

The Reconstruction of Catania after the Earthquake of 1693

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In January 1693 South-east Sicily (the *Val di Noto* region) was struck by a major earthquake. Nearly fifty urban centres were destroyed, partially or entirely. Catania, the largest city in the area, was the most seriously hit. According to the official accounts of the time it lost 16 thousand citizens out of an estimated population of 20 thousand, and nearly all its buildings were destroyed. Following the *terremoto* Catania becomes an enormous construction site, as houses, palaces, churches and monasteries were progressively rebuilt.

The objective of this paper is to give a concise analysis of this massive process of reconstruction:

- What were the preliminary conditions of the reconstruction?
- How did the various groups of citizens (the Church, the aristocracy, the middle and lower classes) manage to reconstruct their building assets?
- How long did the reconstruction last? What impact did it have on the local economy and building industry?
- How does the reconstruction of Catania compare to similar catastrophes (only a few comparisons are made, for example, with London after the 1666 Great fire and with Lisbon after the 1755 earthquake, in order to keep within the limits of this paper)?

This research is based on an in-depth analysis of the documentation kept in the *Archivio di Stato* in Catania (records of the public notaries, archives of the major families and monasteries) and Palermo (archives of the central government). The municipal archives in Catania were completely destroyed in 1944; however, copies of a few important documents are in private archives. Fundamental to the research is the systematic study of the accounting books of the three main protagonists of the reconstruction: the princes of Biscari and the Benedictine monasteries of San Nicolò (masculine) and Santissima Trinità (feminine). The accounting books are extremely useful, as they keep record of year-by-year sources of income and expenses (including the building investments). This documentation (several hundred books in total) has not previously been studied systematically or thoroughly.

Nota bene: the Sicilian currency at the time was the *onza*.

THE RE-FOUNDING OF CATANIA

The first weeks after the earthquake brought extreme anarchy (plundering, disorganisation of economic and social life, flight of citizens). The baron of Raddusa led the surviving members of his family to his land in the countryside in order to escape violence and hunger in Catania, and he gave a dramatic account of the events (ASC Biscari 904, c. 200). Many believed that Catania had been hit too badly to be able to rise again from its rubble (it had been previously damaged by lava in 1669 and by a major earthquake in 1542). A few documents from early 1693 use a striking sentence that gives a vivid idea of the state of discouragement induced by the catastrophe, “la città che un tempo fu Catania” (the city that once was Catania) (ASC Randazzo 1081, c. 85).

The viceroy and the central government in Palermo reacted swiftly, sending supplies, forces and an official representative, Giuseppe Lanza Duke of Camastra, with full powers to re-establish order and coordinate the reconstruction of the Val di Noto (ASP Trabia, c. 619). The first objective of the local and central authorities was the return to some kind of normality (safety, religion, supplies and public health). This was achieved in Catania between February and March 1693 (Gallo 1975, pp. 3-21). As a result, most citizens that had previously fled returned to the town: the monks of San Nicolò, who had found refuge in Paternò, came back in February; the notary Antonio Coltraro who had fled to Messina to heal his wounds returned in March (ASC Benedettini 1184, c. 29; Notarile 1794, c. 1). The population built temporary shelters outside the city walls in order to avoid epidemics caused by the presence of thousands of bodies still under the rubble.



Figure 1. The *terremoto* in Catania seen in a contemporary German print, with citizens fleeing from the city.

The second step in the process was the re-founding of the city. The major decisions were taken, in May 1693 and June 1694, by a municipal commission (*Consiglio*) consisting of the leading surviving forces of the aristocracy and the church (with no representatives from the bourgeoisie and the guilds), under the close supervision of Camastra (ASC Benedettini 343, c. 472-82; Fichera 1934, appendix A). The commission decided to rebuild Catania on the same site and to redesign the plan of the city, opening new squares and large new straight streets. The new plan was largely inspired by Baroque urban culture (it was in many ways similar to the Wren plan for London in 1666), the needs of the aristocracy and the Church (space provided for coaches and processions), and by the fear of narrow streets (many citizens had been killed by the collapsing buildings as they were escaping from their homes). The new plan was intended to function as an anti-seismic strategy.

According to their geographical and political situation, other cities in the Val di Noto took different paths: some were re-founded on a different site (Avola, Grammichele, Noto, Ragusa), others tried, but failed to change location (Lentini), but most kept the same site and the same plan (Syracuse, Augusta, Acireale). The analysis of the different solutions, the more general question of the culture of catastrophe as well as Baroque urban culture are important topics, essential to a full understanding of the process of reconstruction. I will not elaborate on them here, but just mention that the 1693 earthquake started a scientific debate on the causes of catastrophes (divine punishment or natural cause?) (Giarrizzo 1978, p. 140) and, that the strategy of changing site after a catastrophe was not so uncommon in the Spanish empire, especially in the New World (Musset 2002).

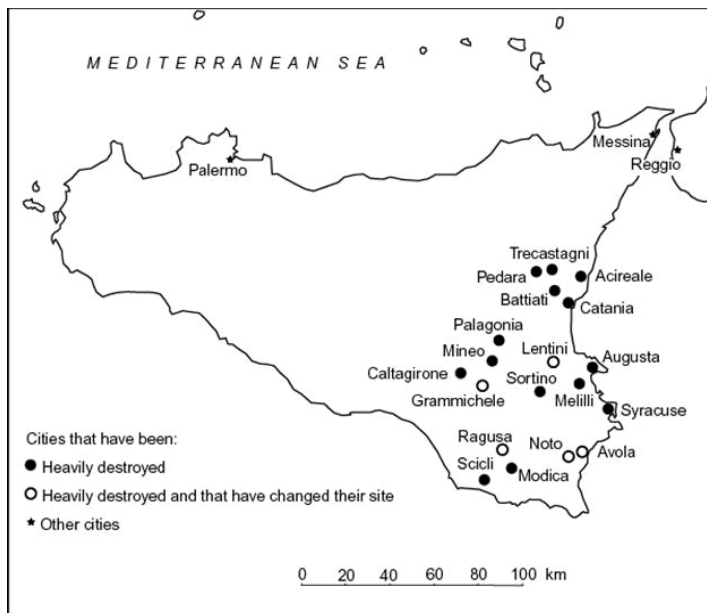


Figure 2. The main cities and towns destroyed by the 1693 earthquake.

In Catania, the municipal commission took every possible step to speed up the reconstruction process. In the case of properties left un-built, the senate (the municipal authority of Catania) could take action and sell them to anyone willing to undertake their reconstruction. Similar steps were taken in the other cities of the Val di Noto, as well as in London after 1666 (Reddaway 1940, p. 135) and in Lisbon after 1755 (França 1988, p. 130). Some more extreme measures were unique to Catania (as a consequence of the gravity of the catastrophe there): property prices were reduced by one third, mortgages on sold buildings were suppressed and the price of urban land was standardised (more expensive in the East, the traditional location of the aristocracy, less expensive in the West). In Catania, and generally in the Val di Noto, no regulation on building techniques and standardised houses was imposed after 1693 (Fianchino 1999). This was a notable difference from both London (Reddaway 1940, p. 80) and Lisbon (França 1988, p. 88), and was a further incentive to speed reconstruction in Catania, as buildings could evolve freely according to the tastes and means of their owners.

Besides urban renewal, Catania also underwent a religious re-foundation in May 1693, with the election of the Madonna of the Immaculate Conception as the new patron saint (ASC Corporazioni 214, c. 388). Between 1694 and 1695, in conjunction with the return to legal certainty (new plan and new rules) the reconstruction of Catania began. As citizens returned to the city, the temporary shelters outside the walls were not demolished. They were occupied by poor citizens and emigrants, and gradually evolved from *favellas* to suburban neighbourhoods.



Figure 3. Piazza San Filippo in 1780 with the 24 shops (A. Zacco).

As the reconstruction began, Catania had to face a number of challenges: the sporadic earth movements (which continued for several years), the lack of workers (see below), the necessity of importing key building materials (limestone in particular) and limited help from the state, which granted a four-year tax suspension to the damaged cities of Val di Noto (ASP TRP 26, c. 2). However, as the earthquake killed close to three quarters of the population, the capital stock per citizen was greatly increased (through inheritances, and the fact that convents were reduced from

fourteen to six and their patrimonies combined). Overall the aggregate saving capacity of the city had significantly increased and therefore also the investment capacity it could apply to the reconstruction.

CASE STUDIES

Commercial structures are reconstructed first

It is interesting to observe that commercial structures (shops, warehouses) were the first buildings to be reconstructed in Catania. The main commercial areas, in the new city map, were the newly designed via Uzeda and piazza San Filippo. The early process of reconstruction of the shops was a mixture of speculation on properties, vested interests and incentives granted by local and central authorities. In 1694, Camastra granted the monopoly on meat trade to those who first started reconstructing in Catania: “per loro esempio di haver fabricato e dato tal principio ognuno si animò a fabbricare” (following their example, everybody started reconstructing) (Iachello 2000, p. 132). Three years later, as the bishop attempted to break the monopoly by opening new butcheries, the government intervened directly from Palermo to stop him and protect the monopolists (ASP TRP 26, c. 195 and 239).

The monopolists were a group of noblemen (Asmundo, Massa, Sigona) and religious institutions (Santa Caterina convent, San Marco hospital). Adamo Asmundo was in charge of building the 24 shops forming piazza San Filippo, close to his palace. Asmundo gave one corner of the square to Lorenzo Puglisi, a noble entrepreneur who had come to Catania after the earthquake from the nearby city of Biancavilla. In 1695, Puglisi's six shops were completed and they were similar to those that Asmundo had recently built “secondo la forma del disegno fatto dall'illustrissimo duca di Camastra” (according to Camastra's design) (ASC Notarile 1813, c. 494; 1814, c. 201). The shops of Massa, Sigona and the hospital of San Marco were reconstructed on via Uzeda. In November 1694, the Baron of Sigona was building his shops, with the same structure and design used for those built by the monastery of San Michele close by (ASC Notarile 1796, c. 87). The Santa Caterina convent built its shops and its butchery in another important commercial area, near the harbour (ASC Notarile 1797, c. 220).

Constructing shops and apartment houses was a profitable investment as rents soared after the earthquake, due to the general shortage of dwellings. In 1695, the lawyer Giuseppe Bertini bought, from a widow and two orphan sisters, two large properties set on via Uzeda and built there, in 1695-96, five structures designed functionally (shop and dwelling) that he rented to shopkeepers and craftsmen (ASC Notarile 1814, c. 15, 481 and 571; 1815, c. 36, 499, 598 and 704). The average annual rent was very high: 11 onze, the equivalent of the price of a small house. This meant that within one or two years the building investment had paid off.

Most religious institutions used rents from shops to finance the reconstruction of their church and monastery. In May 1780 Sant'Agata's main corridor was ruined and had to be reconstructed. The nuns decided to build shops under the corridor, along the street, so that the rents could pay the interest on the loan they had to take out to finance the reconstruction. In 1782 the first shop was constructed and let to Vincenzo Pittito, a merchant from Calabria (ASC Notarile 1832, c. 233 and 566).

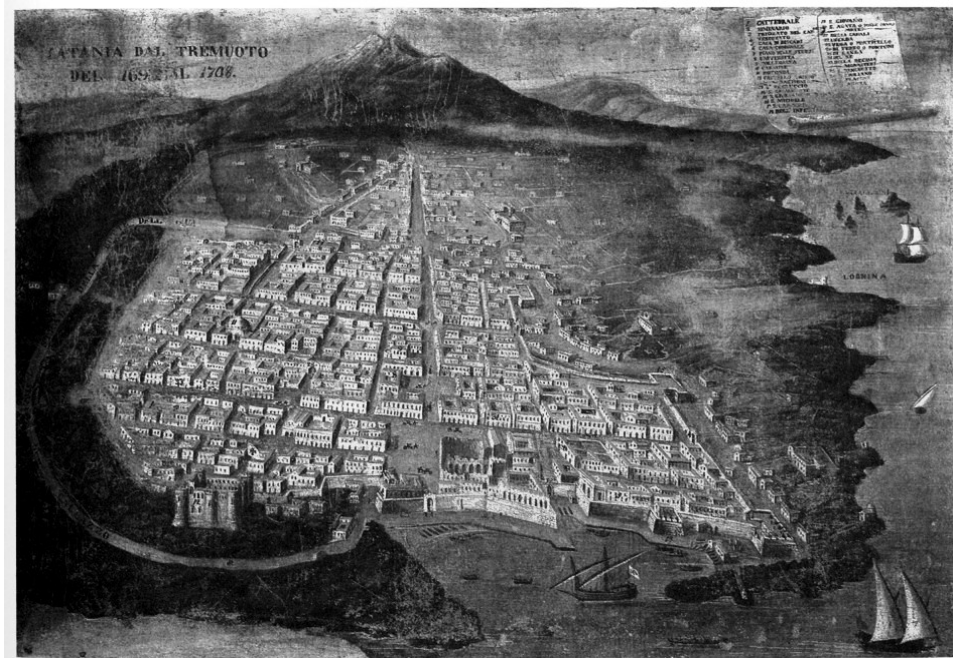


Figure 4. Catania in 1708, already partially reconstructed. The painter has shown the coaches that now could move freely in the new wide streets.

Popular dwellings

The most widespread house type (*casa terrana*) was a mono-cellular structure built with stones and earth instead of mortar, where the entire family and its animals lived. As a consequence of space constraints the dimensions of these houses were standard (on average five by five metres). In 1714, Giuseppe Privitera lived in a *casa terrana* in the Borgo (the suburb), with his four children and two mules. Nicolò Privitera and his wife Rosa lived in another *casa terrana* close by, with their four children. Nicolò owned the house, as well as a small workshop and a few almond trees next to it (ASP Dep. 1400, c. 15; 1402, c. 521). The *casa terrana* could evolve into a one-storey house (*casa solerata* or *appalazzata*) or some larger structure through the combination of several basic cells. In 1695, Vincenzo Brivera, a small entrepreneur who had become rich quickly by selling building material, built a house aggregating three cells in line, forming an area of 75 square metres (ASC Notarile 1813, c. 51). In 1714, the 24-year old lawyer, Giuseppe Condorelli, lived with his wife

Maria and their baby Nicolò in a *casa appalazzata* that they owned, with a room below and above. The house was worth 34 onze (ASP Dep. 1402, c. 551).

The typical dwelling structure was organised around a courtyard with a well. The courtyards were called “cortili comuni privati” (common private courtyards), an expression that underlined the specific communitarian space they created in the city, especially considering that families living there were usually related to each other. Together with the fractions of streets that had survived from the medieval city, the courtyards formed a maze that was characteristic of Islamic urbanism, within the ordinate structure of Baroque Catania. In 1696, the site manager (*capomastro*) Pietro Gulotta bought a house with a portion of well, inside a courtyard next to the church of San Michele, for five onze (ASC Notarile 361, c. 1043). After the earthquake many courtyards were built as an investment by single owners who then rented the houses. In 1694, Ignazio and Scippione Carnazza built a courtyard composed of 11 *case terrane*. The courtyard was called after their name “cortile Carnazza”. They sold it in 1695 to the Benedictines, who needed the space to enlarge their church (ASC Benedettini 347). Many of these courtyards, such as the beautiful *Cortile delle allodole*, are still inhabited today, with few adaptations since the eighteenth century.

Most poor people in Catania rented their home. However, many managed to build their *casa terrana* on their own, often taking out a loan to buy the construction material. In 1714, Rosaria Tropia, a widow with four young children, lived in a house that she rented from the prince of Biscari (ASP Dep. 1400, c. 39). In 1695, the bishop’s bank (*banco della curia vescovile*) granted a five onze loan with no interest to Antonio Gennuisi and Natale Carraio, so that they could build two houses: “detto denaro haverci a servire [...] per la nova edificazione di due case terrane esistenti nella nova città di Catania” (ASC Notarile 1814, c. 512). Most of the popular areas of Catania (the western part of the city, the suburbs) belonged to the aristocracy and to religious institutions. Instead of reconstructing themselves, they often preferred to rent the land with long term or perpetual contracts (*enfiteusi*) and receive a small fee from those who built the houses. In December 1693, the Santa Caterina convent rented a demolished house, located in the *cortile del Goliseo* (the courtyard was built around the Roman coliseum) to Orazio Pulvirenti, so that he could rebuild it (ASC Notarile 1795, c. 137). In 1694 the noble woman Geronima Anzalone gave in perpetual rent (*enfiteusi perpetua*) three demolished buildings to Agatino Catanuto who rebuilt his house there (ASC Notarile 1795, c. 266).

What was the cost of a mono-cellular *casa terrana* in the eighteenth century? Depending on the quality of the material used and the size, the cost could vary from four to ten onze on average (ASC Notarile 2749 c. 304 and c. 667; Benedettini 343). In Noto, the cost of the same type of house was eight-nine onze (Fianchino 1999, pp. 88-90). Considering an average cost of eight onze, how expensive was it for a simple worker to build his house? The normal wage of a worker employed on a building site, in the eighteenth century in Catania, was 2/30th of onza per day. Assuming two hundred days of work per year and a five percent saving rate, it would take 12 years of savings to be able to construct the house and repay the loan.

The “great” buildings

The most important structure built in Catania after 1693 was the huge Benedictine monastery of San Nicolò, which has one of Italy’s largest churches. The monks decided to take advantage of the earthquake to transfer their monastery to a new site, on the top of the hill of Montevergine, the highest spot in Catania, from where they dominated the city and had a fine view over the sea. From 1693, they started massive acquisition of properties on the hill to create the space for the magnificent monastery they were planning to build, as well as for a large square and wide streets in front of it: “Come per fare piano magnifico innante a detto monastero e strade larghe più del solito, attesa la magnificenza del monastero” (ASC Benedettini 343, c. 2). For military reasons the Benedictines were forced to leave the new site in 1703 and return to the old one. Again they bought dozens of houses and a few churches to make room for their monastery, razing to the ground an area that had already been partially reconstructed (ASC Benedettini 347).

Figure 5 shows the annual income and annual building investments of the Benedictines from 1598 to 1812 (ASC Benedettini, libri mastri). The graph shows that there are four main peaks in the building investments. The first peak (1693-1697) was to build a temporary monastery for the monks. The structure was built “con l’anima di legname per la sicurezza dei terremoti” (with a wooden soul for security against earthquakes) (ASC Benedettini 344, c. 57). After 50 years of construction, the second peak (1750-1755) was reached to build the dome of the church. The dome collapsed in October 1755, the architect Francesco Battaglia was dismissed and the king’s architect, Michele Castagna, was paid 63 onze to come from Syracuse to Catania to see the ruins and give advice (ASC Benedettini 822). The discouragement was such that for the next twelve years building expenses reached minimal level.

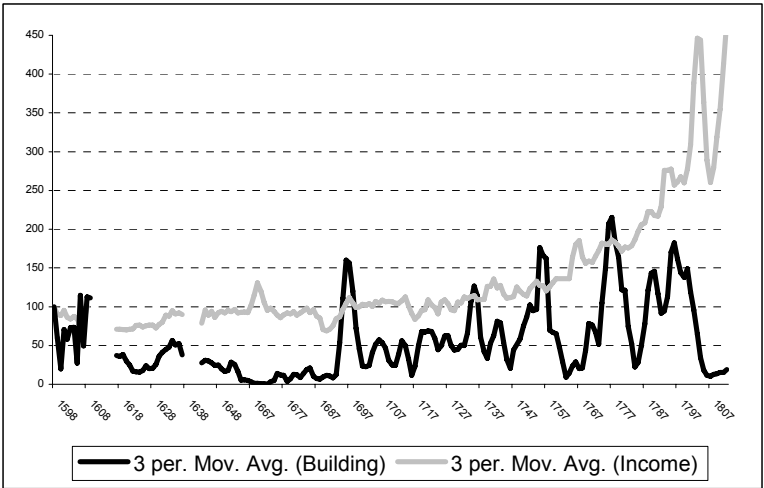


Figure 5. San Nicolò’s annual income and building investments (1598 base 100: three years moving average).

The third peak (1774-1781) corresponds to a new and successful attempt to construct the huge dome, as well as the beginning of a new façade. The investment was massive and, in the summer of 1774, the monks paid a bonus to the teams of builders working extra hours to finish the dome (ASC Benedettini 1212, c. 25-31 and 165). Several workers died in the process, falling from the high wooden bridges under the dome. In October 1774, a fantastic three-day celebration was organised for the inauguration of the church, with thousands of people gathering for the processions. The fourth peak (1788-1801) was due to the construction of the new church's façade. The necessary white limestone came by boat from a quarry in Melilli (**fig.2**). A road was built from the quarry to a small harbour, for the transportation of the huge stones. However, the monks faced continuous problems with the entrepreneurs in charge of the transportation of the limestone and with the local authorities in Melilli (ASC Benedettini 31). In 1804 the construction of the façade was abandoned and the church left unfinished.

From **figure 5** it is clear that there is no direct link between building expenses and annual income. However, the exponential increase in San Nicolò's income after 1750 (linked to the wheat price boom) allowed the monks to realise their grandiose architectural ambitions. **Figure 5** indicates that the major buildings in Catania follow a similar pattern: a first peak for the temporary reconstruction after the earthquake, a second peak after 1750, when the huge increase in their incomes helped the owners to finish their buildings. The graph shows how massive San Nicolò's building investment was compared to Biscari and Santissima Trinità. **Figures 5 and 6** are based on the data collected in the accounting books (the exact methodology and data is presented in my thesis). Although these books are generally very precise, it should be noted that the total expenses may have been understated. Therefore, the calculations do not claim absolute precision; rather they represent a base for comparison and further analysis.

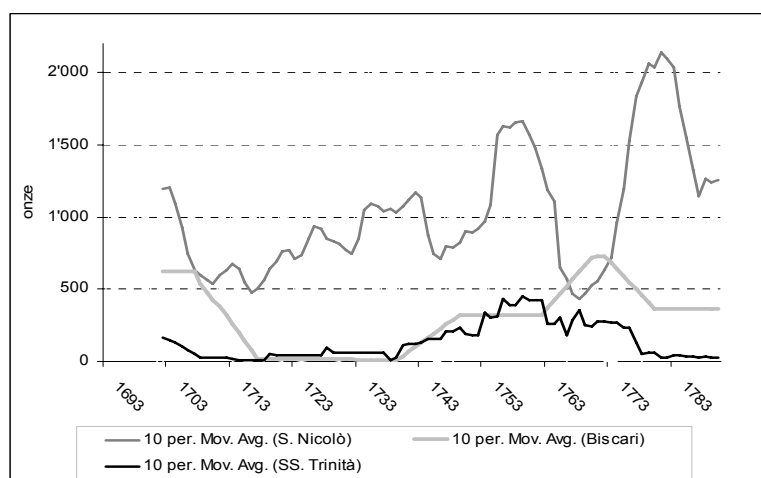


Figure 6. Building expenses (1693-1790) of San Nicolò, Biscari and Santissima Trinità (ten years moving average).

According to the accounting books, the cost of San Nicolò monastery and church was 124 185 onze (1693-1799). Much smaller, but still impressive, Biscari's palace with the two suburban villas cost 23 943 onze (1693-1786), and the monastery of Santissima Trinità 12 882 onze (1693-1785). Palazzo Biscari was four times more expensive than the standard eighteenth century palace in Naples, the capital of the state (Labrot 1977, p. 50).

What is interesting is that although the investments were massive, they were not so impressive if compared to the owner's wealth. In the peak construction years (1774-1802), San Nicolò's building investment was 53 000 onze, but only 13 percent of its total income. Between 1748 and 1762, the cost of Biscari's palace and villas was 5 100 onze, a little more than six percent of the prince's income, less than what the family spent for clothes and horses (seven percent). For the two major protagonists in Catania, the construction effort was not, at least at first sight, a cause of financial ruin. Things were less simple for minor participants: after the earthquake, the Carmelicans were "exhaustus pecuniae" (they had no more money) and had to rent some of their urban properties to finance the reconstruction of their church. Between 1695 and 1702, they built a small temporary church spending 750 onze: more than 25 percent of their income during the same period. They therefore needed massive help from patrons to build the roof (ASC Corporazioni 878). Although they were extremely wealthy, the nuns of Santissima Trinità also experienced some financial strain in completing their architectural programme. In the 1760s, they had to sell a number of their properties in order to finance the church construction (ASC Santissima Trinità, libri mastri).

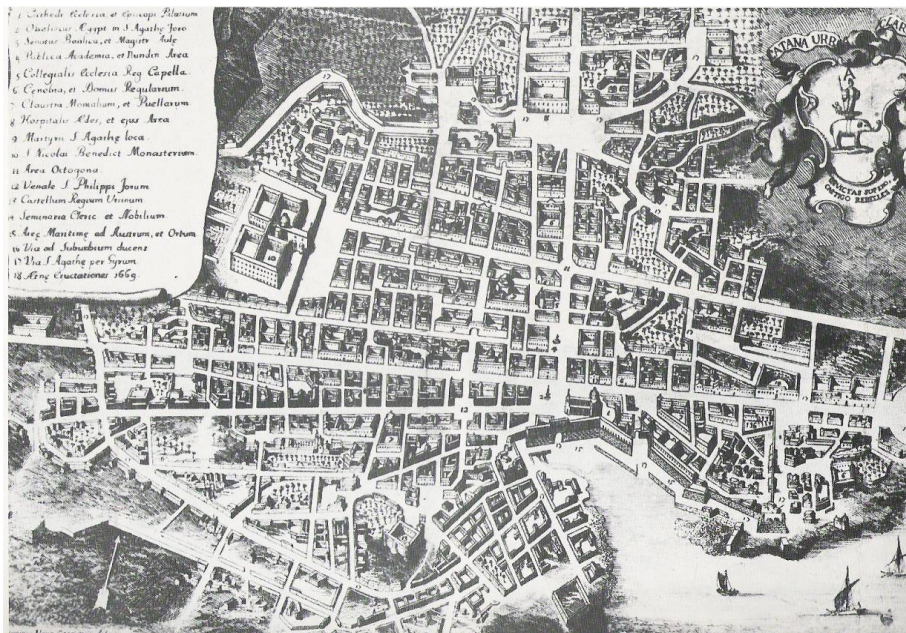


Figure 7. Catania in 1780 (A. Vacca). The huge monastery of San Nicolò is on the left.

Reconstruction and conflicts

It is interesting to mention briefly that the reconstruction process generated a number of conflicts. The most noticeable occurred between religious institutions and the municipality. In 1697-98 the bishop managed to build the seminary, next to his palace, on the city walls, without authorization and in spite of resolute opposition from the senate (ASP TRP 27, c. 74). The municipality was more successful against the Jesuits, when they tried to build a new college in front of the university in 1694, with the stated intention of competing with it (Dato 1992, p. 27). This time the senate was allied with the bishop (who was the university chancellor). Workers were sent overnight to demolish the college under construction, and the Jesuits had to desist and return to the site they occupied before 1693.

Many other conflicts arose between neighbours. The main issue concerned competition for space. In 1705, Pietro Moncada attempted to demolish the house that his neighbour, the judge Erasmo Vinciguerra, was building next to his garden (ASC Carcaci 187, c. 23). Vinciguerra gained the court's support and Moncada was forced to flee from Catania. In 1707, the prince of Biscari and the baron of Raddusa were competing for a piece of land between their palaces (ASC Biscari 1255, c. 55). It is interesting to note that the land (next to the city walls) belonged to no one but to the state. Some other conflicts were characteristic of a convent city such as Catania. In 1725, the abbess of Santissima Trinità managed to block the construction of the palace that Raffaele Portuesi was building in front of the monastery (ASC Notarile 1267, c. 118). The abbess claimed that Portuesi would be able to see the nuns from his windows, and with the court's support she imposed a limitation on the building's height.

A BROADER VIEW

How long did the reconstruction process last?

There is no simple answer to the question; it is a matter of perspective and interpretation. The first phase of the reconstruction was quick (1694-1696). Around that date, many new houses and shops had been built. The four blocks around piazza San Filippo as well as the palace of the rich Massa family had been finished (ASC, Notarile 1006, c. 50). On the other hand, many buildings were still unfinished at the end of the eighteenth century. In 1787, Palazzo Anzalone was only partially constructed (with stone and mortar), the other part being made of temporary wood and earth structures (ASC Carcaci 55, c. 25). The palace was not located in some remote area, but right in the centre of Catania ("Quattro canti") just in front of Palazzo Massa, completed almost a century before.

To complicate things further, many buildings in Catania were demolished by their owners during the second half of the eighteenth century. What were the reasons for the demolishment? In many cases the owners tore down the façade of their palace or monastery, in order to transform it according to the changing architectural taste (from Baroque to neo-classical). In 1764, Ignazio

Biscari asked his architect Francesco Battaglia to prepare a new project for his palace: among other things the magnificent terrace over the sea, built in the pure vernacular Baroque style, was partially destroyed to make room for a neo-classical façade (ASC Biscari 85). As G. Labrot has noted, the constant adaptation of the architecture of the palazzo was a way for the leading aristocratic families to express their magnificence and supremacy: “the palaces under pride’s tyranny are perpetual building sites” (1977, p. 49).



Figure 8. San Nicolò in the early nineteenth century with the dome and the unfinished church (Bertucci).

The reason for the demolition may also be that the building was poorly constructed or designed in the first place. In 1752, the nuns of Sant’Agata decided that their church was too small and that their religious functions could not take place with “magnificenza e solennità decenti” (decent solemnity and magnificence). Therefore, they had the old church demolished and they took out a loan to start a new one, which was finished 30 years later in the mid 1780s (ASC, Notarile 1164, c. 201).

Changing perspective, it is possible to think of the earthquake as an extraordinary moment that was part of an ongoing process of construction and destruction. Before the industrial revolution, most buildings used to have a deterioration rate that meant their almost total destruction in less than 50 years, and therefore had to be constantly reconstructed (Braudel 1979, pp. 286-87). The earthquake was then something similar to a huge acceleration of the destruction rate. In Catania many large buildings were already under construction just before the earthquake: the monastery and church of

San Nicolò (ASC Benedettini, libri mastri), the college and church of the Jesuits (Dato 1992, p. 23), the monastery of Sant'Agostino (ASC Corporazioni 384). Therefore, it is not easy to say exactly when the reconstruction ended, but is clear that the great propulsive force unleashed by the earthquake faded away gradually in the last decade of the eighteenth century. The construction process of many of the largest buildings came to an end around that time: Palazzo Biscari in the 1780s, Santissima Trinità in the early 1790s, San Nicolò in the early 1800s. The sudden halt in 1804 in the building work on San Nicolò can be seen as a symbol of the end of the overall reconstruction. From that date onwards, each year the page dedicated to the “fabbrica nuova” (the new construction) was left blank in the accounting books, whereas the “fabbrica e riparazioni” section registered the normal maintenance and repairs expenses (100-150 onze on average each year) (ASC Benedettini, libri mastri).

Table 1. An economic model of the reconstruction in Catania (1693-1790)

Type of building	onze	workers/ year	percentage
Religious institutions	421 066	101	37%
Popular housing	370 000	89	33%
Aristocratic palaces	278 943	67	25%
Public buildings	45 000	11	4%
Commercial buildings	20 000	5	2%
Total	1 135 010	273	100%

Is it possible to build an economic model of the reconstruction?

There is a two-way relationship between the reconstruction process and the economic development of Catania in the eighteenth century. The investments had an enhancing effect on the urban economy, stimulating all the local crafts linked to the building industry. The strong economic trend, after 1750, fuelled in turn the construction boom of the second half of the century. However, it is important to remember that in an economy of *Ancien Regime* there was a fundamental distinction between the beneficiaries of land rent (the Church, the aristocracy, some elements of the bourgeoisie, whose income rose as cereal prices rose) and wage-earners (whose income declined as cereal prices rose, since wages increased at a much slower pace) (Labrousse 1933, pp. 149, 370 and 616). As a result, the impact of the economic cycle was different for lower class and aristocratic housing. A more systematic research in the archives would be necessary to prove this point, but there is a strong case for arguing that the boom in popular housing occurred earlier, already in the first half of the eighteenth century, when relative wages were still high, and coincided with the demographic boom (birth and immigration) that followed the earthquake (the population in Catania rose to 14 thousand in 1714, 26 thousand in 1737, 45 thousand in 1798) (Ligresti 1984, p. 65).

On the basis of the statistics that exist for the city, and the price of the different types of buildings indicated in the archives is it possible to build an economic model of the reconstruction? The model is still a work in progress (the exact methodology and data are presented in full details in my thesis). The results, summarised in **table 1**, must be taken for what they are, a good approximation and a basis for analysis and further research. Religious institutions (the cathedral, the bishop's palace and the seminary, 32 monasteries with their churches, 88 other churches) account for a little more than one third of the total building investment (San Nicolò alone accounts for 11 percent of the total, Santissima Trinità for one percent). Middle and lower class housing (14 thousand houses) is one third of the total and the palaces (aristocracy and high bourgeoisie) one quarter (palazzo Biscari alone is two percent). Public buildings are the senate, the university, the main hospital and other schools. Commercial structures (shops and warehouses) account for two percent, but many others are incorporated in palaces and monasteries.

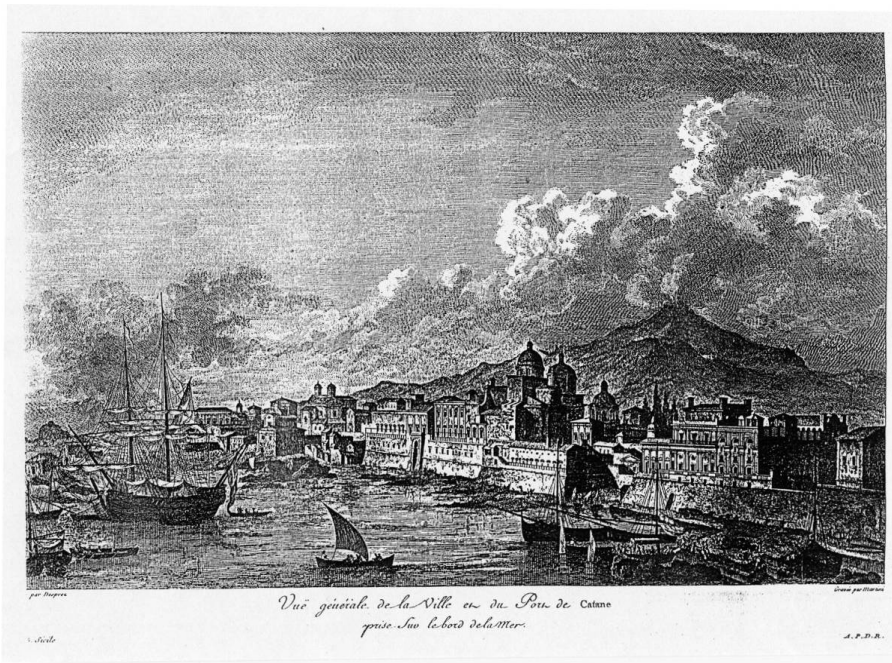


Figure 9. Catania in 1778, as seen from the sea (A. de Saint-Non). On the right, the new façade of Palazzo Biscari. In the centre, the bishop's palace with the seminary and the cathedral.

Is it possible to measure the impact of the reconstruction on the building industry in Catania? In **table 1** the theoretical number of workers employed for each category of building is calculated. The cost of labour in Catania was on average 35 percent of the cost of construction (Fianchino 1999, p. 88). Assuming two hundred days of work in a year, the average cost per year of a construction worker was 15 onze (13.3 a worker, 16.6 a skilled craftsman). Over 97 years, expenditure on

construction of 1 135 000 onze means 273 workers per year active on the construction sites. This is just an average, in the peak construction years the numbers were probably much larger. Moreover, a large portion of the labour force was in fact seasonal (dividing itself between agriculture and construction) and therefore very flexible.

Especially in the first years after the earthquake, the demand for labour was so high that many immigrant workers came to Catania. Out of a sample of 112 building workers active in Catania between 1693 and 1695, 22 percent were from the city, 32 percent from the Etna region, eight percent from Messina, eight percent from the rest of Sicily and 30 percent from Calabria (ASC Notarile). Most craftsmen came from the rich coastal cities (Catania, Messina, Palermo, Acireale), whereas the bulk of the unskilled workforce came from the mountains of Calabria and Sicily. Many skilled craftsmen, in particular from Messina, settled in Catania. Francesco Battaglia, the architect of Palazzo Biscari and San Nicolò was the son of an immigrant stone worker (Librando 1963, p. 130).



Fig 10. A drawing from G. Amico's manual of architecture, *L'architetto pratico*, published in Palermo in 1726.

There is no evidence that the reconstruction process significantly changed the techniques and organisation on the building sites (Fianchino 1999). However the massive investments contributed to the emergence of building entrepreneurs, in particular in the most capital intensive sectors such as materials and transportation. In 1694-96 Vincenzo Brivera (see above) made a small fortune transporting (among other things) reeds by sea from the mouth of the river Simeto to Catania, and selling them on construction sites (reeds were used to make baskets and roofs) (ASC Notarile 1813,

c. 50; 1815, c. 26). On a much larger scale, in 1796, the Palermitan master craftsmen Giuseppe Mieli and Vincenzo la Malfa won the contract (several hundred onze) for the transportation of limestone from Melilli to Catania, for the new façade of San Nicolò (ASC Benedettini 31). The two master craftsmen invested their own capital to build a road from the quarry to the harbour, to pay the workers that cut the stones, and to buy oaks for carriages. However, they lost the contract the following year when a group of entrepreneurs from Catania offered a lower price to the monks.

The site managers capable of supplying their own construction materials were the ones who were able to become entrepreneurs. Pietro Gulotta was active on several building sites financed by the bishop's bank, and he organised the construction and bought the materials for them (ASC Notarile 1795, c. 300; 355, c. 42). By 1696 he was rich enough to buy a house in a good area of Catania (see above).

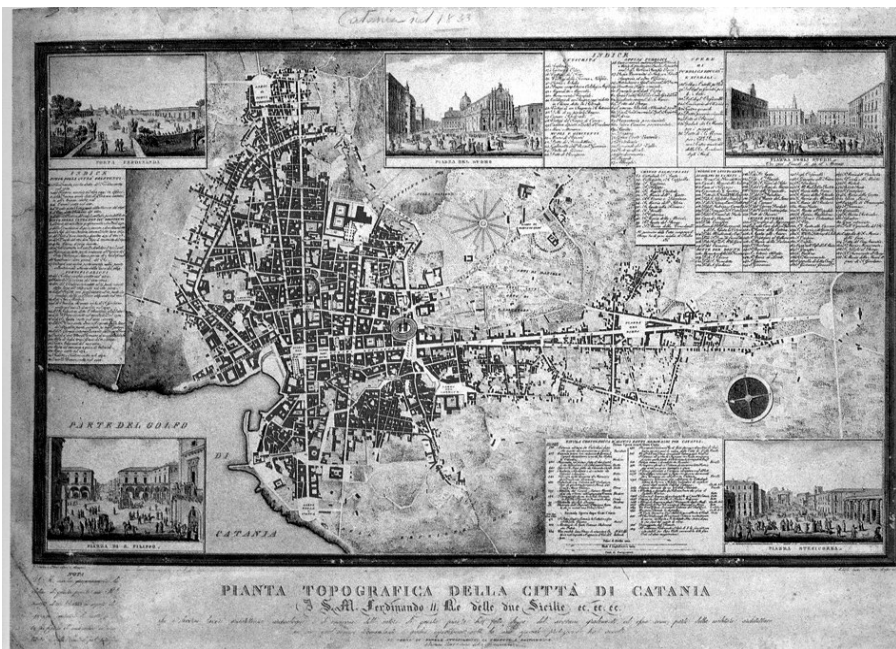


Figure 11. Catania in 1832 (S. Ittar).

CONCLUSION

The 1693 catastrophe in Catania turned out to be a positive factor towards reconstruction; first, because it prompted the authorities to take vigorous measures (modernisation of the urban structure, radical reform of the property market), that immediately facilitated its impetus, and second, because the dramatic decline in population increased the capital stock *pro capite* and thus favoured the long

term investment effort for rebuilding. The reconstruction itself played a major role in promoting economic, development and cultural change in Catania.

At the end of the process, in the second half of the eighteenth century, Catania was considered one of the most modern cities in Italy. It had become a pole of attraction for the Sicilian aristocracy (major families such as Cerami, Reburdone, Trigona settled there around 1750) and a favourite among Grand Tour travellers visiting Sicily such as Brydone and Goethe. When the travelling tutor Patrick Brydone came to Catania in May 1770, with his pupil Lord Fullarton, in order to visit Biscari's museum and to climb Mount Etna, he was impressed by the beauty and elegance of the newly reconstructed city (Brydone 1773). Writing about the Grand Tour travellers, H. Tuzet notes: "Their favourite city [in Sicily] was Catania, reconstructed on a rational plan after the disaster of 1693" (1955, p. 287).

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