Countryside. Soil, Energy, Kommunen, Production

The need to readjust theoretical principles to look at rural space, to identify conditions necessary to architectural design, characterises contemporary theoretical research. The interest in extra-urban territories has placed certain urgent considerations under the magnifying glass, including the crisis of the urban model as inhabited space, the need for individual autonomy and collective interdependence of the project, and the project as an integrated expedient for autonomous production. These needs redefine the parameters necessary for answering the following questions: "Can the countryside be a productive, ecological and safe infrastructure? How to respond in terms of design?". Four reflections compose the probable causes of the project of the future, outlining a possible answer to these questions. Traversing the updated relationship with the soil, the possibilities in terms of energy, the settlement relations as both collective and productive dynamics, new hierarchies and necessities of the project and of its theory are determined.

Keywords: *Countryside, Soil, Energy, Communities, Production.*

Introduction

The renewed interest in the *Countryside*[1] relocate some theoretical and design perspectives already investigated by Superstudio (The Monumento Continuo,1968), Liselotte and Oswald Mathias Ungers (*Kommunen* studies and research, 1972), Agnes Denes (1982[2]). The theoretical and situationist role of these examples, even if they did not come to be built architecture, proposed concrete trajectories to prefigure new landscapes yet to be explored, through the prefigurative architecture ability applied on an this "ignored"[3] land.

The representation of the Countryside as "out of the city, towards the city" land is an expression that precisely circumscribes some of its characteristics, identifying firstly the absence of a reference theory and the absence of a valid design practice with respect to the multiform and hybrid spatial manifestations that this territory hosts.

Countryside, if conceived as a simple alternative in a twin-barrel dialectic (et-et), diametrically opposed to the city, without the pluralities of the one and the other being integrated, it doesn't enlighten research and relationship tracks, rather simplifies the complex perspective to a two-dimensional problem: in it,

[1]It is deemed appropriate to point out that the definitions of "countryside," "ruralities," and "countryside" identify complex moments that refer to profoundly but ambiguously different realities; the distance between the terms attests to linguistic, literary, and historiographical conditions of reference. See R. Koolhaas, AMO, *Countryside, a Report*, Guggenheim Taschen, Köln 2020.

[2]Reference is made to Agnes Denes' site-specific work entitled *Wheatfield - A Confrontation*. The work, two acres of wheat planted and harvested by the artist in Battery Park, Manhattan, in the summer of 1982, was commissioned by the Public Art Fund.

[3] Koolhaas, 2020, p. 2-3.

abandonment practices and repopulation conditions certainly coexists, and a mixture of values and former experiences matched with the use of more than new technologies; all of these however is continually mediated by architectures, both authorial and (above all) non-authorial, where the design project itself becomes fundamental part of relationship, communication and government of a given landscape.

Soil

The Italian and annual research titled *Consumo di suolo, dinamiche territoriali e servizi ecosistemici*[4] (literally: Oil Consumption, Territorial Dynamics and Ecosystem Services) by Ispra[5] identifies an urgent need: the tracking necessity linked to the soil use, pointing with "consumption" a negative connotation.

What can no longer be re-used is consumed, a lost part of resources: the transition from non-artificial soil to artificially covered soil. This report suggests alignment actions to European[6] and international[7] standards, the spread of shared principles for collective demands.

The need to preserve the soil-resource is referred above all to the settlement conditions: the high or medium density urban models, as well as the sub-urban models are outdated dwelling conditions to cope with updated needs. It is proposed, so, a change in direction that, form the city-model, leads to an alternative settlement, where is unsuitable the rule "to make city again".

The relationship with the soil is one of the breeding points for the *Countryside* architectures: the ground-attack bond becomes a design theme. Through the range of relation with the soil are translated and communicated the conditions required to the buildings, the belief they represent, the architectural prerogatives researched, their role.

The soil-relationship also identifies the settlement modes in the *Countryside*, where among the possibilities, are preferred the density points ones, avoiding the widespread uneven settlement. This inhabiting condition is at odds with the urban settlement: with the increase of the dens and concentrated model for dwelling, it will improve also its uncontrollability[8].

[4]See Munafò 2020.

[5]The High Intituite for Environmental Protection and Research (Istituto Superiore per la Protezione e la Ricerca Ambientale – ISPRA) is an Italian public research organization, established by Law No. 133/2008, and under the supervision of the Ministry of Ecological Transition.

[6]Goal 15 of Agenda 2030: "Protect, restore and promote sustainable use of the Earth's ecosystem," or the Rural Development Objective of the CAP (Common Agricultural Policy).

[7]Among the best-known documents are the *Brundtland Report* (1987), the *Kyoto Protocol* published in 1997 at the *Conference of the Parties "COP3"* of the United Nations Framework Convention on Climate Change (UNFCCC), or the *2050 United Nation Sustainable Development.*

[8]The parameters with which it is measured are urbanization dynamics, land consumption, imperviousness ratio, etc.

The urban model and its by-products undergo to the progressive[9] enlargement "stress-test", revealing their complexity in view of the contemporary crisis conditions. (Zaera-Polo, Pai, 2017).

On the contrary, the countryside architecture are non-serial isolated events, densely and cyclically (so also eventually) inhabited, where occurs the significant break with the foundations, both as architectural node, both as act in itself: to found is an *a l'ancienne* process, made for a world (and time) where the positivistic and ever-growing perspective legitimised the need to found and (above all) re-found to build new futures.

The foundation, from theory becomes part of the architectural process, as can be seen in some of contemporary realised architectures – *Meet Economic Hub* (2021) and by *Straw Matting Hut* (1984) both by Anne Lacaton e Jean-Philippe Vassal (figure 1-2); *Super L – 150 Housing Units* by Bruther - Stéphanie Bru and Alexandre Theriot (2013); *MEETT* by Chris van Dujin / OMA (2020), *Parrish Museum* by Jacques Herzog & Pierre de Meuron (2010-2012), *Shack in the rocks* by Sean Godsell Architects (2021) – building were the foundation[10] and the soil itself are sacrificed, rather replaced with *supports*.

From this perspective, the project itself acts as a possibly revocable condition:

> "aux batiments prêts a decoller […]"[11]

Confirming the foretold[12] nomadic perspective with the supports. The eventual architectural revocability is a well distinguished condition form the no need for buildings, should rather be understood as a new way to conceive the architectural space, where the principle of existence of buildings is confronted with the indispensable durability of the work:

> "[…] when human societies must transition from extractive to regenerative systems if they are to survive."[13]

These principles, to admit revocability, they impose a selection on materials, then on the conditions of use, such as to allow assemblies, joints, grafts, rather than "wet" works, allowing engineered seriality of components,

[9]"Our cities are ticking time bombs. They are developing at an unprecedented, uncontrolled rate. By 2050, the majority of the world's population will live in urban centers. […] Buildings are demolished and rebuilt, while informal communities burgeon with new dwellers." (Clifford, McGee, 2017, p. 308).

[10]"[…] La Maison: inventer autre chose, supprimer les fondations, mobilitè, nomadisme. La boîte, le parallélépipède: que faire d'autre? La maison Farnsworth, et après? […] Inverter les maisons-machines, les maisons-fleures." (Lacaton, Vassal, 1995, s. n.).

[11]See Lacaton, Vassal, 1995, s. n.

[12]"The watchword, to become imperceptible, to rhizome and not to take root" (Deleuze, 1968, p. 295), see *Kommunen* section.

[13]See Mineko Ichioka, 2017, p. 390.

limiting the share of error also attributable to site practice, governing the time of material gestation.

Energy

> "In order to guarantee optimal thermo-hygrometric well-being and indoor air quality conditions, it is necessary to ensure conditions that conform at least to Class B according to ISO 7730:2005 in terms of PMV (Expected Mean Rating) and PPD (Expected Percentage of Dissatisfied Users). In addition, compliance must also be ensured with the requirements established in UNI EN 13788 in accordance with the Ministerial Decree of June 26, 2015 with regard to all thermal bridges for both new and existing buildings. […]".
>
> Decree of October 11, 2017, Minimum Environmental Criteria […]. 2.3.5.7 Thermo-hygrometric comfort (17A07439) – Official Gazette, General Series n. 259 of 06-11-2017.

The capacity to adapt is what connects humans to the space with which they relate, and this adaptive condition is basically expressed through two components: *form* and *exchange*. The Vitruvian Man, Palladio's divine proportion, the *Modulor*, the 'gods' of the amid.cero9 duo clearly identify the first component (*form*), whereby the container adapts to the contents in order to satisfy the main action: to hold.

The second condition refers to the *exchange* that man constantly carries out with the environment, due to which (in human terms), comfort "is how easily your body releases heat" (Meggers et al., 2017, p. 80). As is well known, the assessment of quantity for the purpose of establishing excesses and defects, takes place through measurement, otherwise it would be a question of opinion, and hence the introduction of standards and parameters so as to unambiguously establish the measure of the 'how easily'. These regulations, however, bypass or subtend that the achievement of comfort is not entirely dependent on the buildings and their conforming to a specific class, but also and especially on choices and desires, both autonomous and political[14]. This is where the crux of the question lies: if comfort essentially measures cooling and heating, it is no small error to consider human presence as a passive and indifferent condition within the project (Meggers et al., 2017, p. 81); if one adds to this the long[15]

[14]In this regard, it is worth recalling the experience of the 39th President of the United States of America, Jimmy Carter, who during the *fireside chat* of February 2, 1977, addressed the Nation, asking citizens to put on a warm sweater and turn down their thermostats, "all of us must learn to waste less energy"; as well as the signing of the *Clean Air Act* of 1970 by President Richard Nixon and the signing of the *First Change Agreement* at the *UN Conference on the Environment* in Rio de Janeiro in 1992 (both events were transmitted on television).

[15]A different kind of attention is paid today, especially by architectural firms with research approaches that introduce these issues into the project as obvious conditions, amongst which it is worth mentioning Bruther (Stéhanie Bru, Alexandre Theriot), Baukunst (Adrien Verschuere), Lacaton & Vassal (Anne Lacaton, Jean-Philippe Vassal), and Office Kersten Geers David Van Severen.

and systematically reserved impatience regarding the appearance of the systems that are necessary for 'comfort', so that they are always impossible to see, hat results is a complex and contradictory picture, in which dwelling would entail the need for certain necessary technological conditions which, however, cannot be seen (Bradford, 2017, p. 87; Rapp, 2014).

In the contemporary age, the production of energy for 'achieving comfort' takes place somewhere else (*countryside*) in order to be consumed and burnt where people dwell (cities), following in this way a division into three usages of the inhabited space: production spaces, consumption spaces, and waste spaces (Sheppard, White, 2017, pp. 406-414), thus identifying areas with a large energy demand, energy transfer needs, and non-quantified emissions and losses.

Assuming that conditions of comfort not only regard supplementary technological apparatuses that provide for certain possibilities, and that the disconnection between production spaces and consumption spaces has polarised the use of the earth's surface, the change that lies ahead of us is certainly related to the project itself, not through new spaces but rather through new ways of thinking about space and its organisation. The elimination of the dislocation between production and consumption spaces, for example, leads to a reflection: would it be possible to produce and consume on the same site? Could the production and use of energy function in synergy with each other? Can the project become a mediator in this relationship?

The condition of autonomy in terms of energy of the project is thus not only a technocratic footnote, but rather completely re-organised settlement and productive possibilities, combining both aspects while also determining specific areas which are more suitable for accommodating certain settlement and functional conditions (Ghosn, 2010).

Some examples are the relocation of Facebook's servers from California to the Arctic Circle in Lulea (servers need less energy to be sustained in Sweden – 2°C per year – than in California – 19.5°C per year – or else the Desertec project - a settlement that contemplates the possibility of covering part of the Sahara Desert with energy production spaces in order to power Europe and North Africa)[16]. These prototypes are interesting indicators of a trend: establishing settlements where the source of energy is located, or in its vicinity, launching nomadic exploration blueprints, could lead to a geographical reassessment of the settlement, thus determining potentially relevant and 'dense' areas, while disregarding the old settlement configurations (cities, for example), since they would be obsolete (Rahm, 2017, p. 100).

[16]"All kinds of renewables will be used in the DESERTEC Concept, but the sun-rich deserts of the world play a special role: within six hours deserts receive more energy from the sun than humankind consumes within a year. In addition, 90 percent of the world's population lives within 3000 km of deserts", <http://www.desertec.org/fileadmin/downloads/desertec_foundation_flyer_en.pdf, now also at: https://web.archive.org/web/20121214215821/http://www.desertec.org/concept> (06/21).

The reciprocal structuring of energy conditions and landscape would determine revealed points and degrees of interrelation between projects[17], which would measure each other in terms of energy capacities (exchanges, feeds, intensities, densities), rather than by quantification conditions (heights, lengths, thicknesses). Or rather, given the 'planetary' scale of these prototypes, it would be insufficient to describe them in terms of measurable quantities; it would be more useful and relevant to describe them in terms of the energy they are capable of producing, exchanging or burning.

Community

> "We are all here savages with numerous projects of social reform.
> There is hardly an intellectual who does not carry a theory for a new community in his vest pocket".
> (D. R. W. Emerson to T. Carlyle in 1840, in Ungers, 1972, p. 7)[18].

As previously anticipated, the passage from conditions of growth ('extraction') to conditions of self-efficient autonomy, puts back in discussion both the widespread settlement models and the conditions (cultural, economic, political, social) which feed these structures. The city-system is clearly a conurbation of communities, all of which, however, are isolated components that, given their dependency on energy sources located elsewhere and the absence of any production of goods or services needed for sustenance, constitute a perfect consumerist mechanism.

The coincidence in one place of both the settlement system and the production of energy needs would break this short circuit and launch a model in which the energy produced would feed a system and be consumed in the same place. The structure of this model echoes none other than the cenobitic structures of Basilian *lavras*, or of Cistercian monasteries, where community life represented a settlement solution understood as a life mission, and was configured as a self-sufficient community: interior production was capable of satisfying the needs of the small community, and the surplus was extended to the outside of the monastery, in accordance with a second extended dissemination cycle. The extension of the meaning of the community, today, is a variation of a well-known utopia; what changes is the meanings attributed to the concept of association, the means through which what is needed for sustenance is produced, and the conditions of the project. *Kommunen in der neuen Welt 1740–1972* (figure 4) summarises the work carried out by the

[17]The image of geysers on glaciers from Laurent Grasso's film *Artificialis* (2021) is suggestive (figure 3): the image, though experimental, communicates the 'energy landscapes' that lie ahead, as well as the degree of interrelation between them, and the energy capacity expressed through the profusion of colour ('energy representation').

[18]The quote in the original text offers no further reference [Italian translation by Francione D.], see note 16.

Ungers, colleagues, co-authors and spouses[19], through their in-depth analysis of the social, anthropological and design conditions of the most widespread rural communities[20] of the United States of America at that time. The main models analysed included large apartments and abandoned houses occupied for shared-living or mixed encampments of all kinds (tents, adobe and wooden huts, teepees, igloos, yurts, tree-houses, inflatable structures, geodesic domes and A-frame houses), and it is noted how often the building materials used were recycled waste[21] and rubbish (Ungers, 1972, pp. 88-96) and how the spaces for everyday life remained separate although the community shared certain essential aspects of it (the public and private functions occupied different sections of the same area or different spaces altogether). Historical contextualisation explains many of the orientations of the research (see Flyntz, 2021), however, the most fitting and least 'outdated' example in terms to the conditions described is the settlement prototype promoted by Steve Baer (who was involved both in its financing and construction) called *Zomes* at Drop-City (figure 5).

The system contemplated a single replicable spatial model compatible modularly with the others, infinitely; space (both individual and composite) was the autonomous energetic catalyst capable of stocking and fueling, thus ensuring the independence and inter-relationship of the system. The remarkable condition is the promotion of the prototype, disseminated in place (through self-construction – in other words the operative practice), and through handbooks (very limited editions of printed books) called the *Domebook Cookbook* (figure 6): from this 'unusual' title it was possible to realise that the spatial object was replicable, scientific (that is, based on the canonical repetition of a sequence of operations), adaptable / customisable by the individual according to needs and possibilities, significantly new but not for all, to the point of comparing it to a cookbook (see the paragraph on *Soil*).

It is worth noting how denominational communities chose rural areas in the East of the *New World* - implicitly declaring their origins - with cultivable lands that ensured a good sustenance, settling in 'traditional' dwellings, thus without innovation yet with an approach that was radical, while more recent communities (with pioneering resourcefulness) chose border territories (New

[19]This volume summarises the research carried out since 1970, which is the year when Oswald M. Ungers was elected to the Chair of the Department at Cornell University. See Nicolin P., *Looking for a New World*, CCA, <https://www.cca.qc.ca/en/articles/issues/20/the-other-architect/32098/looking-for-a-new-world> (07/21).

[20]Following are the colonies analysed and the states where they are located: Amana communities (New York and Iowa), Hutterian Brethren (Colonies in South-Dakota amd Montana), Oneida community of religious “perfectionists” (New York), Owenites (New Harmony colonies in Indiana), Fourier's Falansteries (Wisconsin, Massachusetts and Connecticut), Shakers (Pennsylvania, Kentucky, Maine and Ohio), Rappites (Indiana and Pennsylvania), the Moravian Brethren (Pennsylvania) and the Icarians (Iowa, Texas and Illinois); Separatist communities are also mentioned (Ohio) as well as new communities, relatively more recent than the previous ones, amongst which the Linda Vista Community and Art Residence (in Arizona), the Ant Farm (in California) (see Flyntz, 2021), Drop City (in Colorado) and the Theatre of All the Possibilities (New Mexico).

[21]For further information on this subject see Lynch, 1992; Marini, Corbellini, 2016.

Mexico, California, Arizona, etc.), or else interior landlocked areas (Wyoming) greatly disadvantaged from an agricultural point of view. In response to this lack, the architectures designed by the communities were guided by investments or *ex-novo* development of techniques capable of integrating environmental lacks with energy capacities; the legacy of these *avant-garde* communities lies in the experiments derived from stimulating experiences such as *Bioshpere 2*[22] (figure 7) in Arizona (between 1987 and 1991) with the recreation under controlled environments of primordial planetary conditions whose popularity was rekindled by the documentary *Spaceship Earth* (Wolf, 2020).

This type of settlement that is alternative to the city (in the desert, etc.), in addition to what affirmed above, and subject to the historical preconditions that have driven borderline experiences such as these, promotes human settlements in concentrated communities, which through mutual work and daily interaction determine autonomous architectures. Settlements which are hypothetically 'closed' and expandable, and stable in terms of energy: do these principles represent, today, a viable response to the crises in question?

Production

> «The production of space is at the same time its valorization».
> (Altvater, 1989, pp. 59-70).

The conditions activated so far essentially warn the project against 'putting down roots' and regarding possible energy 'dependencies,' proposing community settlements as an alternative. These components concern in particular a specific way of addressing the settlement challenge with respect to the urban model. To dwell in cities means, among many other things, depending in terms of energy on other places (located 'elsewhere') which supply the means of survival of the city itself, it means not thinking of the architectural project as an eventual but obligatory and necessary condition (and therefore with derived materials, approaches, spatialities), and it also means living together in great (very large) numbers, but in individual or minimal 'family' units that are not self-sufficient.

Having elucidated these particulars, the essential consideration that determines the difference between 'rural areas' and 'cities' is precisely the productive condition of the countryside as opposed to the city, which, as Tafuri points out, is also a producer, but of "new forms of economic accumulation" (1973, p. 13).

The countryside as an alternative condition exists and is also a concrete possibility for the project, as long as it is capable of producing (for itself, and eventually for others) the means of subsistence as well as profits, which also involve dwelling. The term countryside includes spaces with diverse uses: the production of raw materials (fields and harvesting areas) or secondary processing (industry), energy production areas, high-profile protected areas

[22]Bernd Zabel and Linda Leigh took part in this experiment, together with Taber MacCallum, Abigail Alling, Mark Van Thillo, Sally Silverstone, Roy Walford and Jane Poynter.

(forests, woodlands, environmental buffer zones, protected national parks, etc.), remote territories - little-known, not easily accessible, difficult to exploit, or fallow lands (Chieffalo, Smachylo, 2019) -, little-known abandoned territories (non-use).

The conceptual stretch that allows us to refer to these realities as being part of a common sphere – the countryside, to be precise - involves the assumption that these territories (which also determine a 'landscape') are capable of producing a material asset (from the production of vegetables in water, to firewood) and do not contemplate a settlement that is scattered and widespread, but rather dense and catalysed: production carries with it some important reflections regarding both the project and the role of the inhabitant who takes care of it (take note of the absence in this case of the word work[23] and the use instead of the word 'care'), while an attempt is made to combine production and dwelling spaces in a single spatial context.

The *Royal Saltworks* at *Arc-et-Senans* in the forest of Le Chaux (figure 8), for example, are configured in the project's plan as both a dwelling and production (almost 'total') architecture that establishes a hierarchy based on remarkable scale relationships, the connection to the soil, determining space as an artificial fact – both in terms of construction and of nature -, that polarises in a single point a human manifestation of existence (of settlement, production, energy); these projects, not hard-to-fulfill *dreams* but rather *experimental models* (Tafuri, 1973, p. 16) are there to reevaluate the existence of the architectural project as a manifestation of needs and not only as an isolated generation of forms dumped onto the city, a concretion of built capital (Marcinkoski, 2019, pp. 73-80).

The image of the *Saltworks* observed through an 'imaginary' thermo-camera (figure 9) highlights new linguistic canons for interpreting the presence of a settlement (density, intensity and colour - through the more immediate representation of energy): the *Saltworks* become a new geographical point, a new terraforming event, new architectures communicated through density: in red the project (production, settlement), in blue the territorial conditions of disuse. The map is an inquiry, an interpretation, an 'experimental model' in response to conditions of crisis, which changing guise and language takes a chance on reinterpreting the architectures of future settlements.

Findings: The Dust under the Carpet

Everything that has been said so far, while directed to specific areas, essentially tells of one fact: "[The human geography] makes no apologies for the presence of man in nature" (Scalbert, 2014, p. 13). The overpopulation crisis (both urban and planetary), the crisis of structured settlement patterns, the proposal of new projects, and the choices of relationship to be established with the land, in addition, certainly, to describing a composite context such as

[23]Regarding the relationship between capitalism and labour see Tafuri, 1973, pp. 139-157; Braudel, 1982.

that of the countryside, should be interpreted from a historical perspective, detaching the analysis from the widespread narrative and looking at the real problem, in which the countryside is only the least of the consequences.

Although belonging to it, in his attempt to conquer nature man claims not to be a part of it, and inhabits it (in other words, settles, produces) in accordance with self-imposed rules which, in the long term, are not convenient and place him as an undesired player in controversial dynamics. This can be read from the ways in which the human experience on Earth can be described, so far.

Countryside is a still unstable variable of wider, yet more urgent conditions that derive from necessary requirements, artificial natures and geographical stories to be rewritten, as a result of which man, if the goal continues to be that of dwelling, should reconsider the canons used to translate this practice through both projects and architecture.

These words are a sign of our times, they determine causes and conceal possible territories in which to allow the project to exist.

Figure 1. *Lacaton & Vassal, Paillote, o straw matting hut, Niamey 1984.* © *Lacaton & Vassal*

Figure 2. *Lacaton & Vassal, Paillote, o straw matting hut (plan), Niamey 1984. © Lacaton & Vassal*

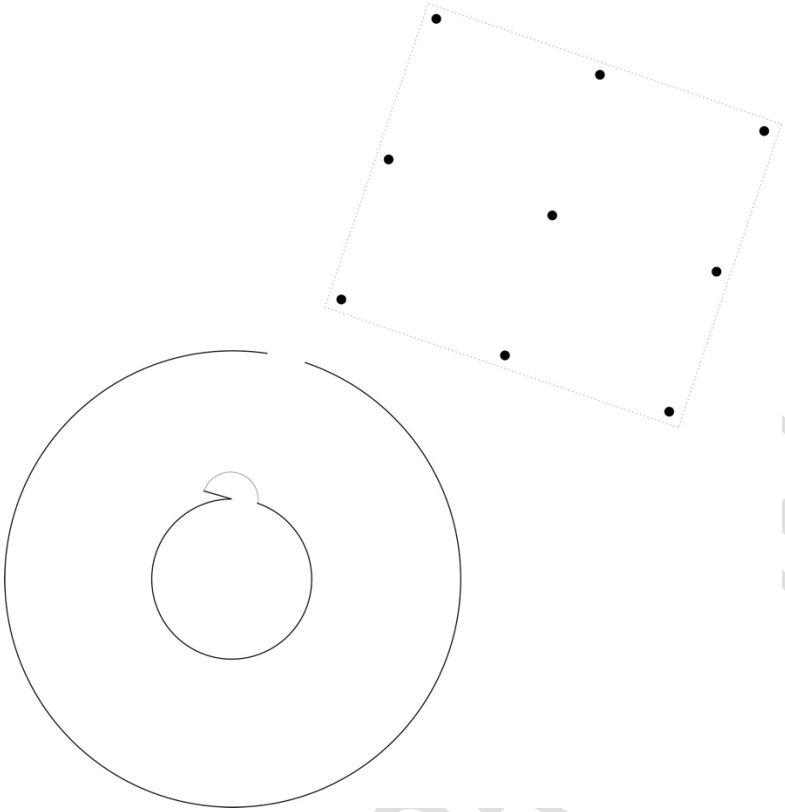


Figure 3. *The Artificialis' movie scene by Laurent Grasso, the methane geysers on the glacier. © Laurent Grasso / ADAGP, Paris, 2021*

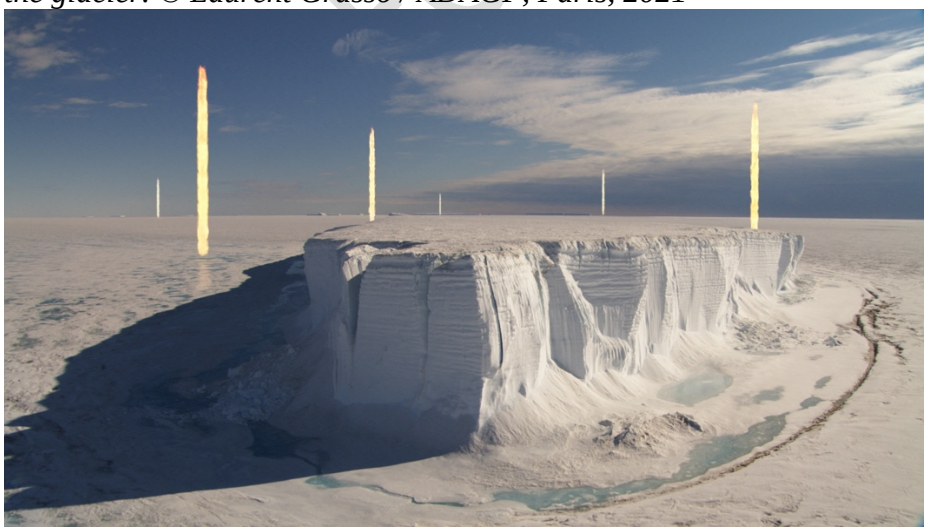


Figure 4. *L. & O. M. Ungers, Kommunen in der Neuen Welt 1740-1972 (cover book image), Kiepenheuer & Witsch, Köln 1972. © Laura Mucciolo*

Figure 5. *Zome in Drop City, in L. & O. M. Ungers, Kommunen in der Neuen Welt 1740-1972, p. 133. © Laura Mucciolo*

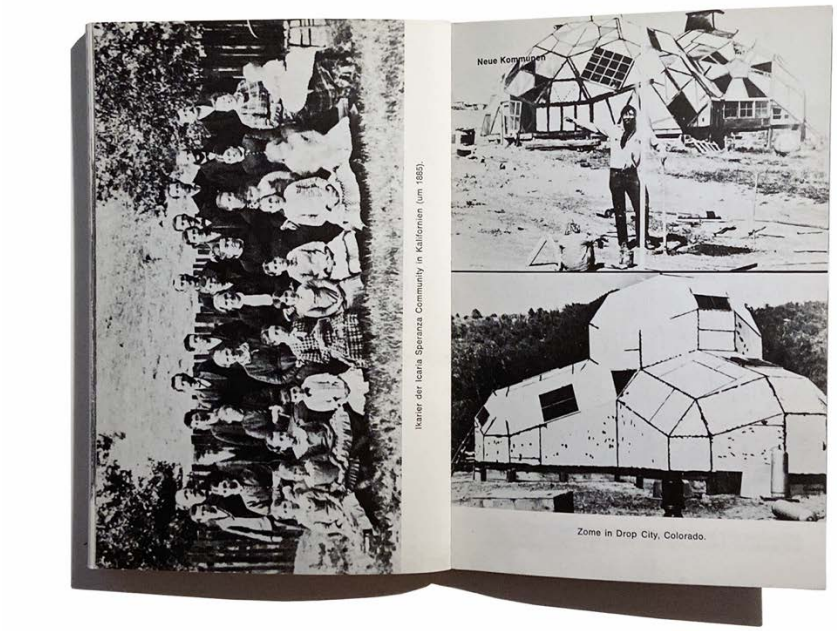


Figure 6. *S. Baer, Domebook Cokebook, 3rd printing, 1969. Copyright 1968, 1969 by Steve Baer, all rights reserved*

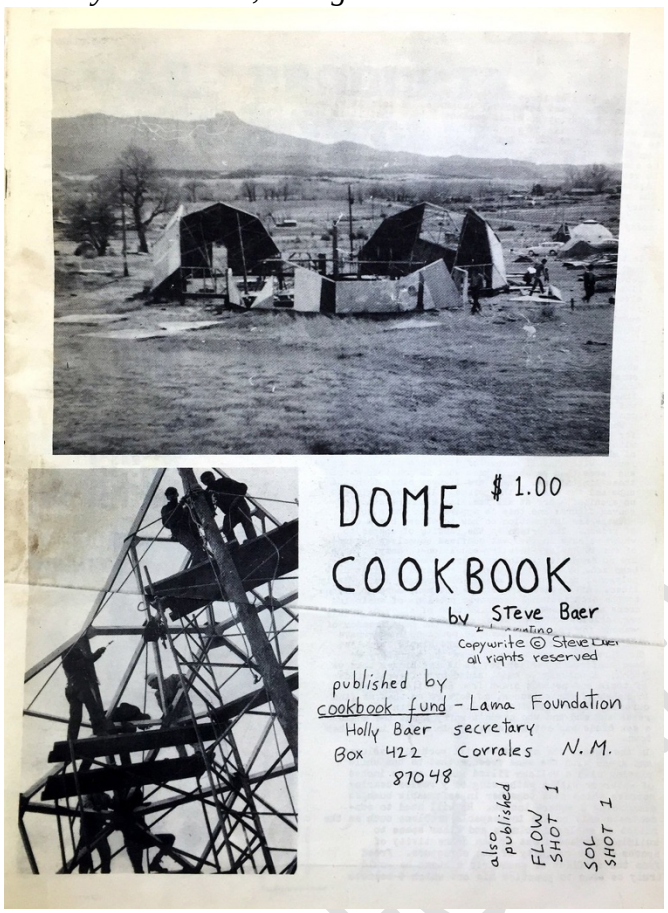


Figure 7. *Bioshpere II, Oracle, Arizona, 1987-1991. Credit photo by Deborah Parrish Snyder. Courtesy of Institute of Ecotechnics*

Figure 8. *C.-N. Ledoux, 163. Carte de la Saline et de ses environs (2° project), Saline Royale of Arc-et-Senans in the Le Chaux forest, 1775-1779. Drawing n.14 from C.-N. Ledoux, L'architecture considérée sous le rapport de l'art, des moeurs et de la législation, Paris 1804*

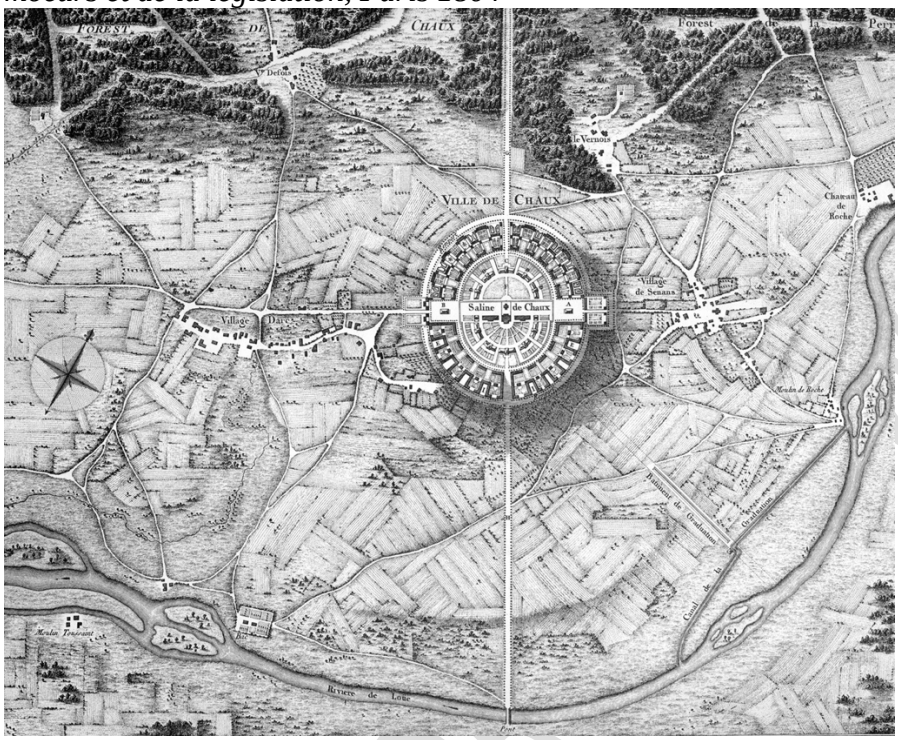
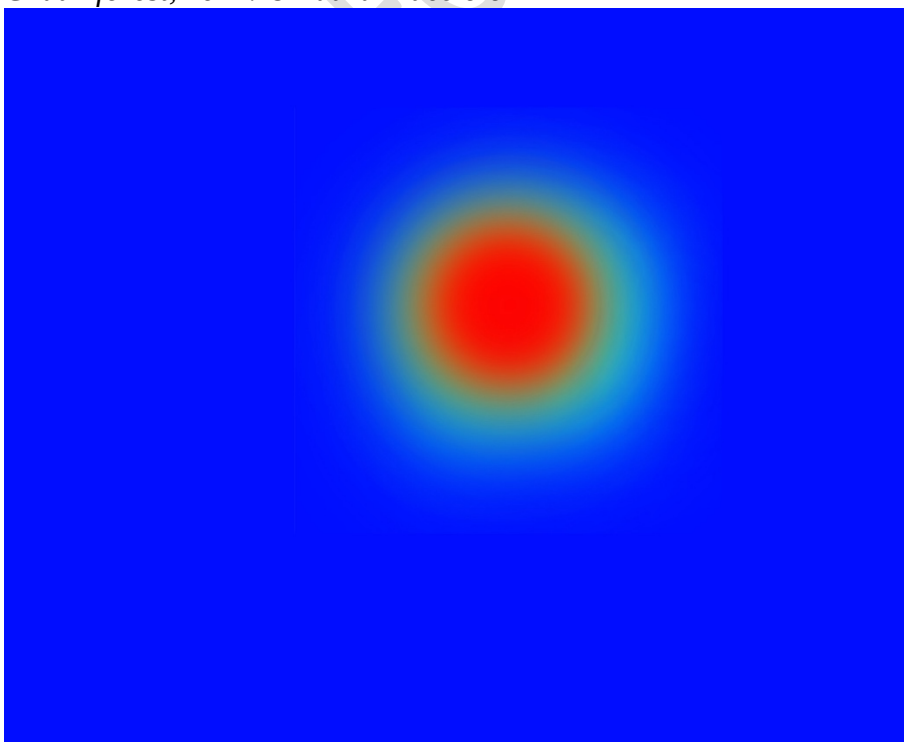


Figure 9. *Energetic Landscape: Saline Royale of Arc-et-Senans in the Le Chaux forest, 2021. © Laura Mucciolo*



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