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Earthquakes, natural disasters, reconstruction strategies

Abstract

This essay examines a reconstruction strategy in response to the earthquake which struck Central Italy in the summer-autumn 2016. After a survey of the main earthquakes in Italy in the last century, from Messina in 1908 to Emilia Romagna in 2012, we examine the case study of the historical nucleus of Amatrice, a walled town of Frederick-Angevin origin lying along a ridge. Faced with the clean slate left by the earthquake, a reconstruction from scratch of the entire historical town comes up against the theoretical and operational problem of the conflict between rebuilding “where it was, as it was” and the risk of producing a “historical fake”, which this essay addresses both in theoretical terms and through an operational verification of the architectural project.

Keywords

Earthquakes — Reconstruction Strategies — Natural Disasters

The issues that a catastrophic event raises, whether the latter resulted from war or was of natural origin, are many and rather complex.

Outwith the emergency phase, the issues are of a very different stamp, yet are closely intertwined: questions of an economic nature which concern the productive, agricultural, industrial, and commercial bases of the context affected, along with the associated infrastructural network; urban planning aspects, from territorial and district levels to the municipal level, and the executive plans of individual building sectors; more strictly architectural issues of a morphological, typological, and formal nature, which in turn necessarily involve problems of earthquake engineering and the stances of restoration vs. conservation; the basic residential fabric and local services and, at the same time, the monumental emergences and the pattern of streets and public spaces, with their own phenomena of damage and restoration/reconstruction needs. And behind or alongside all of this, the associated legislative-executive and procedural-managerial framework, with various bodies in charge of the emergency and reconstruction phases, plus the conflict between the prevalence of the central State or the primacy of local self-government, the affected populations and their ad hoc organizations.

As we can see, an almost indissoluble intertwining.

In addition, the dedicated literature also presents a comparable complexity, as temporally vast as it is and fraught with very varied points of view and degrees of approach, not all easily disentangled and recomposed.

It may be easier to orient ourselves if we adopt a specific design stance, reflecting operationally on what the reconstruction strategies were after the main seismic events of last century and the first decades of this century, evaluating the outcomes, the positive aspects, and the most problematic

Fig. 1

Luigi Borzi, Master Plan for the reconstruction of Messina, 1910.



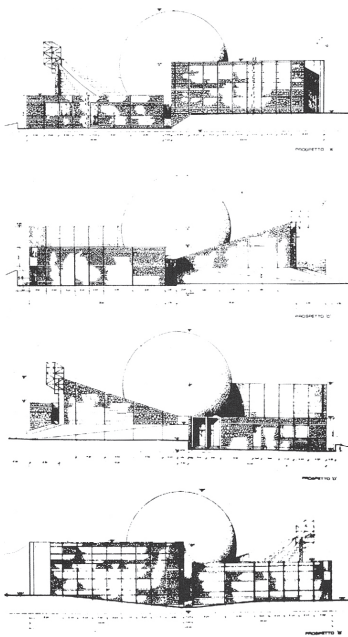
or decidedly negative objective difficulties, the complexities of boundary conditions, aporias, and any success stories. And all of this starting from a concrete case, that of the earthquake which struck Central Italy in the summer-autumn of 2016, with this analysis being steered by the objective of elaborating intervention, urban planning, and architectural projects, which, even in an informed didactic experiment, must tackle the problems and difficulties concretely, verifying possible answers as a part of the project.

Earthquakes and reconstructions in Italy in the 1900s

Regarding the events of last century, we can begin with the Messina earthquake of 28 December 1908. With a magnitude of 7.2, around 90,000 dead and 100,000 displaced, it struck both cities of the Strait, Messina and Reggio Calabria, resulting in an almost total destruction of the former. The reconstruction plan drawn up by the engineer Luigi Borzi, dated 1910, flanked by important architectural work from Francesco Valenti, corresponded to the pre-earthquake morphology which dated back to the 1869 Spadaro Plan, re-proposing the same planimetric and topographic checkerboard layout of elongated rectangular blocks, while bringing the architectural conformation into line with the compositional criteria, building density and contemporary construction methods of the time. To this end, the Plan introduced precise urban planning regulations regarding the width of the roads (a minimum of 10m) and the height of new buildings according to the section of street they overlooked, while complying with the anti-seismic regulations strictly imposed immediately after the disaster by special Royal Decrees. A reconstruction which, despite conflicting opinions, was for the most part evaluated positively, at least until the 1950s, and even more so when compared with the betrayed city of the following decades¹. In this line of intervention, the reconstruction of the seafront, the historic “Palazzata” was of an emblematic value. Beginning from an initial intervention in the 1930s by the architects Camillo Autore and Giuseppe Samonà, the work continued in the following decades up until the early 1960s, with the construction by Giuseppe Samonà of 11 city blocks, characterized by the same line of eaves and an accentuated compositional homogeneity marked by a modern architectural approach, in some ways referable to what has been defined “Perret-style structural classicism”, to be

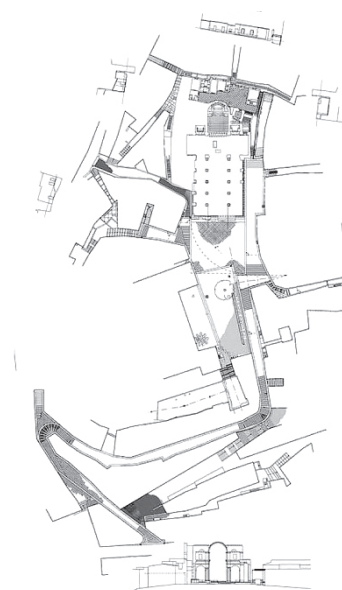
**Figg. 2 a-b**

Giuseppe Samonà, Palazzata di Messina, Block IX, Inps Offices, 1956-58, view and detail.

**Figg. 3-4**

Ludovico Quaroni, Luisa Anversa, Project of the Mother Church, Gibellina, 1970-1972.

Franco Purini, Laura Thermes, System of Squares, Gibellina, 1982-1990.

**Fig. 5**

Alvaro Siza, Roberto Collovà, Restoration and conservation of the Mother Church, Salemi, 1982.



found equally in the contemporary INAIL building in Venice by Samonà and Egle Trincanato.

The case of the Belice quake in January 1968, with a series of aftershocks continuing until February 1969, is more complex and many-sided. With a magnitude of 6.4, around 300 deaths and 70,000 displaced persons, it hit the municipalities of the valley hard, and with differing intensity a series of neighbouring territories in the provinces of Agrigento, Trapani, and Palermo. Compared to the municipalities which had virtually disintegrated, such as Gibellina, Poggioreale, Montevago, Santa Margherita del Belice, others suffered damage of a lesser severity, limited to single parts of the inhabited areas or individual monumental buildings. As a result, also the kind of reconstruction differed, with some cases of newly founded towns at a greater or lesser distance from the pre-existing centres, designed (mostly by the architects and urban planners of ISES, the Italian Institute for Social Housing Development) according to architectural and urban planning schemes based on models unrelated to local tradition, of an abstract Nordic or Anglo-Saxon derivation, and other cases of partial “additions”, with the reconstruction of individual city parts or monumental complexes, alongside more measured and meticulously designed interventions.

Among the newly founded towns, the brand-new *Gibellina Nuova* certainly stands out. Rebuilt about fifteen kilometres below the historical Gibellina, its plan based on a butterfly design is considered not entirely successful and is arguably too sprawling, featuring a series of terraced houses between a pedestrian street in front and a roadway for cars behind. It is however somewhat redeemed, thanks to the tenacious will of an enlightened mayor, Ludovico Corrao, by a sequence of interventions of great artistic and architectural quality. These include the piazzas of Purini and Thermes, the architecture of the public buildings by Samonà, Quaroni, Gregotti, Francesco Venezia, Marcella Aprile, Roberto Collovà, the urban sculptures of Pietro Consagra, Mimmo Paladino, Fausto Melotti, Emilio Isgrò, Nanda Vigo, Alessandro Mendini, and the extraordinary land art masterpiece of Alberto Burri on the remains of the devastated and abandoned historical Gibellina. Meanwhile, the reconstruction of Poggioreale (one of those cases where the bulldozers may have done more damage than the earthquake) has more formalistic implications, both in its urban design and its architectural features,

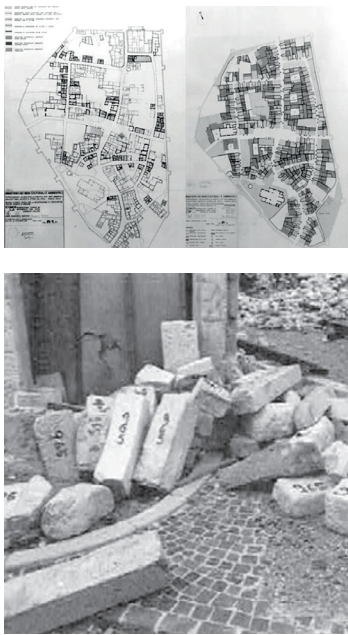


Fig. 6 a-b-c

Venzone, the historical center rebuilt, after the refusal of the inhabitants to remove the rubble, in the ancient typology and with the recovery of recognizable materials. Gianfranco Caniggia, Francesca Sartogo, “Ricerca storico-critica per la ricostruzione e il restauro del centro storico di Venzone”, 1977-79: analysis tables and design scheme.



with a new town built just below the ancient settlement.

The case of Salemi is different again, where Siza and Collovà's intervention on the Mother Church, of a great poetic impact, marks an original line in the face of a stricken monument, which is not that of restoration or completion through anastylosis, but rather of an “archaeological” conservation, after being amputated by the earthquake; a sublimated memory and perpetuation into the future of the community value of the maimed original.

Conflicting opinions, therefore, which, far from being satisfactorily settled, require a differentiated and closer assessment case by case².

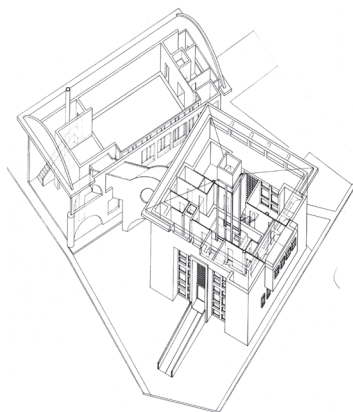
Just a few years later, in May 1976, with repetitions in September that same year of equal violence which definitively cancelled what had been spared by the first shock, came the earthquake in Friuli, with a magnitude of 6.5 on the Richter scale. This resulted in around 1,000 deaths and 45,000 displaced people and affected over 40 municipalities declared as disaster zones, with another thirty gravely damaged in the provinces of Udine and Pordenone, including Gemona, Venzone, Osoppo, Majano, Artegna, Buja, and Bordano, which were among the worst affected.

The case of Friuli is considered a turning point in post-seismic strategies. Without falling into the rhetoric of the so-called “Friuli Model”, or the abused simplification of the slogan “where it was, as it was”, relativized by the protagonists of that reconstruction themselves, suffice it to recall that after that event the Civil Defence organization [It. *Protezione Civile*, t/n] took shape, both centrally and regionally, in direct contact with the local communities involved. We should also remember the decisive choice, vigorously desired by the population concerned, and repeated several times but not always respected, to proceed “bottom-up”, according to a sequence which first favoured production, then housing, and lastly the monuments.

An exemplary case is that of Venzone. There, based on studies carried out by Gianfranco Caniggia and Francesca Sartogo appointed shortly after the earthquake by the Ministry of Cultural and Environmental Heritage, the Archaeological Superintendence of Trieste for Environmental, Architectural, Artistic and Historical Heritage of Friuli Venezia Giulia, and the Italian Council of ICOMOS (International Council of Monuments and Sites) to carry out historical-critical research for the reconstruction and restoration of the historic centre of Venzone, we can witness what is arguably the recon-

**Fig. 7 a-b-c**

Luciano Semerani, Gigetta Tamaro, Osoppo Town Hall, 1978-79, in the center reconstructed and axonometric view.



struction closest to a full-blown “where it was, as it was”. An exact restoration of the morphological arrangement of public spaces, streets, squares, and alignments; a rebuilding of the basic buildings of the residential fabric in accordance with typological processes studied by Caniggia-Sartogo and the resulting detailed plan of the Old Town by Romeo Ballardini. With a reconstruction by anastylosis, after meticulously collecting, cataloguing and numbering the stones left by the earthquake belonging to the main monuments (the cathedral, town hall, other churches, walls, towers, and town gates), and thanks also to the studies and role of such scholars as Francesco Doglioni, the final result is an example of a sophisticated “normality” which is unquestionably convincing, beyond, or in any case preponderant with respect to, the scruple of a supposed sin: the “historical fake”³.

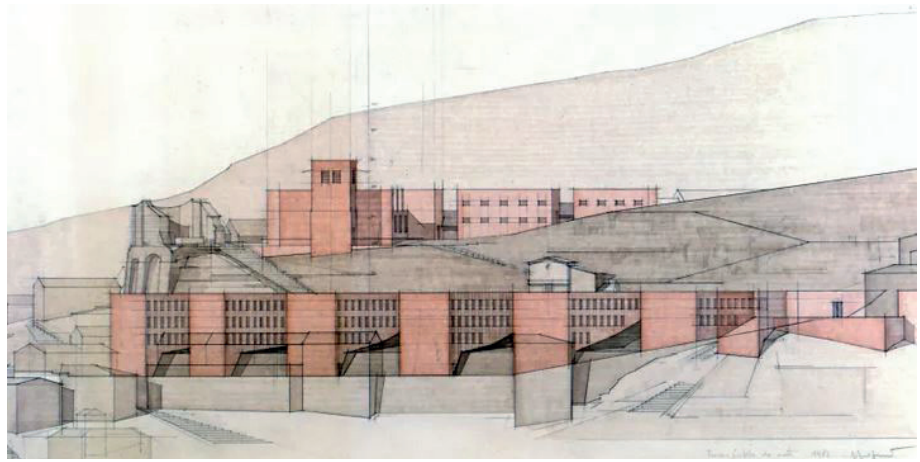
If Venzone, both in the reconstruction of its urban centre and its monuments, can be considered an emblematic example of “where it was, as it was”, other cases of the Friulian reconstruction are the same but in less complete terms, such as Gemona, penalized by a consistent exodus of the population in a fragmented proliferation of buildings below, or Osoppo, where the town hall by Luciano Semerani and Gigetta Tamaro stands out, a happy expression, as Semerani stated, of the will of the inhabitants, but not without “a justified rhetoric”, to build against the violence of the earthquake “the most beautiful and longest-lasting town hall in Friuli”, even within an on-site reconstruction that did not present characteristics of rigour and coherence comparable to those at Venzone⁴.

The Irpinia earthquake in November 1980, with a magnitude of 6.9 on the Richter scale, around 1,900 deaths and 300,000 displaced persons, affected the provinces of Avellino, Salerno, Benevento and, to a lesser extent, Matera and Potenza. Ignoring cases like Conza or Bisaccia⁵, where the somewhat abstract modelling of certain ISES plans for Belice seems to have re-emerged, it was the case of Teora which implemented another possible line of “where it was, as it was”, different if not an alternative to the Friulian one in Venzone, but equally convincing in its desire to preserve the culture and settlement identity of the affected area. The project by Giorgio Grassi and Agostino Renna⁶, having taken stock of the collapses caused by the earthquake and of the areas officially declared unfit for building purposes on the basis of post-earthquake geological surveys, features a



Figg. 8 a-b-c

Giorgio Grassi, Agostino Renna, Recovery project of the historic center of Teora, 1981-83: project drawings, view.



design which could be described as “continuity in discontinuity”, with interventions, typologies, and various works of architecture differentiated by unitary parts in a direct and concrete relationship between the old and the new: the ridge area between the castle and the Mother Church, declared unfit for building, left as an “archaeological” green area, with the remains of the collapses preserved as a memory and testimony of the event; the buildings and the fabric of the Old Town that had suffered minor damage and were included in the areas fit for building, entirely restored applying the principle of “where it was, as it was” (referred to explicitly in the project report, p. 136), based on archival documents, land registers, surveys, photographs; the monuments of the church and castle rebuilt from scratch *in situ*, the latter destined to be a residence, the Mother Church resuming the position of the old destroyed church which, preserved as ruins, became the churchyard of the new one; new residences concentrated in two distinct, self-contained units (below the main street and near the castle), characterized by a marked and essential stylistic unity so as to make them clearly evident and recognizable as separate parts of a strongly, programmatically unitary urban project.

Finally, the most recent reconstructions of L’Aquila (after an earthquake in April 2009, of magnitude 5.9, with around 300 deaths and 80,000 displaced persons) and Emilia Romagna (May 2012) offer few points of reference, given the highly questionable model for L’Aquila, in terms of the settlement sprawl as well as engineering, typological and architectural aspects, of the 19 villages of the much publicized C.A.S.E. project (C.A.S.E. = Sustainable and Eco-compatible Anti-seismic Complexes), while in Emilia the arguably justifiable priority given to the restoration of a productive fabric which is among the most important in Italy inopportunely legitimized the disastrous distortion of a settlement and architectural culture of an ancient rural tradition consolidated over the centuries, from the days of Roman centuriation to our own times⁷.

Towards a reconstruction strategy in Central Italy, 2016

If these are the indications that can be drawn from the Italian experiences of the last century, the earthquake in Central Italy of 24 August 2016, with subsequent tremors and a seismic swarm in the autumn of the same year – but also the following year, involved circumstances and problems in part similar to the national case history of the last hundred years, in part entirely specific. Moreover, it has been observed several times and by several people that each seismic event is a case in itself, and that to identify a reconstruction strategy it is advisable to proceed according to a “case-by-case” approach.

The earthquake of magnitude 6.0 and subsequently 6.5, with around 300

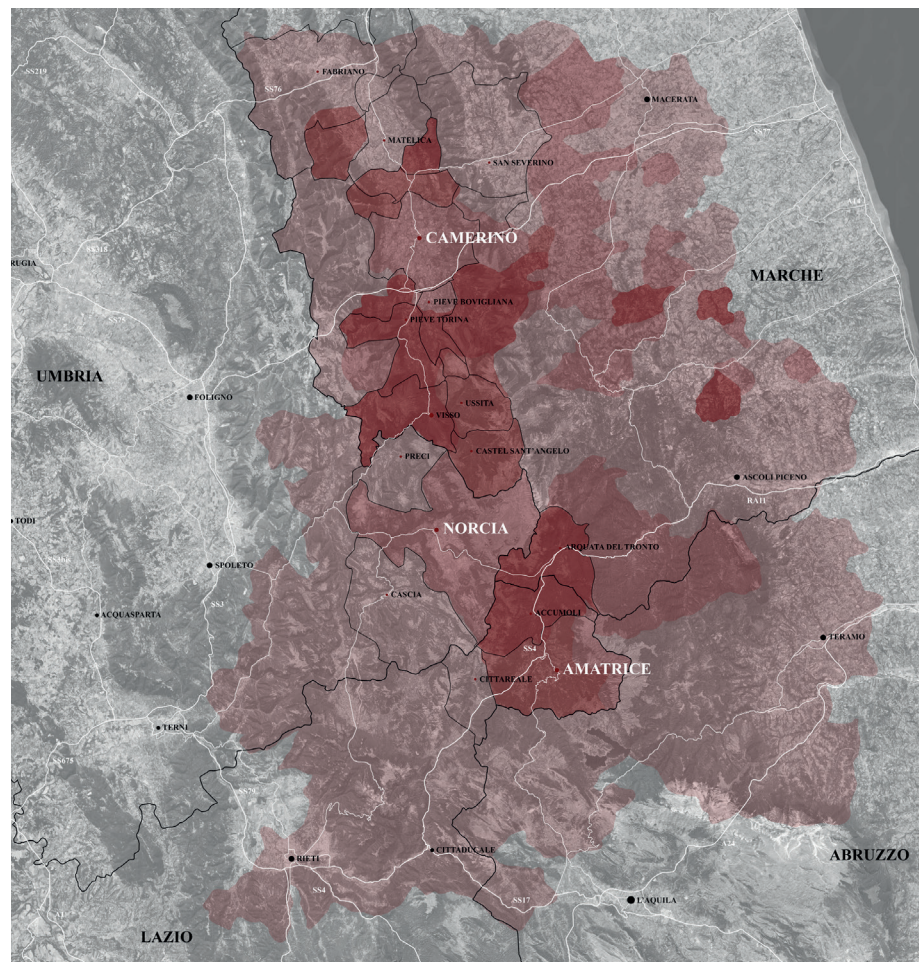


Fig. 9

Crater area of the earthquake in Central Italy, summer-autumn 2016.

victims and 41,000 displaced persons, affected territories and municipalities across four regions, The Marches, Lazio, Umbria, and Abruzzo. This resulted in predictable difficulties from legislative, administrative and procedural points of view to organize and manage the interventions, not only in the emergency phase, but also in the start-up and management of the reconstruction works with their related general and executive plans. And this was a first element of distinction from past experience.

Conversely, from the point of view of the settlement characteristics, the affected territory (assuming the centres of Amatrice, Norcia and Camerino as the most emblematic case studies and examples of planning) presents widespread similarities with some of the earthquake zones of the past, albeit differentiated according to the specific internal characteristics of the individual centres concerned. As in Friuli and Irpinia, and not very differently from Belice, in fact, also the central-Italic crater, a vast area between the internal Apennine ridge and the settlements sloping down towards both the Adriatic and Tyrrhenian Seas, is characterized by a widespread urbanization of towns of medieval origin, regularly walled and clustered around a ridge, with medium-small or exceedingly small centres, scattered across inland hilly or mountainous areas⁸.

Inside the crater, however, disregarding the relative homogeneity of the whole, with reference to Amatrice, Norcia and Camerino, the respective economic structures are very different: that of Norcia marked by the importance of agri-food and dairy supply chains, starting from husbandry (especially of pigs) and agricultural crops, to the subsequent stages of transformation, packaging, and marketing of the related products, with a widespread network of small or even individual artisan and commercial



Fig. 10

Amatrice, historical center: view after the removal of the rubble, summer 2018.

companies. In pole position, that of Amatrice, oriented above all to activities related to tourism and second homes, with the important presence of a higher education facility in the hotel sector of supra-municipal and supra-regional importance; while Camerino, one of the largest of the affected centres, is characterized by the centuries-old tradition of a university town of 14th-century origin and the allied wealth of architectural and monumental presences, even if, in all of these centres, and in the whole area of the crater in general, the monumental component and the charms of the landscape are omnipresent.

The damage inflicted by the earthquake was also significantly different. In Norcia and Camerino it was mostly concentrated in the historical nucleus. On the whole, it was more substantial in Camerino, with the almost complete and prolonged closure of the centre and serious damage to several important monumental buildings such as the Town Hall and the Cathedral; while it was more limited and circumscribed to single sectors instead in Norcia, albeit equally serious there in single monumental buildings such as the Cathedral. On the other hand, in both municipalities, outside the town's walls the damage was much more limited or virtually non-existent. However, both in Camerino and in Norcia, beyond their respective differences, the residential fabric of the historical nucleus remained intact, and although the damage had affected individual monuments and residential sectors, the centre remained completely recognizable and legible in its stratified urban morphology, including the houses, streets, squares, public spaces, and monuments. And this is an important, discriminating fact.

In contrast, Amatrice is a case all its own.

Because there the earthquake practically eliminated the historical nucleus, of which only the ridge axis remains recognizable – the “matrix route” to put it in Muratori/Caniggia's language, and little else: some sections of the churches, a part of the civic tower, a few remnants of houses. But the residential fabric has gone, perhaps also because, as Giovanni Carbonara lamented⁹, the bulldozers and the anxiety of removal did more damage than the actual earthquake.

Nor is the damage to the urban expansion outside the walls marginal, but what differentiates Amatrice from the other municipalities of the crater is the clean slate of its historical nucleus, and the consequent problem of



Figg. 11 a-b

Amatrice: plan of the historic core of the Gregorian Cadastre, first half of the 19th century, and the 2016 pre-earthquake regional technical map, with the historical core, the extra-moenia expansion of the second century and the Arnaldo Foschini complex built between 1921 and 1960.

whether and how to plan its reconstruction.

In other words, at Amatrice, the problem of reconstructing its historical nucleus is of a theoretical rather than operational nature.

Amatrice. A reconstruction project for the ancient nucleus: where it was, as it was?

Of Frederick-Angevin origin, founded, albeit without a certain date, in the first half of the 13th century as a garrison of the Via Salaria, a strategic military and commercial axis since Roman times linking the Adriatic and Tyrrhenian Seas, Amatrice has the pattern of a walled town clustered around a ridge, with its central axis running from the north-west – where the Castello gate used to enter from the areas of the Castellano stream below, to the south-east – where the Church of Sant’Agostino stands and the Carbonara gate beside it, in the direction of a plateau extending towards the Laga mountains, the Gran Sasso Apennines, and the Aquila basin below. Along the central axis with an almost rectilinear course, lies an orthogonal road network, with only two transverse axes and a grid of elongated rectangular blocks of homogeneous dimensions.

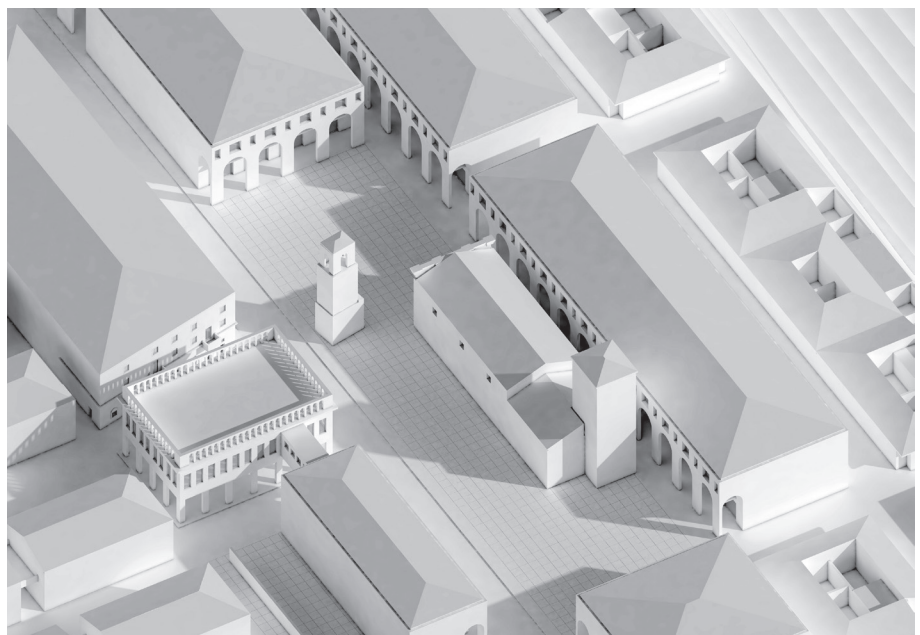
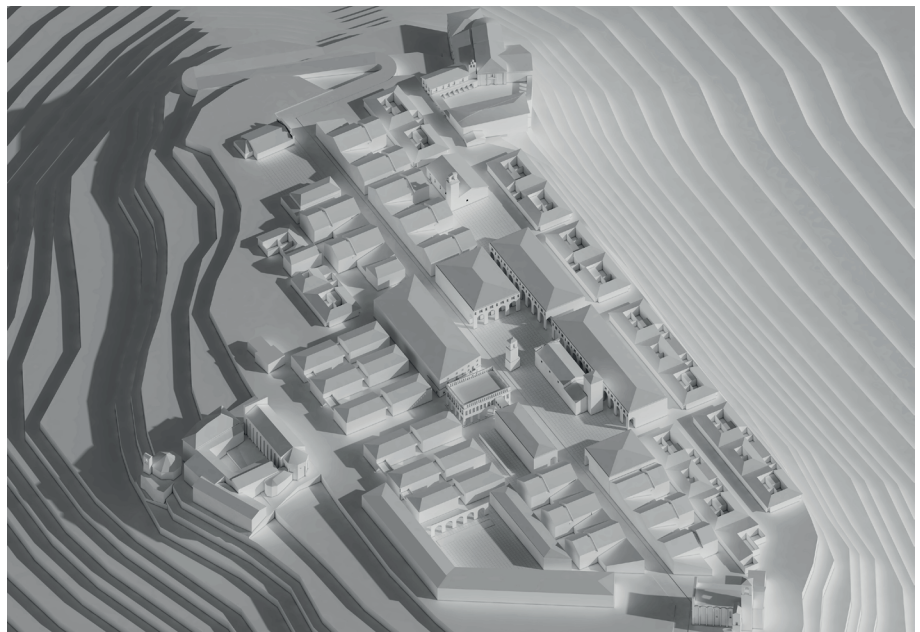
Lying on a sort of spur between the Tronto river to the north and the Torrente Castellano to the south, beyond the complex historical events in the progressive passage from Swabian to Angevin dominion, and then the Papal State with the destruction of the walls by the troops of Charles V in 1529, and despite the frequent earthquakes and subsequent reconstructions, what is important to note is that Amatrice has preserved its original ridge layout with a morphology substantially unchanged over the centuries. A morphology comparable to that of the nearby “New Lands” of Rieti (Antrodoco, Leonessa, Cittaducale) or of the more distant Florentine “New Lands” such as Arnolfo di Cambio’s San Giovanni Valdarno¹⁰.

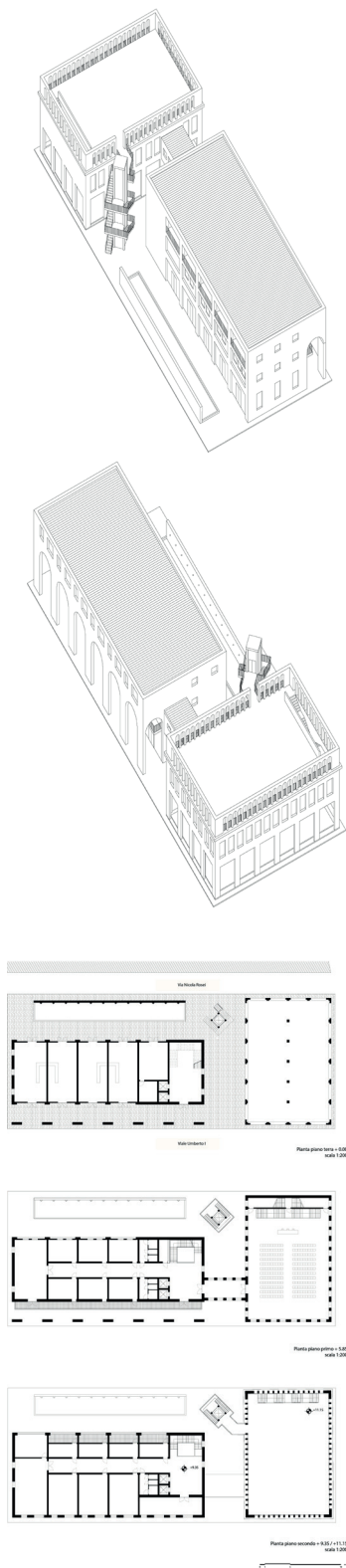
Given the condition of a substantially clean slate as can be seen from the photographic documentation from spring to summer of 2019, with a few monumental buildings classified for the collection and cataloguing of the rubble for the purposes of a conservative philological reconstruction (essentially the churches, the civic tower and two or three historical buildings)¹¹, the choice made in some of the projects developed at the university was firstly that of an on-site reconstruction, discarding any hypothesis of relocation, and secondly, that of re-proposing the historical morphology of the settlement, with the corresponding perimeter of the former town’s walls, the axis of the ridge lying north-west–south-east, and the morphological pattern of elongated rectangular blocks¹².

Having made this initial choice, however, the first theoretical problems arose: should the secondary street network respect the historical one, with

Figg. 12 a-b-c

Enrico Bordogna, Tommaso Bri-
ghenti, Reconstruction project of
the historic center of Amatrice,
2019: plan; overall model; mo-
del of the central square with the
church of San Giovanni and the
civic tower rebuilt by anastylosis
and the new town hall.





Figg. 13 a-b

Enrico Bordogna, Tommaso Bri-
ghenti, Reconstruction project of
the historic center of Amatrice,
2019: axonometric views and
plans of the Town Hall.

only two transverse axes not perfectly perpendicular to the ridge axis? And should the morphology of the blocks, with their respective access roads, respect the historical one, meaning continuous street fronts and substantially constant lines of eaves to mark the rectangular grid? Or, while confirming the central ridge axis, is it possible to think of a “modern”, rational, morphological layout, with a regularized road network and a consequently different arrangement of the blocks? And again, dropping down a scale, assuming the first option, should the architectural reconstruction of the residential blocks propose faithfulness to the pre-existing buildings also in the compositional choices and formal aspects (heights, ways of roofing, elevations, materials, construction systems, etc.), or opt for a “modern”, rational reconstruction?

In other words, having stuck faithfully to the principle of “where it was”, is that of “as it was” perhaps not impracticable? And does it perhaps not necessarily require methods that are contemporary, albeit respectful of the urban and architectural forms inherited from history, not in “literal” terms, but “substantial” terms? Though aware that the qualification “substantial” can only fall within the sphere of the subjective and the discretionary.

In other words (and very schematically), is Caniggia’s model for Venzone valid? That of philological faithfulness at the risk of a historical fake? Or is the Teora model of Grassi and Renna, of “continuity in discontinuity” as previously observed, better?

The two projects presented here, the result of participation in conferences and the presentations of graduation theses¹³, are concrete answers, with the absolute awareness of not wishing to be definitive but wishing to clarify “in doing” the theoretical and operational issues which a theme such as that of reconstruction imposes on the planning obligation.

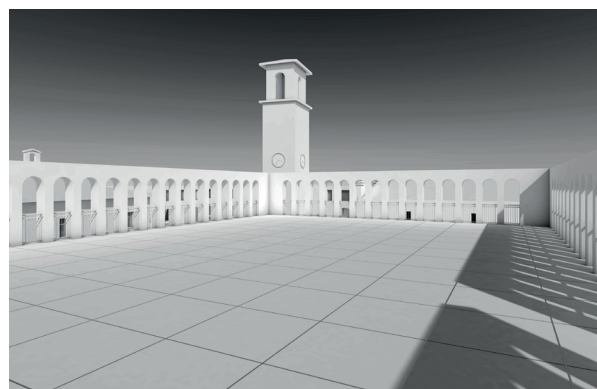
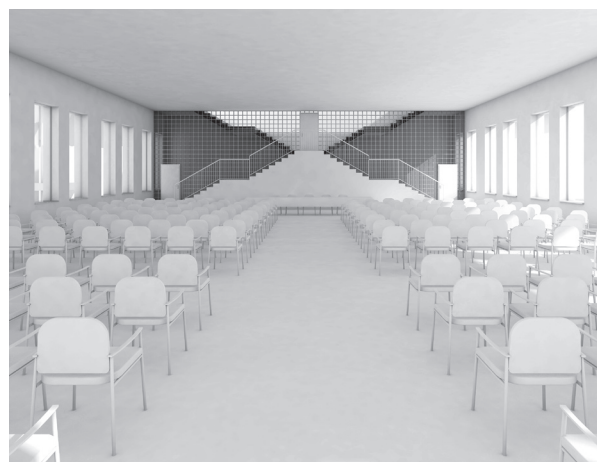
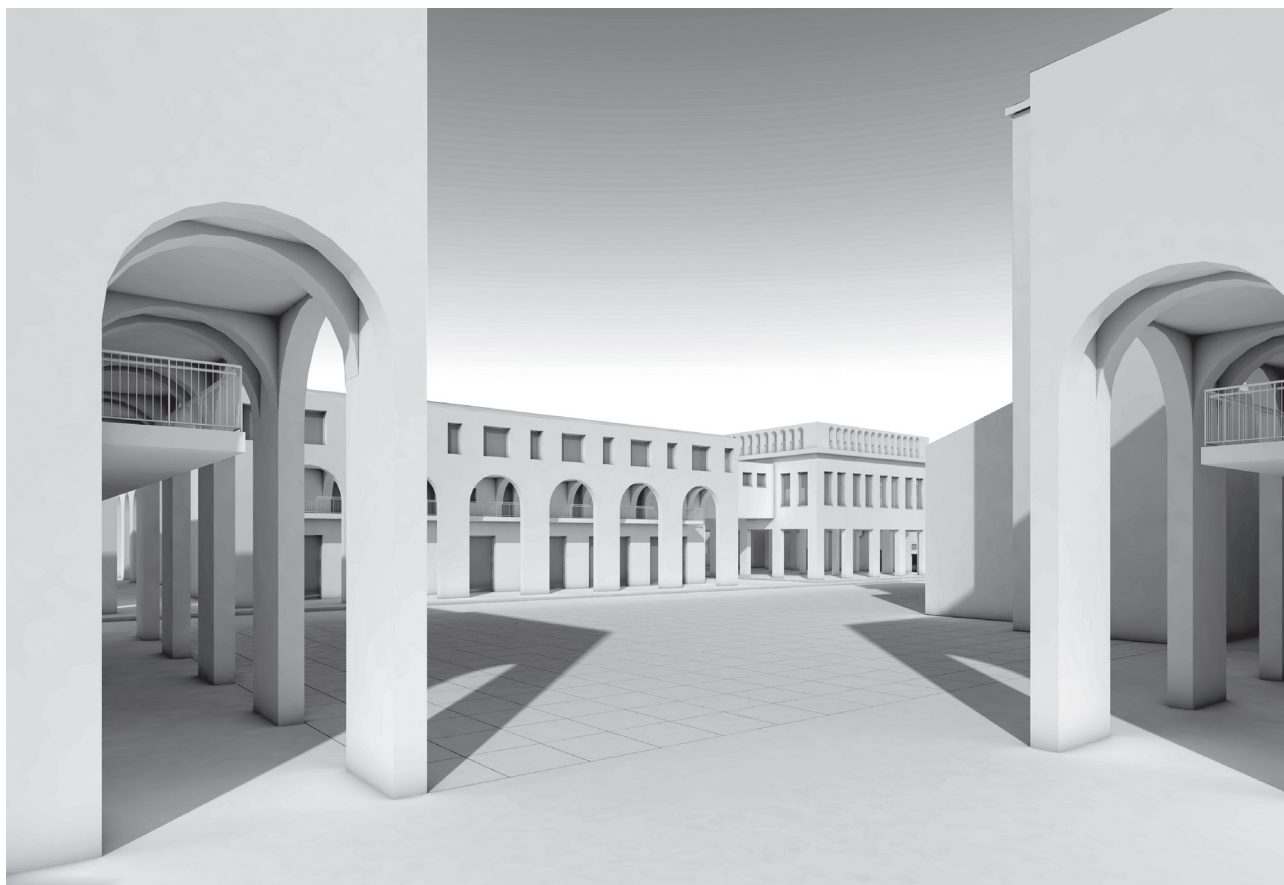
Two projects as experimental verification and a theoretical study

Faced with the current clean slate, both projects have assumed the hypothesis of generally confirming the morphology inherited from the past, re-tracing the perimeter of the walled town which has remained substantially unchanged from the time of its foundation (despite the 16th-century destruction of the walls), and introducing some – but few – variants concerning, on the one hand, the central square, and on the other, the conformation of the residential blocks, to configure a hypothesis for the reconstruction which is both up-to-date and respectful of the historical settlement while remaining rooted in the collective memory of the population.

In particular, for the residential fabric, both projects stop at the proposal of three typological schemes of blocks, roughly defined as “block-style”, “terraced”, “patio-style”, with two or three storeys above ground, to be adopted flexibly as simple guidelines in the reconstruction process.

However, these schemes, albeit agreed on as a basic morphological choice, clearly demand further study. The design of the central public square deserves a partially different evaluation.

In an urban environment characterized by the presence of the Church of San Giovanni, the civic tower and the town hall, mingled with a dense and undifferentiated fabric before the earthquake, both projects introduce the thinning of a porticoed square straddling the course of the ridge, in which these emergences stand out in isolation. A choice which consciously introduces a double “infringement”: in fact, the historical town of Amatrice, unlike the majority of the Rieti and Florentine New Lands, did not have a central public square with the monumental emergences of civil and re-



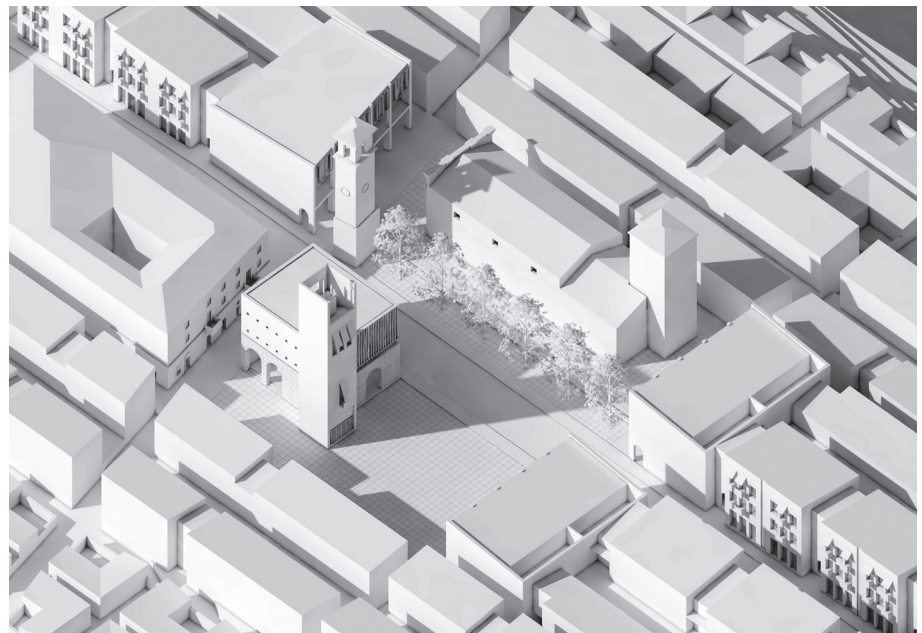
Figg. 14 a-b-c-d

Enrico Bordogna, Tommaso Brighenti, Reconstruction project of the historic center of Amatrice, 2019: views of the central square and Corso Umberto; views of the council chamber and the roof-terrace of the Town Hall.



Figg. 15 a-b

Luca Bonardi, Andrea Valvason, "The ancient nucleus of Amatrice: where was it, how was it?": View of the central square with the church of San Giovanni and the civic tower rebuilt by anastylosis and axonometric section of the Town Hall, Degree thesis, Politecnico di Milano, June 2020 (supervisors E. Bordogna, T. Brighenti).



ligious power; in addition to which, the typology of the portico and the porticoed urban thoroughfare, was alien to its urban history. Nevertheless, for the undersigned, both projects seem convincing in this choice, as does the decision to resort, for the town hall, to the historical typology of the "*broletto*", or mercantile loggia, open on all four sides, with an entirely porticoed ground floor and an upper floor free from intermediate pillars for a public council chamber/civic hall for exhibitions, conferences, shows (in reality, according to the canonical model of the *broletto*, both projects indulge in some poetic licence: the first by providing an entirely terraced roof for outdoor parties and events; the second by inserting an intermediate floor for offices and administrative functions between the restored porticoed base and the hall).

On the other hand, the two projects do differ in their individual compositional and language choices, in a different relationship between new and old: the first is more assonant, with a declared reference to a Muzio-like figuration; the second more marked and up-to-date, in a determination to clearly detach the old of the restored porticoed base with respect to the new in the volume above, and in the insertion of a "modern" medieval tower with explicit formal references, functioning not only as ascent staircase/fire escape, but also as a lookout point for observation of the town from above.

In conclusion, it is worth recalling the experimental nature of these analyses and projects, given the complexity of the issues involved in the theme of reconstruction recalled at the start of this essay. In particular, with respect to the justified distrust of many restoration specialists regarding the deceptive simplification of the formula "where it was, as it was", the doubt that the examples of reconstruction analysed (in particular Venzone, Teora, and Messina), which our own projects raise, as to whether this reserve applies equally to the edifices and monumental areas of the town as it does to the more basic buildings and the traditional housing fabric, or if the criteria and methods of an intervention should not be fittingly differentiated according to the specific remit of the architectural project.

And this in compliance with the belief, as has been said, that the reconstruction of a town or city is never a merely physical fact, of infrastructure, buildings, communal urban spaces, services, and greenery. Is not an exclusively urban and architectural work. But is the reconstruction of a community.

Notes

¹ In the copious bibliography, for the different evaluations, see at least: Giuseppe Miano, *Il Piano Borzi*, in Giusi Currò, *La trama della ricostruzione. Messina dalla città dell'Ottocento alla ricostruzione dopo il sisma del 1908*, Gangemi, Rome 1991, pp. 47-61; Francesco Cardullo, *La ricostruzione di Messina 1909-1940: l'architettura dei servizi pubblici e la città*, Officina, Rome 1993; Francesco Cardullo, *Giuseppe e Alberto Samonà e la Metropoli dello Stretto di Messina*, Officina, Rome 2006; Francesco Cardullo, *La ricostruzione di Messina: tra piani, case e ingegneri*, in Vv.Aa., edited by Giuseppe Campione, *La furia di Poseidon. Messina 1908 e dintorni*, 2 vols., vol. 2, Silvana Editoriale, Cinisello Balsamo (MI) 2009, pp. 81-96; Nicola Aricò, *Ragionamento sulla città tradita*, idem, pp. 317-328; Francesco Indovina, *Messina: natura, guerra e speculazione*, idem, pp. 337-350.

On the general theme of reconstruction strategies, see the special monographic issue of the journal "Hinterland", nos. 5-6 from 1978, dedicated to natural disasters and reconstruction strategies, and the editorial by Guido Canella *Assumere l'emergenza che non finisce*, pp. 2-3.

² Amid the vast bibliography, for an overview, see at least: Eirene Sbriziolo de Felice, *Belice 1968. Decennale di un terremoto: promemoria per soli architetti?*, with the annexed *Schede* by Sergio Bracco, in "Hinterland", nos. 5-6, 1978, pp. 16-23; Agostino Renna, Antonio De Bonis, Giuseppe Gangemi, *Costruzione e progetto. La Valle del Belice*, Clup, Milan 1979; Luca Ortelli, *Architettura di muri. Il museo di Gibellina di Francesco Venezia*, in "Lotus International", no. 42, 1984, pp. 120-128; Marcella Aprile, Roberto Collovà, Teresa La Rocca, *Ricostruzione delle Case Di Stefano, Gibellina*, in "Domus", no. 718, 1990, pp. 33-43; Pierluigi Nicolini, *Una via porticata. Franco Purini e Laura Thermes a Gibellina*, in "Lotus International", no. 69, 1991, pp. 90-102; Giuseppe Marinoni, *Metamorfosi del centro urbano. Il caso di Gibellina*, idem, pp. 72-89; Alvaro Siza Vieira, Roberto Collovà, *Ricostruzione della Chiesa Madre e ridisegno della piazza Alicia e delle strade adiacenti, Salemi, Trapani*, in "Domus", no. 813, 1999; Alvaro Siza Vieira, Roberto Collovà, *Atti minimi nel tessuto storico, Salemi, 1991-1998*, in "Lotus International", 106, 2000, pp. 104-109; Marcella Aprile, *Il terremoto del Belice o del fraintendimento*, in Vv.Aa., edited by Giuseppe Campione, *La furia di Poseidon. Messina 1908 e dintorni*, 2 vols., vol. 2, Silvana Editoriale, Cinisello Balsamo (MI) 2009, pp. 221-234; Franco Purini, *Un'esperienza siciliana*, idem, pp. 235-240; Roberto Collovà, *Belice fermo immagine 2018. Le qualità resistenti della ricostruzione*, in Vv.Aa., *Ricostruzioni. Architettura, città, paesaggio nell'epoca delle distruzioni*, edited by Alberto Ferlenga and Nina Bassoli, Silvana Editoriale, Cinisello Balsamo (MI) 2018, pp. 77-82.

³ Also in this case, among the very rich bibliography it is worth mentioning: Gianfranco Caniggia, Francesca Sartogo, *Ricerca storico-critica per la ricostruzione e il restauro del centro storico di Venzona*, ICOMOS-Consiglio Italiano, 1977-1979; Gianugo Polesello, *Friuli 1976. Riedificare per un contesto senza città*, with the annexed *Schede* by Giusa Marcialis and Pierluigi Grandinetti, in "Hinterland", nos. 5-6, 1978, pp. 42-55; Luciano Semerani, *Vajont 1963. Ricostruzione senza rinascita*, with the annexed *Schede* and an interview Longarone: *un sindaco quindici anni dopo*, in "Hinterland", nos. 5-6, 1978, pp. 4-15; Paolo Marconi, *Restauro e conservazione: com'era, dov'era?*, in "Zodiac", no. 19, 1998, pp. 40-55; Francesca Sartogo, *Udine e Venzona. Lettura critica per una storia operante del territorio friulano*, Alinea, Florence 2008; Alessandro Camiz, *Venzona, una città ricostruita (quasi) "dov'era, com'era"*, in "Paesaggio Urbano", no. 5/6, 2012, pp. 18-25; Alessandro Camiz, *New towns o ricostruzione (quasi) "dov'era, com'era"? L'esempio del progetto per Venzona*, in "Urbanistica Dossier", no. 005, 2013, pp. 85-89; Marisa Dalai Emiliani, *Venzona "com'era e dov'era": da eresia a modello*, in Corrado Azzollini, Giovanni Carbonara (eds.), *Ricostruire la memoria. Il patrimonio culturale del Friuli a quarant'anni dal terremoto*, Forum Editrice Universitaria Udinese, Udine 2016, pp. 85-93; Remo Cacitti, Francesco Doglioni, *Il Duomo di Venzona*, idem, pp. 104-115; Corrado Azzollini, Antonio Giusa (eds.), *Memorie. Arte, immagini e parole del terremoto in Friuli*, catalogue of an exhibition at Villa Manin, Azienda Speciale Villa Manin – Skira editore, Milan 2016; Francesco Doglioni, *Friuli 1976. Venzona com'era e dov'era*, in Vv.Aa., *Ricostruzioni. Architettura, città, paesaggio nell'epoca delle distruzioni*, edited by Alberto Ferlenga and Nina Bassoli, Silvana Editoriale, Cinisello Balsamo, Milan 2018, pp. 83-91. With regard to the question of the "historical fake", see the

numerous interventions by Marco Dezzi Bardeschi, where the combination of “where it was, as it was” announces a “naive self-deception”, a “captivating misunderstanding”, a “big hoax that dies hard”, aimed at soothing behind an “analogical scenographic reconstruction “the dramatic trauma of a population struck in its centuries-old places of life and affection”, in Marco Dezzi Bardeschi, *L'ora della prevenzione*, in “Ananke”, no. 79, September 2016, pp. 3-4. On the same topics, see also the previous issues of Dezzi's magazine, issues no. 42, June 2004, and no. 3, December 1993, with numerous interventions by Dezzi himself and by such important scholars as Giovanni Carbonara, Roberto Cecchi, Luigia Binda, Stefano Della Torre, Carolina Di Biase, Antonio Acuto, and others.

⁴ See: Giovanni Pietro Nimis, *La ricostruzione possibile. La ricostruzione nel centro storico di Gemona del Friuli dopo il terremoto del 1976*, with a preface by Francesco Tentori, Marsilio, Venice 1988; Giovanni Pietro Nimis, *Terre mobili. Dal Belice al Friuli, dall'Umbria all'Abruzzo*, Donzelli, Rome 2009; Luciano Semerani, *Architetture*, in *Composizione, progettazione, costruzione*, edited by Enrico Bordogna, Laterza, Bari 1999, pp. 59-105.

⁵ Annarita Teodosio, *Oltre le macerie. Ricostruzione in Irpinia tra antichi luoghi e nuovi spazi*, in “Urbanistica Dossier”, no. 005, 2013, pp. 98-101; Filippo Orsini, *Irpinia 1980. Un terremoto dimenticato*, in Vv.Aa., *Ricostruzioni. Architettura, città, paesaggio nell'epoca delle distruzioni*, edited by Alberto Ferlenga and Nina Bassoli, Silvana Editoriale, Cinisello Balsamo (MI) 2018, pp. 92-97.

⁶ Among the various essays by Giorgio Grassi and Agostino Renna on the topic, see in particular: Giorgio Grassi, Agostino Renna, *Piano di recupero del centro storico di Teora (Avellino), 1981*, in Giorgio Grassi, *I progetti, le opere e gli scritti*, Electa, Milan 1996, pp. 128-141. See also Riccardo Campagnola, *Ri-comporre l'infranto: figure di rifondazione. Tesi e ipotesi sul Progetto di ricostruzione del centro storico di Teora (Avellino) di Giorgio Grassi*, in M.G. Eccheli, A. Pireddu (ed.), *Oltre l'Apocalisse*, Firenze University Press, Florence 2016, pp. 24-39.

⁷ For L'Aquila, see: *L'Aquila. Il Progetto C.A.S.E., Complessi Antisismici Sostenibili ed Ecocompatibili. Un progetto di ricostruzione unico al mondo che ha consentito di dare alloggio a quindicimila persone in soli nove mesi*, a creation of Gian Michele Calvi, edited by Roberto Turino, IUSS, Pavia 2010. For Emilia Romagna, see: Matteo Agnoletto, *Emilia 2012. La fine di una storia*, in Vv.Aa., *Ricostruzioni. Architettura, città, paesaggio nell'epoca delle distruzioni*, edited by Alberto Ferlenga and Nina Bassoli, Silvana Editoriale, Cinisello Balsamo, Milan 2018, pp. 128-129; Massimo Ferrari, *Emilia 2012. Territorio sovrainciso*, idem, pp. 123-127.

⁸ According to ISTAT surveys on 31 December of the years 2010, 2016, 2019, the resident population in the three municipalities in question was: Amatrice 2717, 2532, 2358; Norcia 4995, 4981, 4724; Camerino 7130, 7007, 6692.

⁹ See Giovanni Carbonara, Conference: *La ricostruzione e l'identità dei luoghi*, as a part of the study course *Beni culturali ed emergenza* of the National council of Architects, Planners, Landscape Architects and Conservators, held at the CNAPPC HQ in Rome on 24 January 2020.

¹⁰ On the urban history of Amatrice, among the extensive bibliography, see: Giovanni Carbonara, *Gli insediamenti degli ordini mendicanti in Sabina*, in *Lo spazio dell'umiltà*, Atti del Convegno, Fara Sabina 1984; Marina Righetti Tosti-Croce (ed.), *La Sabina Medievale*, Amilcare Pizzi, Cassa di Risparmio di Rieti, Rieti 1985; Enrico Guidoni, *L'espansione urbanistica di Rieti nel XIII secolo e le città di nuova fondazione angioina*, in *La Sabina Medievale*, op. cit.; Luigi Aquilini, *Carlo V, Alessandro Vitelli, il Feudo di Amatrice*, S.E., Milan 1999; Luigi Aquilini, Carlo Blasetti, *Amatrice: dagli angioini agli aragonesi. Monografia storico-araldica di un antico comune*, Anibaldi Grafiche, Ancona 2004; Romeo Giammarini, *L'impianto urbano della città di Amatrice. Geometrie, adattamenti e trasformazioni secc. XIII-XV*, in “Storia dell'Urbanistica”, no. 9/2017, *Centri di fondazione e insediamenti urbani nel Lazio (XII-XX secolo): da Amatrice a Colferro*, Edizioni Kappa, Rome 2017; Anna Imponente, Rossana Torlontano, *Amatrice. Forme e immagini del territorio*, Electa, Milan 2015; Alessandro Viscogliosi, *Amatrice. Storia, arte, cultura*, Fondazione Dino ed Ernesta Santarelli, Silvana Editoriale, Cinisello Balsamo (MI) 2016. For San Giovanni Valdarno and the Florentine New Lands, see Edoardo Detti, Gian Franco Di Pietro, Giovanni Fanelli, *Città murate e sviluppo contemporaneo*, Edizioni CISCU, Lucca 1968.

¹¹ See the Inspection Report of the Technical Verification Group of the Civil Defence and

Municipality of Amatrice of March 2019, which includes differentiated operations: dismantling and cataloguing of certain monumental buildings; securing the few buildings with limited damage; demolition and removal of the rubble of the remaining built fabric.

¹² See: Architectural Design Workshop, two-year Master's Degree in the "Architecture and Urban Design" [*Architettura e Disegno Urbano*] study course, Polytechnic University of Milan, supervisors Enrico Bordogna, Tommaso Brighenti, AY 2016-17, 2017-18, 2018-19, 2019-20. During these years, in addition to the annual or six-monthly exams, various degree theses concerning Amatrice, Norcia, Camerino were produced. In October 2017, a first inspection was carried out on the occasion of participation as speakers at the 1997-2017 Conference. *Strategie per la ricostruzione post-sisma*, edited by Luigi Coccia and Marco D'Annunziis, School of Architecture and Design, University of Camerino, Ascoli Piceno, 26 October 2017. A second inspection was carried out on 5-7 May 2019.

¹³ See: Enrico Bordogna, Tommaso Brighenti, *Progetto di ricostruzione del centro di Amatrice: com'era, dov'era?*, in collaboration with A. Bonardi, A. Valvason; students L. Martellini, N. Mawed, M. Polvani, G. Rosso, presented at the 17th Convention *Identità dell'architettura italiana*, Florence, 11-12 December 2019; Andrea Bonardi, Andrea Valavason, *Il nucleo antico di Amatrice: dov'era, com'era?*, Degree Thesis at the Polytechnic University of Milan, June 2020 (supervisors E. Bordogna, T. Brighenti).

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