Attractors, repellers and fringe belts: origins and medieval transformations of Arsinoe, Ammochostos, al-Mau'dah, Famagusta, Magusa

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This research poses a number of historical questions about the urban settlement of Famagusta: is it a Medieval, Crusader or a Frankish city? Is there any evidence of an earlier (pre-Lusignan) phase in the urban fabric and in the city walls? Can the application of the *attractor theory* give some results in the reconstruction of the medieval and late antique phases of Famagusta? We can analyse the urban structure of a city synchronically or diachronically, the theory of attractors, assuming that the deformations of urban routes follow the changing morphology of urban limits and centres, can shed some light on a reconstruction of the city. We can consider the city itself as a material historical document, without any opposition with archaeological data and other documents, such as quantitative notarial sources, cadastres, plans and city views.

Most of the written histories identify this settlement with that of Arsinoe, and Ammochostos, interpreting Famagusta as the franchized version of Ammochostos. Starting with a toponymic interpretation the paper seeks evidence of a Roman or earlier phase of the urban settlement, by considering written and epigraphic sources, and analysing the urban tissues with the attractor theory. This analysis is essential to the understanding of the different parts of the urban settlement. The research is an experimental application of some of the urban morphology theories, namely the fringe belts and the attractor analysis, to the understanding of the early history of Famagusta.

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«Non c'è dubbio che la struttura fisica delle città in un determinato momento possa costituire il più sincero documento disponibile sulla società che la utilizza come campo di azione e di produzione»¹

Methodological notes

The attractor theory is an innovative urban study tool based on a diachronic analysis of the configuration of routes. Streets change in time and we can interpret some of the deformations they follow as the result of the attraction or repellence of certain artifacts, defined as attractors or repellers. Once an attractor appears into an urban network of routes, some paths may change their configuration and deviate from their former position. A repeller is the inverse of an attractor, an element deforming the configuration of a path by repelling its traffic. We can infer the position of a disappeared attractor using the formal analysis of the configuration of routes that were attracted by it, determining a sort of diachronic urban stratigraphy (Camiz, 2018).

Outlining a longue durée history of an urban settlement is a complex operation, and within the reconstruction of the early medieval and late antique phases, we must face the lack of archaeological data, and the scarcity of written documentation. Describing the origins and the history of a city is in general a difficult task, it requires a diachronic approach, and specific analytical tools. In absence of written documentation about the city, such as cadastres, statutes and notarial documents, this task becomes even more challenging and therefore interesting. This experimental research merges the few written sources available for the earlier phases of the city with the results of the attraction analysis. The attractor theory² considers the diachronic deformation of routes caused by the different elements acting as attractors

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in an urban environment, such as bridges, city walls, city gates, water infrastructures, markets, and special buildings. By recognising the *attraction* in the route, it is therefore possible to infer the position of the *attractor*. Each *anthropic attractor* has an equivalent *morphological attractor* at the geographical scale³. The analysis interprets the effects of attractors on urban routes and fabrics as a methodology for the reconstruction of Famagusta's late antique and medieval city walls, in continuity with the Conzenian approach⁴, and the research methods of the Italian School of Urban Morphology⁵.

According to Montagu "Famagusta was founded in the year one thousand two hundred and ninety by Henry King of Cyprus, after the destruction of Ptolemais in Syria" (Montagu, 1799, p. 388). He also mentions a different interpretation about the city's origins: "some authors there are, who pretend to give it much higher date of antiquity, by affirming that the emperor Augustus, after the battle of Actium, willing to perpetuate his name in all the parts of the world, erected this city, which he called Fama Augusta, in memory of the fame he had acquired in that final victory" (Montagu 1799, p. 389). Within this general framework we would like to question the idea, generally accepted, that Famagusta is the frenchization of Ammochstos. The application of a Latin name to a Frankish settlement seems unlikely to us, even though not impossible. The place name Famagusta seems to belong instead to a Latin linguistic layer, as Fama Augusta, with the possible meaning of the "Augustus reputation", or the "reputation of Augusta": similar Latin city names include Fama Iulia⁶, Fama Iulia Seria, (Jerez de los Caballeros), Colonia Agrippina (Köln), Caesar Augusta (Saragoza), Augusta Treverorum (Trier), Augusta Raurica (Augst) and Emerita Augusta (Merida)⁷. It should be noted though that in our case "Augusta" could have appeared originally in the genitive form "Augustae", as a feminine noun rather than a masculine adjective. Therefore, it would

- 5 Marzot, N. "The study of urban form in Italy", Urban Morphology 6, no. 2 (2002): 59–73.
- 6 Plinius, Naturalis Historia, III, 14.
- 7 Cfr. also "tit. sacer: Famae Aug(ustae)/ sacrum/ -----", (CIL II, 2/5, 910).

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¹ Guidoni, E. (1978). La città europea. Formazione e significato dal IV all'XI secolo. (Milano: Electa), p. 8.

² Camiz, A. (2017) Nicosia's city walls. The morphological attraction of city gates, In González Avilés, Á .B. ed. Defensive Architecture of the Mediterranean. XV to XVIII Centuries: vol. VI, (Alacant: Publicacions Universitat d'Alacant, 2017): 13-20.

³ Caniggia, G. (1976) Strutture dello spazio antropico. Studi e note (Firenze: Uniedit).

⁴ Whitehand, Jeremy W.R "Issues in urban morphology", Urban Morphology 16, no.1 (2012): 55–65.

remand not to Augustus, the first emperor of Rome, but to Augusta, as a title awarded in some cases to the wife of the Byzantine emperor. In Cyprus, the Roman and Byzantine phases differ from the other areas of the Mediterranean; a Byzantine phase can be clearly recognised only in the XII-XIII century, while the earlier phases are usually not described as Byzantine, for the other influences. In Cyprus, the Roman phase is clearly defined as starting in 58 BC and ending in the VI century. The paper searches confirmation of the hypothesis of a Roman or pre-Roman phase of the urban settlement of Famagusta, by analysing written sources, if any, and analysing the urban tissue through the attractor theory. This will be essential to the reconstruction of the city walls and the understanding of the different phases of the urban settlement.

On the origins of the maritime settlement of Famagusta

The comparative analysis of the few written sources on this city can help to outline a hypothesis on the date of its foundation. Pseudo Scylax's Periplous⁸, a maritime guide compiled in 335 BC, mentions only Salamis, Karpaseia, Keryneia, Lepethis, Soloi, Marion and Amathous as city with harbours on the coast of Cyprus: it seems that at time there was no city and harbour in the place where Famagusta is today. Strabo gives us the first reference to an urban settlement in this part of the island in 12 AD "... and then one comes to the Carpasian Islands; and, after these, to Salamis, where Aristus the historian was born. Then to Arsinoe, a city and harbour. Then to another harbour, Leucolla. Then to a promontory, Pedalion, above which lies a hill that is rugged, high, trapezium-shaped, and sacred to Aphrodite, whereto the distance from the Cleides is six hundred stadia"9. Strabo is accurate on the location of Arsinoe corresponding with that of today Famagusta, but he mentions this same place-name two other times in the text with reference to other sites. "Then to the promontory Zephyria, with 299 a landing-place, and to another Arsinoe, which likewise has a landing-place and a temple and a sacred precinct" (Strab. 14.6.3). This other Arsinoe was a city founded in 270 ca BC by Ptolemy Philadelphus and named after Arsinoe I, his sister and wife. A city of which there is archaeological evidence, corresponding to the site of Polis Chrysochous. Again, Arsinoe is mentioned after Akamas following the coast clockwise from Paphos, and this seems to be the same site since the sacred precinct is mentioned (Cohen 1995). "Then, after Paphus, one comes to the Acamas. Then, after the Acamas, towards the east, one sails to a city Arsinoe and the sacred precinct of Zeus". Nevertheless, we can draft a tentative narrative on the origins of this settlement upon this information. Arsinoe, to whom the city named by Strabo seems to be dedicated, was eventually Cleopatra's sister; in 47 BC Caesar gave back the Roman province of Cyprus to the Egyptians, as a personal gift to Arsinoe IV and Ptolemy XIV¹⁰, so it possible that after receiving the island, a city was founded and named after gueen Arsinoe. We can therefore tentatively assume that following the restitution of the island to the Ptolemies in 47 BC, a city was founded on the coast, with a harbour, and named after Arsinoe IV, at that time the queen of Egypt. The reign of Arsinoe IV did not last long as the following year she was imprisoned by Caesar in the temple of Ephesus and then killed in 41 BC. The urban settlement of Famagusta can tentatively be dated to the I century BC, as a Ptolemaic foundation celebrating the restitution of the island and dedicated to Arsinoe IV. As a matter of fact, comparing this settlement with other Ptolemaic cities we may find some meaningful analogies. Ammochostos (literally buried in the sand), the other place name frequently associated with the urban settlement of Famagusta, appears for the first time in the Stadiasmos (III-IV cent.) as an abandoned city, with no reference to a harbour though. According to Papacostas (2014, p. 26, n. 3) Ptolemy's reference to Ammochostos in the area is due to XIV and XV century annotation to the manuscripts and was not included in the original text. The book of curiosities, a Fatimid text of the XI cent.¹¹ includes a schematic

⁸ Periplous of Pseudo-Scylax, Karl Otfried Müller ed. Geographi graeci minores, vol. 1, (Paris: Firmin-Didot et sociis, 1882) 15-96.

Strabo, Geographica 14, 6, 3.

¹⁰ Dio Cassius, XLII, 35.

¹¹ Savage Smith, E. and Y. Rapoport eds. (2007). The book of curiosities: A critical edition (Oxford: Oxford

The description matches with the location of Famagusta, as following Constantia clockwise, and is described in the text as the only true harbour in the island while all the others are named anchorages. The text describes this harbour as protected from all winds except the euros, the Greek name for the southeast wind, corresponding to the southeast orientation of that harbour, matching the morphological setting of the city. Some have speculated on the derivation of these place-names one from the other, building a genealogy of place names: Ammochostos, Al-mau'dah, Famagusta, which is evidently biased towards an Hellenistic origin of the settlement, this hypothesis seems curious to me because generally place-names don't derive one from the other, but usually either persist or are overwritten in a different linguistic layer. So going back to the book of curiosities, we can consider it a reliable source on the Arabic place name al-Mau'dah in the site of Famagusta in the XI century, approx. 1020. The Anonimo ravennate, a geographical compilation written in the VII century, names Salamis and no other city that may be identified with Famagusta. The Anonymi Stadiasmus Maris magni, a description of the coasts written in the III century AD, names in the same place the abandoned city of Ammochostos. This should be a considered a quantitative source hence the measures of the distance between each port are given in stadia. "A Pedalio ad insulas stadia 80. Urbs ibi est deserta, Ammochostos dicta; portum habet omni vento, at rupes appellentibus occurrunt; cave igitur"¹², "Ab insulis ad Salaminem stadia 50; urbs est quae portum habet. A pedalio ad insulas 80 stadia"¹³. From Cape Greco the real measure is 22,878 km, Pedalion could therefore be the promontory along the coast at circa 14 km south of Famagusta, thus corresponding to the Stadiasmos. The Distance from Ammochostos to Salamis is 50 stadia, i.e. 9250 m, while the real measure is 8800 m circa, and this information matches. The name Ammochostos was used as an adjective more than a city name, meaning literally "covered by sands", so the description of the Stadiasmos is believable, about the position of the islands and the port. Nevertheless, the city is described as abandoned. Anyhow, in the III century, there was an abandoned urban settlement somewhere close to Famagusta, and there was a harbour protecting it from winds. This information could have been used at that time for later descriptions to localise the city, or even to arrive there by ship, finding a "deserted city". The derivation of Famagusta from former place names is not impossible, but very unlikely, because Famagusta, besides its assonance with Ammochostos, is clearly understandable as a Roman a pagan name, and in crusader times, naming a strategic city after the fame of a roman Emperor could have been considered heretic. Anyhow, we cannot prove here that this hypothesis is impossible because there were plenty heretics in that time. Therefore, Arsinoe, is slippery, Ammochostos is not very clear, but al-Mau'dah, is evident and refers to the same site as Famagusta. In the Acta Barnabae we can read a description of this settlement as Barnaba lands in that harbour sailing to Cyprus from the Holy land, showing how in that time the harbour of Salamis was not working anymore and another one named "ad insulas" (en tais legomenais nesois) was used instead. "And having set sail in a ship from Citium, we came to Salamis, and landed in the so-called islands, where there was a place full of idols; and there took place high festivals and libations. And having found Heracleides there again, we instructed him to proclaim the Gospel of God, and to set up churches, and ministers in them. And having gone into Salamis, we came to the synagogue near the place called Biblia; and when we had gone into it, Barnabas, having unrolled the Gospel which he had received from Matthew his fellow-labourer, began to teach the Jews"14. Another reference to Ammochostos is that of "god's servant Abba Kajoumos, imprisoned at Ammochostos" (Megaw, 1974)¹⁵. This manuscript was written in the XI century, reporting VII century events, as the bishop Arcadius

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University press), Bodleian Library, Department of Oriental Collections, MS arab c. 90 f.36

¹² p. 502, n. 304

¹³ i.e. 14800 m, 1 stadium =625 pedes= 185 m

¹⁴ Greek text from von Tischendorf C. ed. (1851). Acta apostolorum apocrypha. Lipsiae: Avenarius et Mendelssohn. Acta Barnaba. 72.

¹⁵ Halkin, F., "La vision de Kaioumos et le sort Eternel de Philentolos Olympiou", Analecta Bollandiana 63 (1945): 56–64.

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was in Constantia in the first half of VII century. Two XII century anonymous pilgrims accounts refer to Famagusta, (Papacostas, 2014, p. 30) and a Pisan navigation manual names twice the "civitas famagosta" in the XII cent¹⁶. In addition, reference to Famagusta is given in the chronicles as the place where Richard Lionheart took refuge during the war against the Byzantines, finding the city abandoned in 1191.

"in initio noctis fugit apud Famagustam civitatem suam. Quo rex audito, in galeis suis ipsum coepit insectari, asserens eum perjurum et fidei trangressorem. Regi vero Guidoni commisit exercitum conducendum ad praedictum castrum Famagustam, initere terreno; quo tertia die perevenit et desertum hominibus reperit. Imperator enim sentiens se non esse tutum obsideri, ne incluso subterfugium, non pateret, in locis asperis delitescebat et nemorosis, ut nostris transituris insidiaretur, Rex Ricadus cum ad Famagustam venisset in galeis suis, maris portus stricitissime preacepit observari, ut si forte fugam attentaret comprehendetur imperator." (Vinsauf, 1191, p. 199).

According to the information provided by Vinsauf in 1191, Famagusta existed as a city, before the war, it was abandoned by the Greek population leaded by Kyr Isaac to move in higher location in a forest as a defence tactic, it had a harbour, it was a castrum (fortified city), there was an "itinere terreno" leading there from Limazun (Limassol).

in planitie amplissima inter mare et stratam regiam, juxta civitatem de Limazun, (Vinsauf, 1191, p. 197)

The only two things we know for sure is that there was an urban settlement in that area at least since (1020-1050) and that it was named Famagusta at least since XII cent. e. So on one hand the material evidence of the city, on the other hand the immaterial source of its place-name. The two informations somehow seem to coincide somewhere in the XI-XII century, narrowing down the possible hypothesis on the foundation of this urban settlement. Therefore, this city definitely cannot be a Lusignan foundation, and it name cannot belong 301 therefore to the medieval time.

Possible foundation dates of the urban settlement of Famagusta

Hypothesis A: ancient foundation, Arsinoe, Ammochostos

Hypothesis B: early Roman foundation, Famagusta

Hypothesis C: Arab foundation, al-Mau'dah, VII cent, arab founded city

Hypothesis D: relocation/renomination of former settlement, Salamis, Costantia, Constantina Avgvsta, Φαύστα wife of Constantius II (337–361), but cfr. Also Nova Justinianopolis, (middle VI cent.) (Hill, I, 288)

Hypothesis E: early Byzantine foundation, named after Constantine's mother FLAVIA IVLIA HELENA AVGVSTA, or daughter Constantina Avgvsta, or Φαύστα wife of Constantius II, Αίκατερίνη wife of Isaac I Comnenos, Άννα Δαλασσηνή, Mother of Emperor Alexios I Komnenos, they all held the title of Augusta

Hypothesis F: Arab-Byzantine foundation

Hypothesis G: late Byzantine foundation or renomination, post 965 reconquer

Hypothesis H: Medieval foundation or renomination, Famagusta (cfr. Augusta in Sicily, founded by Frederick II, 1232)

The early appearances of the name Famagusta (XII ex. Pisan portulan and in 1211, Wilbrand) seem to rule out option H, together with the earliest appearance of the settlement of Famagusta (1020) which could indeed have another name at that time. The existance of smaller city walls is attested by Elias' description in 1563 at the time when Venetians were building the new walls and their position is shown in detail in the model of the city in Venice, wrongly referred as Morea. "It is a fortified town, girt with a double wall, commanded by a fine large and solid castle" (Elias of Pesaro, 1563). Konrad Grünenberg's city view shows clearly that the city walls in 1487, eventually before the Venetian rule (1489), were surrounded by a moat, the city walls also show crenellations and windows at a lower level.

Gauthier Dalché, P. (1995) Carte marine et portulum au XIIe siècle. Le Liber Existencia riveriarum et 16 forma maris nostri mediterranei, (Roma: École française de Rome), p. 129, 171

Conclusions

The layout of the urban settlement, as given by the cadastral plans¹⁷, shows a central core with a prevalent orthogonal street grid based on a modulus of 71 m, which is typical of Roman and Hellenistic urban foundations. The streets outside of this area follow a complex curvilinear pattern, leading toward the central part and therefore apparently attracted by the central core. With the exception of the cathedral, there are no Christian churches inside the central core. There is instead an interesting alignment of churches along a curve surrounding the central area, which we could interpret as a fringe belt. If there was, an early planned pre-Christian urban settlement in this area, it the later development the construction of Christian temples would have prevalently been localised outside of the existing built area determining therefore a fringe-pattern. Following this phase, the further development of the street layout and the surrounding urban tissue, would have been based on converging paths, leading to the gates of that earlier settlement. We assume that the location of the Palazzo del Provveditore, formerly the King's Palace, and the main square, corresponds with the Gates of the earlier settlement. In addition, we can notice the alignment of most of the medieval churches along a curvilinear path, leading from the territorial route following the coast towards that same square. Unfortunately, most of the original medieval urban tissue of Famagusta was demolished during the British rule, and the stones used for the construction of the Suez canal in Egypt, so there is not much left of that original configuration (Walsh, Edbury and Coureas, 2016). Nevertheless, the configuration of the routes inside the city walls, is probably conservative of the original one, and can be used to infer some information about the diachronic evolution of the urban settlement. The urban settlement of Famagusta can tentatively be dated to the I century BC as a Ptolemaic foundation celebrating the restitution of the island and dedicated to Arsinoe IV, and was later Romanised as Fama

302 restitution of the island and dedicated to Arsinoe Augusta after the battle of Actium in 31 BC.

¹⁷ Department of Lands and Surveys, Cyprus, 1930.

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Figure 1a. Francesco Bertelli, Partie orientale de Chypre, Venetiis 1570, Bibliothèque nationale de France, Département Cartes et plans, GE D-13952; **1b.** A view of Famagusta shows the city walls before the Venetian transformations, Konrad Grünenberg, Beschreibung der Reise von Konstanz nach Jerusalem, Bodenseegebiet 1487, Badische Landesbibliothek Karlsruhe, Cod. St. Peter, pap. 32, ff. 26v-27r.



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Figure 2. Map of Cyprus, Book of curiosities, 1020, Bodleian Library, MS arab. c.90, fol. 36b.

Figure 3. In red the limits of the planned orthogonal urban centre, in green the first fringe belt determined by Christian buildings surrounding the urban core, in green the original route connecting to Salamis attracting the position of medieval churches.

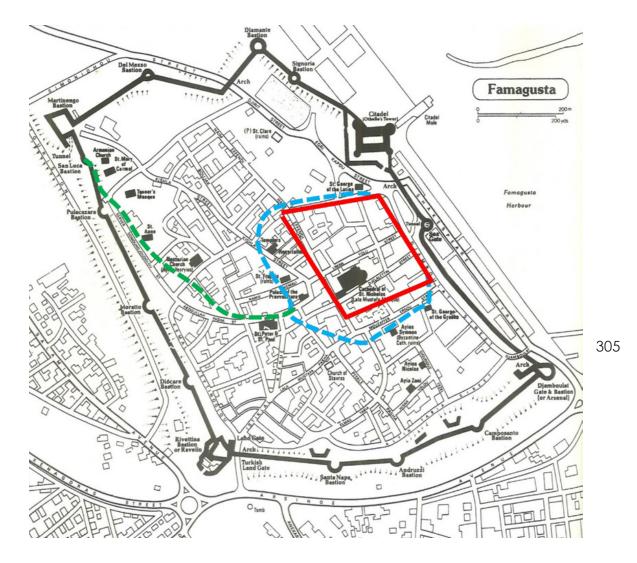
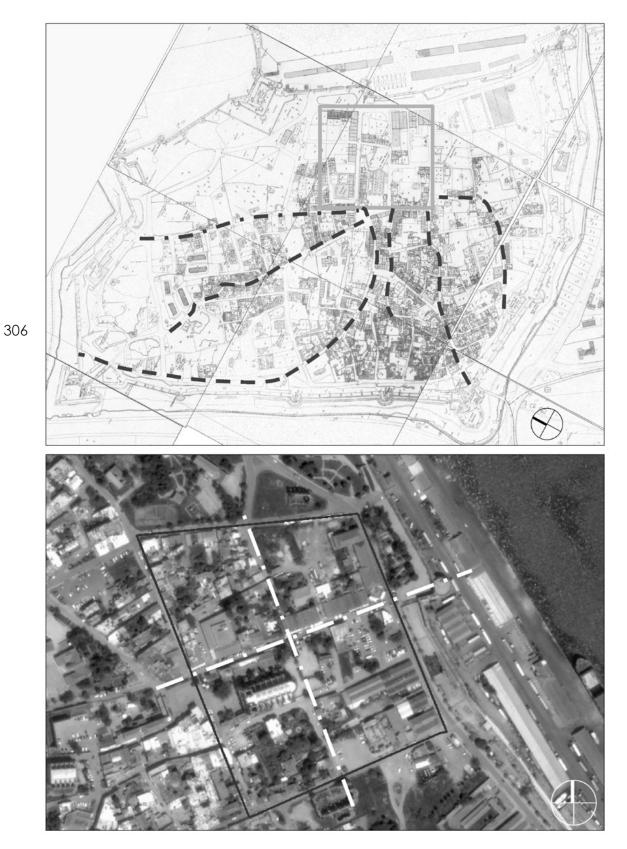


Figure 4a. The planned orthogonal urban centre attracting the medieval urban routes, author's elaboration on the mosaic of Famagusta's cadastral maps, Department of Lands and Surveys, Cyprus, 1930; **4b.** The limits and the axis of the planned centre of Famagusta, author's elaboration on Google Earth, 2017.



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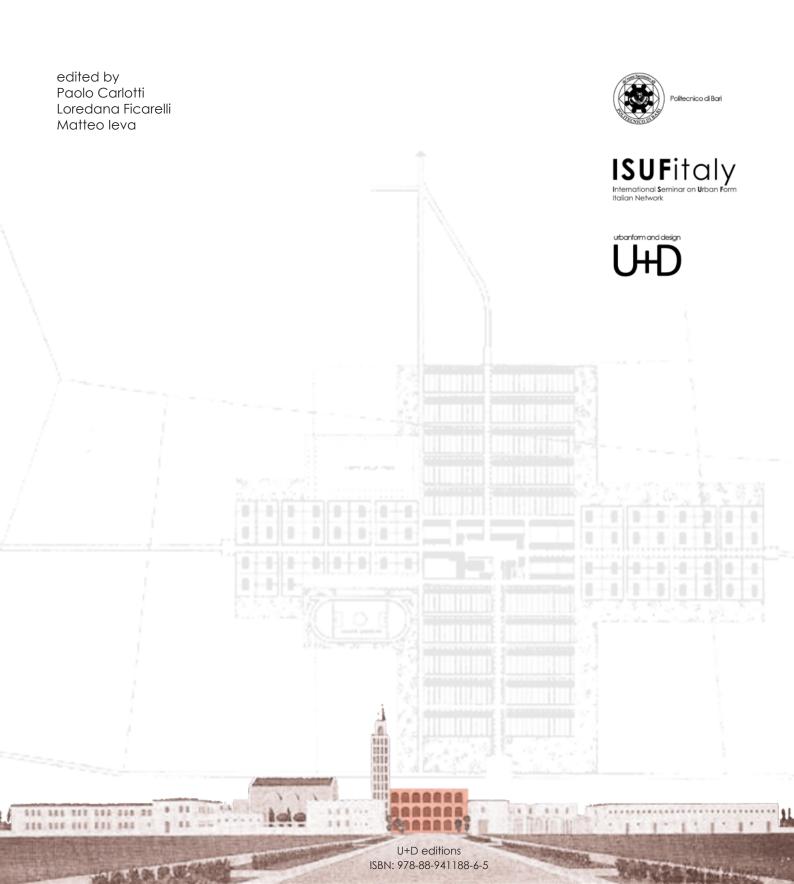
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Presentation

The city is an "organism in the making", an entity in constant transformation, not a complex of immutable elements. The city represents the entire human experiential field of the world, considered as expression of a "fundamental movement of existence" in its completeness and historicity, expressed by the formative structure of tissues and building types, by the urban hierarchies, by the relations with the territory, by the social relations, and by the values and criticalities. The conference's aim is to propose a dialectical comparison between scholars of Architecture, Urban Planning, Urban History, Restoration, Geography, on the theme of urban morphology with an interpretative perspective based on the concept of "operating history". Search for a multidisciplinary syncretism that eludes single analyzing techniques and aims to the complete reconstruction of the urban phenomenology in its totality and concrete essence, through the study of the changing and inflexible condition of 'fluidity' hinged on the world's events. An integrated thought based on the critical concept of 'making' that constitutes, phase by phase, the signifying element of each present, explained through the relationship between the before and the after: that is the research perspective of 'being' that announces the notion of transformational process. Therefore, the projection in the future of the urban form is the central theme of the conference that proposes to stimulate the reflection on the issues as: recovery (not only of the historical city), re-use of existing urban spaces, regeneration, ex novo design in peripheral and peri-urban areas and natural spaces. All that, without neglecting the issue of sustainability, not considered with the strabismus of those who surrender to the "technique" pre-domain.

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