

km h m² watt persons kg t l % institutions rules boundaries \$ €

a proposal

In the course of this century the world population will increase to ten billion and reach its highest number, that after a demographic change is expected and the population will either stabilize or decrease. This is suggested by sinking birth rates in most countries of the world.

Our goal must therefore be to create the conditions that make a **happy life possible for 10 billion persons**, which means that the basic needs are satisfied and that there are enough resources for the realization of individual potentials and talents.

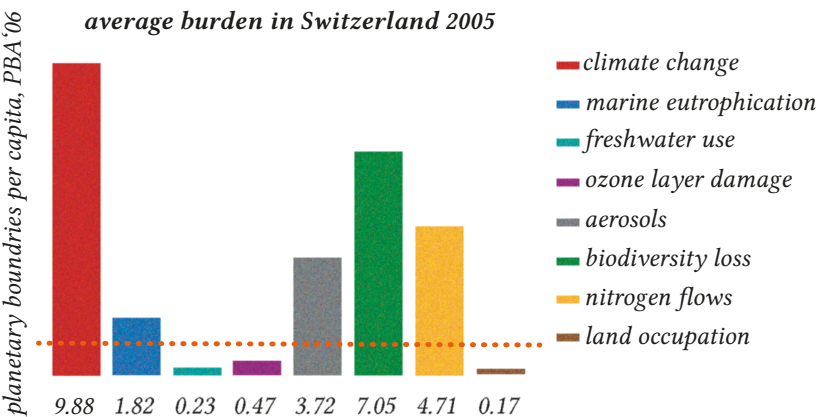
Limits and challenges

In order to define a lifestyle for all the ten billion humans the following aspects must be considered:

- ♦ ecological limits
- ♦ economic limits
- ♦ individual development and social comfort

Ecological limits

Recent research suggests that our current lifestyle transcends the planetary boundaries in at least five categories of environmental damage (according to the Stockholm Resilience Centre).



The dotted line represents the planetary ecological limits. The most critical categories are climate change and loss of species.

A typical «western» lifestyle is thus unsustainable even if confined to the old centres of industrialization. It isn't universally applicable. Technological innovation alone is not sufficient and will come too late. We have to look for smarter arrangements. For reasons of ecology and justice, a typical lifestyle menu would have to look such as this (take Switzerland as an example):

- ♦ 20 m² of private living space
- ♦ 2.5 m² of communal space (1250 m² in a microcenter, see below)
- ♦ no cars
- ♦ no flights
- ♦ 6 km by train per person/day (today: 6 km in Switzerland)
- ♦ a train trip of 1000 km per year
- ♦ a boat voyage of 1000 km per year
- ♦ 15 kg of meat per year (4.3 kg beef, 7.6 kg pork, 3.2 kg fowl; today: USA 120, Switzerland 50)
- ♦ 20 l milk per year (Switzerland today: 370 l)
- ♦ 70 l water per day
- ♦ 3 hours of internet use per week (today: 7)
- ♦ 1 newspaper per day per 50 inhabitants

The different factors are partly interchangeable: e.g. eat less meat, but enjoy a car trip, reduce your living space for a short-distance flight etc. On the whole these limits call for a completely different life-style, which requires a different residential, territorial and institutional setting. While existing western mass consumerism is clearly unsustainable, an enjoyable way of life for all 10 billion humans is not only possible; it would mean a huge advance for the majority of the world population. Above all, there are enough resources to avoid drudgery, to maintain or establish a functioning health system and to further scientific and technological advances.

Economic limits

The current economic system is in a state of permanent crisis. This can be illustrated by the following figures: 226 trillion dollars of planetary debt. i.e. 300 % of the planetary GDP of 70 trillion (almost double the debt/GDP-proportion of Greece), a 600 trillion bubble of financial derivatives.

Growth is a systemic necessity of the current economic system but overstretches the ecological capacities of the planet. A sustainable economy cannot be based on growth. Its material impact should be shrinking, and shrinking fast.

Digitization and automation will reduce paid jobs to 50 % compared with the current level, which could mean good news if our incomes did not depend on jobs. Production approaching zero marginal cost indicates the collapse of a price-wage determined market economy. Vital, but unpaid work (60 %, mainly in households, agriculture and care) needs a suitable social framework to be useful to those who perform it.

Inequality is rising globally and creating huge risks for democracy. Quantitative easing and cheap money from the central banks maintain a precarious equilibrium.

Is there a plan B, when the bubble finally bursts?

A really viable economy is defined by ecological and social goals, based on common resources and common needs. It makes sure that everybody benefits from technological advances. It is determined by the democratic will of its members, organized in functional territorial modules. A rational household economy is based on the following principles:

- ♦ Everybody contributes what they can, everybody gets what they need.
- ♦ Sharing and distributing instead of trading and marketing.
- ♦ Cooperation instead of competition.

Such an economy calls for new forms and sets of rules.

Self-governed regulation (democracy) can function according to the following rules (Elinor Ostrom):

1. Define clear group boundaries.
2. Match rules governing the use of common goods to local needs and conditions.
3. Ensure that those affected by the rules can participate in modifying the rules.
4. Make sure the rules set up by community members are respected by outside authorities.
5. Develop a system, carried out by community members, for monitoring members' behavior.
6. Impose graduated sanctions for rule violators.

7. Provide accessible, low-cost means for conflict resolution.
8. Build up responsibility for governing the common resource in nested tiers from the lowest level up to the entire interconnected system.

These basic rules apply to all institutions of all modules (see below). In a rational household economy three basic spheres can be distinguished:

- ♦ The subsistence economy of everyday households (neighborhoods, glomo1), where non-paid work is most common.
- ♦ Additional public services and industries that are maintained on a larger scale through the will and cooperation of the citizens concerned. These services are rationally planned according to resources and needs within territorial borders and managed by its institutions.
- ♦ A residual sphere of non-vital individual or collective enterprises of diverse forms (firms, cooperatives, partnerships) that does not work according to a fixed plan but is regulated by ecological and social laws.

Individual development and social inclusion

According to recent research many aspects of the present lifestyle make us unhappy. Poverty makes us unhappy, as does continuous stress at the workplace. High levels of inequality are linked to more violence and poorer health. The most equal societies are also the happiest (cf. Denmark).

The development of the industrial economy has dissolved oppressive family structures and traditional communities. On the other hand phenomena such as unwanted loneliness, social isolation and anonymity are reasons for concern. A lot of people suffer from a lack of real belonging and support.

Even where basic needs are satisfied, genuine personal development, participation, and empowerment are deficient at the workplace and at home.

We need new ways of life, where persons of all age groups feel integrated and part of a community, enjoy social recognition and a secure social position. To grow up healthily and become happy adults children need a friendly and safe environment. Privacy, social inclusion and individual development need not be contradictions.

To achieve these new ways of life, manifold forms of housing, for singles, couples, families and communities of all sorts must be available as well as adaptable to changing personal conditions so that nobody is forced to leave their neighborhood and to lose their friends.

And above all: democracy makes happy.

5 universal functional territorial modules (glomos)

To face the present ecological, economic and psycho-social challenges, we propose to organize the 3,5 billion households of the planet by means of these five global modules (glomo):

1. 16 million neighborhoods (glomo 1)
2. 400'000 boroughs or small towns (glomo 2)
3. 4000 big cities and regions (glomo 3)
4. 800 territories (glomo 4)
5. 1 planet (glomo 5)

Comparable forms and sizes of organization are essential for global equality and for fair exchange. The global household requires universal modules with clear boundaries and rules.

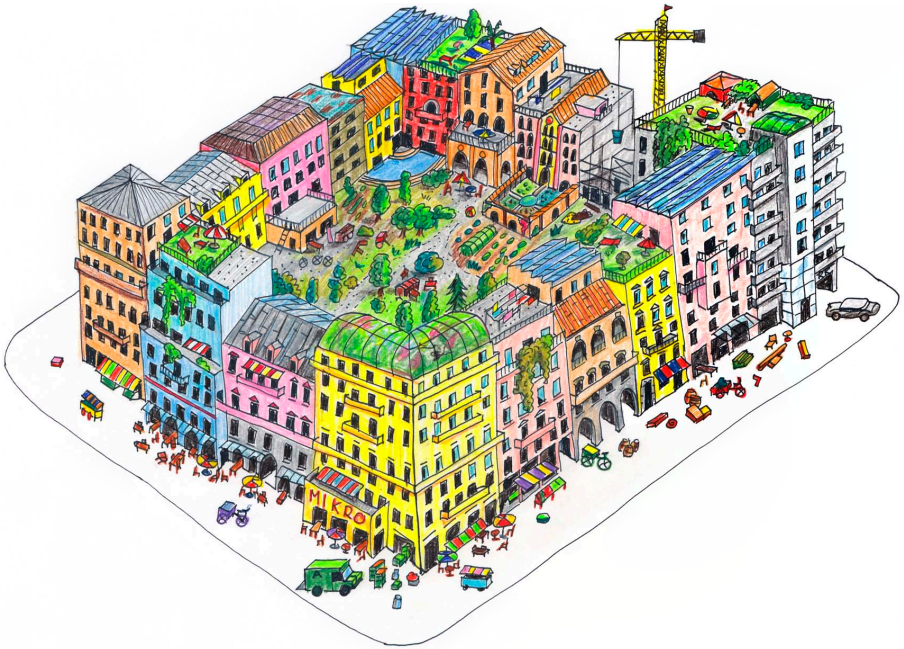
The modules are purely functional, no specific lifestyle or cultural identity is implied. They form spheres of subsidiarity, i.e. larger modules kick in, where smaller ones are in trouble. Any function should be performed on the lowest or closest possible level (relocalization). Autonomously run digital servers and networks can be helpful.

1. Ecologically and socially integrated neighborhoods (glomo1)

The following features are characteristic of them:

- ♦ life-style within the PBA (Planetary Boundaries Allowances, see above)
- ♦ 500 persons, approximate demographic mix
- ♦ democratically structured (cooperative, association)
- ♦ compact buildings in an urban context (short distances)
- ♦ link to a nearby agricultural basis of 60 to 80 ha
- ♦ internal household and care economy
- ♦ microcenter
- ♦ broad choice of housing: single rooms, family flats, co-housing; respect of privacy

The members of a neighborhood constitute a collective household complementing the private ones, securing most of the basic needs.



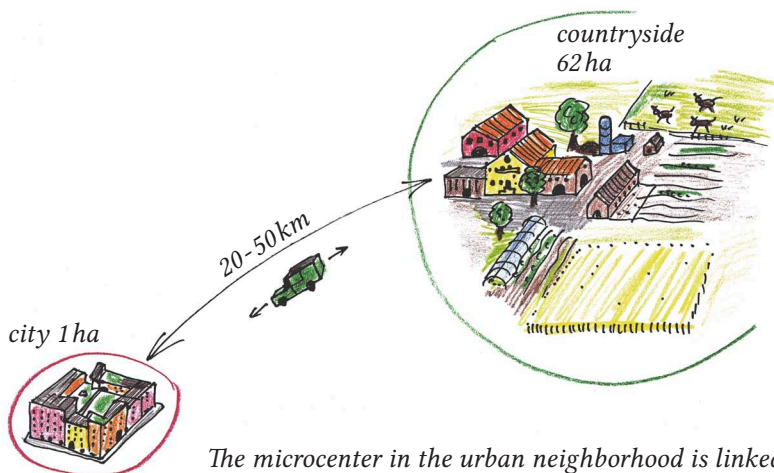
This is an impression of an urban neighborhood (glom1) in a traditional European city.

62 ha of agricultural land are sufficient for the basic supply of food under temperate climate conditions (Middle Europe, USA, China, Japan etc.). In most cases an agricultural base will not be farther away than 20 to 50 km from the neighborhood. A small truck (3 t) is sufficient to deliver the food to any neighborhood. Cooperation, sharing and exchange between adjacent neighborhoods are encouraged. Access to land and food is an essential element of the sovereignty of neighborhoods, but also of their quality of life (quality of food, holidays in the country, participation in farm work and food processing).

To give an example of the types and quantities of food and the necessary surfaces:

| <i>product</i> | <i>processed</i> | <i>person/ week</i> | <i>500 pers./wk.</i> | <i>per year</i> | <i>surface</i> | <i>pasture</i> |
|--|---|---|------------------------------------|--|---|----------------|
| vegetables | | 3 kg | 1500 kg | 75 t | 4 ha | |
| potatoes | | 0.8 kg | 400 kg | 20 t | 2 ha | |
| cereals | flour, flakes, semolina, pasta | 1 kg bread = 700 g flour | 350 kg 50 kg 50 kg 150 kg | 35 t | 10 ha | |
| legumes, soya, lentils | tofu | | 20 kg | 1 t | 1 ha | |
| oil seed pumpkin, linseed, sunflowers | kernels oil | | 20 kg 20 l | 1 t 1000 l | 2 ha | |
| fruits, berries | juice, jam, compote, dried fruit | 1.5 kg | 750 kg | 39 t | 2 ha | |
| milk | yoghurt cheese butter | 0.5 l = 0.5 l 0.5 kg = 0.5 l 0.3 kg = 3 l 0,1 kg = 3 l | 250 l 250 l 1500 l 1500 l | 30-40 cows 182'000 l | 10 ha | 15 ha |
| eggs | | 2 - 3 | 1250 | 65'000 260 hens | 2 ha | |
| meat | beef, veal, pork, mutton, sausages | 0.3 kg | 150 kg | 7.5 t (15 kg per person/ year | pasture, cattle 3 ha legumes for pigs 1 ha | 9 ha 1 ha |
| total | | | | | 37 ha | 62 ha |
| animal | | | | | 16 ha | 41 ha |
| plant | | | | | 21 ha | 21 ha |

(If only 7.5 kg of meat per person and year are consumed, the necessary surface is reduced to 56 ha. A part of the meat production is linked to dairy production. The amount of dairy products shown in this table does not correspond to the ecological menu example above.)

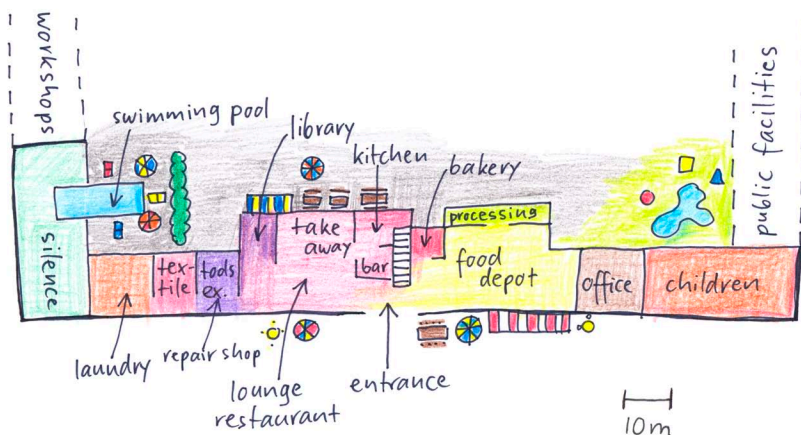


The microcenter in the urban neighborhood is linked to a land base (farm or cluster of farms) in the region.

The **microcenter** is a mixed-use service area (preferably on the ground floor) that optimizes housework, shortens distances (80 m = 1 minute), allows for synergies and serves at the same time as a place for everyday communication, social gatherings and fun and games.

Depending on local conditions and the predilections of the members it covers between 1200 and 2000 m². It is run by the organization of the inhabitants (based on an operational concept).

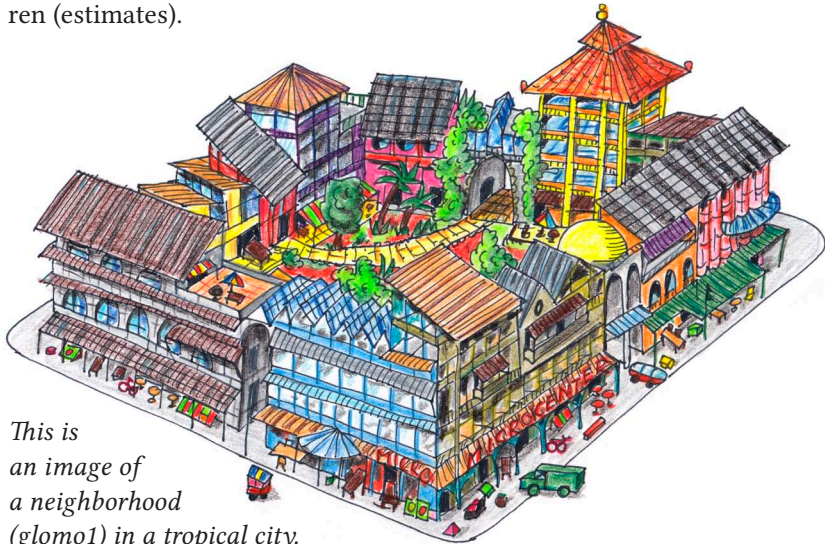
Here is a schematic view:



In Switzerland 7,9 billion hours of paid work, and 9 billion hours of unpaid work, mainly household and care work, are performed per year. Calculated over an average lifetime (incl. sleep), paid work amounts to no more than 12%.

Currently paid work amounts to 22 hours/person/week, unpaid work to 24 hours, altogether 46 hours (65, in households with children).

Living in a glomo-neighborhood, paid work amounts to 14.5 hours, unpaid 24 (including agriculture), a total of 38.5 hours, 44.3 with children (estimates).



*This is
an image of
a neighborhood
(glomo1) in a tropical city.*

A neighborhood defined in this way (glomo1)

- offers the comfort of a 4-star-hotel
- can fulfill needs flexibly by the sharing of goods (particularly food)
- can reduce private housing space by the communal use of spaces (an essential ecological necessity)
- can, due to its size, distribute household work flexibly and according to everyone's liking
- is particularly friendly to parents and children
- can run a small pool of means of transportation (bikes, cars, rickshaws, small buses)
- provides a sense of belonging and conditions for individual self-realization

- ♦ enhances empowerment and democratic participation for its members
- ♦ is the ideal place for social games and spontaneous parties
- ♦ provides a broad range of forms of housing, and flexibility in the distribution of spaces
- ♦ is open for visitors (20 guestrooms)
- ♦ organizes a fair and ecological form of agriculture (no food waste)
- ♦ constitutes the first module for dense, manifold and enjoyable cities (there is a microcenter every 100 meters)
- ♦ guarantees a fundamental material sovereignty and a stable basis for bottom-up democracy

2. Boroughs & small towns as basic communes for public services (glomo2)

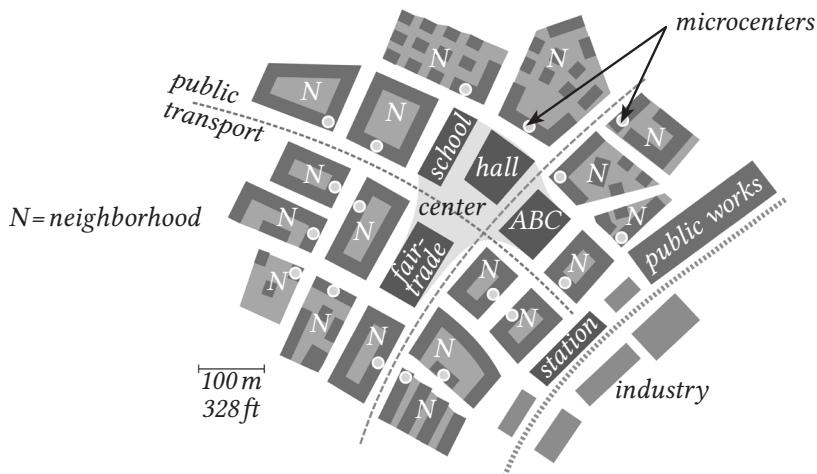
40 neighborhoods, or 20'000 persons, constitute an urban borough, or – in the country – a small municipal town, as a basic commune for a range of public services:

- ♦ primary and secondary schools
- ♦ state and security services: police, district court, social assistance, administration and political organs (town council)
- ♦ health center
- ♦ water
- ♦ energy
- ♦ public transport
- ♦ sewage, recycling, management of materials
- ♦ ABC civic center (hall, library, hotel, cinema, college etc.)
- ♦ a globex food depot for additional goods from all over the world (fair trade)
- ♦ a cooperative makersplace for small industries and workshops (textiles, wood, metal, machinery, electric, electronics, leather etc.)

In big cities most of these services will be organized by city-wide agencies, whereas the role of boroughs is reduced to some specific and consultative functions.

Around these public functions diverse private or cooperative enterprises of all sorts can flourish: cigar shops, hat-makers, small restaurants, jewelers, lawyers etc.

The borough or small town works best if the above services are clustered around a small, central square (40 by 40m): distances are cut short, synergies are enhanced and communication is made easier. Boroughs/small towns are everyday-life areas, where most vital functions can be reached on foot within 10 minutes.



This is a schematic view of a basic commune that can be either an urban borough or a small town.



This is an image of a possible ABC: The «world wall» at the back can be linked on-line to the other 399'999 world walls of the planet.

3. Regions and big cities (glomo3)

Living and working together in big cities forms the core of a sustainable and enjoyable life style on this planet. Inhabitants of dense inner cities live longer, healthier and happier lives than inhabitants of suburbs. Big cities are ecologically efficient and offer access to the scientific and cultural resources of the planet. A typical big city has around 500,000 inhabitants, situated in a metropolitan area of another 1 million, and offers services and resources for a region (6000 to 10,000 km²) that correspond to the requirements and potentials of this area. With a density comparable to Paris, most places can be reached on foot in half an hour or by bus in 10 minutes. The big cities typically offer the following public services:

- university
- hospital
- energy
- water
- bank
- public means of transportation (bus, train)
- regional court and administration
- theater/opera
- sports facilities
- essential industries
- platform for cooperative enterprises (cooperatory)
- **metrofoyer** (a generous meeting space for guests, social initiatives and organizations, and participatory processes of all sorts)

Services with frequent provider-client contacts are clustered in the city center. Adjacent to this center other cooperative or private enterprises such as gourmet restaurants, cabarets, fashion stores, luxury shops, bars, cinemas, lawyers, cosmetic surgeons, and electronics shops can contribute to the quality of life. The region integrates town and country, connected by public means of transport. Most places are accessible within half an hour by bus, train and tram, or within an hour by bicycle. Regions manage their natural environment, such as rivers, lakes, coasts, forests and moors. In scarcely populated areas with no large cities, public service centers would evolve in an appropriate geographic location without dense urban settlements.



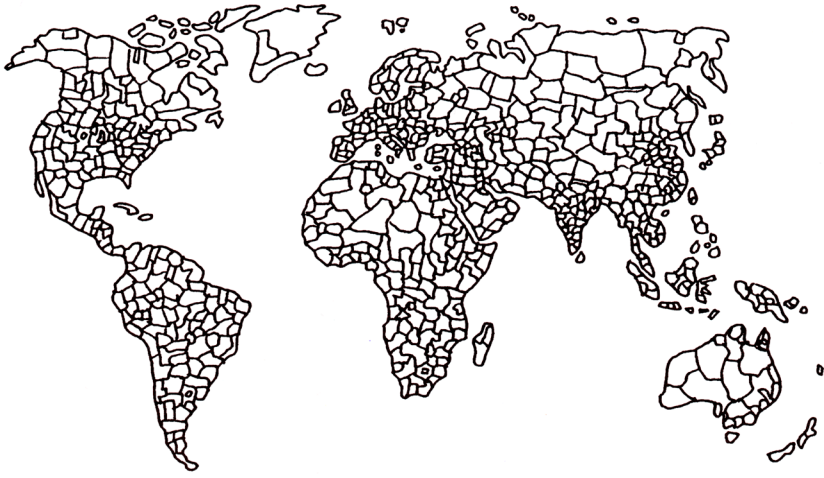
This is an image of a metrofoyer (on a site in Zurich): The central gallery is used for larger gatherings and events and there are bistros/bars/restaurants on both sides run by sister cities from all over the world. At the back there's a reception lobby of the city and its boroughs or institutions.

On the upper floor civic organizations, political parties, NGOs have their seats; there are meeting rooms that can be booked; there is an open urban think tank. Further up there is a panorama restaurant (with affordable prices) run by the city.

4. Territories (glomo4)

Territories correspond to an area of about 50'000 km² (which is a square of 225 km) inhabited by around 10 million persons. A territory comprises 5 to 10 regions. Territories are purely functional; meaning they're non-ethnic, a-cultural, and non-linguistic. Whether historical borders are respected or not is a matter of topographic convenience (rivers, mountains etc.).

A territorial module of this size and population is ideally suited for larger scale services and systems, such as: energy (grid and power



A world of territories might look such as this (borders are random).

stations, dams), train networks, advanced research and study facilities, justice/police, banks, security (army), construction, pharmaceutical and other vital industries. They are big enough to create resilience, to guarantee emergency interventions and to serve as pools of social solidarity for individuals, neighborhoods and the other modules. As autonomous macroeconomic units they manage their own currencies, central banks, borders (socio-osmotic membranes), and establish ecological and social regulations.

Most places in a territory can be reached by train within two hours, which makes everyday synergies and communication efficient. Their size is suitable for transparent democratic processes and institutions.

Being large enough for a certain material autonomy and smaller than the big old nations, they diffuse political power disparities and are the basis of globally balanced institutions of cooperation.

Territories can ally themselves with other territories in bilateral or multilateral partnerships and federations (such as CERN, continental train networks, power grids, industrial components, medical products).

5. The planet (glomo5)

The planet's 800 territories form a global alliance for joint cooperation in all concerns of planetary importance by setting up a range of agencies, such as:

- ♦ monitoring and protection of biosphere
- ♦ organizing cooperation and solving disputes between territories
- ♦ regulations of boundaries and borders
- ♦ distributing global resources
- ♦ world bank
- ♦ emergency aid (natural disasters, epidemics, food, medicaments)
- ♦ sharing of know-how
- ♦ research
- ♦ space exploration
- ♦ global court
- ♦ security and sanctions
- ♦ production and sharing of technical components, algorithms, materials
- ♦ transport systems
- ♦ communication systems (public internet, globonet)
- ♦ cultural exchange

As the present global institutions are in a crisis of legitimacy, a new organization will have to be created. Transparency, democratic structures and equal power/size of members are essential.

A legislative/representative assembly of 1600 delegates (two from each gender and territory) seems plausible, with an executive board of 25 members running the agencies.

On the whole global activities will shrink in amount and importance, as small and local ones become more efficient thanks to digitization, automation and the sharing of knowledge and information via the globonet.

Summary

A global distribution of economic spheres, functions and modules could look such as this (neither completeness nor priorities are intended):

| <i>Module</i> | <i>Public services</i> | <i>Cooperative/private</i> | <i>Household/food</i> |
|------------------------------------|--|---|---|
| Planet (glom05) | Fuels, minerals, energy, weapons, seed banks, pharmaceuticals, medical technology, machines, vehicles, airplanes, globonet, research+development, emergency aid, bank | Software, music, film, art, spirits, wine, luxury goods, haute couture, literature, toys, salts, cosmetic products | coffee, tea, cocoa, tobacco, nuts, beans |
| Territory (glom04) | Energy, trains, boats, medicines, medical technology, industries, engines, research, bank, universities, glass, paper, paints, cooperatory, water, emergency funds, media, army, police/courts | Wine, circus, spirits, sausages, cheese, algorithms, watches, clothes, chocolate, matches, knives, spices, bicycles, coffee machines, music, opera, grand hotels | Salt, oils, preserves, beer, wine, sugar, seeds, agrocenters |
| Region/ big city (glom03) | Energy, water, public transportation, streets, hospital, theatre, building materials, light industries, bank, textiles, museums, education, stadiums, police/court, sports facilities, cooperatory | Fashion designers, restaurants, cinemas, bars, cabarets, theatres, galleries, cigars, shoes, bags, cutlery, ceramics, furniture, hair stylists, hotels, cosmetic products | Agrocenters, dairy products, fish, sausages, honey, fibers, chocolate |
| Borough/ small town (glom02) | Energy, water, public transportation, primary and high school, vocational college, kindergarten, health center, ABC, police, cooperatory, makersplace, cemetery, libraries, | Clothes, hats, accessories, restaurants, bars, cinemas, computers, lawyers, jewelers, furniture, books, hair dressers, small hotels | Globonex (fair trade store), beer, wine, vegetable gardens, herbs, berries, chickens, flowers, pigs, bees |
| Neighborhood (glom01) | | Workshops, bars, yoga | Food processing, microcenter, housing, laundry, furniture, tools, repairs, building maintenance, simple care, intranet, library |

Institutions

The suggested administrative institutions of each module are shown in this table:

| <i>module</i> | <i>legislative</i> | <i>executive</i> | <i>direct democratic rights</i> |
|--------------------|--------------------|--------------------|--------------------------------------|
| neighborhood | general assembly | board (7 persons) | right to call for general assemblies |
| borough/small town | big council (100) | small council (7) | proposition/referendum |
| region/big city | big council (100) | small council (7) | proposition/referendum |
| territory | big council (400) | small council (11) | proposition/referendum |
| planet | big council (1600) | small council (25) | – |

These institutions represent the traditional and long-established mix of direct democratic assemblies, bodies of delegates and plebiscitary instruments. They are based on fundamental democratic rights, such as universal voting rights, transparency, freedom of expression and association. Plebiscitary instruments should not be used in modules bigger than territories.

Transformation and finances

The means and resources to realize the proposal are presently available on a planetary scale. A certain level of global equality is preconditional for the trustful cooperation of the modules.

Whereas old industrial societies mainly in the planetary north often display hypertrophic infrastructures, essential equipment is lacking in the south. A redirection of global investment towards the global south is therefore needed for a transitional period.

If we assume that the transformation of existing structures into neighborhood-communities (glom01) costs 5 million dollars each, we'd need an overall investment of 80 trillion dollars. This corresponds to the annual global GDP. Even spread over several years such an expenditure (= mobilization of material resources) doesn't seem viable.

As the creation of functional neighborhoods in rich countries can easily be financed within the usual investment fund, we'd only need extra funds (i.e. the resources provided by them) for the poorest 30 %, 2.5 billion persons, or 27 trillion dollars. Spread over a period of 20 years, this means 1.35 trillion per year, which seems feasible.

- In the year 1972 the rich countries agreed to contribute 0,7 % of their GDP to development aid, which they never did. 0.7 % of the global GDP is 560 billion dollars.
- In the year 2016 the global expenditures for the military forces equated 1.686 trillion dollars.
- The Iraq-war cost 3 trillion dollars.
- In 2015 development aid was 131.59 billion dollars.
- According to World Bank estimates, remittances totaled 585.1 billion dollars in 2016, of which 442 billion went to developing countries.
- In the year 2006 the net reflux from the planetary south to the north was 658 billion dollars.
- A worldwide Tobin-tax of 0.01 % on financial transactions would yield about 125 billion dollars.
- At least 18.5 trillion dollars is stowed away by wealthy individuals, representing an annual tax loss of more than 156 billion dollars worldwide.
- At present there are more than 2000 billionaires living in 20 countries. An annual wealth tax levied at just 1.5 % of their net worth would raise 74 dollars billion each year.

The fact that we, the 99 per cent, own only half of the global assets may sound scandalous, but it can also be seen positively: since we own half of the assets it's about time that we did something useful with them. We do not need to expropriate or tax the billionaires in order to finance our transformational plan. Some of the 99 % actually receive decent wages and could well afford to contribute to the financing.

Take Switzerland as an example: 1.35 trillion correspond to 9.045 billion (francs or dollars), proportionally to the 0.67 % that Switzerland contributes to the global GDP. The Swiss workers earning 400 billion per year, this would result in 2.26 %, or 142 francs of the median monthly wage of 6300 francs. Not too much to save the world, really!

Initiatives to implement the proposal can be started on all levels/modules at the same time.

Some useful books

- ♦ Boudet, Dominique (Ed.), *New Housing In Zurich, Typologies for a Changing Society*, Park Books, 2017
- ♦ De Angelis, Massimo, *Omnia Sunt Communia*, Zed-Books, 2017
- ♦ Dolan, Paul, *Happiness by Design*, 2017
- ♦ Helfrich, Silke (Hg.), *Die Welt der Commons*, transcript Verlag, 2017
- ♦ Jackson, Tim, *Prosperity Without Growth*, 2009/2017
- ♦ Kahneman, Daniel, *Thinking, Fast and Slow*, 2011
- ♦ Largo, Remo, *Das passende Leben*, 2017
- ♦ Layard, Richard, *Happiness: Lessons From A New Science*, Penguin, 2011
- ♦ P.M. «The Power of Neighborhood» and the Commons, *Autonome-dia*, 2014
- ♦ Nelson, Anita; Schneider, François, *Housing for Degrowth*, 2018
- ♦ Neustart Schweiz, *Nach Hause kommen*, 2016
- ♦ Raworth, Kate, *Doughnut Economics, Seven Ways to Think Like a 21st-Century Economist*, 2017
- ♦ Rosling, Hans, et.al., *Factfulness*, 2017
- ♦ Streeck, Wolfgang, *How Will Capitalism End?* Verso, 2016
- ♦ Tiddens, Harris C.M., *Wurzeln für die lebende Stadt*, 2014
- ♦ Wilkinson Richard G. and Kate Pickett, *The Spirit Level: Why More Equal Societies Almost Always Do Better*, 2009
- ♦ Widmer, Hans (Ed.), *Die Andere Stadt, Paranoia City*, 2017