

Building the Urban Reef Construyendo el arrecife urbano

(Ensayo, Texto inédito)
Feike de Jong

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DOI: <https://doi.org/10.24275/FZIX7082>

Acerca de Feike y su arrecife “Chilango” ¹

Conocí a Feike de Jong en el marco de un seminario internacional sobre informalidad urbana, celebrado en la Ciudad de México en 2010. Es un periodista especializado en cuestiones urbanas y maestro en filosofía. Cuando habla de la Ciudad de México lo hace con una peculiaridad profunda de holandés que es, y con una agilidad sorprendentemente chilanga. Y no es para menos, pues con mucho coraje, Feike decidió aventurarse a realizar un recorrido, que casi nadie haría, el de recorrer “a pie”, toda la periferia de nuestra gran ciudad en 51 días (del 1 de noviembre al 21 de diciembre del 2010). Confraternizando su particular paso con los pasos de múltiples y heterogéneos grupos sociales que construyen día a día la ciudad.

De allí, surge su concepto del arrecife urbano. Visto en las diferentes formas de colonizar la ciudad, que recuperan en el proceso, la riqueza cultural sus orígenes poblacionales, como una roca, una colonia joven y pujante. En su recorrido Feike identifica muchos grupos de “rocas” colonia, emergiendo casi a flor de la mancha urbana (o mar urbano), aspectos que lo inspiran a realizar algunos ensayos de análisis e interpretación, que en una primera versión fueron publicados en diciembre del 2010 por CNN México y el periódico Financiero.

Dado la relevancia de este recorrido pedestre de la periferia urbana, en mayo de 2013 lo invitamos a nuestro posgrado en diseño, Universidad Autónoma Metropolitana (UAM), para participar en un rol de conferencias del Seminario de Estudios Urbanos, realizadas durante el periodo de primavera 2013 (Llamado particularmente Espacio Urbano y Argumentaciones Interdisciplinarias, aprobado en sesión 455 del Trigésimo Noveno Consejo Divisional el 9 de mayo de 2013), durante el cual Feike se aunó a los diversos investigadores invitados ofreciendo en particular una conferencia-taller de su experiencia, ámbito en el que compartió, enseñó y provocó diferentes discusiones colectivas.

Con la idea de concretar esta experiencia realizada en nuestra Universidad, Feike nos envía sus últimos ensayos en conjunto intitulado: Construyendo el arrecife urbano (Building the Urban Reef). Al cual auguro desde ya, una cálida bienvenida en el ambiente académico, que creo que no solo nos comparte un valioso estudio etnográfico peculiar, sino que nos plantea muchas interrogantes y reflexiones a quienes estudiamos el fenómeno urbano.

Elías A. Huamán Herrera

1. Gentilicio popular que refiere al habitante de la Ciudad de México.

About feike and his “chilango ” reef ¹

I met Feike de Jong in Mexico City during the year 2010, in an international seminar about urban informality. He's a specialized journalist in urban matters and a philosophy teacher. When he talks about Mexico City, he does it with a certain Dutch peculiarity and with a surprising agility that makes him sound almost like a “chilango”. This fact isn't in vain, since Feike bravely decided to begin an adventure most people wouldn't dare: Walking the surroundings to our big city in 51 days (From November 1st to December 21st, 2010). He fraternized his peculiar steps with the walking of multiple and heterogeneous social groups that build our city day by day.

From this adventure, he founded the concept of a “Chilango reef”. Seen from the different ways of colonizing the city, he tries to recover the cultural wealth of the population's origins in the process. He compares the new neighborhoods to a type of rock. During his journey, he identifies many different groups of “rocks” (neighborhoods), emerging almost up to the urban development (or urban sea). These aspects inspired him to make some analysis and interpretation essays published as a first edition during December 2010 through CNNMexico and the financial newspaper.

Due to the relevance of the walking tour he took to the urban surroundings, during May

2013 we invited him to our design mayor degree course taken in the Autonomous Metropolitan University or in Spanish “Universidad Autónoma Metropolitana (UAM)”. He was part of the staff that participated in the Urban Studies Seminar (in Spanish “Seminario de Estudios Urbanos”) giving conferences during the spring of 2013, in the Urban Space and Interdisciplinary Arguments. This particular space was approved in the 455th session of the thirty-ninth Divisional Counsel on May 9th, 2013.

During these conferences, Feike offered a very unique workshop in which he brought together his ideas with a diverse number of guests that were researchers and shared his experiences. Through this space, he taught and promoted collective discussions about the topic.

With the main idea of consolidating the experience lived in our university, Feike sent us his last essays with the title: “Building the Urban Reef”. These essays got a warm welcome in the academical environment since it doesn't only share a valuable ethnographic study, but also raises questions and reflections to those of us who study the urban phenomenon.

Elías A. Huamán Herrera

1. Popular adjective referring to the people that live in Mexico City.

Sobre a Feike e seu recife "Chilango"¹

Eu conheci a Feike de Jong no âmbito dum seminário internacional sobre a informalidade urbana, realizada na Cidade do México em 2010. Ele é um jornalista especializado em assuntos urbanos e tem mestrado em filosofia. Quando ele fala da Cidade do México o faz com uma profunda peculiaridade holandesa, e uma agilidade surpreendente de Chilango. E não admira, pois, que com muita coragem, Feike decidiu aventurar-se num percurso que quase ninguém faria: fazer o percurso todo a pé por toda a periferia da nossa grande cidade em 51 dias (um de Novembro a 21 de Dezembro 2010). Confraternizando com seu particular passo os passos de vários grupos sociais heterogêneos que constroem a cidade todos os dias.

A partir daí, o conceito de recife urbano surge. Que está visto nas diferentes formas de colonizar a cidade, que recuperam no processo, a riqueza cultural de suas origens da população, como uma rocha, uma jovem e próspera colônia. Em seu caminho Feike identifica muitos grupos de colônia "rocha", emergindo quase à flor da área urbana (ou mar urbano), os aspectos que o inspiram para fazer alguns ensaios de análise e interpretação, que em uma primeira versão foi publicada em dezembro 2010 pelo jornal O Financiero e CNNMéxico.

Dada a relevância deste passeio a pé na periferia urbana, em maio 2013, no-lo convidamos para o nossa aula de pós-graduação, Universidade Autónoma Metropolitana (UAM), para participar numa conferência do Seminário de Estudos Urbanos, realizada durante a primavera 2013 (particularmente chamado Espaço Urbano e Argumentação Interdisciplinar, aprovado em sessão 455 do Conselho Divisional Trigésimo Nono em nove de maio de 2013), durante a qual Feike juntou-se com vários pesquisadores convidados, oferecendo uma conferência-workshop de sua experiência, âmbito em que ele compartilhou, ensinou e levou várias discussões em grupo.

Com a idéia de concretizar esta experiência realizada em nossa Universidade, Feike nós enviou os seus recentes ensaios conjunto intitulado: Construindo o recife urbano (Construyendo el arrecife urbano). Ao qual eu prevejo a partir de agora, uma recepção calorosa no ambiente acadêmico, acho que ele não só compartilha um estudo etnográfico único valioso, senão que levanta muitas questões e reflexões para o estudo do fenômeno urbano.

Elías A. H. Herrera



Urbanism and the urban reef

People make cities. For this reason urbanism is permeated by ethical questions: What is a good environment for living? What are the minimum conditions for leading a good life in a city? How responsible are we as citizens for the communal urban environment? These are the philosophical conundrums of urban living. Precisely because they are difficult questions, they are easily overshadowed by more practical issues which don't require the exploration of philosophical horizons. It is easier to contemplate positioning a city in the global economy or assuring parking space in city center or other items from the analytical checklists of things to do than figuring out what is a good life. Nonetheless, these things only have value in the underlying context of what is a good life and therefore the question what is a good environment for life in urban society?

So on the one hand urbanism can be viewed as a branch of ethics, the discipline dedicated to the question how man should live. Most debates one sees online regarding urbanism implicitly are ethical or aesthetical in nature.

On the other hand urbanism is the science of how cities as objective phenomena change. The vast grey sea of buildings flowing over volcanoes in the Valley of Mexico is an almost organic entity. And like any organism it is subject to the general laws implicit in its structure. These are directly impacted by the convictions and culture of the people propelling the changes as well as the material restraints on making changes to the city.

These two senses of urbanism are easily confused, hence this notification that this text mostly falls within the second sense of urbanism, the investigation of urban change.

1. Em linguagem popular refere-se aos moradores da Cidade do México.

The framework and terminology we use when discussing cities are crucial because of the assumptions which are inevitably implicit within them. In the article I wish to discuss one particular kind of urban development: the "informal" self-built urban housing around Mexico City. I propose to call this the urban reef, a metaphor evoking the complex interaction of myriads of individuals slowly building up their houses over the course of their lives. The concept of the reef, a macrostructure made by up by myriads of individual actions, diffuses the underlying tension between "formal" and "informal" construction or planned and unplanned development.

The term reef city covers the following urban phenomenon: neighborhoods of houses which are self-built by the people living in them, which do not adhere to central planning rules and in which the majority of the houses are completed over a good portion of the working lifespan of the owner. These areas in the end are consolidated and lose many of the characteristics which make them most interesting. Therefore it is probably worthwhile to distinguish between the dynamic urban reef under construction and the static one, consisting of consolidated areas which are themselves not very different from "normal" suburban neighborhoods in their function.

Since the reef city is an example of extreme decentralized urban design, I think it is worth identifying as a theoretical construct in itself marking one end of the continuum whose other extreme is the completely centrally planned city.

Aristotle versus Plato in the periphery

If a completely centrally planned neighborhood is an analogue to the Platonic notion of reality

materializing the ideal blueprints in a world of ideas, the reef city is its Aristotelean antipode, a city which is gradually impelled to its potential from the bottom-up. The design of a franchise store which repeats itself with small variations in different sites all over the world, though not quite perfect, and permanently eroded by reality, is an example of Platonic creation. A self-built house growing like a seashell with the family inhabiting it over the years is its Aristotelean counterpart. On the one hand planning and power make ideas become reality; ideas can project themselves great distances materializing as a McDonalds on street corners all over the world. On the other, houses are slowly erected in vacant lots by individuals who are investing their life's earnings in a building to which they only have an informal claim to the deed.

The periphery Mexico City is a battlefield between top down systems of planning and the bottom up growth. Malls and formal housing units stand on one side, informal, self-built districts on the other. Corporate franchises and street stalls battle for space on the major commercial thoroughfares. The reason for this philosophical analogy is that these are two very different processes of creation within the urban landscape, one seeking the perfection of an ideal taken from a blueprint and another stumbling haltingly towards its potential.

Even within the realm of plans and blueprints there are flaws: such as when laws and jurisdictions contradict each other creating lucrative turbulences for corrupt officials. And what Plato gives Plato takes; the money spent in these malls moves outside of the periphery as fast as it can be carried. Meanwhile, its bottom-up counterpart throws up vast, stretches of grey cinder block housing with little eco-

nomic action beyond a repertoire of small grocery shops. The total effect is that of chaos and incoherence.

This philosophical analogy is naturally a simplification of the complicated balance of power in urban development. It serves primarily to illustrate the reef city as part of a spectrum. When we speak of unplanned development the question should be: who designs what on the periphery of Mexico City?

Informality

The reef city is indelibly linked to informality, precisely because there is no master design behind it. Informality is a term with many uses. In the context of the reef city I will use a definition based on the role of the state in the design of public processes and spaces.

One of the most important roles of the state is the design of public spaces and processes. Roads, squares, elections, the movement of people, taxation and such are all processes and things designed by the state. And public or semi-public processes are often devolved by the state to other actors such as developers or businesses as when formal ownership of a property gives certain power over the design and use of that space. This formal ownership of property is something which needs to be registered with the state, which is enforced by the state and which can be rescinded by the state. In this sense, the state devolves the right to design a space and the processes within it to its formal owners. The role of the state in the design of public processes and spaces should not be confused with other roles of the state such as the administration of justice and national defense.

In the context of the urban reef I propose to define informality as:

The condition of subverting the design by the state, or those organizations to which the state has devolved this function of public processes and spaces.

This definition in particular covers most of the things which the word informality normally is used for, graffiti, street vendors, jay walking, playing music without a permit, squatting and so on as well as showing the relation of informality to the formal structures of planning.

In the urban design of the periphery of Mexico City many rules and regulations are broken by developers to whom the state has already ceded the responsibility for the design of those areas. The distinction between "formal informality" and "informal informality" is worth noting. Though in real terms or even legal ones the infraction of the formal developer and the informal developer may be equally significant, the negotiating position of the government after having ceded development rights to an organization is much weaker than its position with regard to a truly informal development to which it has ceded nothing. De facto it is much more difficult for the government to complain about informal behavior of formal developers than informal developers. And in fact "regularization" of informal neighborhoods in Mexico has often boiled down to the devolution of rights originally usurped by organizations of colonists during the process of edification in return for votes or money.

Questions of design, aesthetics and ethics

Since the urban environment is made by people it is all designed one way or another. When we

consider the concept of design, we may judge its qualities with regard to whether it is functional and beautiful for its users. If a design is both functional and beautiful for its users we may consider it to be successful. The absolute failure of design is when it is both ugly and ineffective.

In the case of urban design this means that the city should be designed in such a way that it is conducive to a good life and that it leads to a beautiful city. What is a good life and what is beautiful is of course dependant on the myriad of complex factors determining the opinion of individual users and the wider communities of which they are a part.

All changes made in a city are improvements from the perspective of the people making them. But what is an improvement seen from the set of interests of one person is not an improvement when seen from the perspective of another.

Any construction has different functions for different people depending on their interests. For a developer a mall is good to the extent that it is a plentiful and reliable moneymaker, for a teenagers it may be a meeting place, for others a place to buy supplies and in the same manner a church can be many different things to many different people. Grosso modo, the most important function of a building for people who do not interact with it directly is to be beautiful, since they never get close enough for it to display its other functionalities.

Generally buildings are made with the interests and functionality of the owner in mind, sacrificing part of these interests to address the interests of other people who do not contribute to the financing or maintenance of the building is rare. The integration of buildings into the built environment means incorpora-

ting the interests of many more people in the design, while in reality these people do not contribute to the construction of the building directly. In short integration may require the sacrifice of the short term functionality of the building for the effort and expense disbursed on elements which do not benefit its direct function for the builder.

In the same manner the totality of a neighborhood has many different functions depending on the role it has in a person's life: market, living place, place to visit or place of work; and the interests behind these different functions may not necessarily be compatible. The conversion of a neighborhood in a marketplace may be resisted by residential interests and even within the retail sector the interests of small shops and large retail outlets are sharply divided.

Urban coherence

In order to have some indicator of whether a neighborhood functions well with regard to the interests of its inhabitants, I will introduce the concept urban coherence. The relative balance of these interests distributed over the geographic space of any stretch of city determines its coherence. In the context of the reef city I will consider urban coherence to be the measure of whether the spatial distribution of these interests fortifies them. In a coherent urban environment different interest groups interact in a manner amplifying their strengths, as when a residential market is well served by the commercial sector and the productive sector provides jobs. In an incoherent urban environment these different interests are not represented and do not fortify each other.

The concrete measure of urban coherence is how far, expensive and time-consuming the satisfaction of each individual's interests is. In practical terms urban incoherence implies spending a great deal of effort on movement within the city. In Mexico City many of the peripheries are dormitory cities and people can spend hours travelling from the periphery to the center to work. Malls outcompete small neighborhood shops and consumers may have to drive relatively large distances to get any specialized consumer good. Entertainment venues are scarce and those that do exist cater to largescale events requiring travel to get to them.

By the measure of expenditure of time and money on travel the periphery of Mexico City is relatively incoherent. There are certain factors contribute to the incoherent urban design of the reef city in the peripheries of Mexico City.

The political failure to mediate these interests and different perspectives on functionality is one factor in the construction of the incoherent urban landscape created by the growth of the Greater Mexico City Area .

Secondly, many of the organizations controlling the design of buildings are not in the neighborhoods where they are built, hence the greater part of the design itself of a McDonalds franchise or Mormon chapel is not undertaken in that neighborhood, the design comes from the organization's head offices. It is difficult for the decision makers in the globalized organizations controlling such construction to know the direct context in which they are building and even if they did know sacrificing the economic function of a building to integrate more communal function would go against their professional brief. And so a single design can repeat itself all over the world with small variations irrespective of the built and social context.

Thirdly, many of the buildings are built with a strictly economic considerations, after a certain length of time they make their return on investment and when they no longer perform their function due to changing circumstances and norms they can be renovated or destroyed. This makes investing more than the minimal amount required for the optimal fulfillment of the building's direct function for the builder to fulfill social or other functions even less attractive.

Fourthly, the car as a means of transport means that buildings have greater functional specialization, people are either in the car or where they want to be. The reason for being in that place often corresponds with the functional specialization of buildings, in the end most of the city is seen in transit. When a building has a high degree of functional specialization its integration in its direct neighborhood with its multiple functionalities and interest groups lessens.

Fifth, the price for being to settle informally and build one's own house is that one has little say in public services and spaces. The economics of informal settlement steer very much towards using as much land as possible for residential purposes and not creating public spaces which in the end have no buyer. In the rush to settle space for schools, offices or larger shops can easily be forgotten and even go against political and economic interests which in the end are served by the settlement by as many people as possible of an area, as a voting district and market. As a consequence informally settled self-built neighborhoods can have little internal structure.

Sixth, the demographic and political organization of incoming inhabitants makes for relatively homogenous residential neighborhoods, though the economic fortunes of people once

they get to the city may vary enormously. The newcomers are often clustered according to their region of origin and have a similar educational and cultural profile. Hence everybody is competing to service the same, pretty basic, interests. In practice this means that there are many small grocery shops but no book stores or specialty shops because not enough people are interested often enough in these products. When they do however require such a product they may have to travel to the center of the city to get it.

Seventh, Mexicans are willing to make great sacrifices in order to live close to their parents and are willing to travel great distances to work if necessary. This means that people do not naturally gravitate to living closer to their work places and that inward migration is inhibited.

Eighth, contradictions between federal, state and municipal regulations may imply the loss of whatever coherence they were intended to generate.

People in the urban reef

Since the self-built houses which constitute the urban reef are per definition new we can divide the inhabitants of the area constituting the reef city into four groups.

First of all there are people belonging to households which have always been in the area. Villages which have been swallowed by the city are integrated into the heterogeneous whole of the urban reef, and the natural growth of the village contributes to the growth of the city.

Secondly, the urban reef may have inhabitants from households from more central areas of the city. For various reasons the periphery

may be attractive for people living in central areas of the city who decide to build and live on the edge of the city.

Thirdly, there are people who are coming from rural areas outside of the city who settle in the periphery. These people are part of the process of urbanization which has been an important demographic tendency in Mexico.

Finally there are people who come from other cities who for one reason or another arrive on the periphery of Mexico City.

Naturally each of these groups has different characteristics and undergoes different transformations during the edification of the urban reef.

The original inhabitants

The original inhabitants, as the owners of the lands on which the urban reef is built, inevitably are paid some amount of money, even if it is a little compared to the economic value of the land in the long-term. The combination of local capital and new inhabitants in the area who are building their houses creates opportunities for reinvestment in shops and services for the growing new market of the urban reef by the original inhabitants. Hence the old village centers with their markets and shops are apt to become commercial centers within the new areas. The success of these commercial centers depends on their ability to compete with supermarkets and malls which sooner or later must arrive.

One of the obstacles to the growth of a metropolis is resistance by surrounding rural areas to selling their land. This in turn has a great deal to do with the culture and economy of each particular village. In the Valley of Mexico these

villages tend to be very cohesive and maintain their identity decades or even centuries after having been swallowed by the city, united by village religious festivities and inter-marriage. These original village communities can also be divided into those on the routes between the city and other cities and those off them. Villages on commercial routes have different economic and growth dynamics than villages or village systems which do not connect cities.

Finally original villages have services both formal and informal which make them attractive places to settle. For example, lynching of criminals is something which occasionally take place in the villages surrounding Mexico City. This naturally serves as a deterrent which is attractive for newcomers who are worried about crime.

People moving outward from the center

The edge of the city has one great asset: space. Many people in all social classes find the presence of some nature desirable especially for their children. Hence, they may decide to move to the periphery for the sake of a more suburban lifestyle. In economic terms it may be so much cheaper to buy or build a house on the edge of the city that the house itself becomes an incentive to move outside of the center. And the rapid urbanization of the reef city may create economic opportunities which motivate a move to the periphery.

Because they have already established themselves in the city and were at least paying rent they are likely to have more money than the people coming in from the countryside. They are also in a better position to explore the periphery before choosing for a certain location.

Hence, they can make a more informed choice according to their budget and are likely to seek out areas which are more urbanized. This also means that they do not need to move to places close to family members or acquaintances, in effect rejoining a pre-existing community.

Some families can even create a patrimony by moving outwards over several generations. As the city grows the more central properties rise in value and building anew on the edge is cheap. This strategy of outwards speculation can also be consciously followed by real estate companies which can link their economic fortune to the growth of the city's sprawl.

Most often people moving outward are making a lifestyle choice. Hence the quality of life in the place where they settle can play a greater role in their choice of location. For this reason they are more likely to compete with the original inhabitants for locations and services which they perceive as augmenting their quality of life. In the case of wealthy people this means that they concentrate in a few prime locations. And even less wealthy people are likely to seek out greener areas in accord with their suburban dream.

People coming in from the countryside

Naturally, people escaping the poverty in the countryside do not just get off the bus in an unknown megalopolis and find a place to squat. Rather they arrive to the city and stay with family members or people from the same village; From that position they can then seek work and a place to live. Hence, they are likely to form geographical communities based on their place of origin in the countryside.

Since their skill set is basically rural they are not well-adapted to the urban economy and culture and there are few skilled jobs they can do. Typically they might become salesmen in Mexico City's ubiquitous streetmarkets or tian-guis, or carriers in the fixed markets wheeling goods and produce from warehouses to stalls or nannies and cleaners in middle class houses. Many of these occupations are controlled by groups and working them implies becoming a member of an organization. These organizations, which are often formally incorporated as NGOs, in turn are political players whose votes are courted or bought during electoral campaigns. The newly-arrived would be expected to participate in political events and mobilizations together with all the other members.

In a similar manner the newcomers are likely to find land on which to settle through leaders of informal settlements, typically also the heads of NGOs of colonists.

The main drive for people from the countryside is to incorporate themselves into the modern urban world and enjoy its empowerment and material benefits. To be a farmer (labrador) Country person (habitante del campo) is considered to be underdeveloped and backward, far from the ideals transmitted by advertising and the media. In this sense, the movement from the countryside to the city implies the desire for personal transformation much more radical than that of someone living in the city and the ideals which are held up to them are those of US consumer society. Aside from the home a great deal of effort is spent in becoming a "modern" consumer. So products, brands and practices associated with social advancement are highly popular despite relative poverty.

What makes the arrival from the culturally relegated countryside to the city or megalopolis so radical is the assumption of a new identity this implies. The cult to the local saint, the place in the village hierarchy, the land which has been in one's families for centuries – all these disappear and something must fill the vacuum. The trappings of a new identity are of course available in commercial culture, but also in religious conversion or membership in new distinct organizations.

This group of rural arrivals to the metropolis is hence a great market for purveyors of identity.

People coming in from other cities

Intercity migration seems rare on the periphery, and it seems safe to say that an ideal location for somebody coming into the city would be close to work and/or family members. This would probably entail a more established central location than the reef city.

Land speculation

A group with a large enough impact to warrant mention are the physically absent land speculators from outside of the reef city, who buy vacant lots betting on the rise in value which will inevitably occur when that lot is swallowed by the city. These speculators in turn cause prices in an area to rise by taking land off the market. At the same time the money they spend buying the land stays goes to the communities in the peri-urban zone. This money in turn can be invested in the development of the area by the locals.

Since speculators are vigilant about land invasion, the city grows around the lots they control; and the cheapest land is in the zone beyond the speculative areas. Speculation therefore causes less dense and more distant urban development. Also the more strategic the location the more valuable the speculative bet and the steeper the price rise as an area develops. Hence, speculators make it more difficult to plan urban development, because the most strategic areas are off-bounds for development while they are subject to speculation due to the difficulty of using eminent domain to expropriate these lots.

Finally, when these strategic lots do come on the market they are very expensive making them practically only affordable for commercial interests who have the money to buy them.

The vast open spaces of the edge of the megalopolis also afford the opportunity to make large speculative investments in very extensive plots of land. Since these plots are generally walled in to discourage land invasion they divide neighborhoods adding to the fragmentation in the urban reef.

Stages of Construction

There is a certain evolution of construction in the movement from the countryside to the city. In the more remote countryside people will make what are called ranchos or ranches. In mountainous or remote areas these are often not even connected by dirt roads to the road network. Out of necessity people have to build these themselves, since there is no construction industry or architect around and many times no way of getting materials to the site except by donkey. So to the extent that these places are built, often no more than a large

shed, they are built by people with their own hands. And depending on the type of agricultural activity people may spend large parts of the year living in these conditions.

In villages many of the houses will be built by people themselves but it is easier to hire specialists for certain more complicated features of the house such as perhaps plumbing. Building materials are also available making more complicated housing possible. Depending on the wealth and industry of a person more of the house may be built with that person's own hands – with poorer people naturally doing more or even everything themselves. The size of the village will also determine to what extent an architectural practice may be sustained.

In the centers of Mexican cities people naturally almost never build their own houses, because that would usually entail having to demolish whatever structure was already there. So there is a continuum from extreme rurality where all structures are built by people with their own hands to extreme urbanity where nothing is built by people with their own hands.

The people who have the greatest incentive to move from the countryside to the city are naturally the poor. This in turn means that the people arriving at cities from the countryside have the ability to build and experience of living in semi-permanent shelters. Also farmers from rural areas also are accustomed to shaping land and are able to prepare a site for construction. This makes settlement in the periphery of the city relatively easy for the new arrivals, if land is available. The shelters are then extended and upgraded as the years go by.

During this process of construction new skills are acquired. Once somebody has built their own home they can sell their services in the construction of the homes of others. And since there is a great deal of construction going on in the edge of the city –that is where space is– a large pool of people is formed who have the skills to build homes and who can in turn sell services and give advice to new arrivals who have started their house project. And so the reef city generates the skilled labor necessary for its growth.

Acquiring land

Though within the popular imagination squatting is as simple as seeking out a patch of land and starting to build in practice this does not seem to be how things work. The police will actually remove anyone who is reported to be building on property which is not theirs. The only way to avoid this is to choose site so remote and hidden that nobody knows that anybody is living there. Such sites are relatively rare in an area as densely inhabited as the Valley of Mexico, and in the end these sites may themselves be so inaccessible that they do not function as places of residence. Land invasion is a more complicated process.

It seems that there is strength in numbers and that informal colonization requires a relatively large number of participants to be successful; it is easy for the police to remove five people from a lot, removing 50 is a completely different type of operation. When the state controls and watches over territory, as is the case in the Valley of Mexico, the scope for individual opportunism in squatting is limited. However

the administrators of this state may be corrupt or politically opportunistic, and land tenancy in Mexico is notoriously vague, hence the sheer weight of numbers can work in the squatters favor when negotiating with authorities.

A second form of settlement is when a lot is sub-divided and sold by someone who does not have the legal right to do so but who is able to buy off the tolerance of the authorities. In this case “squatters” who have bought or are in the process of buying these sub-divisions are protected not by the weight of their numbers but rather by under-the table deals made by the people selling them the land. This form of informal colonization is already very close to the “formal informality” of developers who break laws and regulations in order to build what are generally acknowledged to be formal housing developments.

In either modality the “invasion” of informal colonists in any area is negotiated with the authorities. The intermediaries between the authorities and the informal colonists in the Mexican reef city may be the leaders of the organizations of colonists or the informal developers who sub-divide the land. In either case the protection of the individual informal colonist depends on the number neighbors who are in the same boat. For example informal colonists can band together and renegotiate terms with informal developers or authorities in order to have a stronger de facto claim to their land. And, if one informal colonist is removed from their land despite the informal understanding on which that person’s long-term claim to the land is based, this forms a threat for all the informal colonists around him.

These two modalities define two basic strategies for a poor person who has just arrived in the city and wants to start building a home.

The first is to seek out a leader or organization which has already successfully founded informal neighborhoods. When these leaders or organizations have enough new potential settlers they can plan a “land-invasion” using the political clout of their large settler base to negotiate the indulgence of local level authorities.

The second is to react to one of the many advertisements by informal developers offering low-cost land in the edges of the city. Though these lots may not really be owned by the informal developer or be zoned for residential use, the informal developer oversees their sub-division and sale.

In either case when the potential colonist has inspected the land he will have a reasonable assurance that he will be able to build on it without being carted away by the police after two days. And in either case the informal colonist needs to be part of an organized group in order to negotiate public services with the authorities. These organizations can arise before or after the actual occupation of the site. If the organization exists before the occupation of a site than the neighborhood may in some ways be seen as a franchise, part of a larger network of informal neighborhoods politically administered by some organization intermediating with authorities, examples of these from Mexico City are the Antorcha Campesina and Francisco Villa organizations which each have enough members to be players on statewide or even national political level, and which have outright political control of some municipalities.

These organizations fundamentally trade votes for public services. At the same time they can collect dues from their members and receive funding from the government. In order to receive funding from the government they

must be constituted as NGOs which is where they enter into the formal order. The leaders of these organizations can then pay themselves with the funds of the “local” NGOs.

Though urban planning is not a priority for any of the actors involved this complicated scheme of colonization belies the idea of entirely unplanned development. Such informal neighborhoods often cluster close to existing infrastructure because it is difficult for informal organizations to negotiate roads and other public utilities desirable even for ad hoc informal dwelling. They require colonization in groups as well as proximity to utilities in order to function.

Precisely the deficiencies in urban development can in turn be a source of power for the leaders of organizations of informal settlers and their political counterparts. When all public services or utilities have been introduced to a neighborhood these parties lose their hold over the informal settlers. Lack of urban development may arise not only due to lack of regulation, planning or funds, but also because of a lack of will on the part of the leaders of informal groups and their political counterparts.

Building

Self-building is also seen as a way of saving in a culture where the monetary economy and banks are not fully trusted. Instead of bringing money to the bank using it to buy building materials is a way of locking in value. So the house not only means that one is not paying rent, money which is “lost” or “wasted,” but also that as it is built up over time it becomes an inflation-proof form of saving, and as the city expands the value of the house increases with urbanization.

Neighborhoods consolidate in line with the economic success of the settlers and their ability to obtain public services from the authorities. If they do well houses will be built more quickly. On the periphery of Mexico City neighborhoods seem to consolidate in between 15 and 30 years. Within this span we can identify three stages.

At first the settler does not have a water tank or cess pit, though electricity may be tapped off from the lines. This means that he or she is basically camping out. Water needs to be carried to the house, wood may be used for cooking or gas bought in tanks, sanitary facilities are improvised. A water tank and cess pit may cost about 2000 dollars and until they are bought the house is merely a shelter on a dirt road incompatible with a modern lifestyle. In this phase investment by the people in their plot is minimal and hence issues such as relocation are much easier to negotiate.

In the second phase, once the cess pit and water tank have been acquired the house is ready for independent living. Water generally will be brought in pipe trucks by the authorities, often as a political favor. If funds are available for the decoration of the interior one might never know that there is no drainage or running water. Once the cess pit and the water tank have been acquired the household can prioritize other items or additions to the house. Fully completed houses will generally have three stories when they are finally finished.

Nonetheless outside public services are lacking, roads are unpaved, water runs off through ditches, there are no trees or sidewalks.

Finally these public services arrive and at the very end of the process the settlers home may even be regularized and he or she will have the title deed to a suburban home after perhaps 20 years.

Infrastructure

The beach heads for the growth of the reef city's infrastructure are paths and dirt roads. These naturally transition into the countryside, as the rural culture of trailblazing meets urban expansion. Public services significantly lag behind residential building and a house can easily stand in front of a dirt road for a decade.

The first service to be acquired is generally electricity which can be tapped off from overhead lines. Basically the limit on the length of these lines from the house is determined by the cost of cable. The first large appliance in any house generally seems to be a television.

The need for sewage drainage is taken care of by a cess pit and a water tank provides for water storage. The water is then generally brought in by pipe trucks which can either be privately hired or may be sent by the municipality as a public service. These pipe trucks may also be used in a form of electoral negotiation. Similar negotiations may finally lead to water mains being installed in the neighborhood at a far later stage.

Sidewalks are often built by the inhabitants themselves as their houses consolidate. Because the sidewalks compete with residential space they are generally very narrow and because they are built by different people they are very uneven. Most people walk in the road.

The next utility to be brought to the neighborhood is generally the drainage. These drain pipes are laid in ditches in front of the houses and serve as storm drainage and sewage drainage for houses and productive industries meaning that clean rain water is contaminated at the source. After the sewage drains water mains could potentially be laid.

The final and most decisive infrastructural change is the paving of the road in front of the houses. This development marks the absorption of the house into the city and its urban consolidation.

Each of these infrastructural additions naturally raises the value of the house and negotiations over these utilities are highly political.

Commerce

An important point in the development of the reef city is the availability of local jobs and sources of income, since travel times to the city centre can be very long. These travel times imply that children may be left alone large part of the day, that communities are semi-abandoned while people work and of course that people waste a large part of their productive day in traffic. Hence, the local economy is very important in that every job in the neighborhood has great added value, not only for the inhabitant who doesn't have to spend money on travel and who can be in the community but also for the community which at least has some people in it during the day.

The very isolation of newly founded residential areas promotes the establishment of commerce, since travel is expensive and time-consuming there is a margin in bringing goods to the area and selling them there, even if only to meet basic needs. The first shops which seem to appear are logically those selling construction materials, such as cement and bricks. The competitive advantage of being the first building supply store in a neighborhood under construction is evident and these building supply stores are often dedicated channels of distribution of the major cement companies,

such as Cemex, Apasco, Holcim, Cruz Azul and Lafarge.

During the consolidation process little grocery shops also spring up. Even though profits may be very low, the fact that most of the products are non-perishable such as cigarettes, soft-drinks and packaged baked goods, sweets and potatochips and the efficiency of the distribution networks of the companies supplying these goods means that they are an attractive and simple business for members of the family who stay at home, a small contribution to the economy of the household. Then as the neighborhood urbanizes small pharmacies, laundromats for houses without washing machines, sign painters and other somewhat more specialized services and retail shops open.

Finally, when the economy of the neighborhood is sufficiently developed supermarkets and even malls may be built in or close to the neighborhoods. Large malls and supermarkets are conceived to be reached by car though they are accessible by public transport. These in turn drive many of the small neighborhood shops out of business.

In the end the shops left in the consolidated residential neighborhood are those selling goods to people on foot, a kind of pedestrian economy revolving around things which are too insignificant to step in a car for, popsicles, sweets, a can of soda.

Macro-structure of the reef

The edge of the city has one great asset: space. Hence it attracts big things such as malls, distribution centers, factories, prisons, universities and garbage dumps. For any exceptionally large new structure or development, be it

residential or commercial, the edge of the city is a strategic location balancing access to the city's infrastructure and cheap land.

The same reasons make the edge of the city the home of the vast urban reef, the edge is the only place where there is space for this vast concrete labyrinth.

The edge of the city consists of two basic geographical types. The axial edge of the city is shaped by roads leading out of the megalopolis. The lateral edge of the city is that part of the periphery which lies against the countryside but which is not connected to it by through roads. These two kinds of urban periphery are very distinct in their development.

The avenue which in turn becomes a freeway out of the city is a prime location for any kind of building for which caters to automobile based commerce. Shopping malls, box stores, fast-food chains and carwashes cater to markets far beyond the local neighborhood. These avenues in their way are the linear "historical centers" of the reef city.

In the same way these avenues propel growth as they leave the city. It is always attractive to be the first shop available for people coming in from the urban hinterland. Hence, even when there is no real demographic reason for the city to grow there is always an economic reason to be the first pharmacy or auto repair shop when entering the city, leading to shops leapfrogging outwards along the highways.

The place where a peripheral road around the metropolis and a highway or road between the metropolis and another city meet is an even more attractive place for establishing commercial or productive activities. And since peripheral roads tend to be built after a metropolis growth makes routes around the

city necessary these peripheral roads create new spots with important logistical potential, which attracts business or industry, namely the place where traffic leaving and entering the city crosses traffic going around the city.

In this manner the places where highways cross the edge of the city are also the places with the most diverse market on the edge. The people to whom goods can be sold where a freeway leaves the city are a sample of the city's whole population, rich or poor. This means that these areas offer more economic opportunities. If a food stand is all one might aspire to own on most places on the edge of the city, an upscale restaurant may well be possible on the spot where the highway leaves the metropolis because of the variety of potential customers crossing that space.

Hence, the axial edge of the city is inherently dynamic as well as being the area of the city most suited to large scale land speculation. Hence, the edge of the city along the freeways is divided up by large structures or empty fields being held for speculation and difficult to navigate on foot or bicycle.

Due to its location the lateral edge is logistically uninteresting. Not many people go there who do not have a specific reason for being there. The lateral edge therefore does not develop commercially, though it may house public services such as prisons or garbage dumps which do not require prime locations in logistical terms. When the lateral edge consolidates there is even less economic activity there meaning that it in the end generally only has a residential function, whose quality largely has to do with how well the inhabitants have done in the course of their economic lives.

Both these kinds of edge have different problems. The lateral edge basically is plagued

by problems of residential life such as reliable water supplies, travelling distances, the availability of schools and insecurity. The axial edge on the other hand is the scene for out-of-control development, sprawl, speculation, visual contamination and traffic congestion.

Security in the reef

The dynamic of houses under construction, often lacking walls or windows and therefore very insecure also marks the social development and many parts of the reef city have neighborhood watches, as well as large numbers of guard dogs in the streets. This same neighborhood organization can make it very difficult for the police who are often perceived as corrupt to operate in them, as they may be non grata. Sometimes a neighborhood organization becomes a criminal organization and the sense of neighborhood solidarity turns against itself. Criminals may be protected or later generations who have not undergone the foundation process may lack this sense of solidarity and start preying on neighbors.

For the reason of settlement by group there is also a strong sense of territoriality fortified by the political leaders of the settlers who negotiate public services with the authorities. This does not mean that they are hostile or inhospitable just that there is a usually strong awareness and proprietary sense of the neighborhood and its boundaries.

Another driver of insecurity in the urban reef is the absence of parents making long commutes to the city center to work, meaning that children may grow up without supervision. Lack of facilities for sports or cultural activities mean that children who are left alone have few constructive outlets for their energies.

The same strategic properties of the fortress and watchtower also hold within the reef city with regard to organized crime which is a particularly big problem in Mexico. The entrances of highways into the city have a strategic importance for criminal organizations and seem to attract intergang violence. In the same way residential housing units which are segregated by walls from the rest of the city and may only have one or two entrances also can become fortresses. The informal counterpart of the formal housing units would be informal neighborhoods which due to topography have few entrances and commanding positions from hills.

The psychology of auto-construction on the reef

In general terms auto-construction seems to be looked upon favorably in Mexico's popular culture in which it is considered a practice reflecting hard work and sense of responsibility. The house is considered to be patrimony a legacy which will be left to one's children. As such home ownership is a life goal in itself. One's house is the tangible reminder that one has fulfilled one's obligations to later generations dedicating one's life to one's children's rent-free existence and lifting the family out of poverty. That it will take decades to complete is part of the reality of this situation.

The emotional attachment to a house coming from the fact that it is a home the owner has made with his own hands with great hard ship should also not be underestimated. Having spent one's life creating something makes it very hard to give up and these neighborhoods are generally tenaciously defended. Beyond that

the shared suffering of the long neighborhood consolidation process creates a strong sense of community among the neighbors which is in turn fortified by the Mexican custom of godfathers and godmothers.

Because the state has had a limited role in the construction of the neighborhoods there is a strong sense of autonomy within them, a sense of having built the neighborhood themselves, which is generally true. This creates a sense of neighborhood independence and distrust of authorities and other outside forces. It is precisely this sense of solidarity which enables the leaders of these neighborhoods to sell the neighborhood's votes collectively.

Conclusion: The Reef Revisited

The reef city as depicted in this article requires certain conditions in order to arise. Among these are the skills to build, sufficient economic progress for building materials and social mechanisms for the enduring acquisition of land. For these same reasons the reef city is not a slum city, which is what makes it particularly interesting. The mechanisms behind the reef city enable it to develop.

This article has tried to show the mechanisms behind the reef city's development and to give a general guide to how it develops. At the same time the physical growth of the reef city cannot be separated from the development of its people in the course of their lives. In this sense it is truly a creative city.

Finally it is clear that processes similar to the ones leading to Mexico's urban reef take place all over the world. Hence, I hope that a more comprehensive understanding of the reef city can contribute to our understanding

of urbanization in all places in the world where people are coming in from the countryside and building their own environment.

de los autores