Water and Asphalt
The Project of Isotropy in the Metropolitan Region of Venice

Through an exploration of the Veneto region close to Venice, in northeastern Italy, Paola Viganò provides an alternative definition of the dispersed territory. Rather than archetypal sprawl, which has developed out of untamed growth of metropolitan areas, this is an ancient landscape of evenly scattered development that has grown up alongside roads and waterways.
Territories of Dispersion

‘Sprawl’ cannot adequately describe a territory of dispersion where specific economies, society and cultures are related to an extended way of experiencing, using, and living in a place. It is a term pertaining to English-speaking cultures, and has a long and heavily connoted history. The phenomenon of dispersion in Europe can be interpreted in at least two different ways: the first emphasises the breaking of an equilibrium, the traditional relationship between town and country; the second insists on development ‘without fractures’ that distributes resources and creates opportunities for individual undertakings. Following the former, sprawl concerns the spreading out of the city and the commuting of its inhabitants; the second deals with traditional conditions of dispersion – for example, a dense network of infrastructures – which, since the 1960s in several parts of Italy, have supported the original economy and territorial form.

The two interpretations often coexist and overlap, but to forget the latter in favour of ‘sprawl’ means, at least for many European regions, accepting oversimplified and generic explanations. There are similarities between sprawl and the territories of dispersion, but the process of diffusion, the extended use of the territory and the mix of functions differ: ancient as opposed to recent; horizontal instead of vertical; integrated more than juxtaposed. In the metropolitan region of Venice, the longue durée dispersion has been related to the presence of specific infrastructural configurations, in particular of a diffused and isotropic sponge of roads and waters – isotropic in the sense that they more or less create the same conditions throughout the territory, whatever the direction and wherever the point of observation. Movements of different kinds can percolate through them.

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Water and Asphalt: Rationalisations

In the territory around Venice, water and asphalt today have different types of relations: they run parallel, constructing the same landscape, or separately defining opposing features. In a very close dimension one can appreciate totally different experiences: you only have to turn the corner and you enter into a different landscape where rhythms and sounds produce an estrangement. The supports of a population whose social mobility has been very high in recent decades, water and asphalt are today in deep crisis. They are no longer considered adequate for contemporary needs and for contemporary imagery: new projects bring to bear a logic of hierarchisation, fragmentation and homogenisation. To understand this hiatus we started by naming. Our vocabulary is ever less rich and ever less suited to understanding how the various devices that make the plain, the high, dry and permeable plain, the mid-wet and impermeable plain, and the low reclaimed plain, work. We encounter a long history of territorial rationalisation: the Roman centuriatio (a technique for the reclamation and subdivision of the land made by a grid of canals and roads of 710 metres/2,329 feet), the river diversions and rectifications, the waterways excavated in the lagoon, the fishing valleys, filling and reclaiming, the building of roads, highways, tramways and so on – a process in which different forms of rationalities have been superimposed on each other.

In a very short and simplified overview, three main periods/events can be identified. The first important rationalisation was the Roman centuriatio. Starting from the 2nd century BC, it developed at the same time as a drainage system, a plot subdivision and a road infrastructure, and proceeds along the mid-wet and impermeable plain, twisting and turning to reach the draining slopes. In the Middle Ages the Benedictine order reclaimed the abandoned system, partially reconstructing it and bringing it into the modern era. The 16th century witnessed the beginning of the great diversions of the rivers entering the lagoon by the Venetian Republic to avoid the silting up of the protective water surface with sand and gravel brought from the northern mountains – the second important rationalisation. The rivers were displaced to the east and to the west of the lagoon in an incredible effort that is at the origin of the new science of hydrology. And in the 1930s, the Fascist period, huge reclamation works were carried out in the low wet areas around the lagoon using polderisation procedures similar to those being used by the Dutch. This third great rationalisation was strong enough to completely change the physical and ecological character of the area.

Each rationalisation has created its own landscape: the centuriatio, for example, combines rows of trees, cultivated fields divided by minor drainage lines, roads and, more recently, houses and factories.

The Project of Isotropy

This study poses three principal questions: What is still contemporary in the past process of rationalisation? Is isotropy a figure of contemporary and future rationality? What new conditions have emerged to enable the conception of a new project of isotropy?

The process of dispersion, as mentioned above, can be related to the spatial configuration of diffused and isotropic infrastructures. The utopia of an isotropic territory lies within the character of this as of other territories of dispersion.
Each rationalisation has created its own landscape. 
Top left: The aggeratio, for example, combines rows of trees, cultivated fields divided by drainage lines, roads and, more recently, houses and factories. Above: The landscape of the dry plain contains the remainder of a mesh of canals transformed in a tree structure of concrete canals in the Fascist period to irrigate the industrial agriculture in the gravel plain. New processes of rationalisation are today modifying these. Left: The landscape of reclamation. The landscape of the low wet plain is the result of a strong process of reclamation during the Fascist period in favour of industrial agriculture. Today the role and function of these areas can be rethought.

View from the hillside towards the plain in the proximity of Vicenza, in the Veneto region. The picture is quite exemplary, showing the way in which houses and industries merge with agricultural features, a dense road network and an even denser water system.

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Water (red) + asphalt (grey) + pits and dumps (black). In the metropolitan region of Venice, water and asphalt define the isotropic conditions. Old pits and dumps are dispersed, but in relation to the geological features, and can be reused to design an extended net of public spaces in relation to water and asphalt.
Isotropy is an extreme and ideal figure: the territory is not perfectly isotropic and it is not homogeneous. Today a new project of isotropy is at the same time the acknowledgement of a territorial specificity, a scenario to be investigated in its manifold consequences, and a design hypothesis that can be concretely devised in terms of intervention on the water system, on roads and public transport, alternative mobility, forms of diffused welfare, innovative agriculture and the decentralised production of energy.

The research here is based on the hypothesis that new conditions now exist for redevising the isotropic space in the metropolitan area of Venice. This is not a big urban project, but an incremental series of undertakings beginning with water and asphalt: the problems of flooding and scarcity demand more space for water; the future of agriculture, after the EU policy of subsidies, is to become a multifunctional landscape; the fragments, often marginal and dispersed, of the modern welfare state, schools, sport fields, playgrounds, public green and so on represent an impressive isotropic distribution that can match with and reinforce a mesh of railways, tramways, waterways and paths; and the energy crises can be tackled with decentralised production. In this framework, isotropy reveals traditional aspects of economic, political and ecological rationality: less costs due to flood damage, an increase in territorial porosity and permeability, both social and ecological. Although not fully accomplished, the great image of isotropy – and its consequences on the design of space – is perhaps the only one able to reconstruct a comprehensive image and the possibility of a territorial design.

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A new project of isotropy is now possible: the problems of flooding and scarcity demand more space for water. The future of agriculture, after the EU policy of subsidies, is to become a multifunctional landscape also for decentralised energy production and woods; and the fragments of the modern welfare state represent an impressive isotropic distribution that can match with and reinforce a mesh of railways, tramways, waterways and paths.

1. Water and flooding areas; 2. More space for the water; 3. Existing woods; 4. Minimum 10 per cent new woods; 5. Roads + railways (in black) + waterways (in red); 6. A new mesh of public transport (each circle is 5 kilometres/3.1 miles); 7. New woods and agricultural areas.
The Territory: A New Scale for Public Space

The paradox of public spaces in the territories of dispersion is clear, revealing at the same time the crisis of traditional urbanity, of the modern concept of public space and the limits of a strongly individualised way of life. A weak structure of small squares, roadside churches, and modern facilities often in marginal and disconnected areas, is dispersed throughout the territory. In recent years, much investment has been made to requalify public spaces within a traditional urban framework, often inventing them where they had never existed and in competition with new places of consumption. The welfare city, highly standardised and isotropic, has found it difficult to represent the peculiar mix of rurality and urbanity of the Venetian territory, and has remained a predominantly functional space.

Public space is something larger. It is an infrastructural space that individuals cannot afford on their own. Yet it is a social space that we consider our own. It is not only related to urbanity or to the modern idea of welfare, but to larger symbolic representations. In a metropolitan region such as Venice, where more than 70 per cent of the land is still cultivated (only producing 2.8 per cent of GDP), the reference cannot be Times Square, nor the village community space. In the European dispersed territories, along the isotropic network of water and asphalt, minimal and large-scale projects can produce denser environments. Flooding areas, former gravel-pits, new forests, irrigation devices, canals and public transport nodes are materials and places with and in which to reformulate the concept of public and the concept of public space. They are dispersed elements that could support today’s different activities connected to an extended use of the territory, to new forms of collective representation and free time. They are not related to an idea of centre and periphery, but to the construction of a field of horizontal conditions for contemporary practices and ecology.

Notes
1. P Viganò (ed), New Territories, Q2, Officina Edizioni (Rome), 2004. See in particular my introduction.