

REPORT ON THE STATUS OF THE CULTURAL HERITAGE IN THE
OLD TOWN OF DUBROVNIK FOLLOWING THE BOMBARDMENTS
OF OCTOBER, NOVEMBER AND DECEMBER 1991

Report of the UNESCO mission to Dubrovnik
27 November - 22 December 1991

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Translator's note for page bearing ERN number 01848380: "Map (1) - Dubrovnik Old Town, showing the main monuments".

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A) Introduction

Dubrovnik old town has primarily been portrayed as an urbanistic and architectural gem - at least such was the Yugoslav authorities' description when the old town was under consideration for inclusion in the World Heritage List. This description is undeniably accurate and yet Dubrovnik old town is so much more than that. Its cultural heritage encompasses archives, which Ferdinand Braudel considered the most important source of Mediterranean history, intact monastic libraries and a Ragusan school of painting too little known outside specialist circles. However, the observers discovered another form of heritage, a "movable" heritage of old families, which could not claim to be included in any list but which also forms part of the cultural heritage. They also discovered the intangible heritage of cultural identity which was paradoxically pointed up by the war: a way of looking at history and life that is specific to the people of Dubrovnik and, it is tempting to say, the Ragusans, in reference to an age-old mentality, a tradition of independence, a collective memory of the misfortunes of the past, in particular the earthquakes (the earthquake of 1667 is as much talked about as the one in 1979), a tradition for warm and unpretentious welcomes which match with the pleasing physical scale of the town and its monuments, and whose paradoxical corollary is mass tourism - a phenomenon which may, in the long run, seriously threaten the town's future, perhaps more so than the destruction wreaked by the war.

To us, it is clear that any town included in the World Heritage List is a collection of objects and cultural values. Yet, it is the people living among this heritage that give it its true value: no town can be alive without the people who normally live there and have always lived there. Without them, what is left is nothing more than an empty shell.

For observers, the indissoluble link between cultural and human heritage must be picked up by the unique instrument that is the World Heritage Convention. It was a dire situation that highlighted these problems and, without wishing to go beyond the aim of our mission and report, we hope that the issue of the human being as an integral part of constructed heritage might increasingly become a concern that the World Heritage Committee must take into consideration.

In this report, we will first examine the measures taken by the Dubrovnik cultural authorities to protect the old town's various forms of heritage whilst making recommendations for this property and presenting general proposals for the better application of the 1954 and 1972 conventions. We will then review the destruction caused by the October and November bombardments and describe the bombardment of 6 December and the organisation of the survey work carried out with the Institute for the Protection and Conservation of the Historic Monuments of Dubrovnik - a key institute in all matters concerning the conservation and restoration of the monuments. We will outline areas requiring priority action and discuss those matters which, in the long term, appear the most urgent: the problem of past urbanistic policy, the future of Dubrovnik and the role that UNESCO might play. We believe that this is much more closely linked to the war damage issue than one might think. Lastly, we will make a few suggestions regarding the role that UNESCO should play in a country at war.

B) Measures taken by the Dubrovnik cultural authorities to protect the cultural heritage

On the initiative of the Ministry for Culture, two types of measures were adopted by the governing body of the institutes for the protection and conservation of historic monuments in Zagreb and implemented by its local office in Dubrovnik. This institute is not to be confused with the Institute for the Restoration of Dubrovnik which took no part in protecting the old town's cultural heritage and whose sole responsibility is to reconstruct the old town in the aftermath of the 1979 earthquake.

The first type of measures comes under the Hague Convention, namely, using the convention's flag to mark specific monuments included in the national registers. The second consists of measures taken to protect the heritage physically. Those responsible for the town archives and the heads of a few of the religious establishments provided some help with this type of protection.

B.1.1.) The emblem of the Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954)

The observers were able visually to verify that the Hague Convention emblem, in the form of a shield, had been affixed to the following monuments: the Sponza Palace, the Rector's Palace, St. Blaise's Church, the Cathedral, the site of the Lesser Onofrio Fountain, etc. (see photos 1 and 2). At Minceta Fort, St. John's Fort and Bokar Fort, we raised the UNESCO flag instead. At the former granary (Rupe) and the Franciscan and Dominican monasteries, the poor quality of the (plastic) material provided meant that the regional winds (bora and sirocco) quickly shredded the flags and shields.

All of these monuments were hit by mortar and rocket fire during the bombardments. Whilst there might be doubt as to how visible the marking on the two palaces and the religious establishments was from the hills east of the old town, the high profiles of the granary and forts guaranteed that their marking was visible far outside the old town.

B.1.2.) Proposal regarding the 1954 convention

It is a sad fact that the emblems of the 1954 convention did not discourage the firing and there might even be cause to wonder whether they actually attracted the attention of the gunners. This notwithstanding, it goes without saying that a party which fires upon marked cultural heritage does so knowingly. The only excuses it might present are that the target was being used by the enemy for military purposes or that it was not able to see the marked heritage. We can assert that the gunners knew what they were doing and that the targets were not serving any military purpose.

The flag and shield should be the same size as the UNESCO flag we raised. The materials used for the flag or shield, and the support, must be highly resistant. In addition, the enemy, and UNESCO, should be provided with a list of monuments marked in this manner - which appears not to have been the case in Dubrovnik - in order to avoid fuelling arguments if a UNESCO representative is unable to verify whether the flag or shield was actually put on display beforehand.

B.1.3.) Proposal regarding the emblems of the 1972 convention

Each of us can bear out that in other countries where there are sites included in the World Heritage List, those sites do not carry any distinctive emblems. In Dubrovnik it would have been helpful if a plaque with the text of the official certificate received by the town authorities had been affixed to every door - the official certificate itself is apparently kept in the town hall safe. The 1972 convention also has an acronym and it would be advisable to design a flag with it on. This flag could then be flown at each site for all to see.

Of course, in wartime, only the flag of the 1954 convention may be flown on any given monument but it should not be forgotten that the flag of the 1972 convention recalls an international responsibility to defend mankind's cultural heritage.

B.2.1.) Physical protection of monuments

In early August 1991, the Institute for the Protection of Monuments took the initiative of protecting a number of facades, church portals and statues by setting up wooden screens or shuttering and sandbags (photos 3 and 4).

Protection was provided at the following sites: the north portal of St. Blaise's Church (screen, sandbags), the covered gallery and the capitals and bases of columns in the Rector's Palace (screen, sandbags), the south facade (at first floor level and part of the second floor) and the column bases of the Sponza Palace (screen, sandbags), the south portal of the Dominican Church (screen), the south portal of the Franciscan Church (shuttering and sandbags), the south facade of St. Saviour's Church (screen and

sandbags), the spouts of the Great Onofrio Fountain (sandbags), Roland's column and the statue of Ivan Dzivo Gundulic (shuttering), and the statues of St. Blaise on top of the Pile and Ploce Gates (screens).

It is all too easy to criticise the choices made and methods used in protecting the monuments. All-over screen or shuttering systems or, better still, walls of sandbags might have been considered instead. That said, one must not forget the difficulties encountered by the Institute in its attempts to protect monuments. There was public astonishment at the measures taken as well as opposition to certain works being protected (the screens covering St. Blaise at the gates were removed because the saint was unable to protect the town if he could not see and, as a result, several fingers on the right hand of the Pile statue were lost as the screens were being taken down, not to mention the shrapnel damage done to the Ploce statue and its surround during the 6 December bombardment) and great difficulty was had in acquiring wood (despite the large stocks of wood, requisitioned in Gruj port) and bags. It must however be pointed out that, before the war, no-one had the slightest idea of what types of projectiles might be used and thus there is every reason to praise the Institute's farsightedness.

Inevitably, such protection was more symbolic than it was complete. Although the spouts of the Great Onofrio Fountain remained intact on 6 December, the top of the east wall and the covering were very badly damaged by a direct hit and the balustrade and part of the north facade of St. Blaise's church were struck full on by a mortar shell, which spared the screen. Whereas the screen at the entry to the Dominican Church unquestionably restricted the damage caused by a rocket which landed near the protective barrier, the screen on St. Saviour's Church was erected too far from the portal and let through shrapnel which seriously damaged the surround. That said, without these protective barriers the damage would have been worse.

B.2.2.) Proposal regarding the physical protection of immovable cultural property

In the wake of 6 December, the priority lies with the damage that poses a danger to the population. Were there to be another bombardment like the one on St. Nicholas' Day, in a town where civil defence (registering shelters, organising districts, stocking sand and water on the upper floors of buildings, emptying attics of highly inflammable materials, etc.) is almost entirely lacking, the strength or weakness of the buildings would be of utmost importance. All the same, it would be advisable to move the screen at St. Saviour's closer to the portal and to cover the fine details on St. Blaise's facade with a screen. It would also be helpful if the municipality and Institute for Restoration were to assist the efforts of the Institute for the Protection of Monuments.

B.3.1.) Protection of the movable heritage

The wealth of this world heritage property is not limited to its immovable heritage but also includes the town archives (dating back to 1278), the works of art by the Ragusan schools, the monastic libraries (the Franciscan one contains 20,000 books, not to mention the 137 incunabula, while the Dominican one has 200 incunabula) and the collections held in Dubrovnik's history, maritime and icon museums.

There is also a wealth of heritage in private hands which attests to the persistence of a collective memory passed down through the families, a wealth consisting of furniture, libraries, pictures, maps, scale models of boats and instruments, all of which the observers discovered when visiting houses to survey the damage caused by the various bombardments.

The observers wanted to devote more time to examining this sensitive issue after reviewing the damage caused in October and November but the work timetable was turned completely upside down by the bombardment on 6 December. Nevertheless, one general observation must be made.

There are very serious gaps in the protection of Dubrovnik's movable heritage, one of the causes of which is that the civilian and ecclesiastical authorities holding the decision-making powers in such matters are not centralised.

B.3.2.) Civilian institutions

A small part of the *town archives* was put in the few aluminium containers that were supplied by the Ministry for Culture in Zagreb. The remainder is still *in situ* on two floors of the Sponza Palace and has been saved, despite the direct hits on the Palace's roof. Although the ceiling is made of concrete, the effects of damp, often observed in the building, were unfortunately made worse by the Palace's windows being blown out. Another part of the archives is permanently stored in unsatisfactory conditions at St. Mary's Convent.

The various parts of the Dubrovnik *history museum's collection* at the Rector's Palace are in an equally unusual situation. Whereas the weaponry and coins are still in their display rooms, part of the furniture has been put in rooms affording genuine protection but, for unknown reasons, another part has been put in private homes - in one case, on the top floor of a house whose roof was badly damaged on 6 December.

B.3.3.) Proposals regarding civilian institutions

(a) Even though the town archives are in a *relatively* safe location, their future conservation in a building with damp problems, not to mention the conservation of the 19th century archives, deserves to be examined closely, perhaps by the International Council on Archives.

(b) We recommend that the UNESCO office in Dubrovnik be informed of where any collection belonging to the town museum is being kept. It would be helpful to have the inventories of the museum's collections as requested.

B.4.1.) Religious institutionsB.4.2.) Libraries

While the monasteries' *incunabula* were stored in a safe place - according to the officials from the religious institutions - the observers discovered that most of the collections were not moved.

At the Jesuit Convent, the Institute for the Protection of Monuments boarded the library windows up with plywood, a method similar to the one used at the Dominican monastery. At the Franciscan monastery, thin metal plates were affixed to the windows. Although on the east side, that is to say, directly in the line of fire, and located on the second floor, the library of the Franciscans escaped destruction on 6 December. The plates were pierced by shrapnel from impacts on the cloister terrace and two large holes were made in the library ceiling as a result of two direct hits on the roof. The observers did however persuade the prior to move his library to rooms within the monastery that offered better shelter. The Dominican Convent's library roof was also hit but, to our knowledge, the collection is still *in situ*.

B.4.3.) Decorative furnishings

The observers were unable to verify the protection provided for the pharmacy (which dates back to 1317) and decorative furnishings of the Franciscan Convent, except in the church. There is no protection for the interior of the church and no items of value have been removed to a safe place. This state of affairs is especially serious since this church and St. Blaise's are much more authentic than the Dominican Church or the Cathedral, which have been restored.

The most important pieces of the *very large Ragusan school collection* (the polyptych by Dobricevic dating from 1448, the triptych and the "Annunciation" by Bozidarevic from the end of the 15th century and the triptych by Hamzic from 1512) belonging to the Dominican Convent were taken out of their display room and placed in a better protected

room on the ground floor with windows which were boarded up with wood, but which looked east. None of the pictures was protected (photos 5 and 6). Fortunately, on 6 December, for the most part, the convent only came under fire from rockets, with their high trajectories. More localised and intense fire from mortars could easily have hit the room where the pictures were stored. Conversely, mention should be made of the fact that other pictures from the collection were not afforded any special protection and that manuscripts concerning the foundation and history of the institution on display in the church's annex rooms are still there. Similarly, the interior of the church lacks any protection. The very beautiful and fragile *crucifix by Paolo Veneziano* mounted on its beam above the high altar, without the slightest protection, was exposed to every risk imaginable but was miraculously spared from the two projectiles which pierced the roof on 6 December. Admittedly, taking it down would be a very complex operation which could not be carried out using local means alone.

The Cathedral interior is also unprotected ("The Assumption" by Titian is still in the choir and the extremely beautiful baroque altars with their paintings in the side chapels are not protected any better).

There are many small churches and chapels in Dubrovnik that are in a similar situation to the more prestigious institutions.

We were unable to visit the Orthodox Church because it was impossible to go inside. This building and the Icon Museum (part of which was protected) are shown genuine respect by the people despite the war.

The synagogue (14th century) has exceptional furnishings *in situ*. Due to the hidden damage, we will deal with it at a later stage.

Lastly, a word should be said about the protection of the religious institutions' *treasures*. It was impossible to find out in what condition and where these were kept. It seems that all manner of authorities believe that secrecy is the best form of protection.

B.4.4.) Problem of protecting the churches' movable heritage

It must be pointed out that part of the population indisputably thought it of great importance for places of worship to maintain their normal appearance. It is not difficult to understand why the churches represented a haven for the people of Dubrovnik and why protecting the churches' decorative furnishings would have alarmed the population. At issue here is a particular religious mentality: "God doeth according to his will". Such an attitude goes hand in hand with some of the historical attitudes we encountered (the strong feeling for protecting the old walls, Dubrovnik's age-old habit of muddling through against the aggressor all alone), attitudes which form part of a specific culture, *engaging attitudes* which make up part of Dubrovnik's cultural heritage just as much as its immovable and movable heritage. However, it should be pointed out that these attitudes were not shared by everyone from Dubrovnik. Some people drew a parallel between the failure to protect the heritage and the negligence demonstrated in prosecuting the war: criticism which may well have serious ramifications in the future.

Although the damage done on 6 December to the religious and civilian institutions in the east was less serious (the Franciscan Convent and the Red Cross headquarters being the exceptions), this was merely due to the fact that the federal gunners were interested in other targets inside the old town further to the west, and in particular, homes.

B.4.5.) Proposal regarding the religious institutions' movable heritage

Protecting this heritage is of utmost importance but convincing the respective authorities of the need to do so is a sensitive operation. It is possible that negotiations with the region's senior religious authorities alone could make it easier to introduce some protective measures but it is an illusion to think that the heritage can be truly protected satisfactorily under the current conditions, unless the local religious authorities have changed their attitude since 6 December.

C) Bombardments of October and November 1991 and their consequences

C.1.1.) Chronology of the bombardments

The chronology is unclear in the minds of the inhabitants of Dubrovnik. It is difficult to pick out the shots fired at the old town from their collective memory of the bombardments which stretched from the Hotel Belvedere to the foot of the ~~Jakov od~~ **ZARKOVICA** et seq. ~~Visnjice~~ hill* and on to the port of Gruj. The diary of an architect has been of great help to the observers and it shows that shots were fired at the old town on 23 October and from 10 to 12 November. It is interesting to note that the people of Dubrovnik often talk about four or five days of bombardment in the old town in November, which is also a reflection of the *psychological impact* of the shelling.

C.1.2.) Projectiles used

It is important to identify the projectiles used because we can then better understand the (material and psychological) damage caused and the intentions of those firing, that is to say, their relationship with this cultural property of international significance.

It was relatively easy to identify the projectiles used in the bombardments. First, residents kept pieces of them and were keen to hold on to these symbols of their suffering for the future. The observers themselves picked up other pieces, and even stabilisers, in the attics that were demolished. Some projectiles were left embedded in the walls. With experience, it also became increasingly easy to identify a projectile from the damage it had caused. The bomb disposal experts from *La Rance* helped us to identify some of the projectiles and the source of fire.

The most frequently recovered projectile used in the bombardments (24 targets hit recorded by the observers) was an 82mm round fired in salvos from ~~Stalin's organs~~ **82mm rounds** * et seq. positioned, at most, 6km east of the town - that is to say, behind Jakov od Visnjice

* *Translator's note: reproduced from the French original.*

(photos 7 and 8). To the population it was known by the English term "rocket" which we will use here in order to distinguish it from the 82mm mortar round.

The projectile is normally used against armoured vehicles. It contains a charge which explodes on impact. The extreme heat melts the metal on contact and so penetrates the vehicle. However the charge is relatively small as is demonstrated by the fact that the stabiliser cylinder was always found intact and not ripped apart by the explosion.

This sort of projectile was of little use against the stone walls of Dubrovnik (0.8 to 1 metre thick in the houses) (photos 9 and 10). It could become embedded in a stone wall if it struck the mortar joint. That said, it performed better against ageing or poor quality concrete when it would make a hole in the facade wall and cause crumbling inside the house, whilst the metal tip would go straight through (photo 11). As such, it could cause damage to those floors which had been added to houses and whose walls were often made of concrete.

However, due to its flat trajectory and the narrowness of the streets, this projectile mostly struck roofs, where its effect was greater. It sliced through tiles and battens and was capable of opening up holes measuring three square metres depending on the quality of the structure it hit (photo 12). Yet, it was rarely able to shatter big beams (of fairly standard dimensions, generally 14cm x 12cm), though one of them did manage to shatter the corona beam in the roof of the Dominican Convent's west wing on 6 December (photo 13).

Clearly the projectile could kill or inflict serious injury even if it did not normally cause much material damage. Moreover, it could start a fire (and we recorded two fires started by such rockets in November, see photos 14 and 15) or cause an explosion if the metal tip struck a gas bottle, a scenario which was not improbable given that kitchens in the old town are on the top floor beneath the attic or on the additional floor.

The second projectile - by far the most dangerous (see below p. 21) - was the 120mm mortar shell (photos 16 and 17) which was definitely fired from Jakov od Visnjice and perhaps also from the positions north of the Imperial Fort (held by the Croatian forces) which overlook the old town from the north. However, the observers recorded only seven instances in which this projectile was used in October and November.

Much has been said about the use of a wire-guided anti-armour rocket called the "Maljutka" and it may even be argued that the projectile entered the collective war memory of the people of Dubrovnik. Due to its slowness and the light its engine emitted it was the only projectile that could be seen and it left wires everywhere (photo 18). It appears though that most of the pieces of this type of projectile recovered in October and November were picked up in the small port or brought in from outside the town.

The observers found shrapnel from anti-aircraft shells on the old town's western walls. It is not implausible that they were fired by federal patrol ships.

Lastly, there are two examples of unidentified deep-penetration projectiles (see annex 3).

However, we wish to emphasise strongly that it was the 82mm rocket which was by far the most commonly used projectile, which raises the issue of what the purpose of the shelling was.

C.1.3.) Pattern of fire against the old town

The accuracy of the 82mm rocket appeared quite high. The observers on Jakov od Visnjice had no trouble directing it at Stradun, the old town's main east-west artery which was *highly visible from the hill* because it was so wide and was demarcated by the Franciscan Tower at one end and the Clock Tower at the other. One of the houses on Stradun (1 Boskovicева St.) was hit on 23 October, in November and on 6 December - proof that the federal gunners had a firing reference point.

The pattern of fire for this projectile can be very clearly gauged from the map produced by the Institute for the Protection of Monuments (annex 1). There was a whole series of impacts on the walls and in the small port in the east of the old town, including at St. John's Fort, one of the old town's main shelters, and St. Peter's Bastion, which served as a seaward-facing observation point. A second series of shots was grouped along Stradun.

C.1.4.) Federal gunners' objective: psychological bombardment

The observers' mission was confined to the old town but they also witnessed the destruction wreaked in Gruj port and on the road into the old town. It must be said that the damage outside the World Heritage site was worse than that inside.

The primary objective of the October and November bombardments of Old Dubrovnik was psychological. Relatively few rockets - projectiles designed for targets other than stonework - were actually fired at the old town. There were perhaps ten or so salvos in all. What's more, they were incapable of inflicting much actual structural damage though they did make an impressive and deafening metallic noise as they exploded and a small but sinister whistling sound as they flew over the roof-tops. That said, it must not be forgotten that the kitchens and dining rooms were below or sometimes in the attics, meaning that any damage was a real intrusion into the inhabitants' personal lives. News of damage spread quickly through the micro-neighbourhoods and everyone came to view the destruction.

The shots fired at the small port destroyed several yachts of a fair size but of doubtful military value. They also hit the small boats privately owned by the people of Dubrovnik and so heightened the feeling that the federal army wanted to cause hurt to everyone. The fires that took hold on the boats created immense plumes of smoke - as the observers witnessed on 6 December - and were visually striking. It was this, above all else, that the European media showed, thereby adding to the psychological effect.

The shots fired at St. John's Fort, which, as everyone later concurred, appeared to target the shelters' windows and as such the refugees and the old town's inhabitants too, was another aspect of the psychological aggression. The use of Stradun as a range-finding reference point also heightened this feeling as Stradun, the gathering place of this Mediterranean town, teems with people during calmer times - that is, straight after the all-clear or just before an alert.

C.2.1.) Report by the Institute for the Protection and Conservation of Historic Monuments (Izvjescje o Razaranju Dubrovnika, Listopad i Studeni 1991 - Report on the War Destruction in Dubrovnik, October and November 1991) (report attached)

The Institute completed this report for 24 November on which date the UNESCO mission was expected. It contains an analysis of the destruction in both the old town and the rest of Dubrovnik as well as in other parts of this greatly sprawling town. A map illustrating the destruction and good photographs taken just after the bombardments were also included.

The report's assessments are well drafted but often provide nothing more than an impression. Matters of possible political propaganda aside, it should be recalled that it was psychologically very difficult for the Institute's architects to assess calmly the destruction *their* town suffered. In this regard, it is worthwhile recalling the agonising shock felt by the UNESCO observers after the bombardment of 6 December.

The real problem is that the Institute's experts did not have a specific methodology, which is unsurprising (and the records compiled following the 1979 earthquake were of little use). The report may be criticised for its failure to be meticulous in describing the types of projectile used, which would have made it easier to understand the nature and true scope of the damage. The map produced by the Institute made no distinction between shrapnel impacts and direct hits and the report's authors did not attempt to identify the projectiles used. As the UNESCO observers noted, once the type of projectile was known the severity of the damage was known as well. Since the UNESCO observers were

unable to read Croatian they had to rely on a quick English translation, which did not help with the accuracy of the assessments.

That said, the document's very considerable worth must also be highlighted. It pinpoints the damage accurately and puts forward conclusions which are generally restrained and consistently incontrovertible. In addition, the authors periodically mention the effects of the detonations on the structures. Owing to the topography, there is a very considerable echo effect and the old town suffered the effects of aftershock when the warships' guns were fired, even though not all of the guns were trained on the town.

C.2.2.) Scope of the damage according to the Institute's report.

Disregarding those places specified in the report which are not in the old town, the structures damaged can be categorised as follows:

Table 1: Types of structure damaged

(1) Public thoroughfares (street paving, piers, etc.)	5
(2) Fortifications (no. of sites hit)	7
(3) Public buildings	7
(4) Religious buildings	5
(5) Houses	29

In categories (1) and (2), the damage was always caused by a direct impact and the destruction is almost always assessed as minor. In categories (3), (4) and (5), the types of impact reported by the Institute are more varied.

Table 2: Types of impact on the buildings

	direct impact (i)	shrapnel (ii)
Public buildings	7	
Religious buildings (iii)	1	2
Houses (iv)	20	7

- (i) shrapnel damage almost always present as well
- (ii) only shrapnel damage (but see (iii))
- (iii) one case of blast (window) and shrapnel damage
- (iv) not provided for 2 houses

To understand the destruction better, we next need to ascertain whether the structures were hit on the facade (or wall) or on the roof.

Table 3: Points of impact on the buildings

	facade impact	roof impact
Public buildings (7)	3	5 (i)
Religious buildings (5)		1
Houses (20)	8	13 (ii)

(i) Sponza Palace hit directly on wall and roof

(ii) 1 Boskovicewa St. hit on wall and roof

For the detailed survey of the destruction, please refer to annex 3, though it must be pointed out here that, *in an overwhelming number of cases, the structural destruction caused was minor.*

C.3.1.) UNESCO mission survey for the October-November period and its limitations

The UNESCO mission arrived in Dubrovnik in the evening of 27 November. The 28 November was devoted to placing flags on the old town walls, holding meetings with representatives from the municipality and the Institute for the Protection and Conservation of Historic Monuments and convening a press conference. The damage survey itself got under way on 29 November and proceeded smoothly until 2 December on which date machine-gun fire from federal positions targeted the east of the old town and bullets narrowly passed over the head of one of the observers. On 3 December, three people were injured at the small port and outside the Ploce Gate. On 4 December, mortar fire came down on the hill north of the town, an usual occurrence for the day time which interrupted the morning's survey work. As a consequence, the observers concentrated their efforts inside the western walls of the old town, leaving the damage survey in the small port and the arsenal for when things calmed down. On 6 December, the heavy bombardment took place and the amount of new survey work that had to be done made it seem of little importance whether or not the damage survey for the previous period was finished. For this reason it was never completed - though it was at a sufficiently advanced

stage for reliable conclusions to be drawn and the methodology honed in the process was of great help in surveying the bombardment damage of 6 December.

C.3.2.) Methodology

The observers drew up a form (see annex 2) for recording the following information: form number, date and time of survey, location, structure, presumed date of damage, projectile, damage description, appraisal of damage severity, other observations, number assigned by the Institute for the Protection and Conservation of Historic Monuments, comparison with the Institute's appraisal. *The Institute used the very same form for the in-depth survey it carried out after the 6 December bombardment* (six volumes sent to the Culture sector).

The form was filled out at the damage site. The observers were accompanied by an interpreter and an architect from the Institute and usually met the people occupying the damaged house, thereby obtaining useful information. They also took many photographs and, where appropriate, made sketches and took measurements.

The methodology was devised on site and, as such, improvised. In our view, the following proposal is called for.

C.3.3.) Proposal regarding the methodology and appointment of experts

It would be worthwhile for UNESCO to establish a methodology to be used when surveying destruction as part of a wartime (or post-war) preventive action policy.

It ought to be possible for observers and experts to obtain information on specific matters beforehand (projectiles, type of damage they can cause, prevention/protection methods to employ prior to and during conflict).

When the subject of war destruction is raised, what is actually meant is destruction caused mainly by artillery. For this reason, structural stability may be an issue and it

therefore seems advisable for a specialist who could advise the people in the field on what initial emergency work needs to be done to be part of the mission.

C.3.4.) Survey of the destruction suffered by Dubrovnik old town in October and November 1991

The 39 surveys carried out by the observers examined the five types of structure indicated in Table 1:

Table 4: Types of structure damaged

(1) Public thoroughfares	3
(2) Fortifications	4
(3) Civilian buildings	6
(4) Religious buildings	5
(5) Houses	26

In a dozen or so cases, we assessed that the damage was either considerable in and of itself or could well become worse as a consequence of the effects of the 6 December bombardment. We took the risk of erring on the side of caution - that is to say, the population's safety. We have included a list of these cases below and refer the reader to the annex for the survey and recommendation.

Survey number	Structure	Serious damage caused by the October & November bombardments	Danger arising from the 6 December bombardment
4b)	West window of the Dominicans	X	X
9a)	St. John's Fort	X	
12)	6 Od Pustijerna St.	X	X
18a)	1 Boskoviceva St.	X	X
18b)	3 Boskoviceva St.	X	X
19)	Synagogue	X	X
22)	1 Antuninska St.	X	
24)	Jesuit Church	X	
25)	8 Siroka St.	X	X
36) /sic/	5 Siroka St.	X	X
29)	4 Miha Pracata St.	X	X
36)	11 Antuninska St.	X	X

All the other damage was minor.

C.3.5.) Moral significance of the survey to UNESCO.

The fact that the observers were in the old town to verify the damage done not only to the churches and palaces but also, and *above all*, the houses - as it was the houses that were mostly hit - was what really struck the inhabitants. Indeed, the first people the observers saw were surprised. Over time, the observers got the impression that the visits were somehow keenly anticipated. The observers were received very well and relived with the inhabitants *the bombardment of their houses*. Initially, they were confused with the people from UNICEF but subsequently any doubt was dispelled. During this first stage, UNESCO listened. When it became known around town that one of the observers had briefly come under machine-gun fire (see point C.1.3.), UNESCO began to be perceived in another light, a transformation completed by the events of 6 December.

D) Bombardment of St. Nicholas' Day (6 December 1991)

D.1.1.) Duration, projectiles used and intentions of the federal gunners

The firing commenced at ~~05:50~~^{05:48}. At first, we did not think it was directed at the old town but at the Imperial Fort, but in actual fact Old Dubrovnik was indeed the target.

Unlike the previous bombardments, this one was concentrated on the centre of the old town (the only important target outside the old town seems to have been the International Centre of Universities in Pile which burned down with its library containing 20,000 volumes). It also stood out because of the sustained fire that lasted until 14:30, that is, for eight and a half hours, though sporadic firing did continue until ~~17:00~~*

15:00 - 15:30

At least one ship in the federal fleet fired at targets outside the old town for part of that time (yet, impacts from its shells were detected on the inside face of the northern wall

* *Translator's note: reproduced from the French original.*

near Minceta). As always, the land-based firing originated mostly from the east, i.e. from Jakov od Visnjice, though the preliminary survey of 7-8 December indicated that it did also come from the other federal army positions to the north and north-west of the town.

As usual, the federal army fired 82mm rockets. Most of the projectiles (48 in total according to the detailed survey by the Institute for the Protection and Conservation of Historic Monuments) were fired at the northern part of the old town.

In the amateur video shot from the Hotel Argentina, several Maljutka rockets are seen being fired. The Institute counted 22 of these projectiles.

The real innovation was the use of the small 82mm mortars, many of whose shells did not explode, and above all the 120mm mortars. The former suffers from poor penetration, except when fired repeatedly and was seen to be relatively ineffectual against paving, even compared to the 82mm rockets. The small mortars scratched the surface of the paving but did not create a hole upon impact as did the rockets (photos 19 and 20). The federal artillery fired these mortars at the northern part of the old town and the southern central part (a total of 232 according to the Institute).

The conclusion must not however be drawn that this type of projectile was harmless because shrapnel killed and wounded many people.

The use of the 120mm mortar was a more serious matter for the old town and its inhabitants. It easily shattered the large 14cm x 12cm roof beams (photo 21) and concrete ceilings over 30cm thick and caused more damage to the paving than the rockets (see photo 22). Its impacts destroyed larger areas of roof than the rockets did (see photo 23). Moreover, the federal artillery fired 120mm marker shells that spread a combustible powder which ignited fires (photo 24). In the amateur video shot from the Hotel Argentina, such projectiles, which were of little use for marking because the wind dispersed the smoke very quickly, can clearly be seen exploding. The large mortars seem to have been concentrated with particular ferocity against an area south of Stradun

towards the west part of the old town. According to the Institute, 364 of the projectiles were fired.

The mortar shells represented more of a danger to the people and buildings than the rockets. Having high trajectories, the mortar shells had no difficulty reaching into the small streets where they struck the facades of houses (photos 25 and 26). Only Stradun, Prijeko St. and the tops of houses could be hit by the rockets. Fortunately, the mortar shells were only impact-detonated. Delayed action shells would have caused a great deal more damage.

The manner in which the fire was concentrated was the other innovation seen during the 6 December bombardment. Repeat firing, using the 120mm mortars in particular, was employed against the western edge of Stradun as far as Rokom St. and, towards the east, as far as Miha Pracata St. The area south of Stradun was the worst hit. Conversely, the upper south part of the old town and the area of monuments in the east were left relatively unscathed. Such grouping, of the largest projectiles especially, leads one to suspect that the federal gunners had the worst of intentions.

Nine buildings burned out completely (four others partially) leaving only the four walls standing (photos 27 to 34). To begin with, the observers thought that the federal gunners had perhaps used real incendiaries and requested the Institute to go to reasonable lengths (given the piles of rubble in the burnt out buildings) in searching for projectile remains.

Yet, the marker shells and the possibility that the propane gas bottles in the kitchens (very often on the top floors) might receive a direct hit meant that fires were inevitable when the shelling was concentrated. A marker shell entering through a roof already blown apart by another projectile could easily set fire to clothes and papers in the attic. An 82mm rocket made a gas bottle explode and we saw from the November surveys that shrapnel and in particular combustible tips could ignite a fire.

It must be pointed out that *the fire was concentrated on the embankment sector where the ground was unstable. That part of town was most vulnerable to earthquakes and had been seriously damaged in 1979 (see photos 35 and 36). As very many houses were given only a cosmetic make-over after the earthquake, the area stood to suffer greatly from the detonations.* Indeed, as a result of the bombardment on 6 December, many of the old cracks reopened and new ones appeared. The choice of target is therefore doubly suspect.

D.2.1.) Did the UN personnel on site help to prevent more serious destruction in Dubrovnik old town?

It is interesting to note that the bombardment took place when there were no Croatian or foreign boats in the port of Gruj and no foreign journalists in town. Had the UNESCO observers and UNICEF team played a passive role, the gunners might have hoped to cause maximum destruction without international opinion being able to assess the situation rapidly and react. It is tempting to say that historians alone will be able to ascertain whether the federal gunners truly had the intention of pounding the old town for three days as has been suggested, an intention that was thwarted by those who raised the alert with the major international media and by the UNESCO Director-General's public protests based on the report submitted over the phone by the observers, one of whom managed to make a swift tour of the old town during the bombardment. The fact is that no artillery projectile has been fired on Dubrovnik since 6 December.

D.2.2.) Proposal to pursue the policy of missions for safeguarding heritage in wartime

In connection with UNESCO and its wartime heritage policy, the possibility of deterrence seems to us vital and leads us to strongly recommend that heritage missions continue to be sent out in time of war (see general conclusion).

D.2.3.) UNESCO's prestige following the 6 December bombardment

The inhabitants were aware that the observers underwent the bombardment at the Dominican Convent which was hit by salvos of 82mm rockets and other projectiles. It

was public knowledge that they went outside to inspect the damage and photograph the fires that same day. The next day, many people asked them whether they were going to be recalled to Paris and despite the fact that the flags and their presence had not been able to prevent the 6 December bombardment people were afraid that they might leave. The fact that they were not recalled but remained in Dubrovnik until the end of their mission brought a prestige to the organisation which is difficult for us to qualify especially since, for the people on site, the organisation's action prevented the continuation of the bombardment. Yet, for us, the fact is that: *UNESCO had moved on from the listening phase to the phase of sharing the suffering. Put differently, the moral commitment to protect the cultural and human heritage was beyond doubt.*

E) Survey of 7-8 December and the organisation of the detailed survey of the Institute for the Protection and Conservation of Historic Monuments

It is difficult to describe the state of the old town the day after the bombardment. It might be said that bad as St. Nicholas' Day was, 7 December was much worse. Houses were smoking, rubble was everywhere and the streets were dangerous as broken tiles were being thrown down from the roofs and cornices and bits of roof threatened to fall off, though this did not prevent anyone from passing by anyway. The people of Dubrovnik were out looking for their friends and family (19 people were killed and 77 seriously wounded in the bombardment) and stared at the damage in astonishment. Everyone was wondering "whether they weren't going to start all over again" and several shots above Stradun emptied the streets in a few minutes, a process hastened by the alert which was not lifted until two hours later.

In this general atmosphere, the observers, assisted by the Institute's two architects, undertook a preliminary survey splitting the old town into two sectors (north and south). The survey's aim was to provide the Director-General with a quick overview that was as comprehensive as possible. Sent to Paris on the evening of 8 December, the survey reported that 9 houses had been destroyed by fire and 6 others partially destroyed and that 708 impact sites had been recorded (including shrapnel and impacts on facades and roofs) though only 370 direct projectile impacts were plotted, clearly an under-evaluation

(annex 4). The observers noticed cracks in the walls, especially in the embankment zone, and not just in the walls of the houses that had burned down. *The two observers deemed that the scope of the destruction meant that it was unrealistic to organise a two-man survey like the one which had almost been completed for the October and November damage and they decided to organise a full survey with the Institute for the Protection and Conservation of Historic Monuments.* The survey would initially determine all the damage done and serve as a basis for a detailed examination of those houses which had been especially badly damaged. It was not realistic to think that the survey could be completed by the end of the mission (scheduled for 22 December)

The next few days were devoted to organising the survey. Together with the two architects who assisted them with the October and November survey, the observers explained to the members of the Institute how to carry out the work using the form created for the November surveys. In addition, each of them went with an architect to carry out the detailed surveys. The members of the Institute, assisted by volunteer architects, worked in teams of two - with a total of seven or eight teams - and shared out the work in the 17 zones used for the surveys carried out after the 1979 earthquake (annex 5).

The first journalists and delegations of various types arrived a week after the bombardment. Consequently, the survey that the observers were jointly carrying out with the Institute was frequently interrupted because the observers had to explain UNESCO's work as well as outline and comment on the destruction. The work was all the more necessary as the official guided visits always kept to Stradun. Despite the war and the destruction, and true to its tradition of hospitality, the municipality wanted to show the beauty of the town and not the damage. The observers also worked on the Emergency Finance Plan requested by the Director-General (annex 6). Their involvement in work on the ground therefore became less frequent and the Institute took this task firmly in hand, under the day-to-day supervision of the observers.

E.1.1.) Overview of the detailed survey by the Institute for the Protection and Conservation of Historic Monuments

This huge task was completed by the Institute in January 1992. We would like to recall a few of the important facts brought to light by the Institute (annex 7):

**- quality of
survey questions
by C. Kaiser
- especially w.r.t.
calibres of
ordnance**

55.9% of the old town's buildings were damaged;

9 buildings burned down completely (1% of the buildings, representing 1.5% of the land);

92 buildings have serious structural damage (11.1% of the buildings, representing 12.5% of the developed land);

218 buildings have less significant structural damage (26.4% of the buildings, representing 29.7%);

144 have minor damage (shrapnel on facades and roofs) (17.4% of the buildings, representing 18.9% of the developed land).

That the serious destruction is concentrated in one area is revealing. Sectors 8, 11 and 12 (western part of the town south of Stradun) which comprise 19.9% of the developed land account for 66.2% of the total area burned down and 43.1% of the entire area that was seriously damaged. *They took 31% of the 120mm mortar shells fired at the old town.*

Although these breakdowns do not correspond to the bombardment zone, it is possible to obtain a better understanding of the zone from the map produced by the Institute given to one of the observers when he returned to Dubrovnik on 31 December (annexes 9 and 10). 60.6% of the seriously damaged buildings are located south of Stradun in a zone stretching from Marojice Kaboge St. in the east, along Od Puca St., taking in the damaged houses on Uska St., and then continuing along Od Puca St., to the south, following Miha Pracata St. as far as Guceticeva St. and Nikole Bozidarevica St., along

Prelazna St., Hlidina St., to the north, along Od Domino St., to the west, Za Rokom St., without forgetting the passage running alongside the open air theatre, climbing up Garistie St. and a few metres away from Od Puca St. before coming out onto Paska Milicevica Square, the site of the Great Onofrio Fountain.

Hence, the survey confirms the observers' impressions that fire was deliberately concentrated on the vulnerable part of the old town on the embankments which suffered extensive damage during the 1979 earthquake (annex 9) and corrects the percentages provided on 6 December to the following: 8% burned down, 45% seriously damaged.*

F) Priorities for action following the bombardment of 6 December 1991

F.1.1.) Safety of the town's inhabitants

During the preliminary and detailed surveys, the observers were able to note the conditions in which the people of Dubrovnik had endured the bombardment of 6 December. Although the number of old town inhabitants who remained in their homes was not as high as 50% it did exceed 33%. Most of them were on the ground-floor (there were no cellars) and often not far from the door out onto the street (thus exposed to mortar shell shrapnel). What would have happened had the federal gunners started all over again (or if there had been an earthquake)? The figure of 19 people killed on 6 December would have been higher and some of the facades might well have collapsed as a result of the impacts - not just those of the burned down buildings but those with cracks in as well. *This concern explains why, in December, the observers asked, as a matter of priority, that one of the members of the upcoming expert mission be an architect/restorer with considerable experience of seismic zones.*

* *Translator's note:* the pages bearing ERN numbers 01848422 01848423 are identical.

F.1.2.) Burned down buildings

On 7 December, the observers began to notice the cracks on all of the burned down buildings, cracks opened up by the heat of the fires and the weight of the rubble. According to a local engineer, the cracks did not pose any danger because the burned down palaces were the old town's "most solidly built" buildings. The architects from the Institute for the Protection and Conservation of Historic Monuments and the UNESCO observers did not share his confidence and, in the "preliminary finance plan for emergency work in Dubrovnik old town following the bombardments of November and December 1991" sent to Paris on 17 December, recommended that funds be set aside for stabilising 9 "baroque palaces and houses", 2 houses in Uska St. and Za Rokom St., "palaces" on Stradun (2 cases), the "palace" at the junction of Siroka St. and Od Puca St., 3 other "palaces" in that road, and the "palace" at the junction of Miha Pracata St. and Guceviceva St.

F.1.3.) Buildings showing cracks

In addition, many other buildings had cracks in their facades, notably, in the western part of the town south of Stradun. Others had even more cracks inside than outside (for example, the house just south of the Domino Church). Often, these were old cracks from the 1979 earthquake which had been reopened (for example, 6 Za Rokom St., photos 37 to 41) but sometimes they were new cracks caused by the force of the detonations. The observers underscored this problem in the emergency finance plan but were unable to provide an evaluation before the Institute's survey was finished.

This also explains why the observers suggested to the architect mission selected by the UNESCO Division of Physical Heritage that it make a priority of examining "immovable cultural property which poses or could pose a danger to the inhabitants of Dubrovnik" (see annex 11) and that it draw up technical recommendations (as well as an initial financial estimate). To the observers, *each house* was cultural property - since the whole of the old town is on the World Heritage List. *Furthermore, the survey prepared by the*

Institute meant that they would very quickly be able to ascertain the 92 priority buildings (on top of the 13 partially or totally burnt down).

F.1.4.) Monuments posing a danger or potential danger to the inhabitants of Dubrovnik

The observers noted down the following structures which should be repaired immediately: the gate at the small port, one of whose arch stones was dislodged by a direct impact; sections of the town wall near the Drezvenik Tower and the Pile Gate, of which the internal wall of the covered way has been destroyed (photos 47 to 49). The following should be checked: the vestibule of the Cathedral, which received a direct hit; the roof of the Jesuit Church (hit in November); the cracked pediment of St. Blaise's Church; the synagogue, which has old cracks and was damaged by the December bombardment (photos 50 to 52).

It should be noted that the amount required for repairing monuments indicated in our Emergency Finance Plan was meant for this cultural property in particular.

F.1.5.) Comfort and safety

In the document produced by the observers for the Director-General, the emphasis was intentionally placed on the roof issue. The Institute's detailed survey records 336 direct projectile hits on the town's roofs and 254 instances of shrapnel damage. Repairing roofs was a necessity for the comfort of the inhabitants (the kitchens and other living areas often being directly beneath or even in the attics) and in order to prevent water from penetrating the walls and electrical circuits, thereby causing secondary damage. *It was also necessary because projectiles fired during a second bombardment could easily pass straight through the temporary plastic and paper protection put up and explode inside, so damaging the other floors and causing other fires.*

The observers also recommended that part of the emergency funds be earmarked for repairing the houses' water pipes and electrical circuits, both of which were in a state of

neglect (and had not been maintained) following nearly three months without electricity and running water, not to mention the destruction caused by the bombardments.

There was also the matter of the old town's very old vaulted sewer system which was damaged by the detonations, notably, in Stradun, even though there were no signs of subsidence at the surface.

Unquestionably, the local inhabitants and authorities have done much to reconnect these vital services within the old town, not to mention the partial repairs they have made to the roofs. Nonetheless, this type of assistance from UNESCO would be as much appreciated as repairs to a few monuments, perhaps even more so.

F.1.6.) Proposal regarding the old roof tiles

With the closure of the local tile manufacturers, the roofs of the buildings have gradually changed colour. The characteristic yellow and green are giving way to the ordinary orange-red colour. In other words, the town's mellow appearance is becoming harsher. However, according to the Institute for the Protection and Conservation of Monuments, the tile factory in Slovenia which makes the tiles for the town can produce tiles in the old colours though not using the old materials. We realise that it is not realistic to insist that the tiles destroyed by the bombardments be replaced with tiles of the same, old colours but we do recommend that the municipality request that the tile factory produce them in the future.

F.2.1.) Preventing destruction

We have already set out our recommendations for protecting the monuments and movable heritage (see above, B.2.2., B.3.3., B.4.5.).

F.3.1.) Restoring monuments

We would draw attention to the following cultural property (photos 53 to 59): the balustrade of St. Blaise's Church and the statue of St. Blaise; the Great Onofrio Fountain; the portal of St. Saviour's Church; the balustrade, capitals and colonnettes of the Franciscan Convent's cloister; the statue of St. Joseph on St. Joseph's Church; the stained glass windows of the Dominican, Domino, St. Blaise and Jesuit churches; the statues of St. Blaise at the Pile and Ploce Gates; St. Pierre's Chapel in the music school garden.

We believe that the experts on the upcoming missions could make specific recommendations for restoring this heritage.

G) Future administration of Dubrovnik and the role of UNESCO and the World Heritage Committee

G.1.1.) Introduction

The national authorities, the international community in general, the World Heritage Committee and UNESCO have obligations to Dubrovnik. The observers noted serious problems in the administration of this World Heritage town as well as risks for its future. In the pages to follow we will attempt to summarise these problems and make some suggestions for the future.

G.1.2.) Tourism – an old problem

On 10 April 1979, the ICOMOS experts submitted their opinion to the Bureau of that association on the request for the old town of Dubrovnik to be inscribed on the World Heritage list:

"The whole town of Dubrovnik is very typical of a situation where an excellent appearance corresponds to a very serious loss of authenticity. This does not rule out reasons for viewing its inscription favourably."

This assessment seems somewhat paradoxical until we realise that those who drew it up were referring to a loss of authenticity arising from the touristic exploitation of the old town. Dubrovnik, along with the Dalmatian coast in general, has in fact for several decades been a source of foreign currency for the government of Yugoslavia. Many books, even those with "cultural" pretensions, do not fail to highlight to the shops and restaurants of the old town of Dubrovnik and the big hotels in the surrounding area.

This phenomenon existed before the earthquake of 1979 but has since then become more pronounced and took on a sinister aspect following the bombardment of 6 December. The reason the damage appeared so serious was that the old town was already in a very fragile condition since little had been done after the earthquake of 1979 to repair many of the houses. This neglect did not prevent the Institute for Restoration and, higher up, the Yugoslav and Croatian authorities from setting in place a policy of touristic over-development, one aspect of which was a showplace restoration.

G.1.3.) Earthquake of 1979

According to the pamphlet published by the Institute for Restoration of Dubrovnik, the earthquake of 1979 of which there were in fact two, on 15 April and 24 May, damaged 1071 buildings, including 885 residential or commercial buildings. The Yugoslav government sought to minimise the damage so as not to ruin the tourist season of 1979. Thus the possibility of requesting the old town's immediate inscription on the List of World Heritage in Danger was not raised. Moreover there was no funding from the federal government until 1983.

A committee of experts from the Institute of Restoration appointed by the municipality and adopted by the Socialist Republic of Croatia in September 1983 estimated the damage at \$ 379,350,960. The value of the losses in terms of cultural property was estimated at \$ 297,633,080. The argument that it was not possible to calculate the value of the loss to the cultural property convinced the municipality to make a new estimate, with the help of various experts from the institutes and faculties of the University of

Zagreb. The overall figure rose to \$ 553,551,180 and the value of the loss to the cultural property rose to \$ 436,437,380. The second estimate was not approved by the Assembly of the Republic of Croatia, perhaps out of fear of alarming the tourist industry.

The final plan for renovating, repairing and restoring the old town was estimated at \$ 441,000,000, \$68,290,000 of which, according to the study of the Institute (The Restoration of Dubrovnik 1979-1989, Zagreb, 1990) had been spent before 1988, without indicating how. Since 1986 the amount of funding, mainly from the Socialist Republic of Croatia and the Municipality of Dubrovnik, has continued to decrease.

The Institute for Restoration was established *ex nihilo* by the Assembly of the Municipality of Dubrovnik in September 1979 to draw up a plan along with experts from other local institutions and from Zagreb for restoring and renovating the old town and other historic areas of Dubrovnik and to implement it. Without any serious control it took off quickly and became the preferred negotiating partner of the international organisations, including UNESCO.

G.1.4.) Implementational Town Plan for Dubrovnik's Historic Centre: priority given to tourism

The plan, adopted in 1986 but already partially implemented by that date, attributed a very large place to the development of tourism, at the expense of the population of Dubrovnik.

The plan advocated a major change in the southern districts which constituted a third of the old town including the building of apartments for 500 tourists in the working-class area of Pustijerna (annex 12), the building of an archaeological museum, an arts and dance centre, apartments for artists, bars and restaurants in the former St. Mary's Convent and Poljana Mrtvo Zvono, another working-class area and the installation of toilets for tourists (annex 13). Significant changes were however planned for the other districts: a 25% increase in food shops catering to the tourists, mainly around Gundulic square; all kinds of restaurants; a specialisation in tourist activities in Stradun and Prijeko Street; a

specialisation in crafts in the district between Stradun and west of Siroka street. Generally traditional retail businesses or at least those remaining would be replaced by the specialised shops. Some municipal administrations still in town were to be moved elsewhere. The districts of Ploce and Pile were perceived only as “filters” for pedestrians, cars and tourist buses.

These changes would require that the population of the old town be reduced by some 700 people, mainly from the working-class areas of Pustijerna, Mrtvo Zvono square and St. Mary’s Convent who were to be relocated elsewhere. The old town was to have a population of 3,500. It is interesting to note that, according to the request for the inscription of the old town in 1979, the population was still 5,255 according to the 1978 census. According to the census of 1981 there were already 1,000 less.

There were of course certain positive aspects to the plan, sometimes taken from previous plans such as improving sanitary conditions in houses and the equipment in the schools, the use of the few “green” spaces (some of which were archaeological zones very interesting for the history of the city’s town planning) as children’s playgrounds, etc. A ban on cars was introduced. On the whole however the implementation of these aspects – some of which seemed to be part of an “ideal” urban system (6m² of park per child so that the children would not play in the street, which had however become pedestrian zones, in a town a stone’s throw away from the sea and beaches) rather than a reading of the history of Dubrovnik – seemed in general hardly noticeable when compared with what was done in the tourism sector to which, it must be stated, there was an aspect of “restoring cultural heritage”.

A striking feature of a town which generates wealth rather than being really wealthy is the modest social class of the population in the northern and southern districts and the dilapidated condition of the houses, a very common phenomenon in the so-called former socialist countries. The observers had visited many houses and *there had been little sign of a concern to improve living conditions and sanitary installations since 1979*. This lack of interest was reflected in the status of the architectural reports on the houses with a

view to renovating the old town (annex 14). The only part of Pustijerna for which surveys were drawn up was that which was to be turned into tourist apartments. Further west the work was done for Poljana Mrtvo Zvono and St. Mary's Convent, which as we have seen were to have a part-tourist, part-cultural function. In the north, such surveys were drawn up on the area between Stradun and Prijeko Street which was destined to become a world of shops, restaurants and cafes for tourists, but no such survey was done on the working-class districts further north.

In fact, aside from the important monuments which will be discussed later, the renovation and restoration affected a block south of Stradun, the headquarters of the Institute for Restoration, two groups of buildings in the centre to be used for commercial purposes (in particular as a clothes shop), a former palace near the Jesuits Church and the group of buildings north of Gundulic square where the P.T.T. is located and also fashionable shops and shopping malls (annex 15). Other plans were drawn up for the parks and then abandoned and no improvements have been made to the old people's home since 1979.

G.1.5.) Important restoration and renovation work

In the study produced by the Institute there are many plans for buildings, facade photogrammetric surveys and photographs. They wanted to give the impression that many monuments are being restored when the opposite was the case. *There was sometimes bitter controversy about almost everything that was restored: it must be kept in mind that at issue is not "storms in a teacup" but a question of identity. In this small space, every doubtful or bad renovation has consequences disproportionate to the size of the town – which the people coming from outside must quickly understand.*

Although the Institute was in charge of carrying out the projects, they came mainly from architects, engineers and decorators from Zagreb. This explains in part *the lack of sensitivity towards the "soul of Dubrovnik" – a soul born from the stones and modesty* – which characterised some of the plans and which seem to dominate all the interiors. Faced with this stream of initiatives, the Institute for the Protection and Conservation of

the Monuments of Dubrovnik could provide only its opinion which was rarely followed by the Ministry for Culture at Zagreb. A number of plans carried out should now be looked at in brief.

The Rector's Palace (photos 60 and 61): Much criticism was passed. The renovation after the earthquake could have been an opportunity to restore the red-brown brick used in the vaults of the large civilian and religious buildings which had disappeared in the post-war renovations when concrete was systematically used for the vaults and galleries, particularly in the palace court, which was covered in bright white paint. It should be noted that the same has been chosen for the Sponza Palace which is awaiting restoration. The contrast with the stone of the Palace is very unfortunate and the cracks and the paint falling off expose the how the "restoration" was really done. Inside the fabric chosen for the walls of the great reception halls is of a very poor quality and has aged very badly. At the time of the restoration the discussion centred on the size of the flagstones in these halls which, according to the architects of the Institute for Protection and Conservation, are too small but there are no pieces of the original flagstone left. There was no attempt made to create an interior which retains a sense of harmony. Period rooms are in contrast with white walls which gives the strange impression that the visitor is often moving from one building to another. There are many problems with dampness and the modern system for draining the water on the roof seems to be making the problems worse. It must be said that the Rectors Palace was one of the first monuments to be restored after the earthquake and perhaps could have waited.

The Town Hall: There was less controversy over the renovation work on the interior of the Town Hall than over an initial plan to destroy the 19th century building and to rebuild in some way the 15th-16th century Town Hall, a plan which was stopped by the opposition of many specialists and institutes.

The whole town café and cinema: This gave rise to further problems. The town café in a late art nouveau style was restored but lost all its character in the way it was furnished and decorated. The alley leading to the cinema was widened to create a space for

exhibitions and attention was drawn to the contrast between the old wall of the arsenal and a roof whose very heavy varnished wooden beam structure is not exactly very typical of Dubrovnik. The space created, a kind of hangar divided along one side is also anything but typical of Dubrovnik.

The Cathedral (photos 62 to 64): One of the most appalling changes made to the heritage of Dubrovnik is the work done to change the baroque style of the choir of the cathedral. The study of the Institute discusses the “need for a homogenous style, that is to remove the 19th and 20th century additions which undermine the integrity of this incomparable baroque architecture”. It is difficult to understand. The 19th century pulpit was removed but it is hard to argue that it ruined the sense of the baroque whole. The older choir stalls and the main baroque altar however where the “Annunciation” by Titian had been were also removed which left Titian’s triptych hanging all alone on a bare wall. It is unclear what role was played by the bishop who sought a greater harmony with the new liturgy but the new choir furniture and the appearance of the triptych, created a completely dead space in strong contrast with the exuberant baroque organ above the entrance, not to mention the splendid side altars.

The Music School (photo 65): The School underwent renovation the positive aspects of which were unfortunately masked by a new building whose smooth surfaces and windowed spaces have nothing in common with the architecture of Dubrovnik and which is always shown to visitors as proof of the pillage of the town.

The Primary School (photos 66 to 68): The case of the Primary School is a little more complicated because the architect could justify the need to make additions to a baroque palace. Unfortunately these additions are completely lacking in subtlety: the facade has enormous central windows; although the new extension to the south facade keeps a certain relationship with the spaces and the windows, the building material, grey concrete stone, is very out of place. The west facade is very much unbalanced by the addition, both by the stone and the windows of the classrooms, three windows grouped together, in strong contrast with the more spaced out windows of the baroque palace. It was a difficult

challenge and the architect did not come out on top. However there seems to be a sense of harmony in the one-story gymnasium with a terrace.

In this list of unfortunate restorations and renovations, that of the *Marin Drzic* theatre is an exception, except for the lobby which gives the usual impression of a style of interior decorating both flashy and mundane. The theatre retains all its charm and benefits from the significant modernisation of its stage equipment.

A combination of touristic overdevelopment perceived as an attack on the lower social classes of the population of Dubrovnik who were to end up in council flats overlooking the port of Gruj, named "the wall of China" by the people of Dubrovnik, and an approach often lacking in sensitivity to the character of the town, certainly contributed to creating an unhealthy climate there. There is a threat both to the human and cultural heritage. The ICOMOS experts in 1979 felt that authenticity had been lost.

G.1.6.) Dangers of the post-war period and the role of UNESCO

The UNESCO observers were witnesses to the resolve of a population, mainly of the lower social classes, to stay where they were and to confront all kinds of threats of war, real and (we hope) imaginary.

This resolve might be undermined by the peace and reconstruction process. The economy of Yugoslavia was becoming privatised and after the war this trend will continue in the former republics of the country. It is a delicate transition to make in a peaceful period when the economy is prospering but all the more difficult and hazardous in a country torn apart by war with a disrupted economy.

The economic disasters suffered by the Dalmatian coast in this century must be recalled: phylloxera which was responsible for significant emigration, the disruption of the Adriatic economy after the Second World War and a number of mini-disasters during the period of workers' self-management including the closing of shipyards followed by

further emigration. The only thing that worked was tourism and for decades now the leaders of Dubrovnik and other small towns along the coast have turned to an economic outlook dominated by tourism.

It is now time to seize the opportunity presented by the war to stop the anarchical development of tourism but not to return to an idealised past or in some way repeat the mistakes of planning which did not take economic facts into account. The inhabitants of Dubrovnik often told the observers to come back “after the war, when the tourists have returned”. It was not only that they aspired to a normal life: *the obvious fact that tourism has become and will remain an important part of the economic life of Dubrovnik must be acknowledged and that it has also become part of the customs of the people.* Now is the time however to curb and especially to prevent the type of programme proposed after the earthquake of 1979 which sacrificed everything to tourism.

After the war the pressure was strong to re-establish this economy since it was what we refer to in English as easy money. If Croatia ended the war as an independent country, the pressure which had previously been coming from Belgrade would be replaced by that from Zagreb.

We can imagine at the same time that there would not be a shortage in the funding for the touristic development since it would come mainly from the countries whose citizens are very fond of the Dalmatian coast during the summer. There is a danger however that this money might come at a time when the economy of the country is becoming privatised.

In the old town of Dubrovnik it appears that a third of the buildings have been privatised – that is they belong to businesses, a third are public and the last third belongs to the church. There are apparently still few private house owners. There is a mechanism whereby the families of former house owners who became tenants after the Second World War recover their properties: they must, of course, present the title to the property. However the situation is more complicated according to Ms Valjalo, Director of the

Institute for the Protection and Conservation of Historic Monuments, and it would be a good idea to examine the matter in depth.

If the money is received to repair and restore houses, *mechanisms must be put in place to ensure that inhabitants may become owners in the long term or, at least, may stay in the houses as tenants*. If part of the funding comes from UNESCO, it may be easier to institute controls; otherwise UNESCO must try to act in such a way that the authorities would be working towards the same goals. In this regard we would like to make the following suggestions:

G.1.7.) Suggestions for the master plan for post-war Dubrovnik

- a) We suggest that the Implementational Town Plan for the Historic Centre of Dubrovnik be suspended. It should be studied in detail by a town planner who would submit a survey to the Director-General so that it may be recommended by the World Heritage Committee to the Croatian government.
- b) We suggest that the current Institute for Restoration be enlarged or reconstituted with impartial and skilled professionals and that the Institute for the Protection and Conservation of Historic Monuments be very involved with the Institute for Restoration for drawing up and carrying out restoration and renovation plans.
- c) We suggest that there be a real master plan for Dubrovnik, the old and new town, because the other districts of the town should not bear the costs of touristic overdevelopment which appears to benefit the old town but which has also harmful results for it and the people living there.

H) General conclusion: UNESCO's moral commitment to heritage in war time and the need for it to be operational

The observers had often heard said that this mission was the first that UNESCO war time mission it carried out in a theatre of war. They are aware that other missions were carried

out in countries at war, such as Libya and Ethiopia, but that at least some of those missions seem to have been less focused on the destruction wrought by the war than on the conservation of heritage outside the warring zones. Be that as it may, UNESCO never sought to carry out similar missions to UNICEF which has considerable experience in that type of humanitarian action.

It is usual to hesitate before sending out a mission of observers in such conditions: the possibility of an observer being injured or killed is an overwhelming responsibility and we know that the possibility was never accepted lightly for the first mission in Dubrovnik or the subsequent missions and that it is not ruled out that they might tomorrow meet with more serious dangers than during the first mission.

The discourse about cultural heritage is essentially one about values but however high we place the value of heritage it often remains an abstract notion and a very abstract one when linked with an object. The observers were not sent to Dubrovnik for a church or archives but for a town. It was not possible to separate human value, the physical person, from "old stones" because this town contained thousands of people who did not want to leave their town.

In this respect, the action of UNESCO was resolutely humanitarian.

It is this humane context which justifies and makes desirable the UNESCO leaders' endorsement of a heavy responsibility and the representatives' acceptance to endanger their lives. These facts must be faced clearly by all involved. It could be said that the observers should not risk their lives and that they should withdraw if the circumstances become too dangerous. This is normal. We do not deliberately send people to their deaths and the observers must not take foolish risks. The real situation is more subtle however.

To work in Dubrovnik, the observers had to climb up on the walls where they were in full view of the positions of the federal army. They had to cross Stradun or Prijeko Street which were also visible. The risks were slight but they were real and daily. The observers

were caught up in a bombardment which could have been more serious for them if many 120mm mortars had been fired on the Dominican Convent instead of rocket projectiles. There were dangerous periods when there were no boats at Gruj to evacuate and any other attempt at evacuation might have become a dangerous improvised one but we would have done it.

The observers wore armbands with the emblem of the 1972 convention. They travelled out of the town in a van with the United Nations flag. This was all visible. It made people who might fire hesitate. We then saw that a helicopter with European observers whose path was perfectly well-known was shot down and all those inside were killed. For a reason still unknown, they did not hesitate before firing.

This is a reality which must be accepted and fully assumed.

Such initiatives are not part of the UNESCO routine and require specific preparation, equipment, follow-through and even staff regarding the organisational aspects and the persons sent. There would be things to learn from UNICEF, the United Nations Blue Helmets and the European observers. Moreover the success of an initial preliminary mission in a country at war must not be the pretext for the various UNESCO departments to return to routine management.

Our final recommendation is that the Director-General set up an operational unit under his direct control in order to continue UNESCO's humanitarian policy in times of war.

Bruno Carnež

Colin Kaiser

ANNEXES

Annex 1: Impact map for the bombardments of October and November 1991 drawn up by the Institute for the Protection and Conservation of the Historic Monuments of Dubrovnik

Translator's note for page bearing ERN number 01848452: map in English.

Annex 2: Damage survey form drawn up by the UNESCO observers

Translator's note for page bearing ERN number 01848454: map with illegible title and key. Does not correspond to annex 2 but annex 4(a). The annex 2 survey form, the whole of annex 3 and the annex 4(a) title page are all missing.

Annex 2: Damage survey form drawn up by the UNESCO observers

War Damage in Dubrovnik:

Form:

Institute Number:

Date and Time of Survey:

Site:

Structure:

Presumed Date of Damage:

Projectile:

Damage Description:

Damage Assessment:

Miscellaneous:

Comparison with Assessment by Institute:

Annex 3: UNESCO observers' survey of the war damage done to Dubrovnik old town by the shelling of October and November 1991

We believe that this presentation should be organised in keeping with the logic used by the federal gunners at Jakov od Visnjice. It was clear that two targets in the old town were favoured. The first was the eastern side of the town looking out onto the Adriatic Sea, which mainly consisted of the small port and the fortified walls from St. John's Fort in the south to the small arsenal. We are of the view that the shots fired at the Sponza Palace and Zlatarska Street were part of this system. St. Peter's bastion could also be included: by raising the trajectory slightly over the port, the gunners were hit it. The second target was the Stradun main street and includes the destruction by the houses and paving stones in the street.

Almost all of the other rounds (mainly from 120mm mortars) were individually dealt with separately.

The great majority of the damage is easy to repair. The damage which, in definitely or might possibly be serious - in particular after the shelling - has been put in bold.

A) East side of the Old Town

- 1) Drezvenik Fort: direct impact (82mm rocket) on the paving stones at west wall of the platform; *paving stones should be replaced*
- 2) 8 Zlatarska Street (house): direct impact (82mm rocket) on east wall on second floor (11 November) created a minor cave-in inside the house: fragments absorbed by clothes cupboard; *wall should be blocked up*
- 3) Zlatarska Street 6 (house): direct impact? (probably 82mm rocket) crown of roof pierced on east side, shrapnel passing through west side; *tile to be replaced, laths required*
- 4) Dominican Monastery:
 - a) blast effect of the rounds fired at Zlatarska Street destroyed the windows on two floors of the refectory (west facade), tiles and roof (west side) show slight wear (N.B. on 6 December, three rockets hit the east side and the crown of the roof, making major repair work necessary)
 - b) blast effect on stained glass window on west façade of church (according to Institute report of 24 (sic) October, worsened according to same report by rounds fired in November) (photos 69 to 71); central panel of the stained glass window bulging outwards, two pieces of stained glass window broken; crucial to check soundness of window: *state of the window worsened by blast effects of 6 December and***

it should be studied to ascertain the nature of the damage and the measures that need to be taken

5) Jetty in the small port: a) two direct impacts (82mm rocket) in November on the paving stones, which should be replaced

b) see below, other damage

6) Sponza Palace: a) 82mm rocket impact on east wall on the top floor one and a half metres from the southernmost window (stabiliser lodged in the wall); *the projectile has exploded (it smashed through a stone) but it should be removed because it will soon be damaged by rust and may well fall down into the street; the stone should be replaced*

b) see below, other damage

7) Town Clock Tower: direct impact below the cornice on east façade by a deep-penetration projectile (unidentified) which bored a 4cm hole through a wall made up of 30cm of stone and 50cm of concrete, impacting on the interior of the tower's west wall; *the observers recommend that the concrete structure be repaired and that the stones and cornice be replaced*

8) Grand Arsenal: a) direct 82mm rocket impact on crown of east wall above the middle arch which damaged the external stonework and dislodged the stones over 1.5 metres, breaking the crown of the internal concrete wall: *the stones should be put back in place and the crown resealed*

b) see below, other damage

9) St. John's Fort (photo 72): a) six direct 82mm rocket impacts on walls of east façade (one with stabiliser still lodged in the wall near the second-floor window of the rotunda shelter), upper cornice broken in two places: *the damage seems minor considering the thickness of the walls, except perhaps for the keystone of the south window which suffered shrapnel damage; the stabiliser (the projectile exploded) should be removed*

- it should be noted that the Institute's report avoids any controversy on this point, which is entirely to its credit, because the inhabitants of Dubrovnik were convinced that the federal army was deliberately firing at the windows of the shelters, which is not impossible as two of the projectiles struck very close to the windows (less than two metres away)

b) impact on crenel of the southeast bastion of St. John's Fort: one or two 82mm rockets hit both sides of an embrasure, so dislodging the interior stones on the top of the crenel which then fell down inside the bastion: *the embrasure's stones should be put back in place*

c) rocket impact on interior west wall of the round bastion: *repair seems optional*

10) 1 Stajeva Street (house): roof pierced and chimney destroyed by 82mm rocket in November, the roof had already been repaired when the inspection was carried out though the chimney had not yet been replaced; plaster on the roof beams in the kitchen and ceiling of staircase damaged in places: *chimney to be replaced and plastering done inside*

11) 3 Stajeva Street (house): a) roof pierced and chimney destroyed by 82mm rocket in November; chimney replaced and roof in the process of being repaired; ceiling repaired (interior)

b) in a small apartment with a separate entry at the same address, an explosion brought down the plaster in four parts of the ceiling and around a small fanlight; *replastering to do and join around the fanlight to be resealed*

12) 6 Od Pustijerna Street (house) (photo 73): shrapnel (including 82mm rocket stabiliser) from the rounds fired at Stajeva Street have broken a shutter and window on the third floor, windows on the fourth floor, an attic room window on the west façade, and several tiles (six) on the roof, since replaced; external damage very minor; however, even though it is not certain that the cracks in the ceilings were caused by the explosions in November, the house needs to be visited following the 6 December shelling whose explosions could have opened up other cracks

13) St. Peter's Bastion (Mrtvo Zvono Fort): a) direct impacts (82mm rockets fired on 10 November) on concrete flagstones east of the bastion (70cm long, 35cm wide and 15cm deep) and on Bastion's eastern parapet (where concrete covering has been torn up over an area 84cm long, 43cm wide and 15cm deep); *flagstones should be replaced and parapet repaired*

b) house on the bastion: direct impact by 82mm rocket fired on 10 November at stone east wall just below the cornice, shrapnel had damaged the roof, repaired by time of survey

14) 7 Poljana Mrtvo Zvono (house): direct impact (82mm rocket fired on 10 November) on frame of first floor window; the shrapnel entered the bedroom through the wooden ceiling (where the beginnings of a fire caused by three pieces of shrapnel can be seen – the fire would have been more dangerous if the bed had been hit), shrapnel in (concrete) south wall below ceiling, through door to staircase and in stairwell, windows of south and east walls blown out; *even though the damage is minor we recommend that particular attention be given to repairing it; the inhabitant is an elderly lady in poor health and living alone whose son, a soldier, was killed in the war*

15) 11 Poljana Mrtvo Zvono (house): direct impact (82mm rocket fired on 10 November) on east wall, breaking tiles and laths but leaving all of the beams intact; however, all of

the windows of the first floor balcony have been blown out and the balcony's ceiling plaster has cracks in it; *damage in the process of being repaired at the time of the survey*

B) Stradun Main Street

16) Impacts on the paving stones: a) between Petilovrijenci Street and Vetranceva Street (82mm rocket); b) Naljeskoveca Street (82mm rocket); *the paving stones need to be replaced*

17) Pile Gate: impacts base of archway on south side of gate (two 82mm rockets): the bottom of the archway walls and the stones of the gate have been damaged by the shrapnel but, *in the opinion of the observers, they do not need to be replaced; however, the paving stones and the metal grille outside the gate would need replacing*

18) a) 1 Boskoveca Street (house also looking out onto Stradun) (photos 74 to 77): perhaps five direct impacts on 23 October and in November by 82mm rockets and probably from a 120mm mortar – it should be noted that the federal gunners seem to have used this house, which was hit again on 6 December, to find their range:

external damage: east façade: *ground floor*: cornerstone of capital of small column in southeast corner broken and dislodged; *first floor*: stone frames and especially cornices of the two windows damaged by shrapnel, shutters have been perforated and windows broken by blast; *second floor*; small wooden window blown in, cornice destroyed and very badly damaged over an area of two and a half metres; *attic floor added on north part of the house*: roof pierced over an area measuring two and a half metres by one and a half metres

south façade: *attic second floor*: roof received direct hit but not pierced and attic room is damaged (attic room walls blown down)

interior damage: east façade: *second floor*: stones on south side above window received impact and so were dislodged; *attic floor annexe*: bathroom dividing wall cracked diagonally; inside of the apartment (bathroom, kitchen) seriously damaged and still full of rubble from the tiles, cracked walls

the house deserves to be studied closely as it seems to have been used as a range-finding target; in such circumstances, the very use of the 82mm rockets could have had serious cumulative effects on the upper structure, the façade of which seems to have been struck by a 120mm mortar

b) 3 Boskoveca Street (house) (photo 78): stone corbels supporting the stone balcony on the third floor broken by shrapnel: *the structure must be repaired as a matter of urgency because the balcony may well fall down into the street*

c) 2 Boskoviceva Street (house): the glass in all of the windows has been blown out and the frames of all the ground floor and first floor windows have been damaged by shrapnel from rounds fired at No. 1, though on the whole *the damage is minor*

d) 4 Boskoviceva Street (rear of the rabbi's house in Zudioska Street): the glass in all the windows has been blown out and the frame of the first floor window closest to No. 2 has been damaged by shrapnel: *minor damage, but it should be pointed out that the house has been abandoned for 5 or 6 years and the inside is a considerable state of disrepair, partly as a result of squatters*

19) Synagogue (Zudioska Street): windows blown out on Boskoviceva Street side; because of the panels on the synagogue's windows it was impossible to ascertain the nature of the damage accurately; however, according to the architects from the Institute for the Conservation of Monuments, the synagogue was very badly damaged in the 1979 earthquake and has never been repaired – cracks were evident inside but it was impossible to tell whether they had been widened as a result of the explosions: *with the shelling of 6 December, a close study must be carried out of the condition of this piece of heritage which is very significant both because of the age of the establishment and the sumptuousness of the furnishings*

20) 2 Dropeceva Street (house): damage (done in November) to the roof and top floor ceilings already repaired

21) 1 Zamanjina Street (house): 82mm rocket impact in November just below the roof of the added-on floor; the impact broke a metal gutter and the concrete wall of the east façade thereby allowing the small piercing tip of the projectile to travel through the wall; west wall of the bedroom made of air bricks has shrapnel holes in three places; beginnings of a fire on the settee in the small television room next to the bedroom perhaps caused by the small tip; window on this floor blown out: *minor damage, even on the façade wall, to be repaired*

22) 1 Antuninska Street (house) (photos 79 to 81): in November an 82mm rocket struck the east roof on the floor which had been added in between two attic rooms, thus causing greater damage than is usual for such a projectile: the roof beams and the walls of the attic rooms were blown out (south side) or cracked (north side, above the stairway); the stabiliser pierced the roof and lodged in the bathroom wall; after penetrating the bathroom wall, the tip smashed the wall tiles above the bath and fell into a container which it partially melted; windows on this floor blown out; *the observers immediately notified the occupants that the stairway wall would have to be repaired quickly because of the danger it posed to them*

23) 24 Izmedu Polaca Street (house entrance whose facade looking out onto Stradun is damaged): direct impact by an 82mm rocket on the cornice of a window on the second floor, damaging stones in the frame, breaking shutters and blowing out the window; *stone window structure needs redoing*

C) Individual rounds elsewhere than the east side and Stradun

24) Jesuit Church: broken cornice in the third buttress on the north facade, caused perhaps by a 120mm mortar shell, given that shrapnel from this sort of projectile were presented to the observers; the lower third of the 19th century stained glass window depicting St. Matthew (north facade of the nave) completely blown out and remainder damaged by shrapnel, stained glass window depicting St. Mark in the south facade lightly damaged by shrapnel; window in the first chapel on the right after the main entrance and window above blown out: *given the power of this type of projectile, we recommend that the roof and cornice be inspected*

25) 8 Siroca Street (house) (photo 82): direct impact by an 82mm rocket on the attic roof (probably on 10 November) between two attic room windows which increases the damage (as in the case of 1 Antuninska Street); *attic: roof pierced (undergoing repair), plaster on attic room wall (kitchen side) and laths broken, kitchen's north wall damaged by shrapnel, roof and walls of south attic room destroyed; attic room windows broken; second floor: cracks in the north and south walls of the north bedroom, same crack can be seen in the north wall of the small south bedroom, plaster on ceiling and along the north wall broken off. It should be noted that the house was damaged by the 1979 earthquake and that the facade has filled-in cracks: it is possible that the effect of the impact was increased by the fact the structure was already weakened; since the house was in the epicentre of the 6 December shelling, it is important that it be thoroughly studied*

26) 5 Siroca Street (house) (photo 83): second floor console and its window and top floor cornice damaged by shrapnel, some cracks in the facade here; *superficial damage (but cracks from the 1979 earthquake visible in the upper facade; roof seems to have been hit by mortar in 6 December shelling so the house should be thoroughly examined)*

27) Dom Staraca Home: direct impact on the east roof caused perhaps by same burst of 82mm rockets as that which damaged Siroca Street; roof repaired

28) Wall of the fortifications behind the home: direct impacts of two 82mm rockets, the stabiliser of one of the projectiles still lodged in the stone wall, in the upper section of the wall (concrete, damaged by shrapnel); *stabiliser to be removed and wall repaired here*

29) 4 Miha Pracata Street (house) (photos 84 and 85): roof broken by a direct impact in November (same burst of 82mm rockets as that which hit Siroca Street, the Home and the wall behind the Home?). It was not possible to see either the attic or the projectile because of the inhabitant's state of mind but we were able to see that shrapnel had passed through the roof of the north bedroom and the small sitting room; *we noticed however several old cracks in the stairwell near the fountain and the window between the ground floor and the first floor which may be reopening because of the explosions: the house must be re-examined because of the shelling of 6 December*

30) Former Convent of St. Mary's (house): direct impact on north terrace of Od Castela Street by unidentified projectile (but which might be a 120mm tracer shell from a mortar given the red powder found on the façade of the house opposite, No. 40), measures 70cm long, 57cm wide, 20cm deep; corner of the wall on north and south sides broken open; *concrete paving to be replaced*

31) Rupe (granary): direct impact on north roof by a 120mm mortar shell on 22 October, breaking tiles and, in particular, the big wooden beam and 4m² of an especially solid wooden structure, damage definitely limited by the fact that the granary floor is concrete and the shrapnel was stopped by a solid brick wall; *significant damage but not serious for the structure of the roof, in the process of being repaired*

32) 5 Gucetica Street (terrace of primary school gymnasium under construction): direct impact by a 120mm mortar shell causing a 69cm x 66cm x 25cm hole, passing through the concrete and 4 layers of steel reinforcement; the explosion of this projectile sent a lot of concrete flying around, breaking the edge of the west terrace wall in three places (down to the steel reinforcement) and the edge of the east wall in two places, slightly damaging the facades of the primary school and the neighbouring houses to the north, those to the west have deeper and more widespread shrapnel damage, blowing out or leaving holes in many of the windows (15 of the school's 16 windows had holes); shrapnel entered the classrooms causing minor damage to the walls and furniture and breaking the capital of a column in the north entrance stairwell and probably caused similar damage to the surrounding houses we did not visit; *extensive but unimportant damage, except for the hole in the terrace whose steel reinforcement must be replaced before being filled in*

33) 5 Strossmayer Street: deep-penetration projectile (maybe part of a burst, one of whose projectiles hit the Clock Tower) destroyed a stone on the west side of the door (measuring 62 x 42 x 21cm), boring a hole over than 30cm large in a second stone, several centimetres of the cornice of the door broken, door damaged and second floor window blown out, pane of the window on upper floor blown out; *impossible to determine the scope of the damage inside because the inhabitants had left Dubrovnik*

34) Sigurata Monastery: explosion of unidentified projectile on 10 November (at night) above the west-facing top floor terrace: 38 impacts on the terrace wall, door and wall (two air bricks, mortar) pierced by shrapnel; *external mortar of wall to be filled in as well as the bricks*

35) Franciscan Monastery: roof tiles of the small cloister and small building added on to the east damaged in five places by shrapnel probably from the explosion of the projectile which damaged the terrace of the Sigurata monastery; *tiles to be replaced*

36) 11 Antuninska Street (house): direct impact from 120mm shell on 12 November on west side of roof destroying tiles, wooden construction and two large beams (not apparently in good condition before the shelling) over an area of more than 5m², a

1m² hole in the ceiling of the second floor west balcony (beneath the attic) and shrapnel pierced the ceiling of the laundry room on the same floor at the other end of the house; door and windows looking onto the balcony blown out; *damage to the roof requires significant repairs - the house should be re-examined in order to determine whether the structure has suffered effects from the explosions*

37) 18, 20, 22, 24, 26 Antuninska Street (houses): direct impact in November on terrace looking out onto the street opposite No. 20, probably from a 120mm shell; terrace stones dislodged in an area one metre high and two metres wide, and terrace forced in one metre; metal door at 26 has shrapnel holes, west lintel support of the window in the north façade of 24 broken by shrapnel; all the windows of 18 blown out and stone frames of the two first floor windows damaged by shrapnel; left gate of 20 blown out, right has holes and door frames damaged by shrapnel, small pieces of shrapnel in the kitchen and two windows blown out; all the windows of 22 blown out and door damaged by small pieces of shrapnel; *a great deal of small-scale damage (windows, doors to be replaced)*

D) Damage recorded by the Institute:

East side of the Old Town

- 1) Small arsenal: roofs photographed but interior not visited: roof on north side pierced by projectile, small roof looking onto quay damaged by shrapnel
- 2) Fish market: two impacts on paving stones
- 3) Sponza Palace: b) east roof (place of direct impact) has been photographed but the interior of the loft has not been examined; repairs to the outside almost finished at the time of the November damage survey
- 4) Grand arsenal: b) other damage (wall, shrapnel) set down in the Institute's report
- 5) Main jetty: b) bench and impact on quay wall

Stradun Main Street

- 1) 26 Izmedu Polaca Street: impact on roof
- 2) 1 Naljesoviceva Street: impact on roof
- 3) 2 Petilovrijenci Street: impact on façade

Other rounds

- 1) 1 Zuzoric Street: impact on roof

- 2) Minceta Fort: impact at the base of the fort on the terrace overlooking the ditch has been photographed but the survey has not been carried out (the damage seemed very minor)
- 3) South wall of the old town east of the Mrtvo Zvono Fort: impact on the seaward wall
- 4) Buza Gate (north wall of the old town): impacts

Annex 4(b): Impact map (part of the detailed survey by the Institute for the Protection and Conservation of Historic Monuments)

Corrigendum: the symbol ● indicates a direct hit from a projectile on a facade or paving

Translator's note for page bearing ERN number 01348456: map with illegible title. The following key is provided:

- direct hits: destruction by projectile shrapnel
- △ roofs damaged by indirect hits
- ▲ roofs destroyed by direct hits
- buildings partially burnt down
- buildings completely burnt down

Annex 5: The 17 districts of Dubrovnik

Translator's note for page bearing ERN number 01848458: map of Dubrovnik's 17 districts.

Annex 6: Preliminary finance plan for the emergency reconstruction, repair and restoration work in Dubrovnik old town following the bombardments of November and December 1991

PRELIMINARY FINANCE PLAN FOR THE EMERGENCY RECONSTRUCTION,
REPAIR AND RESTORATION WORK IN DUBROVNIK OLD TOWN FOLLOWING
THE BOMBARDMENTS OF NOVEMBER AND DECEMBER 1991

The finance plan was drawn up at the request of the UNESCO Director-General by the UNESCO observers with the personal help of the architects from the Institute for the Protection of the Monuments of Dubrovnik and other Dubrovnik institutes.

To begin with, it is important to recall the nature of the bombardments and the special circumstances of Dubrovnik old town.

A) The November and December bombardments

The November bombardments caused damage that was less widespread and unquestionably more superficial (roofs destroyed or damaged, facades damaged) because of the nature of the projectiles used (rockets with poor penetration and explosive force). That said, it is probable that the bombardments did help to weaken some buildings which had been repaired only superficially following the 1979 earthquake.

The main bombardment of 6 December was totally different. For twelve hours, five of which were especially intense, the old town was heavily bombarded with projectiles capable of great destruction (in particular, the 120mm mortar shells) and subjected to a concentrated fire of less powerful projectiles (the 82mm mortar shells), which could do considerable damage. It must be recalled that, during the preliminary surveys on 7 and 8 December, it was noted that between 500 and 600 projectiles had landed in the old town. The south and east of the town were relatively spared by the shelling which was concentrated on the west and centre. Buildings of incontestable patrimonial value burned down and many others suffered serious structural damage.

All of the damage caused by the 6 December bombardment is being systematically surveyed by the Institute for the Protection of Monuments and volunteer architects.

B) Dubrovnik - a seismic zone

The effects of the 6 December bombardment were exacerbated because they came on top of the big earthquake of 1979 which left the town's structures very unstable. Without criticising the choices made in restoring and reconstructing the town (limited available funds meant priorities had to be set), it must be pointed out that many buildings still bore visible traces of the earthquake ten years after the event. There was also some invisible damage which was brought to light by the effects of the bombardment. The effect of the impact detonations was equivalent to a seismic shock measuring approximately three on the Richter scale. Only the systematic survey currently under way might make it possible

to identify all the damage (some is visible only from inside the buildings), which means that a certain flexibility is needed in carrying out the plan.

C) Plan methodology

i) Priorities and categorisation of damage

The whole of Dubrovnik old town has been included in the World Heritage List. By this very fact, all of its buildings have patrimonial value. This notwithstanding, it is our opinion that the priority lies with the safety of the old town's inhabitants, for whom some of the work would provide increased comfort - a very important factor for a population extremely hard-hit by 75 days of shortages (electricity and water cut off since 1 October). For this reason, we have identified four types of work that need to be carried out at the earliest possible opportunity.

Work to be carried out

1) Roof repairs

It is very important to repair many of the old town's roofs in order to prevent the water damage which will otherwise be caused by the winter rains. Leaks of this kind will not help to stabilise the structures. In addition, it must not be forgotten that the kitchens in many of the houses are on the floor below the attic and will inevitably be used by many of the inhabitants because they are the warmest rooms due to the wood-fired ovens. As such, the kitchen is the only inhabitable room in the house.

2) Repairs to the water pipes and electrical circuits in the damaged houses

Reconnecting these vital services has disadvantages and even poses a danger to the inhabitants of the old town - water leaks and possible fires - because the infrastructure has been very badly damaged. Neither the plumbing nor the electricity has been given an overhaul.

3) Work to stabilise baroque palaces' supporting walls and repair destroyed buildings

There is a need to stabilise the facades of several baroque palaces of considerable patrimonial value whose interiors were partially or totally destroyed by the fires ignited by the 6 December bombardment. The restoration work will be carried out at a later date and requires particular care. However, it is also necessary to reconstruct other houses which have suffered similar damage but are of lesser importance. A number of buildings showing cracks, which either date back to the 1979 earthquake and were reopened by the bombardment or which were created by the bombardment itself, need to be analysed in greater depth before a plan of action is submitted.

4) Stabilisation of monuments

In particular, this affects sections of the town wall ramparts, including the gate at the old port. The work also involves reinforcing the pediment of St. Blaise's.

ii) Cost calculations

The cost calculations were based on the prices of materials and labour in Dubrovnik prior to the war. It should be pointed out that the costs remain subject to strong fluctuations in the exchange rate which cannot be predicted in the short term.

In the section setting out the estimated costs, we first define the costs of materials and labour per m² or m³ and then set out the overall costs. Finally, a summary table provides an overview of all the information.

D) Work to be carried out

(base: one dollar = 72.08 dinars as at 17 December 1991)

1) Roof repairs (annex 1)

total area of the damaged roofs: 56,747m²

a) repair of lightly damaged roofs

area of lightly damaged roofs: 28,374m²
cost of repairs per m²: 192 dollars

total cost of repairs: 28,374 x 192 = 5,447,808 dollars

b) roof and roof structure repairs

area of roof structure damaged: 28,374m²
cost of repairs per m²: 300 dollars

total cost of repairs: 28,374 x 300 = 8,512,200 dollars

total cost of roof repairs: 13,960,808 dollars

2) Repairs to water pipes and electrical circuits in houses throughout the old town

total area of fittings to be repaired: 140,400m²
cost of repairs per metre: 96 dollars

total cost of repairs to fittings: $140,400 \times 96 = 13,478,400$ dollars (1)

(1) if partial repairs were to be made the total cost would be: $28,374\text{m}^2 \times 96 = 2,723,904$ dollars

3) Work to stabilise and repair buildings

a) burnt down palaces (see annex 2)

total area of the palaces destroyed: $4,988.8\text{m}^2$ (7 palaces)
cost of stabilisation per m^2 : 953 dollars

total cost of stabilising the palaces: $4,988.8 \times 953 = 4,754,327$ dollars

b) burnt down houses (see annex 3)

total area of the houses destroyed: $1,247.2\text{m}^2$ (2 houses)
cost of repairs per m^2 : 960 dollars

total cost of repairing the houses: $1,247.2 \times 960 = 1,197,312$ dollars

4) Monument repairs

Miscellaneous work: 700,000 dollars

E) Summary table

a) roof restoration and repairs:	13,960,808 dollars
b) water pipes and electrical circuits:	13,478,400 "
c) stabilisation of palaces and reconstruction of houses:	5,951,639 "
d) stabilisation of monuments:	700,000 "
total:	34,090,047 "

F) Conclusion

We wish to underscore that this can only be a preliminary plan and that the funds made available could be earmarked for other work which might prove necessary in light of the in-depth survey carried out by the Institute for the Protection of the Monuments of Dubrovnik. We are of the view that these funds should be managed by the UNESCO office in Dubrovnik and the Institute. Finally, it must be recalled that greater funds will be needed to repair the damage caused by the war to the old town.

- 6) Repairing the roof reinforcement, with wooden beams (14cm x 12cm) laid from the purlin to the beam ridge across the reinforced concrete beams. Included is production of the wooden viewpoint construction, with the trimming work around the chimney: $1\text{m}^2 = 200$ dollars
- Total cost: $1\text{m}^2 = 300$ dollars

Annex 2: Cost of stabilising palaces

Demolition:	225,145	Dollars
Disassembly:	10,196	"
Earth-moving:	57,292	"
Reinforced concrete:	161,120	"
Reinforcement:	28,845	"
Framework:	63,800	"
Roofs:	137,856	"
Total:	684,254	"

Divided by $718\text{m}^2 = 953$ dollars per m^2

Annex 3: Cost of repairing houses

Demolition:	142,790	Dollars
Disassembly:	13,820	"
Earth-moving:	42,079	"
Concreting:	15,897	"
Reinforced concrete:	88,974	"
Reinforcement:	25,011	"
Masonry:	246,050	"
Stone cutting:	49,217	"
Framework:	45,984	"
Joinery:	3,408	"
Tinware:	3,772	"
Insulation:	12,278	"
Total:	689,280	"

Divided by $718\text{m}^2 = 960$ dollars per m^2

ANNEX 7: Summary table of the war damage in each district of Dubrovnik (Institute for the Protection and Conservation of Historic Monuments)

Translator's note for page bearing ERN number 01848468: table in English.

Annex 8: Map of Dubrovnik illustrating four levels of damage (detailed survey by the Institute for the Protection and Conservation of Historic Monuments)

The black line demarcates the most severely damaged zone

Translator's note for page bearing ERN number 01848470: map of Dubrovnik with illegible title. The following key is provided:



Building completely burnt down



Building seriously damaged (walls and roofs)



Building with structural damage (walls or roofs)



Building partially damaged - non-structural parts (roof, facade & others)

Annex 9: Map of Dubrovnik illustrating the degrees of intensity of the 1979 earthquake (Mercalli scale) (Institute for the Restoration of Dubrovnik)

Translator's note for page bearing ERN number 01848472: map of Dubrovnik showing the varying intensity of the earthquake.

Title: Areas of seismic microzonation in the historic heart of Dubrovnik

Key:



8+ on the MCS scale



9 on the MCS scale



10- on the MCS scale



10 on the MCS scale

Annex 10: Damage caused by the 1979 earthquake in the embankment zone (Zagreb Institute of Architecture)

Light grey:	damage but structure spared
Dark grey:	structure lightly damaged
Yellow:	structure damaged
Orange:	structure more seriously damaged
Purple:	structure very seriously damaged
Black:	structure almost destroyed

(Translated from Serbo-Croat)

Scale: 1:1000

Translator's note for page bearing ERN number 01848474: map.

Annex 11: Priorities for UNESCO expert involvement
(suggestions by Mr Carnez and Mr Kaiser)

Priorities for UNESCO expert involvement (suggestions by Mr Carnez and Mr Kaiser)

The Institute for the Protection and Conservation of Monuments has completed a seven-volume survey of the destruction which includes maps and photographs. It will be a very important working tool for the experts who will have a highly motivated team at their disposal.

Below, we have suggested a few priority areas for the experts' work in the field. The experts could start putting together a financial assessment based on what action they recommend be taken.

A) Immovable cultural property posing or potentially posing a danger to the inhabitants of Dubrovnik

1) the homes and town houses whose interiors have been completely burnt out and whose walls are severely cracked: Stradun, Za Rokom St., Siroka St., Od Puca St., Miha Pracata St., Uska St. The state of these buildings needs to be assessed and on site recommendations made for strengthening the walls.

2) the house with a large crack in the facade in Za Rokom St.: analysis and recommendations.

3) the gate at the small port (arch stone dislodged): analysis and recommendations.

4) damage caused by warship gun impacts on the north wall west of the Drezvenik Tower and the west wall north of the Pile Gate: recommendations.

5) the cracked pediment of St. Blaise's: analysis and recommendations.

6) an examination of the Cathedral's vestibule and the Jesuit Church's roof (damaged in November) seems necessary as does an inspection of the synagogue which was damaged by the 1979 earthquake and the bombardments.

7) the map produced by the Institute which provides a general indication of the level of damage suffered by the buildings' structures (4 damage categories) is an important starting point. Level 3 mainly comprises houses with large external or internal cracks.

The western part of Prijeko (in particular in the road of this name), the northern side of Stradun towards the west and, in particular, the southern part of the town, from the former Convent of the Poor Clares to Marojice Kaboge St. in the east and from the southern end of Stradun to the line formed by Za Rokom St., the small square south of the Domino Church and Guceticeva St. were all severely hit.

Assessing the condition of the houses in these districts /part of sentence illegible/ experts sent (and Mr Bruno, the engineer who will follow on a few weeks later).

B) Movable cultural property insufficiently protected

1) Sponza Palace: the town archives are still held here despite the risks presented by another bombardment and the risk of damage from damp (blown out windows). According to the Institute the town archives for the 19th century are being kept in less than ideal conditions at St. Mary's Convent.

2) Dominican Convent: furnishings and works of art *in situ* in the church, unprotected; documents concerning the establishment's foundation on display; collection of Ragusan painting; library.

3) Cathedral: furnishings and works of art *in situ*, unprotected.

4) St. Blaise's: furnishings and works of art *in situ*, unprotected.

5) Jesuits: furnishings and works of art *in situ*, unprotected; library.

6) Franciscans: furnishings and works of art *in situ* in the church, unprotected. It would be helpful to see the pharmacy and locate other works of art in the establishment.

7) Town Museum (Rector's Palace): it would be helpful to try to locate the entire collection of furnishings, part of which is at the Palace, but the rest of which...

8) Maritime Museum (St. John's Fort): what is the current status of the collection?

9) Other churches and chapels whose interiors we have not seen or have not been able to see: Orthodox, St. Saviour's, St. Nicholas', St. Roch's, St. Joseph's, Annunciation.

It would be helpful to try and get hold of inventories for the libraries, collections and archives and make a few on site recommendations to the various authorities concerned.

C) Damaged immovable cultural property whose restoration would need to be considered

1) balustrade of St. Blaise's Church.

2) Great Onofrio Fountain.

3) portal of St. Saviour's Church.

4) balustrade, capitals and colonnettes of the cloister of the Franciscan Convent.

5) /missing/.

6) stained glass windows in the Dominican, Domino, St. Blaise and Jesuit churches.

7) statues of St. Blaise at the Pile and Ploce Gates.

8) St. Peter's Chapel (music school garden).

The experts could make specific recommendations for restoring this heritage.

D) Repairs and infrastructure

It is now probably time to estimate the cost of the work that has to be done to repair the roofs (an initial rough evaluation was made in December) as well as to replace the paving and repair the stairways.

Running water and electricity seem to have been partially restored though we do not know to what extent (an initial rough evaluation was made in December). We do not know what state the very old sewer system is in.

Annex 12: Extract from “Pustijerna, Tourist Residences Dubrovnik”
(leaflet from the Institute for the Restoration of Dubrovnik)


Translator's note for pages bearing ERN numbers 01848480 - 01848483: extract.

Annex 13 is missing.

Annex 14: Map of the Dubrovnik old town architectural surveys (Institute for the Restoration of Dubrovnik)

Translator's note for page bearing ERN number 01848485: map.

Title: Historic heart of Dubrovnik showing buildings whose current condition has been architecturally assessed


Key:  buildings for which an architectural assessment has been made


Annex 15: Map of the restoration and renovation work completed or scheduled for 1992
(Institute for the Restoration of Dubrovnik)

Translator's note for page bearing ERN number 01848487: map.

Title: Historic heart of Dubrovnik showing buildings which have been restored or which are scheduled for restoration under the medium-term plan for restoring cultural monuments

Key:

 restored buildings

 scheduled for restoration by the end of 1992

Annex 16: The delimitation of Dubrovnik old town

The request for inclusion in the World Heritage List submitted by the Yugoslav government in French in 1978 identifies the property as follows:

“The entire urban historic quarter of Dubrovnik encompasses all construction within the fortified walls built between the 12th and 16th centuries. It covers an area of 15.2 hectares and has 5,255 inhabitants (census of 1978). The precise limits of the entire urban historic quarter are demarcated by the fortified walls, the former moats and, on the south side, the sheer coastline”.

The observers assumed that the small port formed part of the old town even though it lies outside of the walls. They had doubts as to the Revelin Fort which is twenty metres from the Ploce Gate. The break-water (Kase) which dates from the 15th century presented the same problem. The Institute for the Protection and Conservation of Historic Monuments was unable to provide us with any specific answers as it was never sent the inclusion request.

These were perhaps simply overlooked when the document was drawn up in haste. However, the inclusion request did actually exclude certain structures which formed part of old Dubrovnik's urban system and we believe it appropriate to mention them here: St. Lawrence's Fort (14th - 15th centuries) on a promontory a hundred metres west of the old town; the remains of the wall indicating the site of the Dance lazaretto (for the old town's sick) and the convent and church of Our Lady of Dance from the 15th century (where works by Dobricevic and Bozidarovic are kept); a customs house which overlooked the old town's old port, just outside the Pile Gate; in the east, two hundred metres from the Ploce Gate, the merchants' quarantine buildings (16th - 17th centuries).

Since the buffer zone is not indicated, we asked the Institute for the Protection and Conservation of Historic Monuments to send to UNESCO the decisions of the Dalmatian Conservation Institute in Split which seem to define this zone. That said, we believe the request could be resubmitted.

ERN number
01848489

PHOTOS

Translator's note: pages bearing ERN numbers 01848490 – 01848561 consist of photos with explanatory captions, the translations of which are below.

ERN number: 01848490

Photo 1: Sponza Palace with the 1954 convention flag and protected by wooden planks and sand bags. The Palace contains the archives of Dubrovnik and a /illegible/

ERN number: 01848491

Photo 2: The Rector's Palace with the 1954 convention flag and protected by wooden planks and sand bags – this screen protects, in particular, the columns and the rich detail of the capitals.

ERN number: 01848492

Photo 3: St. Saviour's Church with sand bags and a wooden screen to protect the Renaissance portal; erected far from the façade, the screen could not prevent salvos from passing behind it and reaching the portal on 6 December 1991.

ERN number: 01848493

Photo 4: The Dominican Church, the entrance with shuttering and sand bags; the impact of a rocket projectile can be seen (photo taken on 31 December 1991)

ERN number: 01848494

Annex 13: Plans of the Institute for the Restoration of Dubrovnik for the sectors of Mrtvo Zvono and St. Mary's Convent

ERN number: 01848495

Photo 5: Paintings of the Ragusan school in a room in the Dominican Convent looking east.

Photo 6: The Dominican Convent, the two /illegible/

ERN number: 01848496

Photo 7: An 82mm rocket, the stabiliser cylinder was damaged by the impact with a stone, not by the blast.

ERN number: 01848497

Photo 8: Various projectiles: three 82mm rocket projectiles, one of which has traces of mortar on the front of the stabiliser, mortar shell stabilisers (the small ones are 82mm, the big one is a 120mm shell, to the right of the lighter are some anti-aircraft projectiles)

ERN number: 01848498

Photo 9: An impact of an 82mm rocket projectile on the internal west wall of the platform of St. John's Fort, the stabiliser which had been embedded in the wall was removed. (November bombardment)

ERN number: 01848499

Photo 10: An impact of an 82mm rocket projectile on a wall of the house of Fort Mrtvo Zvono. The traces of black powder and the small shrapnel spread out around it show the signature of the projectile (November bombardment)

ERN number: 01848500

Photo 11: A hole in the wall of the west facade of 1 Zamajina Street made by an 82mm rocket projectile. The head of the projectile went through the concrete wall (November bombardment)

ERN number: 01848501

Photo 12: An impact of an 82mm rocket projectile on the roof of the Small Arsenal (November bombardment)

Photo 13: Impacts from a salvo of 82mm rocket projectiles on the roof of the west wing of the Dominican Convent /illegible/

ERN number: 01848502

Photo 14: The beginning of a fire in 7 Poljana Mrtvo Zvono where the head and shrapnel of the 82mm rocket projectile went through the floor (November bombardment)

ERN number: 01848503

Photo 15: The head of the 82mm rocket projectile which split the wall of 1 Zamajina Street continued through an inside wall (left) starting a fire on the couch.

ERN number: 01848504

Photo 16: An unexploded 120mm shell (October or November bombardment)

ERN number: 01848505

Photo 17: A 120mm shell with incomplete shattered tracing (October or November bombardment)

ERN number: 01848506

Photo 18: The "Maljutka" wire-guided rocket projectile (October or November bombardment)

ERN number: 01848507

Photo 19: An impact of an 82mm mortar (on Stradun?) (bombardment of 6 December)

ERN number: 01848508

Photo 20: An impact of an 82mm rocket projectile on Stradun at Natjeskovicева Street, the point of impact is to the right and the stabiliser split the paving on the left (November bombardment)

ERN number: 01848509

Photo 21: An impact of a 120mm shell on the roof of the Icon Museum, of particular interest is the large broken beam in the centre (bombardment of 6 December)

ERN number: 01848510

Photo 22: An impact of a 120mm shell on Za Rokom Street (bombardment of 6 December)

ERN number: 01848511

Photo 23: The impact of a 120mm shell on a house in the alley beside the open-air theatre (bombardment of 6 December)

ERN number: 01848512

Photo 24: Traces of powder of a 120mm shell with marking on the wall above a partially burned house, Od Puca Street (bombardment of 6 December)

ERN number: 01848513

Photo 25: The impact of a 120mm shell on the frame of a house window (8 Siroka Street?) (bombardment of 6 December)

ERN number: 01848514

Photo 26: The inside wall badly cracked by the blast from a 120mm shell (house in Siroka Street)

ERN number: 01848515

Photo 27: The fire in the palace at Siroka Street/ Od Puca Street crossroads (in the evening of 6 December)

Photo 28: On 7 December, this building on Stradun which contained /illegible/

ERN number: 01848516

Photo 29: The palace at Siroka Street/ Od Puca Street crossroads which was set on fire on 7 December

ERN number: 01848517

Photo 30: The house in Za Rokom Street beside St. Roch's Church which was set on fire

ERN number: 01848518

Photo 31: Another view of this house

ERN number: 01848519

Photo 32: The palace at the crossroads of Miha Pracata Street and Guceticeva Street which was set on fire

ERN number: 01848520

Photo 33: Another view of the same building, showing that the fire burned through each floor, leaving only the walls standing

ERN number: 01848521

Photo 34: A view of the interior of one of the palaces set on fire on Od Puca Street (there were 4 palaces burned on this street in all)

ERN number: 01848522

Photo 35: A shot taken from the north of the epicentre of the bombardment of 6 December: to the right at the bottom, the Franciscan Convent Church (the Convent received several impacts), to the left the Orthodox Church (with a visible impact on the corona of the roof)

Photo 36: A shot taken from the west of the centre of the bombardment /illegible/

ERN number: 01848523

A building damaged in the 1979 earthquake

ERN number: 01848524

Photo 40: The lower facade of the same house before /illegible/

Photo 41: the lower facade of the same house after the bombardment of 6 December with other cracks which opened again above the door

ERN number: 01848525

Photo 42: The upper facade of the house set on fire in Za Rokom Street (just beside no. 6) with reopened cracks, of particular interest are all the buildings set on fire showing old reopened cracks or new ones, often between the windows

ERN number: 01848526

Photo 43: A vault of the wall south of the Pile Gate with a new crack

ERN number: 01848527

Photo 44: Behind a house (Od Domino Street?), an old crack in the wall of the facade which probably dates from the earthquake of 1979, has it opened further because of the blasts?

ERN number: 01848528

Photo 45: A new crack inside a house in Za Rokom Street (south side near Od Domino Church)

ERN number: 01848529

Photo 46: A new crack inside the same house

ERN number: 01848530

Photo 47: The gate at the small port with a dislodged arch stone.

ERN number: 01848531

Photo 48: The covered way near Drezvenik tower (photo taken on 31 December 1991)

ERN number: 01848532

Photo 49: The covered way near Pile Gate (photo taken on 7 December, the sections of the broken wall have since been removed)

Photo 50: /illegible/

ERN number: 01848533

Photo 51: A view of the cornice of the Jesuit Church

ERN number: 01848534

Photo 52: The facade of the synagogue (photograph taken before 6 December)

Photo 53: /illegible/

ERN number: 01848535

Photo 54: The Great Onofrio Fountain

ERN number: 01848536

Photos 55 and 56: Two shots of the damage done by shrapnel /illegible/

ERN number: 01848537

Photo 57: Colonnettes with capitals in the large Franciscan cloisters damaged by shrapnel

ERN number: 01848538

Photo 58: The statue of St. Joseph at St. Joseph's Church damaged by shrapnel

ERN number: 01848539

Photo 59: St. Peter's chapel in the garden of the School of Music hit directly

ERN number: 01848540

Photo 60: The current status of the restoration of the Rector's Palace, the gallery of the first floor seen from the atrium, the problem of the quality of the material and unsuitable finishings is clear (restoration of 1982-1984)

Photo 61: /illegible/ of the atrium of the Palace of the /illegible/

ERN number: 01848541

Photo 62: The choir of the Cathedral, with the Titian triptych at the back; the main Baroque altar, the wooden stalls and the balustrade have all disappeared.

ERN number: 01848542

Photo 63: The Baroque organ above the east entrance of the Cathedral

ERN number: 01848543

Photo 64: The Baroque altar in the south transept of the Cathedral

ERN number: 01848544

Photo 65: The Music School: to the right the building added during the renovations (1980-1984) (photo taken after the bombardment of 6 December)

ERN number: 01848545

East elevation after restoration

East elevation before restoration

ERN number: 01848546

Photos 67 and 68: The west facade of the primary school after the renovation (1980-1987)

ERN number: 01848547

Photo 69: The blast effect on the window of the Dominican Church after the November bombardment

ERN number: 01848548

Photo 70: A view of the same window from inside the Dominican Church after the November bombardment

Photo 71: A view of the same on 7 December (the roof of the Church received two direct impacts, an 82mm rocket projectile and a 120mm shell)

ERN number: 01848549

Photo 72: The southern bastion of St. John's fort, a window in which the keystone has been damaged

ERN number: 01848550

Photo 73: 6 Pustijerna Street

ERN number: 01848551

Photo 74: 1 Boskovicева Street, with a visible impact on the facade

ERN number: 01848552

Photo 75: 1 Boskovicева Street, a view of the window from inside near the impact on the facade

ERN number: 01848553

Photo 76: 1 Boskovicева Street, the cracked wall of the bathroom

ERN number: 01848554

Photo 77: 1 Boskovicева Street, the roof which looks east after several impacts of 82mm rocket projectiles

ERN number: 01848555

Photo 78: 3 Boskovicева Street, the stone balcony damaged by shrapnel

ERN number: 01848556

Photo 79: 1 Antuninska Street, the split south wall of the north attic

ERN number: 01848557

Photo 80: 1 Antuninska Street, the smashed northern wall of the south attic, we can see the hole made by the impact of the rocket projectile on the corridor wall to the left

ERN number: 01848558

Photo 82: 8 Siroka Street, the old crack between the windows opening up

ERN number: 01848559

Photo 83: 5 Siroka Street, old cracks at the top of the facade

ERN number: 01848560

Photo 84: 4 Miha Pracata Street, a new crack in the stairwell

ERN number: 01848561

Photo 85: 4 Miha Pracata Street, an old crack in the window of the stairwell, may be re-opening