POLITECNICO DI TORINO
Repository ISTITUZIONALE

Disasters, Memory and Liturgy. Liturgical Spaces in the Reconstruction Process of Historical Churches Damaged by Earthquakes

Original
Disasters, Memory and Liturgy. Liturgical Spaces in the Reconstruction Process of Historical Churches Damaged by Earthquakes / DE LUCIA, Giulia. - In: ACTAS DEL CONGRESO INTERNACIONAL DE ARQUITECTURA RELIGIOSA CONTEMPORÁNEA. - ISSN 2340-5503. - ELETTRONICO. - 6:2019(2019), pp. 194-207. [https://doi.org/10.17979/aarc.2019.6.0.6239]

Availability:
This version is available at: 11583/2957596 since: 2022-03-08T08:27:38Z

Publisher:
OARC-Observatorio de Arquitectura Religiosa Contemporánea. Universidade da Coruña

Published
DOI:https://doi.org/10.17979/aarc.2019.6.0.6239

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

28 April 2024

Disasters, Memory and Liturgy. Liturgical Spaces in the Reconstruction Process of Historical Churches Damaged by Earthquakes

Desastres, memoria y liturgia. Espacios litúrgicos en el proceso de reconstrucción de iglesias históricas dañadas por terremotos

Giulia De Lucia· Politecnico di Torino (Turin, Italy), giulia.delucia@polito.it

Recibido: 08/10/2019
Aceptado: 17/01/2020

BY-NC https://doi.org/10.17979/aarc.2019.6.0.6239

ABSTRACT

Seismic events demonstrated the high level of structural vulnerability of Italian ecclesiastical heritage. This paper investigates liturgical reordering applied (or not applied) in the post-earthquake reconstruction of churches. The aim is to analyze if the tragic circumstance of a post-earthquake reconstruction has been taken as an opportunity to renovate the sacramental space as a whole, and above all, to evaluate in which way the memory of the disaster and mourning may have influenced the celebratory aspects. The paper focus on the several criteria that may support choices for churches reconstruction, with or without the assimilation of the liturgical modifications introduced by the Second Vatican Council.
If fifty years later, the process of the liturgical modification continues to be problematic in churches with a high heritage or historical value, the issue is event more complex for those buildings affected by catastrophic event and where communities are wounded by traumatic event as an earthquake.

KEYWORDS

Italy, Sacred Architecture, Liturgical Reordering, Earthquake, Ecclesiastical Heritage

RESUMEN

Los eventos sísmicos demostraron el alto nivel de vulnerabilidad sísmica del patrimonio eclesiástico italiano. Este artículo investiga el reordenamiento litúrgico aplicado (o no aplicado) en la reconstrucción de iglesias después del terremoto. El objetivo es analizar si la trágica circunstancia de una reconstrucción posterior al terremoto se ha aprovechado como una oportunidad para renovar el espacio sacramental en su conjunto y, sobre todo, para evaluar de qué manera la memoria del desastre y el duelo pueden haber influido en los aspecto celebrativos. El documento se centra en los diversos criterios que pueden apoyar las decisiones lpara la reconstrucción de iglesias, con o sin la asimilación de las modificaciones litúrgicas introducidas por el Concilio Vaticano II. Si cincuenta años después, el proceso de modificación litúrgica continúa siendo problemático en iglesias con un alto patrimonio o valor histórico, el problema es aún más complejo para aquellos edificios afectados por eventos catastróficos y donde las comunidades son heridas por un evento traumático como un terremoto.

PALABRAS CLAVE

Italia, arquitectura religiosa, modificaciones litúrgicas, terremoto, patrimonio eclesiástico

Cómo citar: De Lucia, Giulia. 2019. «Disasters, Memory and Liturgy. Liturgical Spaces in the Reconstruction Process of Historical Churches Damaged by Earthquakes». *Actas de Arquitectura Religiosa Contemporánea* 6: 194-207. https://doi.org/10.17979/aarc.2019.6.0.6239.

INTRODUCTION

Seismic events demonstrated the high level of structural vulnerability of ecclesiastical heritage. Due to poor mechanical properties of ancient masonry and some transformations incurred over time in the structure, masonry churches under seismic loads usually exhibit partial collapses or activating failure mechanisms, generally due to the absence of box structural behavior Doglioni et al. 1994). Indeed, high parietal walls without horizontal floors typologically characterize them and this fact improves their seismic vulnerability, even at very low levels of seismic excitations.[1] In Italy, a very high seismic area characterized by a widespread presence of ecclesiastical heritage, many churches were heavily damaged or irrevocably lost due to earthquakes. Since 1960's, ten high earthquakes affected Italy:[2] after the last one, the 2016 Central Italy seismic event, surveys data indicated that more than 45% of churches subjected to survey were uninhabitable, that is approximately, two thousand churches (Tripepi et al. 2018). Current Italian post-seismic regulations highlight the importance of a rapid safety-works and re-opening of churches in order to guarantee the resumption of cult. This is aimed to improve the community resilience to the catastrophic event.[3] Indeed, cultural heritage may be useful for dual reasons: buildings with artistic and architectural relevance may promote the tourism enhancement, but, above all, they are related to the memorial and identity values of communities and contribute to developing a high sense of belonging and attachment to the place.

Starting from last century, many attention has been given to the psychological effects of earthquakes on people, what is called *emergency psychology* (Sbattella 2009), and also to the feeling of attachment of people to architectural and urban context when it result seriously compromised after seismic event (Giani Gallino 2007; Carnelli and Ventura 2015; Teti 2017). In this light, churches can be considered not only religious buildings but also as symbols of cultural identity for communities, and they may have a role in the community resilience (Longhi and De Lucia 2019). However, the reconstruction of ancient masonry churches after a catastrophic event is a complex issue. It entails several structural problems related to the architectural and engineer debate, but also sensitive decisions that deal with the community sense of faith, identity and traditions. The three principal solutions for the reconstruction of churches are: a) the choice of a reconstruction *how it was and where it was* (*com'era e dov'era*), sometimes through anastylosis process; b) the choice to rebuilt ex-novo the building, with contemporary connotations, in the ancient or another site; c) the choice to leave the destroyed churches as ruins in memory of the catastrophic event (Zander 1979). When we deal with post-earthquake rebuilding of churches, the choice of *com'era, dov'era* is often an applied solution, especially for those buildings with historical and artistic relevance. However, in some cases, catastrophic events gave the possibility to operate a renovation in the architectural concept of churches.

This contribute investigates the several strategies applied for the reconstruction of churches in Italy after the more recent seismic events. Main attention will be given to the study of the applied (or not applied) liturgical reordering in the rebuilt churches. For this reason will be considered seismic events occurred after the closure of the Second Vatican Council, starting from the 1976 Friuli earthquake. The heart of the problem is to try to understand if the tragic event of seism can be also considered as an accelerator for the application of the post-Council precepts, or on the contrary, a slowing factor (besides the health and social emergencies far more urgent than liturgical issues).

A METHODOLOGICAL PREMISE

Before starting, a methodological premise is necessary. Several seismic events occurred after the closure of the Second Vatican Council, among these, this contribute will take into account the seismic events of 1976 Friuli, 1980 Irpinia, and 2009 L'Aquila, because they can provide precious data to start this preliminary study. Other important seismic events have been temporarily discarded because they require more deepened investigations, above all for the more recent events (2012 Emilia and 2016 Central Italy) because the reconstruction is still underway and there are not yet accurate studies to be considered.

This research is based on bibliographical sources and uses data from the Italian Churches Census by the Italian Conference of Bishops (Ufficio Nazionale 2019). The census is a part of several initiatives for the description and valorization of ecclesiastical heritage. One of the main aims is to have an overview of the heritage in order to encourage an improved governance and planning of activities. In this case, data from census are a precious tool in order to validate data from literary surveys and to have up to date information about the current state of churches. However, for what concerns bibliographic research, there is not yet a consolidated reference bibliography about the reconstruction of churches after all the seismic events investigated in this contribute. Indeed, the research moves according to a consolidate bibliography for what concerns only the reconstruction in Friuli after the 1976 earthquake. For the other cases, the research involves no-scientific literature (newspapers, local journals, and websites). This lack of critical literature is due to the fact that some experience are yet controversial issue for the Italian political and economic field and there are not yet systematized data about reconstruction progress. For this reason, the choice of the case studies firstly tries to highlight the research problems and then, to focus on the critical nodes that should be deepened.

THE 1976 FRIULI EARTHQUAKE

The starting point of this research is the 1976 Friuli seismic event. The strong earthquake (measured X level of the Mercalli scale) struck the Friuli on May and September, with 137 damaged cities, 965 fatalities, and 45000 displaced people (Guidoboni and Valensise 2011). The case of this earthquake is very interesting because resulted in a unique model of reconstruction, called in fact, the «Friuli model» (Londero 2015, 419-429). The decentralization of the power from the State to the Regions, and then to each municipality allowed to an autonomous management of the reconstruction. Thus, the popular approbation trough popular assemblies, also the Christian worship assemblies and collective decision-making processes were substantial in the governance of the reconstruction phase.[4] In this context, the real aims of the reconstruction required by people were highlighted: first the factories, then the houses, and then the churches. It was excluded any proposal of delocalization or refunding of settlements and the slogan of the reconstruction was «how it was, where it was» (Nimis 2009). This event seriously affected also the ecclesiastical heritage: only in the Archdiocese of Udine, 114 churches were destroyed, 234 churches were seriously damaged and 484 churches were damaged (Piussi 2013, 15-19). In the perspective of this research, this seismic event is important for two main reasons.

The first is that it resulted in a specific debate about the criteria of reconstruction of churches. Since the first days after the disaster, local priests and communities organized reunions and committee to plan activities. Archbishop Alfredo Battisti organized the most relevant reunion, the *Assemblea dei cristiani per la ricostruzione in Friuli*, in 1977. During these activities, the general issue about the criteria to be followed for the reconstruction of churches were introduced. The most representative event of this debate was the conference *Cjase di Diu, cjase nestre*, organized in the Udine cathedral, in 22-24 June 1979, only three years after the seismic event (Arcidiocesi di Udine 1979).

The second reason is that the reconstruction in Friuli was carried on during a significant moment for the ecclesiastical architecture. The Second Vatican Council had been recently concluded, and the precepts of the liturgical reordering gradually started to be known, even if not yet systematized in guidelines (Santi 2016).[5] This was a period of eccentric enthusiasm for the new forms of ecclesiastical architecture. These tendencies were well demonstrated in several national contests for the construction of new churches in the '60s.[6]

However, in in the 70's several critic reasoning were to start about the new way to build churches. Indeed, several contributes at the 1979 conference highlighted the importance to rebuilt churches in accordance with architectural traditions of Friuli, without exceed in the adoption of new forms for churches and only in few contributes there are referrals to the adoption of the liturgical reordering.[7] A point worth of attention is that only one speaker,

Fig. 01. Sandro Pittini. Sant'Andrea Apostolo, Venzone (Italy), 1995; liturgical reordering.

Giuseppe Varaldo, expresses doubts about this argument, by noting the possible limits of an extensive attachment to the tradition and to the architectural formalism (Varaldo, 1979). Although several reflections were conducted during the conference, no official guidelines for the reconstruction of churches in Friuli were promulgated. Then, the churches were in time rebuild by applying different solutions and approaches. For this reason the Friuli experience is considered as a «large scale lab for the new architecture of churches» (Della Longa 2013, 129-138). This is true not only for the high number of rebuilt churches but also for particular circumstances. In that time, new churches in Italy were generally built for the constantly expanding urban peripheries where complex dynamics of social life were substantial. On the contrary, in Friuli there were communities extremely close and the construction of churches was necessary to a social and settlement recovery. This is probably the main reason for the research ontraditional local features in the reconstruction of buildings.

Thanks to the scientific debate resulted from this event, it is possible to have an overview about the main approaches adopted for the churches reconstruction in Friuli. The issue was resumed thirty years later with two important conferences (Piussi and

Fig. 02. Sandro Pittini. Sant'Andrea Apostolo, Venzone (Italy), 1995; liturgical reordering.

Della Longa, 2013). Moving by the precious contribute of Giorgio Della Longa (2013) it is possible to investigate some exemplar cases. These three cases represent the three pursued approaches in the Friuli churches reconstruction: the reconstruction *how it was, where it was*; the reconstruction following the local architectural tradition; the reconstruction following contemporary architectural orientations.

—For the first category, more than 700 churches were reconstructed with this criterion. The most relevant case were the Santa Maria Assunta church, in Gemona and the Sant'Andrea Apostolo church, in Venzone. For Santa Maria Assunta church in Gemona, the medieval structural skeleton was maintained through a massive structural intervention. A point worth of attention is the choice to *freeze* the structure with its deformations due to the seismic loads. In fact, In fact, church walls are not straight but partially inclined. This effect is underlined by the lighting designed by the architect Giorgio Della Longa. During the post-seismic reconstruction the presbytery was reformulate. The presbytery area was extended: a first portion, hosting the historical marmoreal altar, extends to the first couple of columns, and the second portion exceeding them. Two stone lecterns are symmetrically arranged (the one on the

left is used as ambo). The presbytery is raised from the floor with five steps. Three stone blocks compose the chair and the central one is different for quality (data from the Italian Census of Churches). For what concerns the Duomo of Venzone, it is the most representative example of reconstruction *how it was, where it was*. After the seismic event, every single stone rubble was orderly placed and catalogued. This is probably due to the shared conviction that the stones of the church were different from the others, they had a value and they should not go to landfill as the other rubble. Then architect Francesco Doglioni rebuilt the church by using original materials (Dalai Emiliani 2016). Architect Sandro Pittini designed the liturgical reordering in 1995. The project was carried on through the new *ornamenta ecclesiae* such as the altar, the ambo, the chairs, the Eucharistic custody, and the baptismal font. These liturgical centers were studied focusing their liturgical meaning and the choice of materials and decorations (that resume the stone blocks of the pillars) allowed their uniformity with the rest of the church (Pittini 2013) (Fig. 01-02).

—The category of the churches rebuilt by following traditional forms is the largest. These churches searched for a continuity with the past through referrals to the local traditional forms. Basilical configuration with tympanum, gable roof, simple and symmetrical architectural elements were preferred. In many cases, these churches were anonymous and disappointing buildings, however the critical debate highlighted some relevant cases. For example, the church of Santa Teresa del Gesù Bambino, in Tarcento, designed by architect Leonardo Miani and inaugurated in 1998. This case shows the research of traditional elements: gabled façade, narthex and simple bell-tower. Inside, it is a one-nave church. The presbytery rises on two steps and there are not balusters. The altar and the ambo are in marble, the lectern in wood. The chair is placed on the axis of the altar.

—The churches of innovation show new architectural solutions for the spaces, usually according with the liturgical reordering precepts. The first church of this category rebuilt after the earthquake is the San Pietro Apostolo church, in Avilla of Buia, designed by the architect Adelino Manzoni and inaugurated in 1980, only four years after the seismic event. This was totally financed by local community funds, and it was strongly promoted by the parish priest don Saverio Beinat. He included in the project several artists. In particular, for the tiles representing the Stations of the Cross he involved 14 important Italian sculptors. The building has a central plan and it resumes the idea of a tent, with a concrete structure. Another case is the church of S. Pietro e Paolo in Maiano, designed by Oliviero Accosano, Eugenio Boranga, Armando Pinellini and Tita De Blasio. The project was subject to complex issue and resulted in significant tensions among local community and diocesan authority. The procedure started in 1978 and the church was completed and inaugurated in 1989. This church shows a relevant tension towards the sky, with a big standing cross. The external formal language is virtuous and massive, but indoor it is reduced. The liturgical room has a triangular plan and converges in the presbytery that presents two steps. In the center is the altar, on the right side the ambo. The chair is not in axis and the presbiterial bench complements it. The liturgical poles were designed by Padre Costantino Ruggeri. This architecture does not seek comforting traditional forms but the exact contrary, probably to represent the anguished past of the community.

Thanks to the consolidate literature available on the argument of the churches reconstruction in Friuli, it is possible to make some conclusions. Many churches were totally rebuilt with contemporary criteria and according to the reform of the Second Vatican Council, but in general the precepts were followed in a faint way, with not very convincing results. However, as mentioned by Sandro Piussi during the forty-year anniversary of the Friuli earthquake, the most relevant thing in this reconstruction was the active role of communities and their capacity to take part on the reconstruction planning (Piussi 2016). The *Friuli model* of reconstruction was surely a virtuous economic, planning and resilient case of post-seismic reconstruction. However, in the aim of this research, the experimentation on church building is weak and generally characterized by the use of traditional forms (Azzollini and Carbonara 2016).

Fig. 03-04. Giorgio Grassi. Chiesa Madre, Teora (Italy), 1981-83/2011.

THE 1980 IRPINIA SEISMIC EVENT

The case of the 1980 Irpinia earthquake is surely a different case of post-seismic reconstruction. The seismic event affected 687 settlements in three different regions (542 in Campania, 131 in Basilicata e 14 in Puglia), towns where lived more than 300.000 people. The effects of earthquake were massive: 314 severely damaged settlements and other 336 damaged. A total of the 8,5% of the 8086 Italian municipalities were damaged. Above all, in the Avellino territory some settlements resulted totally destroyed (Conza della Campania was 90% destroyed; Laviano 95%; Lioni 75%) (Manfredi and Asprone 2015). The area was already characterized by high level of seismic vulnerability and its towns historically suffered several strong earthquakes (Iterar 2011).

For the 1980 case, the economic and social implications and the promulgations of controversial norms resulted in a very slow reconstruction. Indeed, the affected area was already characterized by problems of economic, infrastructural and social backwardness. Moreover, the promulgation of the 219/81 law resulted in a complex management of the reconstruction processes (Corsi and Franco 1991). In 2010, the reconstruction had not yet been completed and for these territories, public funds were still granted. One of the features of this post-earthquake reconstruction shows that it was carried on without an organic and large scale planning. This involved the delocalization of several rural settlements, with the consequent abandonment of historical centers, and the foundation of new settlements (Iterar 2011). In this field, the scientific debate is especially focused on the planning issue related to the relocated centers. For this reason, still nowadays lacks a systematized study about the reconstruction of the churches and only some sample cases can be reported.

—Despite the rural settlement of old Bisaccia was not directly affected by the seismic event, the municipal authority decided for the construction of a new settlement, only 2 Km far. The Natività della Vergine Maria church in the old town, many time damaged by previous earthquakes, was restored in according to its traditional form. Restoration was over in 1998, but the liturgical reordering is not yet completed and only the pre-conciliar altar was modified to adopt the Second Vatican Council precepts. The other liturgical poles do not follow overall stylistic languages and the space seems to be quite fragmented. The church is still waiting an organic project of liturgical reordering that allows a more participating assembly. Not very distant, in the new town called

Fig. 05-06. Giorgio Grassi. Chiesa Madre, Teora (Italy), 1981-83/2011.

Nuova Bisaccia there is the Sacro Cuore di Gesu Vita e Risurrezione Nostra church built during the post-earthquake reconstruction process and designed by the architect Aldo Loris Rossi (who was born in Bisaccia). The church is designed according to the liturgical reform but resulted in architectural debates due to its shape configuration.

—Another interesting case is the settlement of Conza della Campania. Before the seism, it was a rural settlement with roman historical origins. The totally destruction of the town prompt the decision to leave the ruins as an archaeological area and population was relocated in a new settlement not far. In this way, the destroyed church of Conza is now a ruin, left in memory of the terrible event. Artistic and liturgical objects were transported to the new settlement church, consecrated in 2003. The church of Santa Maria Assunta is a contemporary building with a circular plan covered by a concrete dome. The liturgical spaces project is still in progress and will include the objects taken from the ancient church: for example the ambo will be derived from the ancient baptismal font that is already placed in the new church.

—The last one is the case of the Teora town. In this case, pre and post-earthquake coexist. Due to the high level of seismic risk of this area, the settlement reconstruction was planned in compartments, totally changing the historical conformation of the towns. Some part of the historical settlement could not be rebuilt. For this research is interesting the case of the new church, designed by Giorgio Grassi over the same area of the old church. In this way, the Mother Church of Teora is linked to the past and the memory of the settlement. The destroyed church was left as a ruin and it is used a large churchyard instead (Crespi and Dego 2004). Also in this case the old church artistic objects have been transported into the new church (Fig. 03-06).

THE 2009 L'AQUILA SEISMIC EVENT

The L' Aquila seismic main shock (X Mercalli) struck the Abruzzo region in 6 April 2009, after more than a month of warning shocks. The concerned area presents a high level of seismicity and the town of L'Aquila was already affected by several strong earthquakes, as that in 1703. The toll of victims was considerable: 308 fatalities, 1600 injured and 65000 displaced people. The issue of the post-seismic phase in L'Aquila is yet controversial due particularly to the matter of the communication of risk in the pre-seism phase and the matter of the management of the displaced in the post-emergency and reconstruction phase (Bulsei and Mastropaolo 2011; Sangiovanni 2015). In

Fig. 07-09. Santa Maria del Suffragio, L'Aquila (Italy), 2019; liturgical reordering.

the field of our research, the 2009 L' Aquila seismic event is particularly relevant for two main reasons. The first is related to the fact that in 1985 the statute of the Italian Conference of Bishops was approved and later the National Office for cultural heritage and the National Office of ecclesiastical buildings were established (in 2016 the two apparatus merged in to a single organization: the National Office of Cultural Heritage and Ecclesiastical Buildings).[8] In the early 90's this resulted in the promulgation of the guidelines for the design of new churches and liturgical reordering of churches.[9] The second important factor is that the 2009 L'Aquila seismic event mostly affected the area of the historical center, where a great number of strategic buildings and architectural heritage among which ancient churches, were placed. Many of these are still unusable or under reconstruction works, as the Santi Massimo e Giorgio cathedral. However, some of the most important churches in the town of L' Aquila have been recently reopened and let a brief overview.

—The church of Santa Maria del Suffragio (commonly called the church of Holy Souls because was built in memory of people died in the 1703 seismic event) was severely damaged during the 2009 earthquake. The most damaged part of the structure was the masonry dome, which become the symbol of the L' Aquila seismic event. In scientific literature, there are extensive technical researches about the structural interventions applied to the dome because its reconstruction was an important engineering challenge (Boscato et al. 2012). The church was reopened in 6 December 2018 with a touching ceremony. The church reconstruction cost is Euro 6,5 mln, financed by Italian and French government. In addition to the new dome and the chapel in memory of the 309 victims in 2009, a new liturgical reordering can be observed (Fig. 07-09). A circular marmoreal footplate is placed under the dome. In the center, there is the altar in polychromatic marble. The other liturgical poles are in marble with stylistic uniformity. The chair is to the right rear of the altar, against the pillar. The ambo is on the limit between the presbytery and the liturgical room, accordingly to the CEI indications. Very interesting is the solution of the cross that is suspended on the altar, through invisible cables, that give a very poetical result.

—The San Bernardino Basilica is a 15th century church, subjected to baroque decoration applied after the 1703 seismic event. In the church vestiges of San Bernardino da Siena are enshrined. It has not been seriously damaged in 2009, but was declared unsafe and it has been reopened in 6 May 2015 after some

Fig. 10-11. Basilica di San Bernardino, L'Aquila (Italy), 2019; liturgical reordering.

restore interventions. A liturgical reordering was then applied (Fig. 10-11). The nun architect Michelangela Ballan designed it. Surely, the most distinctive feature of this liturgical reordering is the insertion of white marmoreal blocks for the altar and the ambo. The aim is to resume the traditional white local stone. However, the opera is deliberately in dissonance with the rest of the church in order to diversify new and old elements. The liturgical reordering entailed a new altar in substitution to the oldest, a '70s wood altar without particular artistic relevance, and a new ambo, placed after the balustrade, on the presbytery steps. The intervention is entirely reversible, including the marmoreal addition to the presbytery steps that is removable. However, due to the marked difference between the new intervention and the baroque decoration of the church, community and local press have opposed this opera (data from local press).

—The Basilica di Santa Maria di Collemaggio is one of the most relevant churches in the city. It was severely damaged by the 2009 earthquake: the transept vaults, the triumphal arch and the dome-drum system collapsed, and serious damaged were detected in the presbytery area. In this church, the restoration works have been very considerable (with an estimated cost of more than Euro 15 mln) with a courageous decision to entirely remove the baroque interior decoration, radically changing the stylistic configuration of the church, restored in its medieval features. Nevertheless, the great restoration has not considered for a liturgical reordering and the presbytery has been substantially untouched (Fig. 12-14).

Fig. 12-13. Basilica di Santa Maria di Collemaggio, L'Aquila (Italy), 2019; after the restoration.

CONCLUSIONS

This paper has presented a selection of case studies in order to investigate the application of liturgical reordering in the Italian post-earthquake reconstruction of churches after the Second Vatican Council. By considering the lack of consolidated studies and the lack of systematized data, this research can be considered a preliminary step aimed to focus the most relevant critical nodes of the topic. Moreover, the presented case studies have been selected in order to provide a general and illustrative framework. Future investigations will try to produce a systematic collection of data, also including the more recent seismic events.

At the current state, is it too early to draw definitive conclusions about the application or not of the liturgical reordering in the post-earthquake reconstruction of churches. However, it is possible to delineate some viable research issues to investigate once more data are collected and systematized. A first point is to analyze the role of the reconstruction funding body. In fact, the presence of a public, private or ecclesiastical funding body may have influenced the strategy and the projects of the reconstruction and liturgical reordering. For this reason, it would be useful to collect data about the funder and the financing dynamics of the rebuilt churches. Moreover, another interesting point is to investigate the regulations development over time, e.g. the modifications in the procedures of construction and reconstruction of churches after the establishment of the National Office, to be related to the National laws on seismic protection and reconstruction of

Fig. 14. Basilica di Santa Maria di Collemaggio, L'Aquila (Italy), 2019; after the restoration.

ancient buildings and cultural heritage. The last, and probably the most difficult, topic to investigate is the weight of cultual, cultural and memorial issues on the dynamics of reconstruction and application of liturgical reordering in churches.

BIBLIOGRAPHY

Arcidiocesi di Udine. 1977. *Atti dell'Assemblea dei cristiani del Friuli*. Udine: Arti Grafiche Friulane.

Azzollini, Corrado and Giovanni Carbonara. 2016. *Ricostruire la memoria. Il patrimonio culturale del Friuli a quarant'anni dal terremoto*. Udine: Forum.

Blasi, Carlo. 2013. *Architettura storica e terremoti. Protocolli operativi per la conoscenza e la tutela*. Milan: Wolters Kluwer.

Boscato Giosuè, Davide Rocchi and Salvatore Russo. 2012. «Anime Sante Church's Dome After 2009. L'Aquila Earthquake, Monitoring and Strengthening Approach», Advanced Material Research.

Bulsei, Gian-Luigi and Alfio Mastropaolo. 2011. *Oltre il terremoto. L'Aquila tra miracoli e scandali*. Rome: Viella.

Carnelli, Fabio and Stefano Ventura. 2015. *Oltre il rischio sismico. Valutare, comunicare e decidere oggi*. Roma: Carocci Editore.

Ceravolo, Rosario and Giacomo Demarie. 2009. *Analisi sismica per livelli di conoscenza del patrimonio architettonico*. Turin: CLUT.

Cjase di Diu, Cjase nestre. Problemi di arte sacra in Friuli dopo il terremoto. 1979. Atti del convegno, Udine, 22-24 giugno 1979. Udine: Arcidiocesi di Udine e Diocesi di Concordia-Pordenone.

Conferenza Episcopale Italiana/Commissione Episcopale per la Liturgia. 1993. «La progettazione di nuove chiese. Nota pastorale». Accessed on 27/09/2019. https://bit.ly/2VC9PFG.

Conferenza Episcopale Italiana/Commissione Episcopale per la Liturgia. 1996. «L'adeguamento delle chiese secondo la riforma liturgica. Nota pastorale». Accessed on 27/09/2019. https://bit.ly/2zm2YXd.

Conferenza Episcopale Italiana/Segreteria Generale. 1992. «I beni culturali della Chiesa in Italia. Orientamenti». Accessed on 27/09/2019. http://bit.ly/2qEDDHS.

Corsi, Ermanno and Carlo Franco. 1991. *Dal terremoto al futuro. La ricostruzione a Napoli. Il titolo VIII della Legge 219/81*. Naples: Electa.

Crespi, Giovanna and Nunzio Dego. 2004. *Giorgio Grassi. Opere e progetti*. Milan: Electa.

Dalai Emiliani, Marisa. 2016. «Venzone 'com'era e dov'era': da eresia a modello». In Azzollini and Carbonara, 95-104.

Della Longa, Giorgio. 2013. «Chiese ricostruite in Friuli». In Piussi and Della Longa, 129-138.

Doglioni, Francesco et al. 1994. *Le chiese e il terremoto: dalla vulnerabilità constatata nel terremoto del Friuli al miglioramento antisismico*

nel restauro, verso una politica di prevenzione. Trieste: LINT.

Giani Gallino, Tilde. 2007. *Luoghi dell'attaccamento, Identità ambientale, processi affettivi e memoria*. Milan: Raffaello Cortina.

Glesleri, Glauco. 1967. «Lo spazio architettonico per l'assemblea liturgica: Ascoli Piceno 1966», *Chiesa e Quartiere* 42:42.

Gresleri, Glauco. 1968. «Cattolica & Ravenna», *Chiesa e Quartiere* 45: 37-39.

Guidoboni, Emanuela and Gianluca Valensise. 2011. *Il peso economico e sociale dei disastri sismici in Italia negli ultimi 150 anni*. Bologna: Bononia University Press.

Guidoboni, Emanuela et al. 2018. *CFTI5Med, Catalogo dei Forti Terremoti in Italia (461 a.C.-1997) e nell'area Mediterranea (760 a.C.-1500)*. Istituto Nazionale di Geofisica e Vulcanologia (INGV). Accessed on 09/09/2019, https://doi.org/10.6092/ingv.it-cfti5.

Iterar, Cristina. 2011. *Ricostruzione-rifondazione dei centri dell'Irpinia dopo i terremoti storici di epoca moderna: Le politiche di intervento urbanistico*. Rome: Kappa.

Lagomarsino, Sergio and Stefano Podestà. 2004. «Seismic vulnerability of ancient churches: II. Statistical analysis of surveyed data and methods for risk analysis». *Earthquake Spectra*, 20: 395-412.

Londero, Igor. 2015. «Il caso del terremoto in Friuli (1976): 'Lor a jan dut, e non a rosea la crodie'». In *L'Italia e le sue regioni*, 419-430.

Longhi, Andrea and Giulia De Lucia. 2019. *Patrimonio culturale ecclesiastico, rischio e prevenzione. Analisi e politiche territoriali per un approccio multiscalare al rischio sismico*. Turin: Politecnico di Torino-Dipartimento Interateneo Scienze Progetto e Politiche del Territorio.

Manfredi, Gaetano and Domenico Asprone. 2015. «Memoria e mappa sismica». In *L'Italia e le sue regioni*, 385-402.

Mela, Alfredo. 2007. «Comunità e legame con i luoghi: una prospettiva sociologica, *Andar per luoghi. Natura e vicende del legame con i luoghi*», edited by Maria Teresa Fenoglio, 29-48. Turin: Ananke.

Mela, Alfredo. 2011. «Emergenza e ricostruzione dopo il terremoto: resilienza comunitaria e interventi di sostegno». In *Oltre il terremoto. L'Aquila tra miracoli e scandali*, edited by Gian Luigi Bulsei and Alfio Mastropaolo, 173-187. Rome: Viella.

Nimis, Giovanni Pietro. 2009. *Terre mobili. Dal Belice al Friuli, dall'Umbria all'Abruzzo*. Rome: Donzelli.

Pittini, Sandro. 2013. «Il Duomo di Venzone: la nuova sistemazione liturgica e la sua coerenza con l'esistente», *Thema* 1: 42-45.

Piussi, Sandro and Giorgio Della Longa. 2013. *Chiese prima e dopo il terremoto. Cjase di Diu cjase nestre*. Proceedings of the 1st e 2nd Conference (Udine, 11 marzo 2011; 22-23 giugno 2012). Udine: Arcidiocesi di Udine.

Piussi, Sandro. 2013. «Introduction». In Piussi and Della Longa, 15-19.

Piussi, Sandro. 2016. «L'edilizia ecclesiale nell'Arcidiocesi di Udine: dalle intenzioni alla fruizione». In Azzollini and Carbonara, 59-69.

Pontificia opera per la preservazione della fede e la provvista di nuove chiese in Roma. 1968. *Chiese nuove in Roma. Dal concorso per progetti di massima di nuovi centri parrocchiali nella diocesi di Roma*. Rome: Pontificia Opera.

Sangiovanni, Andrea. 2015. «L'Aquila: le macerie, il racconto pubblico, le narrazioni private». In *L'Italia e le sue regioni*, 449-467.

Santi, Giancarlo. 2016. *Il rinnovamento liturgico delle chiese in Italia dopo il Concilio Vaticano II*. Milan: Vita e Pensiero.

Sbattella, Fabio. 2009. *Manuale di psicologia dell'emergenza*. Milan: Franco Angeli.

Tripepi, Concetta et al. 2018. «Dal danneggiamento delle chiese di Amatrice spunti per prevenzione, conservazione e sicurezza del patrimonio storico-architettonico». *Geologia dell'Ambiente* 1: 288-307.

Ufficio Nazionale per i Beni Culturali Ecclesiastici e l'Edilizia di Culto e Servizio Informatico della Conferenza Episcopale Italiana.

2019. «Le Chiese delle Diocesi Italiane Italiane». Accessed on 27/09/2019. https://bce.chiesacattolica.it.

Varaldo, Giuseppe. 1979. «Liturgia e architettura in Friuli oggi». In *Cjase di Diu*, 89-102.

Teti, Vito. 2017. *Quel che resta. L'Italia dei paesi, tra abbandoni e ritorni*. Rome: Donzelli.

Zander, Giuseppe. 1979. «Ristrutturare le chiese». In *Cjase di Diu*, 73-88.

NOTES

1. For a general framework on the structural behaviour of masonry churches under seismic loads: Lagomarsino and Podestà 2004; Ceravolo and Giacomo 2009; Blasi 2013.

2. During last century, seven seismic events with magnitude equal or superior than 6.5 (X and XI level of Mercalli scale) affected Italy. The most destructive were 1908 Reggio Calabria and Messina with more than hundred thousand fatalities and 1915 Avezzano with thirty-three thousand fatalities. Since the 1960's the highest seismic events were: Belice (1968); Friuli (1976); Irpinia (1980); Umbria-Marche (1997); Molise (2002); Abruzzo (2009); Emilia (2012); Central Italy (2016). For an an exhaustive overview on the historical Italian earthquakes, see Guidoboni et al. 2018.

3. The term community is used in several disciplines and has several interpretations, as illustrated in Mela 2007. In this contribute the term denotes *local social system* that includes both religious practicing and civil people. In this light, the resilience of community is the capacity to manage the crisis and its consequences and to have an adaptive behaviour in order to apply changes needed to preserve identity and resume a satisfactory life. Elaboration in Mela 2011.

4. In the summer of 1977, the Udine Archdiocese marked an important moment in the process of reconstruction. During a Cristian worshippers Assembly the main goals of the reconstruction were deliberated and they were informally included in the special regulations for the reconstruction. Such as: the de-bureaucratisation of the reconstruction procedures; hedging financial instruments for who invested private founds in the reconstruction; the priority of assignment of founds to the most affected municipalities; the equalising between private, public and cooperative financing bodies; the expropriation of areas in favour of cooperatives and singles in order to avoid invasive urbanistic interventions. More information in Arcidiocesi di Udine 1977, 17-19; Nimis 2009, 13-15.

5. The precepts of the liturgical reordering are included in the Second Vatican Council; instead, the guidelines are included in the 1996 Pastoral note of the Episcopal Commission for the Liturgy of the Italian Conference of Bishops «L'adeguamento delle chiese secondo la riforma liturgica». It can be considered the official document of the Italian bishops in the field of the liturgical reordering. This document has to be read closely related to the two previous documents: the 1992 Orientations of the Italian Conference of Bishops «I beni culturali della Chiesa» and the 1993 Pastoral note of the Episcopal Commission for the Liturgy «La progettazione di nuove chiese».

6. For a general framework on the theme about the impressive architectural experimentation in the construction of churches after the II Vatican Council: Pontificia opera 1968; Glesleri 1967; Gresleri 1968.

7. The contributes of the first part of the conference, based on the general architectural debate, were proposed by Giovanni Fallani, Enzo Lodi, Gian Carlo Menis, Giuseppe Bergamini, Giuseppe Zander, Giuseppe Varaldo, Glauco Gresleri and Pietro Garlato.

8. More information can be found at site of Ufficio Nazionale per i Beni Culturali Ecclesiastici e l'Edilizia di Culto della Conferenza Episcopale Italiana.

9. See note 5.

SOURCE OF IMAGES

Fig. 01-02. Sandro Pittini's Archive.
Fig. 03-06. Andrea Longhi's Archive.
Fig. 07-14. Author's Archive.