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The redemption of the commons. Contributions to urban planning from territorial intelligence and ecological economics.

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Introduction

Shine and heat was my first impression of Dolavon, then the contrast of its canal: shadow and water where children play. An intense and pleasant contrast. The town offers the harmony shown by those places where human voracity has been somewhat curbed. It is not a perfect place, no. It is just a place where the ends have not lost sight of each other.

This canal is the consequence of a long and tough learning of coexistence with the environment, which started at the end of the 19th century when a handful of Welsh people and a Spanish storekeeper crowded together in a remote Patagonic spot. This was how, from a small mail office, a general store and a willpower that verged on stubbornness, a town would be born, Dolavon: the "Bend of the River".

Providing services to travellers between the valley and the plateau provided sufficient resources and incentives to consolidate the settlement, which would later include a smithy and a bakery. Meanwhile irrigation companies were created in the area that multiplied the results of the learning about how to sow on a territory with scarce precipitations.

Through generations the valley was dyed green... and with the crops also grew its population. In this city located in the Province of Chubut, part of the Argentinian Patagonia, about 3,500 people coexist today.

Old small farms were divided into lots to create Dolavon's urban zone, which responds to those actions instead of a planned layout. The railroad, that today is just a scar on the ground –by far shallower than that left by the dismantling of most of the country's railroad infrastructure in the national spirit of the Argentineans–, constituted one of its limits; the canal naturally became the axis of the urbanization.

Approximately sixty years before the first settlers arrived to Dolavon, a few hundred kilometers away from Wales, an Englishman, William Forster Lloyd, described the situation of common pasture grounds where individual incentives created disgrace for everyone involved. The idea that structures this writing is to find some parallels between that story and Dolavon's present, and to explore the options that new knowledge makes available to us to avoid that tragedy from repeating itself.

I'm particularly interested in sharing some reflections that I hope will constitute contributions to urban planning from the ecological economics and territorial intelligence perspectives, which I came up with after a workshop on the Patagonic landscape and urban planning at Dolavon where I was invited, together with other colleagues, by the people of patagoniaotra. Through that experience I had the chance to co-lead an introductory workshop on strategic urban planning techniques, to explore the territory and study the landscape; share theories and ideas; work together with a group of neighbors, businessmen, politicians, academicians and professionals from the city and the region, and with architecture students from other parts of the country.

I understand that some regional projects presage important changes that should be taken into account from the local perspective if we intend to guarantee the quality of life of its population.

Who visits the town may be delighted by its waterweels by the willows. They were originally installed for irrigation, now they stand as emblematic decorative figures, even present in the city's coat of arms. Their rotation transmits peace, but the cadence of their turns prevents forgetting that time goes by, and that new challenges are nearing, more and more pressing.

Urban planning

Considering I will write about urban planning, I believe it is important to share a relatively precise definition to make easier the explanation of ideas that will be presented later on and to disseminate a profession that, usually, is not well known.

Habitually disciplines are defined by the combination of their subject of study and their methods. Lets then start by the *raison d'être* of urban planning; broadly speaking it is all about getting cities ready for the future, but today this becomes intermingled and tangled up with urban management, the present. According to Ferrari "it is a discipline mainly related with the regulation of land uses and transformations, linked in its original and strict sense to the planning or regulation of physical and territorial aspects of cities or urbanized areas, but today planning is considered a continuous and permanent method to solve in a rational way the problems related to a certain society, located in a delimited space at a certain time. It basically acts by the organized prediction of the changes desired by it, considering physical and territorial, social, economic and administrative aspects of reality, besides linking those changes to the objectives and guidelines of the plans of other levels of government."

Regarding its method, the dominant one nowadays in the profession is called *strategic planning*. Strategic planning seeks to consider problems in their entirety and, with the participation of actors, to implement a set of rules, inevitably adaptable, to make the best possible decisions when searching for solutions, defining priorities and creating commitments in the process.

The focal point of this method is the strategic plan, a document that shows the strategy to be followed by the city. Part of its making includes an initial diagnosis, that allows for the evaluation of the current situation of that territory.

In the case of Dolavon and as part of an academic exercise (that included local actors, but neither can be considered comprehensive nor participative according to the conventional interpretation that the discipline gives to this term), some territorial trends were diagnosed that may imply tensions and become major problems.

Some of them were the forced implementation of social housing plans pushed by higher levels of government, improvements in land connectivity and macroeconomic measures that have an impact on population growth, land uses, productive activities, land prices and social cohesion. Besides, oil production and external markets distort local activities.

The most pressing challenge that Dolavon seems to face from the urban planning perspective is that of population pressure, as it causes multiple needs for intervention. This situation is not new for the city (there are records of real state pressures in the past, that were solved through dividing railroad land into lots), but it will be intensified by immigration –not only regional but from neighbor countries as well, particularly from Bolivia–, made easier and boosted by improvements in road transportation infrastructure with neighbor cities. An additional phenomenon that affects the composition of its population is that at the same time that the city receives immigrants, its youth emigrate searching for diverse opportunities.

But endogenous growth as well as migrations are matters of world importance and impact, the possible scales for analysis and action are, then, diverse, and their study has been a concern for many and for a long time.

Economics, for example, has preserved a writing on this subject, but this has not been why it became a classic for the discipline. In *The Tragedy of the Commons* (Hardin, 1968), its author deals with overpopulation in the global scale and the need for political measures regarding this problem (a situation he considers has no technical solution, that is, it depends on changes in values and morals). Through his passionate exposition he comments the case I mentioned in the first part of this paper regarding the exhaustion of common grazing lands.

I believe the analysis it conducts on population may be adapted to any limited territory, but I'm more interested, for now –and like most economists–, in the description he makes of the contradiction between private and social interests at stake and the disastrous outcome.

Basically, in a situation of shared resources (that may well be what we today call public goods), if there is no limit to individual use the trend is to overexploitation, as the costs get shared among everyone and the benefits may be appropriated by each individual. In the case of the pastures, the result was an excess of grazing animals (for each individual it was always better to take more animals to feed in communal land) regarding the carrying capacity of the place, and the resource was destroyed. The final outcome was a situation in which no one could feed their cattle, because there was no pasture to feed from (that entire society and each of its members suffered as a consequence).

In Hardin's own words, "Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all. [...]" (Hardin 1968).

Ecological economics

Environmental economics is part of the mainstream economics, it studies the consequences of economic policy on natural resources and it particularly focuses on the so called market failures (situations when it is impossible for the market to obtain or coordinate information to reach optimal solutions).

But I promised to write on ecological economics, not economics or environmental economics... how does all of this link together? And how does it relate to the particular case of Dolavon's territory?

Let's insist, patiently, in the matter of incentives. One of the goals of urban planning is development, which even if today is dressed as "quality of life", in concrete actions it translates, most of the time, into the search of economic growth measured by the currently dominant patterns in economic science, this is, an increase in the gross national or regional product.

To link such general concepts to Dolavon I thought about the ideas of an author that, if they can take the abuse I'll make of their generality, may allow us to start exploring the relationship between communal lands, that patagonian snippet, urban planning, ecological economics and territorial intelligence –which we will be talking about later on.

The author is Nicholas Georgescu-Roegen, who arrived to a quite reasonable conclusion, although not very well known until recently in the realm of economics: there is a physical limit to growth. He proposed, following the four fundamental laws of thermodynamics, that "...the Earth is virtually a closed system." (Georgescu-Roegen 1986).

Let us remember that the pressure on resources generated by growth is double when population increases at the same time that we try to increase its consumption (and with that its generation of waste, final as well as intermediate).

As Daly explains, "The main thrust of Georgescu-Roegen's ideas can be summarized in his 'entropy hourglass' analogy." (Daly 1997, 199). There are two reserves of low entropy (usable) energy, the solar and the terrestrial, and two associated fluxes; the first one is continuous and immutable for us, the second adjustable but limited in its availability. Using that energy makes it high entropy energy, that is, unusable.

An easier way of understanding this situation in a lower scale is the Biosphere II project, a scale replica –in size as well as complexity– of the original biosphere, or planet Earth.

Within this framework, "Sustainable development is development without growth in the scale of the economy beyond some point that is within biospheric carrying capacity." (Daly 1997) This would imply, from the traditional economics point of view, the definition of a sustainable production-possibility frontier, or a limit to the total of goods and services that our planet can produce in a dynamically sustainable path, considering all of the environmental costs and the most efficient use of available resources.

This is how we arrive to ecological economics, which deals with environmental limits from a broader perspective, it doesn't only consider the inability of markets to deal with certain environmental matters, but it explicitly inscribes economics as a subsystem of the world, tied to the physical limits of the planet regarding the availability of factors of production and as a recipient of waste, generated by production and consumption. This idea aims to avoid a situation in which a subsystem isolated from the physical world calls the shots until it's too late, and it promotes sustainability as a guide for decision making.

We could then think of the planet as a whole, considering its life-supporting capacity, as a common good, and not only regarding resources for production, but waste disposal as well, "In a reverse way, the tragedy of the commons reappears in problems of pollution. Here it is not a question of taking something out..., but of putting something in..." (Hardin 1968).

Now that we know that some day the Earth will not be able to keep up with human growth if it continues at current rates, does that imply that Dolavon should stop growing today? I think not, but even if I'm right, that doesn't free its inhabitants and authorities from the responsibility of evaluating the limits to its growth, in population as well as their use of natural resources (their own and those of others).

What I'd like to emphasize from the ideas of ecological economics is that the use of natural resources has a limit, and that sustainable development must take that into account. An important point here is that natural resources are traded in a much more complex way than we usually think. For example, an exported strawberry not only takes with it the water it contains, but all of the water (and all of the energy) necessary for its production.

But ecological economics and economics in general lack an explicit purpose. Urban planning as well as economics have studied in depth, according to Horacio Bozzano's terminology, real territories and thought territories, that summarize respectively and to a great extent, descriptive situations and readings, and explanatory (Bozzano 2009) but, particularly in the case of economics, they find it hard to explicit and to reach a consensus on possible territories, that is normative territories.

Territorial intelligence

Many of us, as researchers, feel the moral obligation to elaborate and re-elaborate theories and methods that make

viable the social incorporation of new ways of thought, connecting and acting, to define and consolidate a way of life that is equitable, enjoyable and sustainable for everyone, and to find out the less painful transitional dynamics.

At the same time, those who devote themselves to the practice of urban planning face the real obligation of management, the daily and urgent impossibility of postponing decisions and their implementation. Theory is advisable and practice unavoidable; both are supplementary.

On the other hand, there are clear beneficiaries –consciously and unconsciously– of the prevailing systems, who have shown their understandable will to keep taking advantage of the current situation and to perpetuate them through deep-rooted social structures.

Sustainability requires the alignment of micro and macro theories, methods and actions. A possible answer is research-action, that seems to be a good way to enhance efforts in both fields. This will not be achieved simultaneously, it is a process of definition and enforcement of limits to territorial use and abuse, taking all of its inhabitants into account. Within this framework, the LIA-TAG (Laboratory of Applied Research - Territories, Actors, Governance) Team will seek to contribute to territorial intelligence at the same time it nourishes from it.

Let's now go into the concept of territorial intelligence and why it can be useful to speed up the changes many of us consider necessary. According to Girardot, territorial intelligence, the "science having for object the sustainable development of territories and having for subject territorial community" (Girardot 2009) may help find the way through tools for actors, methods and governance. This translates into seeking the possible territories and socially choosing and constructing the desirable ones, thus legitimating the outcomes.

Some undesirable situations from our perspective, but existing nonetheless, are inertias, un-accountability, mistrust (this is particularly true in developing countries with immature legal systems), and asymmetries. All of this seems to require coordinated change (intra- and inter-level and among actors) and a return to ethics as proposed by A. Sen (Sen 2007), considering aspects of agency –valuation and capacity of achievement–, and welfare –related to distributive justice.

We seek to generate and apply knowledge to territories through fully participative actions (governance) that aim towards sustainable development. This requires consensus in different scales on what means sustainability, particularly regarding its social and political aspects. Methods as well as objectives must reflect a vision of social ethics.

Territorial intelligence is an explicit academic wedge into politics, it has a transverse character that supplements, among other disciplines, ecological economics, and it adds a direction and action for change. In the specific case of Dolavon, it may allow for the implementation of participatory strategies that lead to tackling and solving the problems that have already been mentioned, and to start working today on them while we expand the necessary knowledge in a virtuous circle.

Territorial intelligence, anyway, is no panacea, and it doesn't work by itself. I understand that, as intelligence, it is a capacity. And capacities are not spontaneously employed, they require opportunities, commitment and discipline.

I'd like to mention briefly some of the risks that territorial intelligence faces, as most disciplines of its kind do. The first one is technocratic, it has two aspects. In the first place, technology driven decisions, where sometimes we lose sight of objectives in awe by the power and complexity of the methods involved. We must always evaluate why things are done and adapt our actions and methods to local cultures.

The second aspect considers that territorial intelligence aims for knowledge and control and it thus creates power; and the more power you have in a situation the less likely you are to want it to change, as it just happens with the world so many of us are unhappy with today. Regarding this I believe there is a need to implement mechanisms that account for this in early stages of any territorial intelligence process, that include local training, transparency and clear evaluation rules. This has already been considered by the discipline, but nonetheless, we must stay aware of it.

There are also some complex interactions that happen inside most academic disciplines and between them and society at large. Scientists are human beings, as such we should be careful not to focus on the discipline instead of the object of research-action, this has been called *disciplinolatry* and calls for re-designing current university and scientific structures (Daly and Cobb 1996).

Conclusions

Traditional strategic urban planning (even participative planning) seems to lead to non-cooperative action, particularly in Argentina. We need new, more inclusive and fluid approaches for social choice that include but don't rely only in government and/or technicians. This relates to legal and possible territories, descriptive and normative situations and readings of territories (Bozzano 2009).

Even though it is a mistake to believe that consensus is a pre-requisite for action, it is desirable to avoid costly errors and to justify (legitimate) courses of action.

I believe, as many others do, that there is no technical comprehensive solution for sustainability, that it is rather a matter of ethics. That it involves acting at the local level through channels like the ones proposed by territorial intelligence to gain understanding and compromise, but also in larger scales to create networks that provide for the necessary critical mass for global change and to have a voice and a vote in those decisions.

I would like to share a thought to consider when designing public policies, keeping this in mind may well lead to the redemption of the commons, "... the true 'output' of the economic process is not a material flow of waste, but a unique flux, the flux of the enjoyment of life." (Georgescu-Roegen 1986). Thus, when setting goals and indicators, it would be better to aim for cooperation than competitiveness, for the enjoyment (quality) of life than for consumption (standards of life). Ruin is easily recognizable, but wealth is for us to define!

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