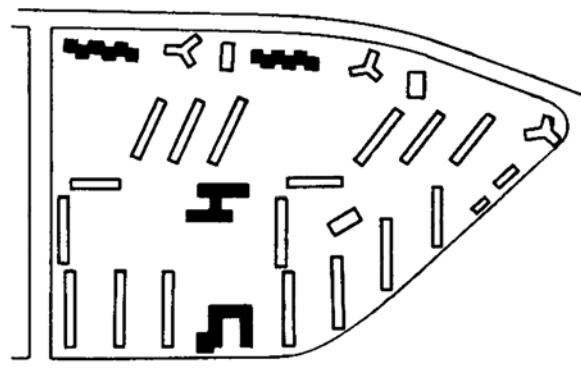
REGULATIONS (Microrayon Factbook by Dali Safiullina)

To break the cycles of unhealth we need to attack the built space from the point of planning. The best way is to analyze the current socio-spatial situations and adjust them, so that instead of a efficency (proximity) based city scape we get one that nudges us towards healthier patterns of living. By taking the existing regulations and building upon them, the impact of spacial change will not make the environment an unfamiliar one but behaviours and experiences will change.

Immobilizing Space

The main, and perhaps most obvious problem we face is the lack of everyday movement. To move naturally and constatnly doing some small physical activity is one of the things that the most healthy and longest living populations share among them. Space should not be planned based upon close proximity and precived comfort, it should instead make us move without thinking about it. This walking should be experience based making inhabitants think about other things than how many meters it is between their door and the store or the metro.

The alterations to the regulations either work as additions to or replacements for existing ones. Even though the changes might seem straigh forward, there is an immense difference in planing from the point of view of health than from planing from the point of view of distance, and population density. What needs to happen is to change the DNA of the plan so that it first and foremost adresses the health issues of the low income population.



Distance to public transport stops Пешеходная доступность до остановок транспорта	max 500 m 500m 500m	max 500m 500m	max 500m 500m	max 400m 400m	The distance to public transport is defined by an 8 minute walk.
Dominant prescribed means of transportation (преимущественное использование)	public transport for fast, safe and convenient movement of people with min time for commuting (max 40 min). Access into microrayons of all vehicles for emergency and medical must be denied (perspective model- Chertanovo)	complex scheme of development of all kinds of urban public transport	Unified transport and road network system, provides fast, safe transport connection with all functional zones.	individual transport- vehicles. more regulations control parking, noise level, pollution level and other related issues	See table 200 thousand ppl. For commuting to city center- max 90 min (6.2) 2.2.1/2.1.1.1200
Distance between buildings	based on fire regulations according to norms, if 2-4 storeys- min degree of fire resistance 20 m between long sides, (table 9)	based on solar insolation norms, if 2-4 storeys- min 12 between side facades	n/a if 4 storeys and higher-min 20m morphotype	defined according to if 4 storeys and higher-min 20m morphotype between long sides, min 10m between side facades. can be less if meet insolation requirements	Minimum distance by morphology. New development adheres to existing.
Location of schools	stand-alone plots distance from school territory to houses min 10m, to communal services min 50 m offset from red line min 25 m. Pedestrian path to school must not cross	stand-alone plots distance from school territory to houses min 10m, offset from red line min 25 m	n/a sport field of a school can thousand sq.m/ha, for be combined with sport complex of a microrayon	if density higher than 20 new elementary schools under 240 in built-in or residential areas allowed 150 sq m	Schools are situated between 300-500 meters from domestic environments and on natural or artificially created topography.
Streets and roads of local value Улицы и дороги местного движения (значения)	min 2 lines (3-4 lines for min 2 lines (4 lines for reserve) of 3 m width	min 2 lines (3-4 lines for min 2 lines (4 lines for reserve) of 3 m width	2 primary proezd lines of 2.75 m width; 1 secondary width of 3.5 m	2-4 lines of 3- 3.5 m width	

Stress

Stress causes great problems in our society and is one of the major causes and reinforcers of chronic disease. The major reduction to stress that can be made from the point of view of planning is to reduce stressors in loud environments, limit the commercial visual impact and reduce extreme congestion while maintaining a dense living environment. From the point of view of the microrayon, a main stressor is living next to heavily trafficked road, social isolation and poor living conditions. Again these

problems are interlaced with other factors and together create a vast network of interlinked causes and effects that ultimately lead to our unhealth.

The limits and alterations are set according to how to maximize the health outcome from the space. For example, using dB levels, not just as a restriction but as a tool to shape the landscape will result in a quite different type of city and life.

Car parking capacity (Вместимость автомобильных стоянок на террито- рии МКРНа на перспективу из расчета одно место)	30-50 % of garage capacity of cars belonging to microrayon residents (for perspective) из расчета одно место)	min 70% of cars of microrayon residents based on 25% capacity of number of cars of microrayon residents	min 90% of cars of microrayon residents for permanent storage	250 - 300 м от жилья автовладельцев, не более 600м 9.3.6 вместимостью, как правило не более 300 машино-мест*	Car parking must be hidden in topography. Capacity adheres to demand.
types of car storage	box-type garage, instead- barns (sarai) for storing combustibles 4-5 square meters per apartment	open	if open- min 70% of cars of microrayon residents based on 25% capacity of number of cars of microrayon residents (6.33)	flat parking, ramp parking, built-in built-on parking; must be isolated from playgrounds and sport facilities	

minimal distance from apartment windows to garage	n/a	min 7 meters (5.24)	max 100m, for ADA box type garage- max 200m (6.34)	min 10m (for parking for 25 m (for 50 cars), min 35 (for 100 cars), min 50 (for 300 cars)	n/a Garages are to be situated in topography or underground.
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Distance from apartment window to certain facilities (Расстояние до окон жилых и общественных зданий)	to sport fields-min 25m; to utility areas- min 20m; to dog stroll areas- min 40m Areas must be surrounded by strip of greenery	to sport fields-min 25m; to utility areas- min 20m; to dog stroll areas- min 40m Areas must be surrounded by strip of greenery	to sport fields-10-40 m; to utility areas- min 20m, depending on noise level max 100m; to dog stroll areas- min 40m, to playgrounds- min 12 m	to sport fields 20-40 m	
	1963	1973	1990	2000	

Trading, catering and domestic services (Предприятия торговли, общественного питания и бытового обслуживания)	within max 500 m radius	within max 500 m radius	within max 500 m radius	within 500 m radius (everyday services)	Ground floors of domestic buildings are designed to have space for grocery stores, medical facilities and small businesses.
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Community

A healthy community is based on the interlinkage between young and old, poor and rich, healthy and unhealthy etc. The main characteristic of successful communities are that they are mixed and have a lot of social interaction embedded in them. The group, as an entity, is much more efficient than the individual when it comes to dictate certain behaviours, and as long as health and caring is embedded into them, then people will live longer and stay healthier. Things like inheritate poverty and

illiteracy are also contributors to systemic forming of populations health and this is why it's necessary to form space that will contribute to the mobility of people and sharing of knowledge.

Physical education and sport facilities (Физкультурные и спортивные сооружения)	within max 500 m radius within max 1500 m radius within max 1500 m radius within max 1200 m (periodic services)
	Facilities must be within a 300-400 m radius of domestic environments.

Microrayon Public Center (общественный центр)	club facilities and library, Public centers of local canteen, laundry, retail importance may serve shops: grocery, industrial products, barbershop, tailoring, housing and utility office	several microrayons located within the territory bounded by main streets of city importance.	n/a	The share of nonresidential construction in the amount of microrayon development shall not exceed 25%
				With continuous densification of the built environment, Microrayon Public centers adhere to the 1963 development regulations for city centers.

Day-nursery (Детские ясли-сады)	within max 300 m radius (70-90 people per 1000 residents)	within max 300 m radius (up to 200 per 1000 residents)	within max 300 m radius n/a	allowed in ground floors of residential buildings is provided with regulated insulation, acoustic comfort, prescribed area
				Day nurseries are to be situated in physical connection to the schools.

Medical facilities (Учреждения здравоохранения)	within max 1500 m radius 1 pharmacy per microrayon	within max 1000 m radius n/a	Are to be situated in connection to physical education and/or sports facilities and on ground floor levels in domestic environments.
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Schools (Общеобразовательные школы)	within max 500 m radius	within max 500 m radius	within max 750 m radius (500 m for elementary classes)	and cubature, min 3m ceiling height, independent ventilation, separate entry, adjacent areas for walking
				Schools must be placed on topography higher than the domestic environment natural or artificially made. Distance is to be defined by a 8 minute walk.

Morphology

To make regulations that will have positive effect on our health we need to create a new morphology for the microrayon. This morphology differs from the previous ones in the way that its main building blocks are not based on distance or maximisation of transport by individual vehicles. The new morphology is based on time, experience and movement of people. Whilst all the previous development regulations had big advantages to the societies in which they were created, they have all digressed

slightly from their historical predecessors based on some new need in society. The main need now is to help people to pursue their health.

Microrayon (микрорайон) definition	first structural unit of residential territory. Contains residential buildings, facilities of day-to-day services	the main structural unit of residential territory of a city. Contains residential buildings, facilities and institutions of primary services	also (district, <i>kvar tall</i>) is a structural element or residential development. Contains facilities and institutions of everyday use with coverage of services not exceeding 500 m	occupies several blocks (<i>kvar tall</i>). Contains close and daily services within its territory and provided by institutions of periodic services within regulated availability
<p>Microrayon is to be established as a new morphology, based on community and health. Contains daily services defined by MGSN 1.01.99 and is planned with aim to reduce chronic disease and increasing health.</p>				

Microrayon development (застройка микрорайона)	typological projects relevant to local climatic and "byt" conditions and demographic make up	based on unified or segmented into clusters of residential buildings architectural and spatial organization considering environment and local climate	n/a	City planning characteristics are determined by placement in the city
<p>Regulations: 1963 and 1973. Edit: Development according to demographical health profile and socio-economic needs. The planning aim is to reduce the presence of chronic disease and increasing health.</p>				

Size of land (including built-up area) around houses/ per apartment (Размеры земельных участков, выделяемых около жилых домов на 1 квартиру)	n/a for houses higher than 2 storeys	no more than 150 square meters	30-60 sq. m (excluding built-up area) for up to 5 storeys block housing (recommended prilozhenie 3)	n/a
<p>Red Line regulations apply.</p>				

Microrayon gross density (плотность брутто)				defined according to morphology*
<p>n/a</p> <p>Microrayons are to be put in a continuous stage of densification. Development can only occur next to the previously built environment and must adhere to the minimum distance between buildings.</p>				
	400- 466 ppl/ ha (9-storey; 4200 sq.m/ha); 311- 355 ppl/ ha (5-storey; 2800	455 ppl/ ha (9 storeys; 6600 sq.m/ha) 365 ppl/ha (5 stories; 5300 sq.m/	200 ppl/ ha- 420 ppl/ ha	as historical morphology Depending on morphology,

CASE STUDY: 90TH/90TH (A) BUTYRSKIY DISTRICT & (49TH, 51ST, 52ND) MICRORAYONS MARFINO DISTRICT

Together the areas almost form a coherent and functional city entity, even though some functions are missing. The butyrskiy district has a developed infrastructure and to some a largely established school system. Although the very eastern part, the 90th/90th A microrayon lacks many of the benefits and functions of the overall district. It is somewhat defined by the main road and ul. Milashenkova and the large barrier created by the rail road tracks. Further they both isolate the area to the north effectively creating an peninsula only accessible from the south, if you are a pedestrian. The (49th, 51st, 52nd) microrayons of Marfino are to a large degree sleeper districts, where little of the societal functions of the Butyrskiy district are available. This area consists mainly of two parts, the domestic areas and the botanical gardens in the west.

The first reason why this combined area is chosen as a case study is due to the mutual inaccessibility between the districts and that they are both lacking essential functions needed for regions with large amounts of inhabitants. They are both



MARFINO DISTRICT

surrounded by large developed industrial areas that are heavy pollutants and rails and roads that emit fine micro particles.

And the second reason is the already instigated open competition to revitalize the Marfino area, therefore a perfect target for improving health.

MARFINO DISTRICT STATS:

Area: 2.26 km²
People: 27140 / km²
Residential: 12000 m²
Population: 68700

- Developed network of ground public transport.
- Institute of automation
- "Moskinap" Factory.
- Institute of Plant Physiology.
- 3 secondary schools.
- 6 pre-schools.
- Moscow Technological Collage of Power.
- Moscow Academy of Entrepreneurship.
- Central Botanical Garden.

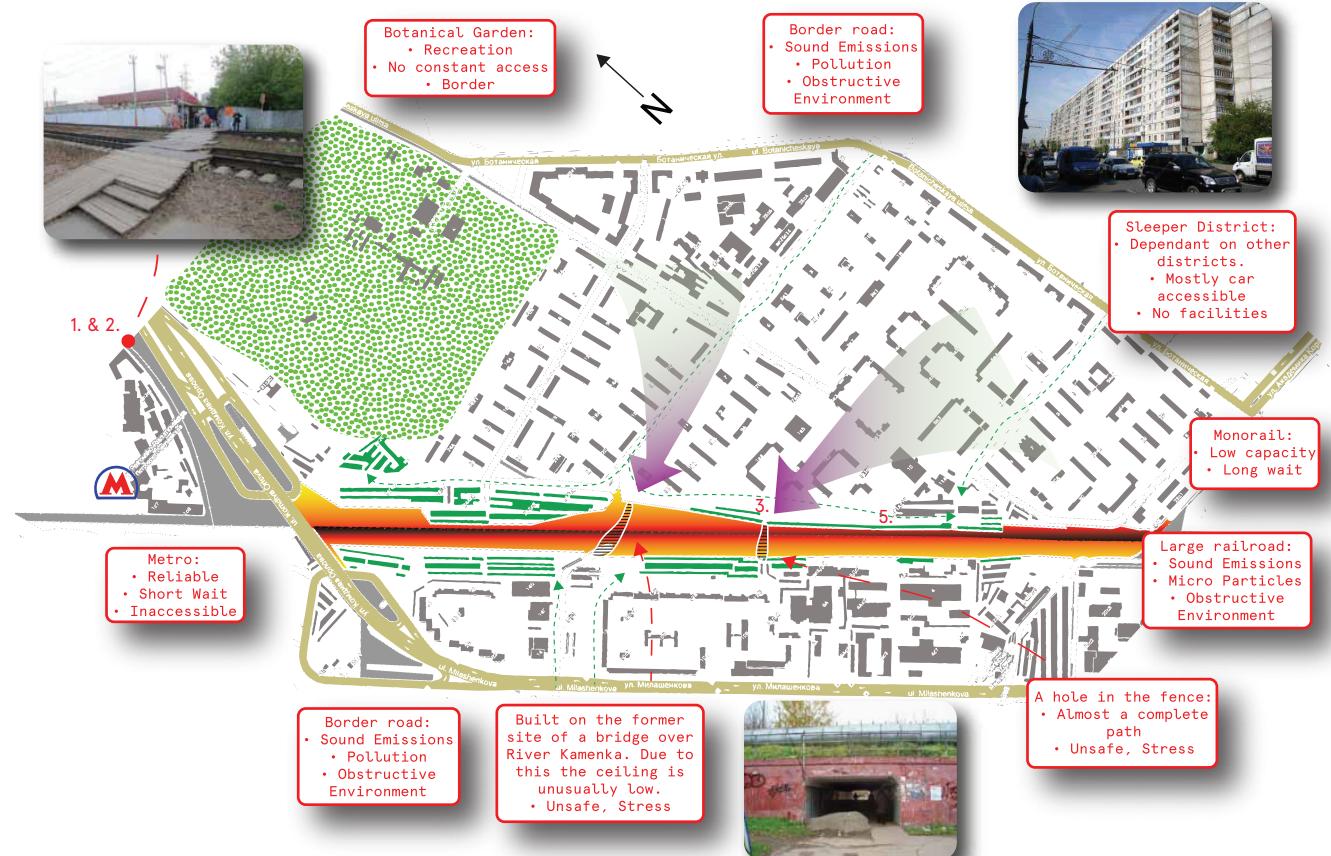
BUTYRSKIY DISTRICT STATS:

Area: 5.4 km²
People: 13394.8 / km²
Residential: 11000 m²
Population: 68000

- Well-developed industrially.
- Developed network of consumer market and services. Availability of retail space is 194%.
- 10 kindergartens.
- 6 secondary schools.
- 2 colleges.
- Medical school.
- 6 health institutions.
- BMX cycling track.
- World-class and inter-school stadium.



BUTYRSKIY DISTRICT





1. One of the 3 crossings, close to Petrovsko - Razumovskaya, is a gathering place for smaller crowds that drink. No protective measures are taken



2. The crossing accidents victims family had placed a memmorial in her honor.



3. The second of the rail crossings. Completely dysfunctional. Very dangerous to cross in the winter or while drunk.



4. Workers without a rest place nap close to parkings and train tracks, subjecting themselves to dangers and pollutants.



5. A 2 year old construction site at the west end of the Marfino District. The garages draw the cars in through the neigbourhood and pollut the air.

PROJECT BRIEF

The purpose for this project is to implement the miasmic reagulatory system on the area around Milashenkova street, particularly east of the street, the 90th and 90th "A" of Butyrskiy district, and the 49th, 51th and 52nd microrayon of Marfino district. Both of the areas have several well developed societal functions, one has many schools and the other has a botanical garden. But the larger problem lies in the environmental design and the enormous border created by the railways and the roads. And the acessebility and connection between the areas is not developed at all. There is already a call for change instigated by the Marfino district, an open competition to recreate and revitalize the area.

The Miasmic regulatory system is designed to provide all of these characteristics to a neighbourhood. Also connecting the two districts through this project, would be mutually beneficial, since they both have functions desired by each other. And establishing the new morphology here would not only provide the all of these desired characteristics but could be an experimental ground for how to improve peoples health through altering the environment.

IMPLEMENTATIONS:

Urban scale:

- In accordance to the new microrayon morphology, city center type social facilities are to be established according to MGSN 1.01.99. Research must be conducted to identyfy chronic disease effect on the population.

Microrayon scale:

- Continous densification must be made to the new morphology.
- With continous densification of the built environment, Microrayon Public centers adhere to the 1963 development regulations for city centers.
- No max density, Microrayons are to be put in Development can only occur next to the previously built environmentand must adhere to the minimum distance between buildings.
- The developement adherese to 1963 and 1973 regulations. Development according to demographical health profile and socio-economic needs. The plannin aim is to reduce the presence of chronic disease and increasing health.
- At widow position emitted sound from facilities may not exceed 70dB. Otherwise stress based chronic diseases may occur.

Facilities:

- Schools are situated between 300-500 meters from domestic environemnts and on natural or artificially created topography.

- Ground floors of domestic buildings are designed to have space for grocery stores, medical facilities and small businesses.

- Physical Education facilities must be within a 300-400 m radious of domestic environments.

- Medical facilities are to be situated in connection to physical education and/or sports facilities and on ground floor levels in domestic environments.

- Ground floors of domestic buildings are designed to have space for grocery stores, medical facilities and small businesses.

- Day nurseries are to be situated in physical connection to the schools.

Transport:

- Car parking must be hidden in topography. Capacity adheres to demand.
- At widow position emitted sound from facilities may not exceed 70dB.

Scale of a building:

- Red Line regulations apply. All buildings are adhere to each other.