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Università degli Studi di Napoli Federico II

Via Toledo, 402
80134 Napoli
tel. + 39 081 2538659
fax + 39 081 2538649
e-mail info.bdc@unina.it
www.bdc.unina.it

Direttore responsabile: Luigi Fusco Girard
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Indice/Index

- 153 Editorial
Luigi Fusco Girard
- 159 Wastescapes in port cities. Naples and Rotterdam: a spatial and institutional comparison on the role of ports as promoters of circular economy
Libera Amenta, Paolo De Martino
- 181 The long history of the urban centre and the territory of Pozzuoli port city through natural catastrophes and its extraordinary resilience
Teresa Colletta
- 205 Pausilypon. Architetture di antichi e nuovi riti di accesso
Lilia Pagano, Simone Guarna, Ilaria Vitellio
- 225 La regolamentazione delle tecnologie di informazione e comunicazione nei siti di interesse storico-culturale: uno studio per Monteriggioni
Paola De Joanna, Antonio Passaro, Luca Buoninconti
- 237 Il riuso del patrimonio culturale religioso: criteri e strumenti di valutazione
Luigi Fusco Girard, Antonia Gravagnuolo
- 247 Gli immobili ecclesiastici degli enti religiosi: riuso e valorizzazione sociale
Francesca Giani, Francesca Giofrè
- 267 Fattore umano e sicurezza nei protocolli di certificazione a scala di quartiere
Antonio Acierno, Erminia Attaianese

285 Architettura nelle scuole
Maria Lisa De Cristofaro, Holger König

THE LONG HISTORY OF THE URBAN CENTRE AND THE TERRITORY OF POZZUOLI PORT CITY THROUGH NATURAL CATASTROPHES AND ITS EXTRAORDINARY RESILIENCE

Teresa Colletta

Abstract

Taking into account the results of a previous research of the Mediterranean port-towns in the South of Italy, and some studies on the earthquakes of November 1980 and June 2009, and their effects on the historical centres (destruction and reconstruction in situ), the paper presents a rare example of the long-lasting resilience that enabled a port city to react to a long series of disasters and rebuildings: Pozzuoli in the Campania Region (Italy). The aim of the paper is to connect and combine in the urban history of Pozzuoli two strands of historical analysis: Mediterranean port city research and disaster and resilience studies. In this perspective, the paper examines the long sequence of terrible disasters from antiquity to contemporary age and stress that, from the day immediately following them, there has been a continuity of life and even an improvement of economic activities. The attention is given to three major disasters and the rebuilding and reconstruction of port and infrastructures, by means of iconographic and cartographic sources.

Keywords: port city, disasters, resilience

LA LUNGA STORIA DEL CENTRO URBANO E DEL TERRITORIO DELLA CITTÀ PORTUALE DI POZZUOLI ATTARVERSO LE CATASTROFI NATURALI E LA SUA STRAORDINARIA RESILIENZA

Sommario

Tenendo conto dei risultati di una precedente ricerca sulle città portuali del Mediterraneo nel Sud Italia e di alcuni studi sui terremoti del Novembre 1980 e del Giugno 2009, e sui loro effetti sui centri storici (distruzione e ricostruzione in situ), l'articolo presenta un raro esempio di resilienza durevole che ha permesso a una città portuale di reagire a una lunga serie di disastri e ricostruzioni: Pozzuoli nella Regione Campania (Italia). Lo scopo del lavoro è connettere e coniugare nella storia urbana di Pozzuoli due filoni di analisi storica: la ricerca sulla città portuale del Mediterraneo e gli studi sui disastri e la resilienza. In questa prospettiva, il contributo esamina la lunga sequenza di terribili disastri avvenuti dall'antichità all'età contemporanea ed evidenzia che, dal giorno immediatamente successivo all'accadimento, si è registrata stata una continuità di vita e persino un miglioramento delle attività economiche. L'attenzione è rivolta a tre grandi catastrofi e alla ricostruzione e ricostruzione di porti e infrastrutture, mediante fonti iconografiche e cartografiche.

Parole chiave: città portuali, disastri, resilienza

1. Introduction

The Mediterranean port cities as nodes of the routes of commerce have a continuous urban history from Antiquity to the Medieval and Modern Age.

Founding on the results of my personal research of the Mediterranean port-towns in the South of Italy, and my studies on Southern Italy earthquakes of November 1980 and June 2009, and their effects on the historical centres (destruction and reconstruction *in situ*), I present here a rare example of the long-lasting resilience that enabled a port city to react to a long series of disasters and rebuildings: Pozzuoli in the Campania Region of South Italy (Fig. 1). My aim is to connect and combine in the urban history of Pozzuoli two strands of historical analysis: Mediterranean port city research and disaster and resilience studies. Historians, geologists and geographers (see bibliography) in a vast and relevant literature have studied Pozzuoli and the long series of natural catastrophes that have struck it. There is no specific essay though about the port city extraordinary resilience.

Fig. 1 – The bay of Pozzuoli today from the Square of San Gennaro church



Source: T. Colletta, 2013

I will examine the long sequence of terrible disasters from antiquity to contemporary age and stress that, from the day immediately following them, there has been a continuity of life and even an improvement of economic activities. I will centre my attention on three major disasters and the rebuilding and reconstruction of port and infrastructures that followed, founding on descriptive, iconographic and cartographic sources (Figs. 2 and 3).

The three ports I will discuss are:

1. The large Roman port of *Puteoli* that disappeared for bradyseism and has been identified under the sea by the archaeological sub-water research.
2. The Medieval port located under the promontory of the *Rione Terra*. It is possible to recognize it today as the small fishermen dock.
3. 3. The vice-royal port built in front of the rectangular square of the *Borgo nuovo*, by the Spanish viceroy Pedro de Toledo, in the middle of the 16th century, after the eruption, earthquake and sea-quake of 1538. These last port and pier were rebuilt in the same place twice after the natural catastrophes of the 20th century.

Fig. 2 – G. A. Rizzi Zannoni, Detail of the “Topografia fisica della Campania”



Source: G. Guerra, 1797 (Naples, National Library, Manuscripts Section)

Fig. 3 - The Campi Flegrei (Campi Ardenti = burning fields)



Source: C. Perrier, 1778

We will try to explain every phase of this continuous rebuilding of the port of Pozzuoli to show the town's strong resilience to disasters. The answer to each of them has been the renewal of economic and social functions and a continuous improvement of the coast tissue to offer new opportunities for local people.

2. From the foundation of *Dicearchia* to *Puteoli*

The port of Pozzuoli, with the name of *Dicearchia*, was already used as a landing place and a centre of maritime trade since the Cuman Greeks. As *Puteoli*, it took on a fundamental role in the organization of supplies to the imperial capital, when Augustus designated it as the base for the fleet in charge of corn transport from Egypt and Sicily to Rome.

The foundation of the first settlement of *Dicearchia* on the rocky promontory (528 b.C.) was strictly related to the initial phases of *Pitheussai* and *Cuma*. The Greek geographer Strabo (V, 4, 6) ties the *Puteolanum* bay and harbour to the port system of *Cuma* (1). The *Acropolis* of the Greek *Dicearchia*, on the top of the promontory - now *Rione Terra* -, was an important public and religious point in a commanding position overlooking the natural harbour.

The first settlement of the Roman colony called *Puteoli* (196 b.C.) was organized according to an orthogonal plan, with the *Capitolium* (*Rione Terra*) in the centre. This traditional Roman town - its streets, houses, shops, etc. - was discovered during the restoration of the damaged buildings (2005-2013) under the level of today centre. No archaeological evidences of the Greek archaic period town was found because the Roman maritime colony in the 1st century b. C. modified all the hill's territory from the Solfatara to the sea in a large urban settlement, with *Forum*, outside of the ancient colony nucleus on the promontory.

With the institution of the Roman colony of *Puteoli* in the Republican era there was a sudden urban growth. The ancient Greek settlement clung to the rocky outcrop rising from the sea. The Roman port city spread instead below it, over the raised plateau formed by the tectonic terrace called "La Starza".

In the Augustan age by the architect Lucius Cocceius Auctus, the *Capitolium* and the marble temple of Apollo were built in the *Acropolis* on top of an earlier temple from Sannite times (ca. 421 b.C.) and round it a densely built up residential quarter, organized according to the criteria of the Roman *castramentatio* developed around the *Emporium* and the other port facilities, which could be reached by means of passageways bored through the tuff outcrop.

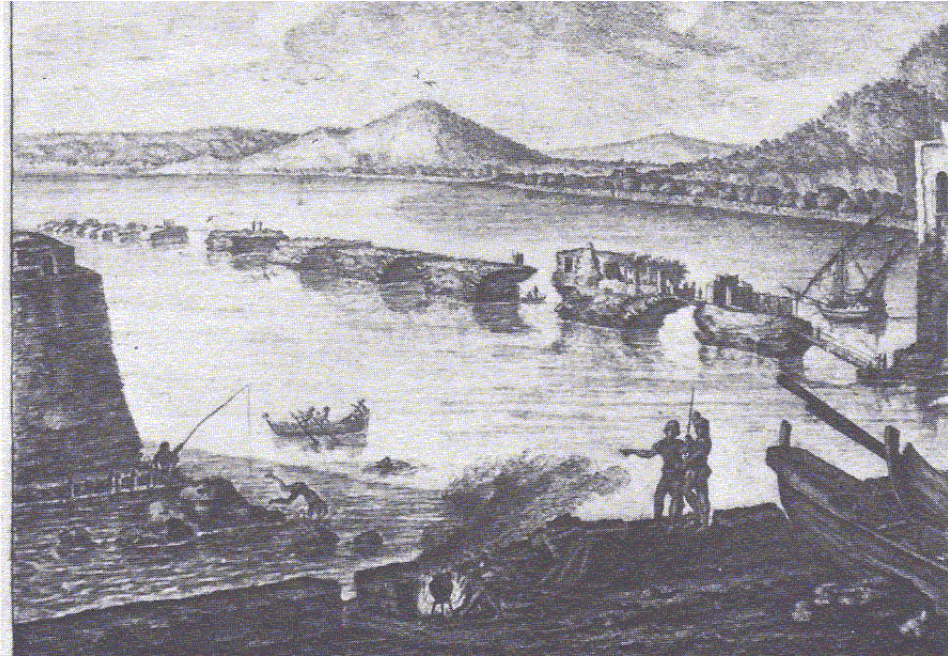
Port and pier too were built during this period. The urban organization and its port were certified by the *Lex parieti faciendo* (105 b. C.).

The jetty of *Puteoli*'s port was among the most impressive examples of maritime engineering of the Augustan age. The Roman structure (the long pier: *opus pilarum*), with its big masonry arches, on account of the on-going episodes of bradyseism that have affected the region throughout the course of its history and particularly in the high Medieval time, is today visible under the sea and a survey has been made by sub-water archaeological experts (2) (Fig. 4).

The long pier is built in *opus caementicia* and the under water archaeologists studied it (1988-1994) in its ancient location, facing East, near the base of the promontory of *Rione Terra* and connected to the town by stairs excavated in the tuffaceous rock. The structure may be seen today in aerial infrared photos (3) and in the reconstruction plan drawn by

Pasquale Sommella in his famous book of 1978 “Forma e urbanistica di Pozzuoli romana” (4).

Fig. 4 - The pier of the Roman Puteoli

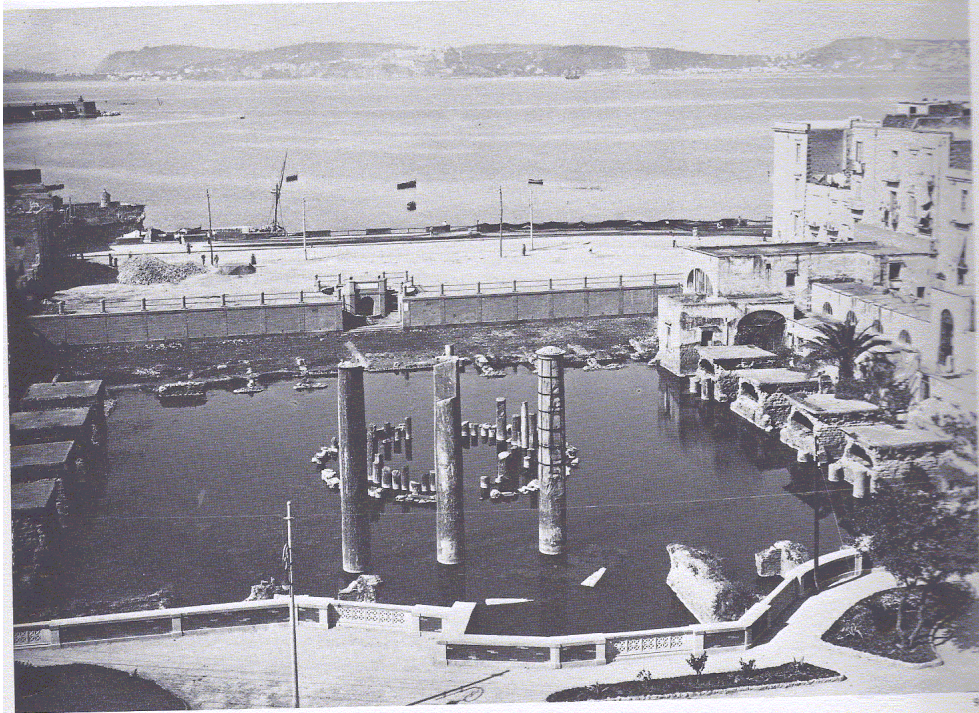


Source: P.A. PAOLI, *Antichità di Pozzuoli, Baia e Cuma, Napoli, 1783*

At the foot of the outcrop stood the commercial public buildings, the *Forum* and the *Emporium*, the major spa-complex known as the *templum of Neptune* and the “Bath of Ortodonico”, the *Flavian Amphitheatre* and the *Macellum*, known as “Tempio di Serapide”/ *Serapeion*. The *Macellum*, a large colonnade used as a market, still in situ in all its architectonic splendour, is not far from the modern port (5) (Fig. 5).

Puteoli in the Augustan age was enriched with spectacular monuments and had to conform to its role of hegemon slipway of the Roman Empire, with a special mercantile relevance for the lines of communication with the ports of the Eastern world: one of the most prosperous ports of the Mediterranean (6). The urban order of the Imperial town is represented in the *Odemira* engraved glass vases of the *Puteoli* series, an exceptional evidence preserved in Prague National and Pilkington Museums (7).

The rich trade of the port spurred the city’s development and its role in transforming raw materials, and it became a major centre for commercial traffic to Rome handing down all the products originating locally and elsewhere in the hinterland. The port city grew considerably in terms both of population and size, extending well beyond the original acropolis, to cover an area of 100 to 200 hectares, with 30,000 to 40,000 inhabitants.

Fig. 5 - The Roman building of Macellum, known as Serapeion Templum

Source: ancient photo, private collection

In Roman times *Puteoli* and not Naples was the major port-town not only of the Campania Region but of the entire Roman Western Empire and a new naval base was added, still visible today in photographic aerial views (8).

With the second century A.D. though for *Puteoli* started a period of wholesale decadence. The causes lay in part in the loss of the city's role as chief commercial port city in the Mediterranean as a result of the construction of the new port of Ostia, near Rome, first *Portus Augustus* by Claudio (46 A.D.) and rebuilt ex novo by Traiano around 100/112 A.D. as *Portus Traiani*, and also of the intensification of bradyseismic activity (9).

3. The contraction of the structure of Roman *Puteoli* and its disappearance in the sea

Puteoli and its *Flegreo* territory (*Campi Flegrei*) completely change their natural and historical landscape in the Medieval Age. Whereas in Antiquity economic growth and natural equilibrium went hand in hand as the territory developed, the *Campi Flegrei*'s protracted Middle Ages saw mutations in the urban and territorial structures as a result of the unceasing volcanic eruptions and bradyseismic activities, that reached a climax in the terrible earthquake and seaquake of 1538.

The urban structure of Roman *Puteoli* disappeared sinking in the sea after two centuries of negative bradyseismic activity.

In the absence of public maintenance, the heritage of Roman roads, aqueducts and buildings degenerated rapidly because, after the fall of the Roman Empire, there was no authority in charge of the maintenance. All the buildings along the coastline were abandoned and were slowly destroyed or disappeared under the sea. The sea coast itself was transformed and the farming land in the plains turned into swamps.

The massive structure of the port, the long pier, literally vanished below the sea level and consequently all the manufacturing enterprises which relied on imported raw materials were forced out of business.

This is the major negative bradyseism in Pozzuoli: the sea reached the *Starza* terraces in the Nord and around the rock in the South (Niccolò Janisilla, 1268)

Between the 9th and 10th century Pozzuoli port city reached the maximum level of submersion: m.6.30 at the *Macellum (Serapeion)*.

The city gradually contracted until it was no larger than the ancient *Acropolis – Capitolium*, now a Medieval *castrum*, for the first time called “Rione Terra”, and the activity was reduced to mere subsistence agriculture and fishing. The town had by now a new function: a defensive fort of the coast line. Pozzuoli became a fortified port-city of the Kingdom of Naples: another proof of its indomitable resilience.

The new structure of the Medieval port was small and located under the promontory, perhaps still recognizable in today fishermen’s dock.

The vulcanic and bradyseismic activity continued and I will give of it only a brief summary because the geological-vulcanic history of Pozzuoli is well known (10).

In the first years of the 11th century the bradyseism inverted its activity from negative to positive; this upward movement continued until 1456: date of a major earthquake in Southern Italy. The earthquake destroyed all the buildings of the Medieval “Rione Terra”, the new settlements built along the coast line between Pozzuoli and the fortress of *Baia* and also many suburbs (as the thermal centre *Tripergole*).

The re-building of the centre had to face the problem of the land newly emerged along the sea and around the small port, with unavoidable quarrels about ownership.

Fig. 6 - Marble memorial tablet set in 1996 on the city palace in Rione Terra.



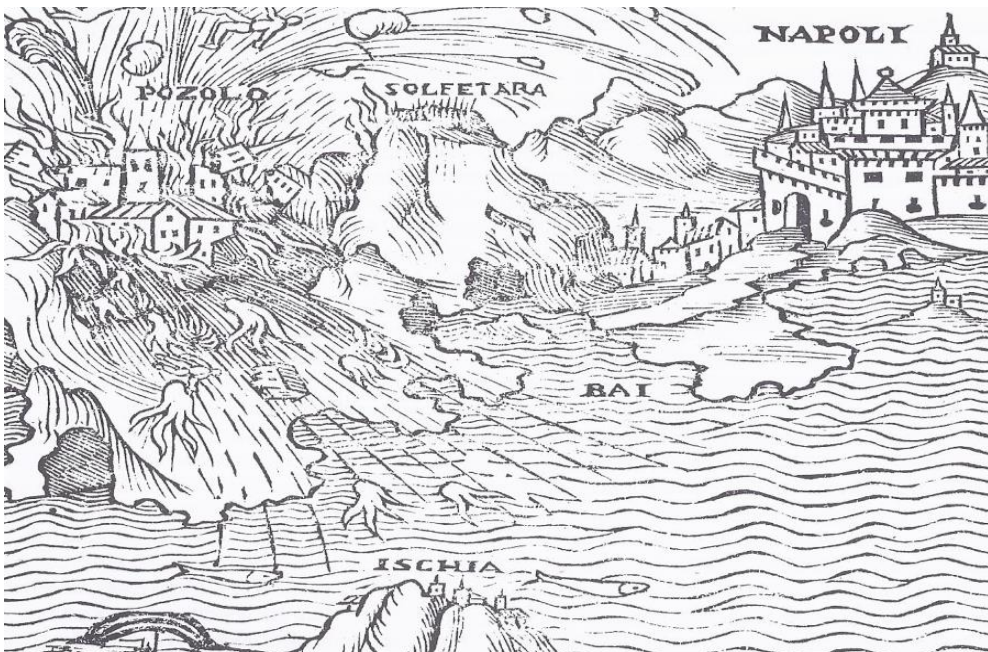
Source: T. Colletta, 2012

Fig. 7 - The view of Pozzuoli and the eruption of Montenuovo



Source: Xylography published in M. A. Delli Falconi, *incendio di Pozzuoli, Napoli 1539* (Naples National Library)

Fig. 8 - The view of Monte Nuovo with the signs of the eruption in the 1539



Source: *Ragionamento del terremoto del Nuovo Monte*, G. Sultzbach, 1539, Naples National Library

The Angevin king Charles II named Pozzuoli “città demaniale” (royal property) for its strategic role in the defence of the bay and of the coast (Royal Privilege, 9 May 1296); that is the birth of the *Universitas*, the autonomous government of Pozzuoli, dependent directly from the king, through a “Capitano regio” (11) (Fig. 6).

In 1501 and in 1503 two “Regulations” (now in the Diocesan Archive of Pozzuoli) were promoted by Ferdinand II of Aragon, king of Naples. All the emerged land along the coast “dove si andava seccando il mare” was granted to the Municipality of Pozzuoli. The port was by now a mere landing place and the *Castrum* - “Rione Terra” only one of many strongholds in the defence of the Flegreo territory.

The earthquake and the terrible 1538 eruption of “Monte Nuovo” and the consequent seaquake completely destroyed the historic tissue of the city and its suburbs, as rebuilt after the 1456 earthquake (Figs. 7 and 8).

4. Pozzuoli after the disaster of 1538 showed its resilience

Medieval Pozzuoli – the *Castrum* and the suburbs – changes completely again its natural and historical landscape with the terrible earthquake-seaquake of October 1538, that involved also the eruption of a new hill: the “Monte nuovo” near Pozzuoli. The terrible event is well described by the contemporary historian Delli Falconi and Mazzella (12).

The change of sea-level caused by the disaster sunk the historical centre and destroyed the built tissue. A new large band of land emerged near the sea coast and the port.

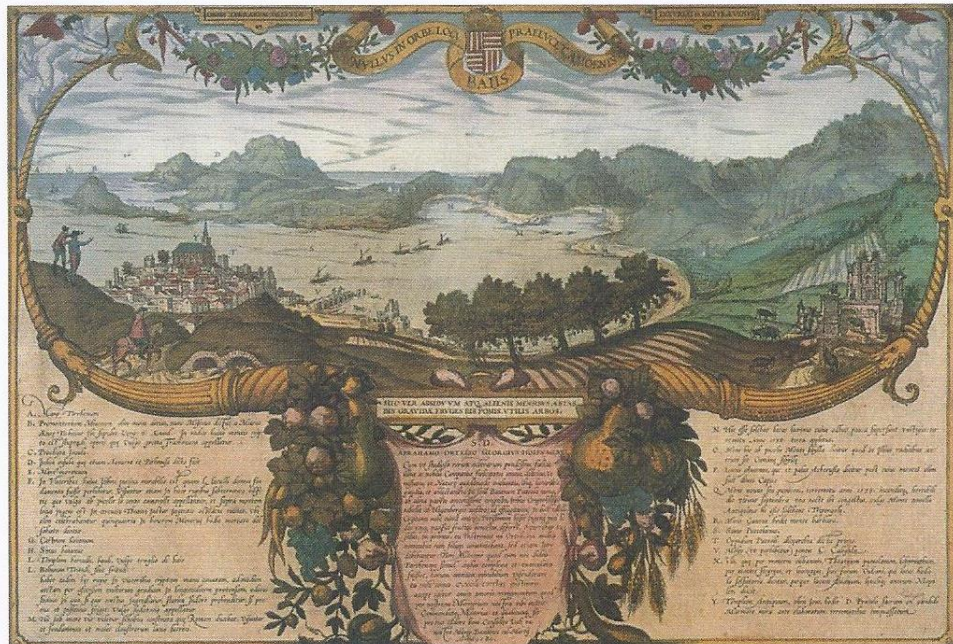
The following interventions of the Spanish viceroy of Naples in the middle of the 16th century helped the port city’s slow revival in both demographic and economic terms. The Spanish viceroy Pedro de Toledo (1540-1547) rebuilt the new centre of Pozzuoli on the land recently emerged from the sea with the upward bradyseism.

He seized the opportunity for rebuilding Pozzuoli centre on an intelligent urban plan: a new port and a new regular settlement on the emerged land – “Borgo nuovo” – were the relevant improvements. The regular plan of the “Borgo nuovo”, built on the western flank of the Medieval *castrum*, on the top of the promontory was considered as a new town, separated from the Medieval settlement. The “Borgo nuovo” was organized in three blocks with orthogonal streets around a large rectangular square; this square opened on the new port and the new pier for easier loading and unloading of the ships. The “Borgo nuovo” was built in the same years of the Spanish military Quarters in Naples along the new long street still called “via Toledo” (1540-1545) on a similar regular plan, but with no square in the middle, because was a military *Barrio quartel* (13).

The new plan promoted by the Spanish viceroy Toledo reduced the taxations on the reconstruction of buildings and bestowed numerous “Privileges” (today preserved in a source named “Red Book” in the Historical Archive of Pozzuoli Municipality) to attract new inhabitants in the almost abandoned port city of Pozzuoli (14).

The rich historical cartography of Pozzuoli, from the drawing of Francisco de Hollanda (1539) and the engraving of Joris Hoefnagel published in the “*Civitates*”/*Theatrum urbium* by G. Braun and F. Hogenberg (1578) to the cartography of M. Cartaro (1584) (15), shows the rebuilt port city enclosed in its new walls. (Fig. 9). The city walls were dominated by the towered Palace/Villa of the Spanish viceroy Toledo in its large green space near “Borgo nuovo”.

Fig. 9 - Joris Hoefnagel, Campania Felicis deliciae



Source: *Iconography of Campi Flegrei*, inserted in G. Braun, F.Hogenberg, *Theatrum Urbium, Liber Tertius, Anthuerp 1580* (in T. Colletta, 1985)

This led to a constant increase in buildings projects and to the renewal of the territorial infrastructures: such as the new pier for the port that now opened on a large new square, and a new coast road (via Napoli) to connect Naples, the capital of the vice-royal kingdom, to Pozzuoli (Fig. 10).

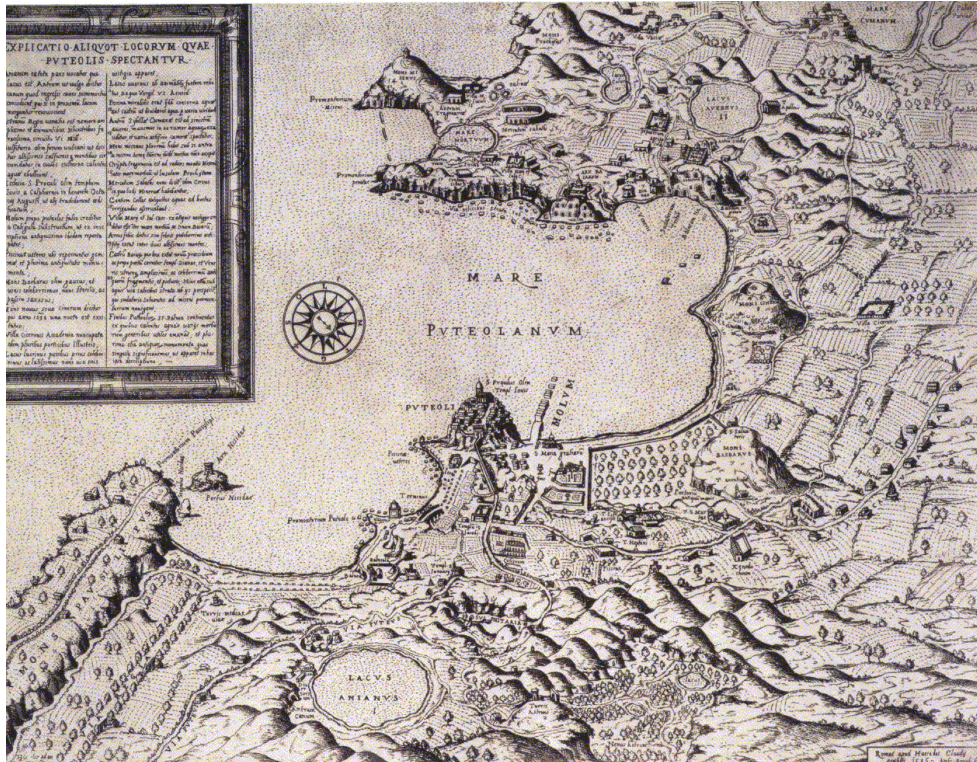
The importance for Naples Viceroyalty of the city walls and of the port of Pozzuoli were acknowledged by Felipe IV in 1643. The Spanish King granted Pozzuoli the “Privilege” of not having to be sold off along with other crown property cities. In so doing he confirmed the stipulations of the Duca de Medina «since it is a maritime site, and has four ports under it, namely Baia, Miseno, Nisida and Pozzuoli and two of the best fortresses in the Kingdom as Baia and Nisida... and many watch towers along the coast of “Campi Flegrei”. Pozzuoli itself is indeed a redoubtable stronghold apt for greater fortifications... and Naples has no port where ships can anchor apart from those supervised by Pozzuoli».

During the 16th and 17th century, Pozzuoli and the coast sites of the “Campi Flegrei” were transformed in a primarily defensive line to protect the Viceroyalty and its capital Naples.

This new phase of the port city is plainly visible in a celebrative historical cartography, “rediscovered” in the Bibliothèque Nationale de Paris and published by me in 1987. The map-maker A. De Cuneo *pinxit* it in 1647 for the Spanish prelate Lèon y Cardenas. The port city of Pozzuoli in this large and coloured hand drawn map, titled *Puteolorum Fidelis Civitas* shows the city from sea after the re-conquest by the Spanish ships of the Neapolitan

vicerealty (1647). Though a celebrative iconography, the view confirms the reconstruction of Pozzuoli port-city, because it features the town “in elevation” (16) (Fig. 11).

Fig. 10 - Perspective view of the bay of Pozzuoli

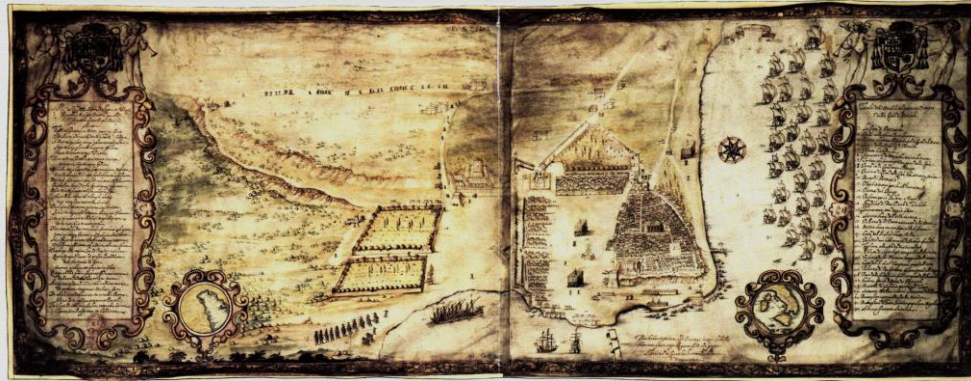


Source: Claudio Duchetti, 1586, the Map Ager Puteolanus, M. Cartaro (1584), Naples, San Martino Museum

This iconographic source shows the urban structure divided in two parts: “Rione Terra” on the top of the hill, clustered round the cathedral that includes the Roman temple of Apollo, and heavily fortified to protect the other part at its foot: the “Borgo nuovo” (Fig. 12). This last surrounds the large rectangular square and is circled by moats and bastions extended down to the seafront where they were used as large piers. The rebuilt port is the centre of the picture, the major attraction of the historical town in these centuries (Fig. 13).

During the two centuries of the Spanish Vicerealty until the pre-industrial period no great disaster was inflicted on Pozzuoli and so there was no rebuilding. All the commercial activities of the port-city (sea-links with the islands, mussels intensive farming, fish market, etc...) were preserved. The conformation of the territory, the landscape, the suburbs along the coast, the entire morphological system and environmental context were respected and above all the peculiar features and resources of the site were developed.

Fig. 11 - A. De Cuneo, Puteolorum Fidelis Civitas



Source: *Iconography of Puteoli during the siege of 1647, drawing with coloured pen, Manuscript, Paris, Bibliothèque Nationale (from T. Colletta, 1987)*

Fig. 12 - The square in Borgo nuovo (today piazza Vittorio Emanuele)



Source: *T. Colletta, 2014, post card c.a. 1910, private collection*

At the end of the 19th century the vice-royal pier was lengthened (1881-1900) on top of the

pilae of the Roman pier, known as “molo Caligoliano”, hiding it once and for all (Historical Archive of Pozzuoli Municipality) (17).

Fig. 13 - The bay of Pozzuoli



Source: T. Colletta, 2014, post card c.a. 1910, private collection

At the beginning of the 20th century the acceleration of capitalistic development and the broadening of the markets required the construction of huge industrial plants and specialised infrastructures, implanted in the territory as so many productive units in a complex economic system, that involved the alteration of territory and landscape. The largest number of new buildings was erected along the two streets that connect Pozzuoli to Naples: one along the coast line the other over the hills. The demographic and urban expansion caused by the new factories greatly modified the configuration of Pozzuoli historical centre and especially the historical landscape (18).

The haphazard configuration of the new housing estates is the consequence of a disoriented, confused policy-making of the territorial administration, and the intervention of public authorities, far from inducing better organization, is always the prelude to uncontrolled and large scale illegality. This prevented a quality response to the new calamities of more recent times (1970-1983).

5. The natural disasters of the 20th century

Steep risings and fallings of the land happened in Pozzuoli in the last thirty years besides the 1980 earthquake. These cataclysms are the cause of the deep transformation of today Pozzuoli port city.

The devastating upward bradyseism of 1970 hit chiefly the ancient medieval centre of the town where the structural degradation of the houses was already fully on (Fig. 14).

Fig. 14 - The streets after the positive bradyseism and the earthquake of 1960-70

Damages to the old buildings was so heavy and the danger of a general collapse so immediate to prompt the decision of a forced evacuation by the Army of all dwellers of the zone called “Rione Terra” (the ancient acropolis). An *ad hoc* law was issued that seized the whole “Rione Terra”, from then on State property, putting an end to all harbour and fishing activities once practised there. The inhabitants were resettled in a new residential area not far from the promontory where the damaged ancient area, by now municipal property, was declared historical heritage (“Legge per Pozzuoli”, L.475, 19-7-1971) (Fig. 15).

The strong opposition to evacuation and resettlement by the concerned citizens had no effect; even though the resettlement was decided with no diagnostic data and no technical assessment (19). This kind of decision is nowadays condemned since it entails the unalterable destruction of a collective asset, in this case the houses and their inhabitants in a medieval nucleus active since the Roman period. There is today a deep awareness of the necessity to safeguard cultural heritage together with its historical environment and therefore with its own inhabitants. As everybody knows, the “integrated urban conservation”, as promoted by UNESCO, ICOMOS, ICCROM and the Council of Europe, holds essential the preservation of the historical centre together with the original cultural landscape (20). In the case of Pozzuoli, all choices were instead motivated solely by the emergency. The buildings were evacuated and displaced people settled in a new neighbourhood: the “Rione Toiano”, new council houses with an adjacent green area, built in 1970 by arch. Luigi Cosenza according to the 1967 law.

Fig. 15 - Public Notice posted for the evacuation of all dwellers of the Rione Terra

Comune di Pozzuoli

AVVISO AI PROPRIETARI DEL RIONE TERRA

Si porta a conoscenza dei proprietari di unità immobiliari ubicate al Rione Terra che il Consiglio Comunale, con atto n. 58 del 23-II-1971, ricevuto dalla Prefettura il 10-12-1971 n. 73235 div IV^a, ha proposto al Provveditorato alle OO. PP. la perimetrazione dello stesso rione (così come risulta dal grafico sotto riportato), per i provvedimenti di cui all'art. 3 del D. L. 1-6-1970 n. 290 convertito in legge 19-7-1971 n. 475.

Al fine di procedere, secondo le direttive della legge speciale, nel modo più spedito ed ordinato possibile, si rivolge invito ai detti proprietari del Rione Terra di volere rivolgersi all'apposito ufficio al Comune (Ripartizione Tecnica) allo scopo di controllare l'esattezza o meno dei certificati catastali dei quali il Comune si è munito.

Tale controllo preliminare è indispensabile per l'erogazione dei risarcimenti previsti dalla citata legge speciale.



Pozzuoli, 3 giugno 1972

**IL SINDACO
Prof. Angelo Gentile**

GRAFICA NAPOLI - AVISOLA - TEL. 80.827

(Il manifesto contiene un errore; il Decreto legge non è del 1.6.1970, ma del 1.6.1971).

At the same time a national competition was launched for a safeguard project for Pozzuoli damaged historical nucleus, State funded and with the aim to reinstate the original

inhabitants. There was indeed a growing request by the community to regain its own historical and cultural heritage. The Municipality launched in 1975 an International Public Competition for a restoration and valorization plan of the historical centre, "Rione Terra". The interdisciplinary project of a group coordinated by Aldo Loris Rossi won the competition with a very interesting integrated plan, which was never realized for bureaucratic reasons; "Rione Terra" was abandoned in its degraded state and without any control (21). A.L. Rossi's project planned the restoration of the buildings of "Rione Terra" and new connections to the port, with the recovery of many old paths escavated inside the promontory as a fast way to the port and its activities; an improvement of the old port and of the facing square as an effective sea-links station.

5.1. The positive bradyseism of 1983 and the contemporary renewal of the port city

The 1980 earthquake caused new damage at Pozzuoli urban tissue and the ensuing demolition of some buildings, but much worse was the outcome of the positive bradyseism of 1983 (22). This earth movement hit the whole historical centre of Pozzuoli, both "Rione Terra" and the "Borgo", ravaging the harbour too and particularly the long *Caligola* pier. This last rose so much that it was impossible to use it any more as a maritime infrastructure. The peak of the caldera was, as in 1538 and as usual, under the promontory. On the whole the earth rose cm.180 in the urban centre with heavy damage to house structures. Totally altered was the harbour layout: no possible mooring at the *Caligola* pier and the fishermen's dockyard made useless. The disaster involved the whole of Pozzuoli inhabited centre (40,000 inhabitants), ruined the disordered post-World War II housings and caused severe economic damage to the urban population.

In 1978 the "Cassa per il Mezzogiorno" had built a large fish market on a plan by Luigi Cosenza with the aim of getting rid of the mediation between fishermen and racket dealers. This building too was greatly damaged and the mooring of fisher boats made impossible.

There was a pressing need of public works for new housing and to restore the commercial functions. The Municipality opted for the resettlement of the entire population of the historical centre because too great was the risk of the collapse of the whole "Borgo". It was decided to build a new town far from the historical centre, the "Monteruscello" neighbourhood, for the evacuated 40,000 inhabitants. The new settlement of 20,000 lodgings was planned and realized through a Convention among the Ministry of Protezione Civile, Pozzuoli Municipality and Naples University (23).

The new settlement in "Monteruscello" for the evacuated citizens, built on a regular urban plan, was ready in a very short time (1983-86). Being quite far from the sea, a new highway was realized to connect it to the old port-city.

The law n. 887 of 1984 included also the restructuring of the port: a terracing to allow the mooring of ships to the existent pier by now m.1,50 higher. In the nineties the dockyard was extended and the *Caligola* pier lengthened for new sea-links. A new pier facing west was created in front of the fish market for trade ships and pleasure boating (Fig. 16).

It is worth stressing that together with the works in the port area a plan for the rehabilitation of the historical centre was realized by convention. It was called "Progetto Pozzuoli, 1985" and it went on for many years: a rare case of rehabilitation of an ancient urban structure with added services and new infrastructures for the local community. A rare case indeed because at the same time the new settlement of "Monteruscello" was under way.

It's noteworthy that everything realized from 1983 on in Pozzuoli was done under the

responsibility of many super-ordinate public authorities that acted and still act in a special “temporary” commissarial system. Even the routine administration of the port is still a concern of the Campania Region and not of Pozzuoli Municipality. Pozzuoli and its port have been therefore permanently under a state commissioner in the last 50 years, and still are. Pozzuoli is actually still “città demaniale” and is managed on behalf of the State by the Campania Region administration.

Fig. 16 - The Rione Terra from the sea during the restoration works



Source: T. Colletta, 2006

The regional department for the infrastructures joined by the Municipality acts with state funding administered by commissioners. It’s a peculiar situation for a Municipality, shared by the local ruling class and endured by the rest of the population.

Pozzuoli port is counted today as an “intermediate port area” and the new project is managed directly by the Region Campania and the military Harbour Office. Here have their cause the constant quarrels with the Municipality about the port use and destination (as in the Municipality resolution n.4 of 6-3-2015). The intent of the municipal administration is to increase the moorings of pleasure cruises at the new branch of the *Caligola* pier (from a personal talk with prof. Ing. Roberto Gerundo, public works councillor of Pozzuoli Municipality, 24-3-2015).

The Municipality new plan for the port includes an expansion and a different organization for the historical port and for the area around it. Even if the port is state property and against the Region Campania new “Regulations” the Municipality believes that Pozzuoli’s future is its port (Municipality Council Resolution n.18, 4.3.2015 in opposition to the “New Regulations for the activities and uses of the Pozzuoli port”).

Ports are nowadays at the core of the city-planned debate and those of Campania are considered levers to reposition the Mediterranean at the centre of the great world trading routes. Ports are planned more as links of the global flowing net of people and goods than as bureaucratic and political filters at national frontiers.

The case of Pozzuoli is atypical: the whole Municipal area is state property, both the port and the restored historical centre “Rione Terra”. After the restoration the buildings are much more tempting and a debate thrives about their destination. Should they remain state property as they are since the expropriation of 1971 caused by the bradyseism, or should the property revert to private hands? Besides the renewal of the port, one must consider the exceptional historical and artistic heritage of Pozzuoli. During the works at the “Rione Terra” under the medieval rock nucleus was discovered the *castrum* of the Roman *Puteoli* and in 2014 was completed the restoration of the Cathedral - Temple of Apollo (24) (Fig.17).

Fig. 17 - The decumanus and the Apothecae of Roman Puteoli under the Rione Terra



Source: T. Colletta, 2015

Fig. 18 - The restored Medieval street of the Rione Terra



Source: T. Colletta, 2015

The enhancement of Pozzuoli port city urban heritage can be a powerful thrust towards a new “Campi Flegrei Gran Tour” connected to the international cruises moored at the new port. The area all around Pozzuoli is rich in archaeological and cultural heritage sites that, if well organized for a specific kind of tourism, could be a real attraction for pleasure cruisers. Pozzuoli urban heritage palimpsest is potentially an incomparable resource for the inhabitants (Fig.18). But touristic activities should be planned to ensure a correct development: a sustainable tourism has to safeguard the unity of urban values.

Urban planning today must aim to an integrated conservation of the historical heritage of cities’ core together with their historic landscape. Tourism is a tool of cultural development and can play a positive role in the development and revitalization of historic towns and urban areas, reflections on policies, principles and practices in the 21st century, ICOMOS International Cultural Tourism Charter (1999) and Valletta Principles (2011).

In Gand (2010) at the 10th International Conference on Urban History “City and Society in European History”, as an organizer I spoke about this theme with the title “The transformation of the urban historical tissue in the 21st century”. In the relative session we addressed issues such as: What is the significance of cultural tourism to urban economies in the past and today? When has tourism entailed threats to the preservation of historical towns in Europe? How have ancient, pre-modern, modern and contemporary historical towns adapted to the needs of tourism? New ideas and good solutions for the promotion of cultural tourism can come only through the challenging collaboration of researchers with cultural and touristic operators (25).

Rather than continue in the promotion of well-known artistic heritage eminences we should think of a radical new role for the meaningful culture of urban life, to point out the tangible and untouchable values of a multilayered Mediterranean port city and its cultural landscape (26).

The experts in urban heritage of the ICOMOS-CIVVIH (International Scientific Committee in Historic Towns and Villages), in the awareness of tourism as a tool of cultural development, can help touristic organizations with scientific programmes for cultural urban tours. Scientific information and promotion could and should encourage more knowledge and a deeper conservation awareness (ICOMOS, “Valletta Principles” 2011) (27).

As to Pozzuoli, I deem that cultural tourism could be today the city’s best opportunity. The wealth of Pozzuoli cultural heritage, if well connected to the activities of the renewed port, could be an economic asset for the inhabitants. Pozzuoli could become a new and important historical place in the routes on the map of cultural tourism in Campania, as one of the most interesting and many-sided port-cities of the Mediterranean (28).

Notes

- (1) P. Sommella, *Italia antica. Urbanistica romana*, Perugia 1988; *Puteoli*: pp. 217-223 with figures nn. 65 and 66: the archaeological plans of the Roman *Puteoli*.
- (2) P. Sommella, *Italia antica...cit.*, pp. 217-219.
- (3) A. Gianfrotta, *Un porto sotto il mare*, in F. Zevi, G. Luongo, G. Buchiner, M. Burzachechi, G. Tocco, C. Gialanella, V. Sampaolo, *I Campi Flegrei*, Ercolano 1987, pp. 101-123 and figures XVIII and XIX.
- (4) P. Sommella, *Forma e urbanistica di Pozzuoli romana*. in “*Puteoli. Studi di storia antica*”, vol. II, Napoli 1978, especially pp.77-84 : “la strutturazione urbana” and fig. n. 167: “the reconstruction plan of *Puteoli* Roman port city”.

- (5) C. Gialanella, V. Sampaolo, *Pozzuoli, on I Campi Flegrei...*, cit., pp. 183-197.
- (6) G. Gros, M. Torelli., *Storia dell'urbanistica. Il mondo romano*, Laterza, Roma-Bari, 1988; especially Pozzuoli: pp. 228-231 and fig. 108.
- (7) A. Maiuri, *Itinerario flegreo*, Napoli 1983, figures nn. 2 and 3. and A. Maiuri, *I Campi Flegrei. Dal sepolcro di Virgilio all'antro di Cuma* (Istituto Poligrafico della Zecca dello stato, 1958), Roma 1970.
- (8) S. De Caro, *Il Rione Terra di Pozzuoli. Le scoperte archeologiche*, Napoli 2005.
- (9) G. Luongo, *Il bradisismo flegreo: storia di una esperienza di protezione civile*, Napoli 1986 and G. Di Natale, G. Mastrolorenzo, *I Campi Flegrei e i fenomeni bradisismici*, in "Scienze-Scientific American", n. 306, 1994, pp. 30-42; G. Luongo, *I segni delle eruzioni*, on *I Campi Flegrei...*, cit., pp.73-89.
- (10) A. M. Delli Falconi, *Dell'incendio di Pozzuoli*, Napoli 1539; S. Mazzella, *Sito et antichità della città di Pozzuoli e del suo amenissimo distretto ..*., Napoli 1591; G. De Lorenzo, *L'attività vulcanica nei Campi Flegrei*, in "Rendiconti dell'Accademia delle Scienze, Fisica e Matematica", serie 3,10, Napoli 1904; A. Scherillo, *Vulcanismo e bradisismo nei Campi Flegrei* in: "I Campi Flegrei nell'Archeologia e nella Storia" (Atti dei Convegni Lincei n.33), Roma 1977, pp.81-116; M. Rosi, A. Sbrana, C. Princoppe, *The Flegrean Fields: structural evolution, volcanic history, and eruptive mechanism*, in "Vulcanologic Geotherm Res.",17,1983; P. Gasparini, U. Leone, (editors) *Che succede ai Campi Flegrei?* in "Ambiente,rischio ,comunicazione", review of A.M.R.A. (Analysis and monitoring of environmental risk) Institut of University of Naples "Federico II", monographic number, n,5, February 2013, especially R. Scandone, L. Giacomelli, *Cronache di un'eruzione: la nascita di Monte nuovo nel 1538*, pp. 25-32.
- (11) R. Giamminelli, *Il centro antico di Pozzuoli, Rione Terra e Borgo*, Napoli, Civita Edizioni,1987, p. 31.
- (12) A. M. Delli Falconi, *Dell'incendio di Pozzuolo*, Napoli 1539; S. Mazzella, *Sito et antichità della città di Pozzuoli e del suo amenissimo distretto ..*., Napoli 1591.
- (13) T. Colletta, *Pozzuoli città fortificata in epoca vicereale. Una mappa inedita conservata alla Biblioteca Nazionale di Parigi*, in "Storia dell'Urbanistica. Campania I", monographic number "Pozzuoli" editor T. Colletta, luglio - dicembre 1988, pp.7- 40; T. Colletta, *Pozzuoli. Il Borgo nuovo*, in T. Colletta, (editor), *Le Addizioni urbane storiche nell'Italia meridionale dal Quattrocento all'Ottocento*, "BDC. Bollettino del Dipartimento di Conservazione dei Beni Architettonici e Ambientali", monographic number 11/2011, pp. 47-58.
- (14) P. Lopez, *Pozzuoli nell'età moderna, Quattrocento e Cinquecento*, Napoli 1986, pp. 17-18.
- (15) T. Colletta, "Atlanti di città" del Cinquecento, Napoli, ESI, 1984; chap. IV: "La fortuna editoriale del *Theatrum Urbium Praecipuarum mundi (1578-1618)* and chap. V.: "Le immagini cinquecentesche del mito partenopeo", pp. 83-104, figures n. 12,13 and 19; and T. Colletta, *Il "Theatrum Urbium" e l'opera di Joris Hoefnagel nel Mezzogiorno d'Italia (1577-1580)*, in "Archivio storico per le Province Napoletane" (A.S.P.N.), vol. XXI (1983), 1984, pp. 45-102, figures n. 1-16.
- (16) T. Colletta, *Pozzuoli città fortificata*, cit., pp. 17-26, figures 1, 13, 14, and the reconstruction plan of the De Cuneo map (1647) fig. 31.
- (17) A. Cattrau, *Progetto di ampliamento del Porto di Pozzuoli con allacciamento ferroviario e risanamento della bassa Pozzuoli secondo il Piano regolatore del Comune*, Napoli 1919, cit. in R. Giamminelli, *Il centro antico di Pozzuoli...*, cit, p. 67.
- (18) A. Piemontese, *Ambiente e trasformazioni territoriali dei Campi Flegrei* in "Storia dell'Urbanistica. Campania I", monographic number "Pozzuoli" editor T. Colletta, luglio-dicembre 1988, pp. 40-58.
- (19) P. Gasparini, U. Leone, (editors) *Che succede ai Campi Flegrei?*, cit, February 2013; especially P. Gasparini, *Il bradisismo del 1970*, pp. 31-36.

- (20) T. Colletta, *Multilayered Mediterranean port towns and historical cultural landscape. Integrated conservation strategies*, in T. Colletta (editor), *The role of the integrated conservation of cultural heritage for a creative, resilient, and sustainable city*, Franco Angeli, Roma-Milano 2013, pp. 35-47.
- (21) A. L. Rossi, *Il recupero del centro antico di Pozzuoli*, Napoli 1984; A. L. Rossi, *Il Recupero del centro antico di Pozzuoli: linee programmatiche*, in "Progetto Pozzuoli. Rapporto di sintesi sul lavoro svolto al 30 giugno 1985", edited by Ministero per il Coordinamento della Protezione civile, Comune di Pozzuoli, Università degli Studi di Napoli, Napoli, 1985, pp.102-120.
- (22) P. Gasparini, U. Leone, (editors) *Che succede ai Campi Flegrei?*, cit, especially P. Gasparini, *Il bradisismo del 1970*, pp. 31-36 and G. Luongo, *Il bradisismo degli anni 1980*, pp. 36-46.
- (23) R. Gerundo, F. Di Maggio, *Monteruscello: Periferia di Stato?*, Napoli 1998; R. Gerundo, F. Di Maggio, *L'area flegrea tra sisma e bradisima*, in *Terremoto '80 .Ricostruzione e Sviluppo*, R. Gerundo (editor), Napoli, 2012, pp. 203-252.
- (24) The important "discovery" of Roman *Puteoli* under Medieval Rione Terra during the restoration works, together with the monumental ancient Cathedral built on the *Apollon Templum* (restored and in use for religious functions since May 2014) after the restoration winning project of the 2004 International Competition (coordinator prof. arch. Marco Dezzi Bardeschi), are an exceptional attraction for the cultural tourism in the Region Campania.
The palimpsest urban heritage is certainly a potential and incomparable economic resource for the local people, but it is necessary a planning of all the touristic activities to promote a correct development and realize a sustainable tourism for the safeguard of the urban values in the future.
All these archaeological discoveries are studied in the book of Stefano De Caro, *Il Rione Terra di Pozzuoli. Le scoperte archeologiche*, Electa ,Napoli 2005 and all the restoration projects, also the winning project, are in the Catalogue of the Exhibition: *Tempio-Duomo di Pozzuoli. Progettazione e Restauro*, Giannini, Napoli 2006.
About these extraordinary cultural resources I made a report at the EAUH 2014: T. Colletta, *Pozzuoli port city: a long-lasting urban and territory history through the natural catastrophies*, particularly paragraph n. 4: *The contemporary renewal of the port-city as tourist destination with the exceptional archaeological discoveries under the Medieval rock nucleus of the "Rione Terra" and the restored baroque Cathedral in the Roman Augustus Templum (2005-2014)*. EAUH 2014 Lisbon, Main Session M39, "Disaster and rebuilding in Modern Port cities".
- (25) Session ID: S.04 at the 10th International Conference on Urban History "City and Society in European History" in EAUH, Gand 2010, with the title: *Historical European towns and cultural tourism. The transformation of the urban historical tissues in the 21st century* (Organisers: Teresa Colletta -University of Naples 'Federico II-', Anja Kervanto Nevanlinna - Department of Art History, University of Helsinki). All the Papers are now in the web site of the EAUH.
- (26) T. Colletta (editor), *Città storiche e Turismo culturale. Marketing urbano o turismo di cultura?*, Giannini, Napoli, 2012; T. Colletta, *Multilayered Mediterranean port towns and historical cultural landscape. Integrated conservation strategies*, in T. Colletta (editor), *The role of the integrated conservation of cultural heritage for a creative ,resilient, and sustainable city*, Franco Angeli, Roma-Milano, 2013, pp. 35-47.
- (27) Reflections on policies, principles and practice of urban conservation in the 21st century was produced by ICOMOS with the "Valletta Principles for the safeguarding and Management of Historic cities, towns and urban areas" adopted by the 17th ICOMOS General Assembly on 28 November 2011. One of the Principle is "Tourism can play a positive role in the development and revitalization of historic towns and urban areas" (from "Valletta Principles 2011", chap. n. 4: "Proposals and strategies"), see the ICOMOS web sites "Documents and Charters".

- (28) The new project to amplify the port of Pozzuoli by the Extraordinary Commissariat of Region Campania, 2015 (from “New Regulations for the activities and uses of the Pozzuoli port” in Municipality Council Resolution n.18, 4.3.2015). The plan is now in progress and the map is possible to see in the Pozzuoli Municipality Planning Office.

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Teresa Colletta

Dipartimento di Architettura, Università degli Studi di Napoli Federico II
Via Toledo, 402 Napoli (Italy)
E-mail: teresa.colletta@unina.it

