



Tour of the ruins of Malpasset dam



Exhibition at Villa Aurélienne

Exhibition produced by the City of Fréjus (Archaeology and Heritage Department) and the ACC Malpasset association, as part of the 60th commemorations of the Malpasset disaster in December 2019.

1 REMEMBERING

A DAM PROJECT

During the first half of the 20th century, water requirements increased along with the rise in the population and agricultural development, so alternative solutions had to be found. In 1941, Honoré Victor, a surveyor from Fréjus, put the solution of a dam on the river Reyran back on the agenda: it would hold the water upstream of the dam, regulate the river during the heavy rainfall in autumn and at the end of the winter and redistribute the water downstream during the driest periods. The plain was indeed regularly flooded in the autumn and harvests lost. It was not until October 1945, following a presentation by the Prefect of the Var to the General Councillors, that real research was ordered.

In 1946, Georges Corroy, a geology professor from the Faculty of Sciences in Marseille, was asked by the Prefect of the Var to carry out research on suitable sites. Out of six locations examined for the dam, he declared himself in favour of a project in the Reyran valley at a place called Malpasset, downstream from the confluence with the Bueme, 9 km north of Fréjus. The launch of the project was then recorded by the Ministry of Agriculture on 3 August 1950.

A few months later, in autumn 1950, the Conseil Général of the Var commissioned a study for the preliminary design of the dam from the firm Coyne et Bellier. The architect André Coyne, president of the International Association of Large Dams, was a specialist in this field.

The works were declared to be of public interest on 8 January 1952, and a month later the administrative competition commission appointed the Léon Ballot and Gianotti Frères consortium to build it, based on a technical design by Coyne-Bellier. André Coyne, a polytechnic engineer, was the world-renowned specialist in large thin-arch dams of a new type, of which he had already built some thirty examples worldwide.

FROM THE DESIGN TO THE CONSTRUCTION

The project that André Coyne proposed was based on the construction of a thin-walled arch dam. This type of dam has several advantages: supported by two solid anchors, the dam follows the arc of a circle in the direction of the reservoir, which allows it to deflect the thrust of the water from the centre to the ends. The dam was to be made of concrete, a system that had already proven to be the most economical and effective way to resist water pressure.

This type of arch dam needs to be positioned in a narrow zone and the decision was made to move the initial site 200 metres downstream. However, no additional geological analysis was commissioned from the geologist Georges Corroy.

The work started on 1 April 1952. 60% of the financing was covered by the Ministries of Agriculture, the Interior and Reconstruction, as well as by the Var General Council and the Crédit Agricole bank. The reservoir would be some 4 km long and 3.5 km wide maximum with a mean width of 2 km. Under the direction of Mr. Sartorio, chief engineer, the construction of the concrete wall began.

The work was completed in October 1954 and the filling began with the autumn rainfall. The provisional acceptance took place in two stages, in February 1955 and in August 1956. There was no real final acceptance. The recurring hydraulic variations in our region and the legal problems linked to the concessions of companies and houses on the site made the impounding of the dam very slow. André Ferro was entrusted with supervising the dam.

THE DAYS PRIOR TO THE FLOOD

The first autumn rains of 1959 led to a significant rise in the level of the lake, without causing any real concern among the technicians in charge of monitoring the dam and its reservoir. However, towards mid-November, seepage and then some infiltration appeared downstream of the structure on the rockfill section. The seepage was attributed to the resurgence of rainfall, which made the land on the neighbouring hills spongy.

However, the situation became worrying with the heavy rains at the end of November. On 30 November, the level of the lake reached the unprecedented level of 96.30. On 1 December, the level reached 98 and the water continued to rise.

By the morning of 2 December, the storm had passed. The sky was calm, but the water level had reached 100 and was now threatening to pass through the spillway. It became urgent to act and André Ferro, the dam keeper, alerted the Prefecture.

Jean Bolland, the chief engineer of the Ponts et Chaussées, asked Mr Dufour, his deputy and also an engineer, to fly over the dam, the lake and all the streams feeding the structure in order to judge the filling speed of the whole reservoir. In the absence of the mayor, André Léotard, who was held up in Paris, Louis Sénéquier, the deputy mayor, was invited on board the helicopter along with the director of the Protection Civile and two technicians from the Génie Rural. In order to lower the level of the lake and prevent the threatening overflow passing through the spillway, it was decided to open the dam valve at 6pm. This would give the workers on the motorway site time to put away their machinery and equipment.

At 9pm, when carrying out his tour of inspection, André Ferro noted that the level had gone down by 2 centimetres. When he returned home, he wrote in his surveillance book: "All clear - nothing to report"...

But at 9.13pm, in an apocalyptic explosion, the dam gave way under the pressure of the water and a wave almost 50 metres high swept across the valley, taking with it everything in its path.

THE DRAMATIC COURSE OF THE WAVE

The huge wave made up of more than fifty million cubic metres of water, huge blocks of concrete, rocks, earth and trees torn up like pieces of straw, headed at 70 km/h in the direction of Fréjus, destroying everything in its path.

In the vicinity of the dam, the motorway bridge under construction, the workers' huts and the Boson mine facilities were destroyed and washed away.

Further down, in the Reyran valley and on Argens plain, some fifty farms and homes were razed, agricultural enterprises destroyed and thousands of farm animals lost.

The army camps and the Intendance building did not escape this disaster and were also damaged.

At the western entrance to Fréjus, the amphitheatre and the surrounding area were covered with a layer of silty mud and countless pieces of rubble carried by the water. Hundreds of metres of the N7 highway were washed away. The railway line was swept away and twisted and the freight station was destroyed.

In the districts south of the town centre and right down to the coast, the damage was also considerable: buildings were gutted and shops and homes were flooded with water, mud and debris of all kinds. The aeroclub was devastated by the wave which, after having swept away the naval aeronautical base and its weather station, ended its mad run on the beaches of Fréjus and Saint-Aygulf, hitherto the pride of the seaside resort, transformed into chaos.

The huge wave took 25 minutes to cover the 12 km distance between Malpasset and the sea. The population of Fréjus was cut off from the rest of the world, with the communication routes and networks (water, electricity, telephone) destroyed.

THE RESULTS

The figures for the disaster were staggering. It would take several weeks before an initial assessment could be made and the material damage was unimaginable.

423 dead, 30 of whom could not be identified, without counting all those whose bodies were not found
135 children under the age of fifteen

79 children orphaned and some 4 000 people injured.

52 farms razed, 330 agricultural enterprises destroyed, 2 500 hectares of fertile farmland lost for ever. The disaster was unprecedented. The town of Fréjus at that time only numbered around ten thousand inhabitants and the number of victims was a terrible shock. There was not a family that did not lose relatives or friends. The dam-break wave not only killed, it also deprived the inhabitants of all their landmarks and their memories. Among the people of Fréjus who lived through this night of horror, no one would emerge unscathed from the catastrophe.

Inset:

The tragedy might have claimed even more victims had it not been for the presence of mind of the staff on railcar X 2804 from Marseille to Nice. That night, when they saw the water coming, they decided to transfer the 74 passengers from the carriages to the motor car, which was heavier and could withstand the thrust of the water. The railcar is now exhibited in the Ecomusée du Haut-Pays in Breil-sur-Roya in the Alpes Maritimes and is registered as a historic monument.

INITIAL ASSISTANCE

With the passage of the wave, all the communication systems were cut off. It took nearly two hours for the authorities to put the ORSEC crisis management plan in place. The first people were rescued by torchlight. The rescuers were unable to assess the extent of the disaster yet and it was not until daybreak that they could set up the appropriate services.

The region's fire brigade and police were immediately mobilised, joined by the CRS, the Sécurité Civile and the Army. As there were many military personnel in the Var department, they intervened in large numbers and with the means at their disposal, helped by the French Navy and the American 6th Fleet, which was in Mediterranean waters at the time.

Equipped with rubber dinghies and helicopters, the rescuers searched relentlessly for victims who could still be saved. Some people were found in their collapsed houses, others perched on roofs, clinging to trees or makeshift rafts.

The injured were taken to the hospital in the town centre (now the Tribunal de Commerce) where the staff had been called back in and were assisted by volunteers from the French Red Cross. In unimaginable work conditions, they tended to more than 400 people, performing the first operations without water or electricity. It was not until many hours later that the hospital managed to bring in additional equipment and a water tank, which was essential for hygiene.

Inert bodies began to pile up in the small communal morgue. The hospital chapel (in Paul Vernet Square) was used as a second morgue. The toll quickly rose and it rapidly became clear that the population would have to cope with serious electricity, water and food shortages. Organisation was required and solutions had to be found, especially against the risk of epidemic with the presence of the many corpses still lying in the mud.

During the first twenty-four hours, 257 people were saved and 135 bodies were found.

BURYING THE DEAD

At the same time as the emergency services were getting organised, the initial decisions were taken by the Prefect and the official civil and judicial authorities: access to the broken dam was prohibited and it was guarded by the Army.

In the cemetery, a bulldozer was used to dig three 50-metre-long trenches. On 5 December, the first 115 coffins, some of which contained several children from the same family, were buried. Pope John XXIII addressed a message for the victims from the Vatican, broadcast on French television, which led to a tremendous movement of national compassion and international solidarity.

2 SOLIDARITY

THE FIRST LOGISTICAL ASSISTANCE

One of the authorities' initial reactions after the catastrophe was to control access to the disaster area and print passes pending administrative investigations. At the same time, the commune and its agents set up a missing persons information centre. The municipal agents in charge of listing the victims distributed disaster cards, organised food and water supplies and created temporary accommodation by requisitioning the Turcan and Aulézy girls' schools, as well as hotels in neighbouring communes.

The whole population also mobilised by offering to take in the victims of the disaster.

The government and the army provided precious aid by gradually re-establishing the various communication routes, preparing the cemetery and organising an anti-typhoid vaccination campaign.

SOLIDARITY AND THE IMPACT OF THE MEDIA

The media coverage of the disaster provoked a worldwide wave of solidarity: from all corners of the world, people sent food, clothing, money and comfort. All the newspapers, radio and television stations reported on the tragic situation in Fréjus. Many associations spontaneously organised collections. Everywhere and on every occasion, donations were collected for the Fréjus victims. Cars on all the roads of France carried "SOS Fréjus" flags and signs. The government decreed a National Day of Solidarity and a surcharged stamp was issued for the benefit of the victims. The Christmas and New Year holidays gave even more impetus to this extraordinary generosity.

A total of 9 billion old francs in funds was collected. The money was handed over to the local authorities in Fréjus, whose mayor, André Léotard, had the onerous task of redistributing it to the disaster victims. Volunteers worked hard in town warehouses to catalogue the parcels and distribute the various donations - including 500 tonnes of food and clothing.

AID FOR CHILDREN

The Malpasset catastrophe left 79 children orphans. When the school term started at Turcan school on 5 January 1960, a number of seats were empty. Mme Legrand's CM1 boys' class alone lost 9 pupils. The register of Miss Dauphin's CP-CE1 boys' class also shows 4 names missing.

During the night of 2 December 1959, the protective cocoon of young people in Fréjus had violently burst. Fear, suffering and the realities of life and death overwhelmed them. Many of them unfortunately became aware that their family as they knew it was forever changed and that everything that constituted their childhood memories was lost.

In this general turmoil, fraternity and solidarity for all were suddenly expressed. Letters of affection and support poured in, carefully preserved by Irène Astier, the headmistress of Turcan girls' school. Invitations arrived from all corners of the world. Some would travel for the first time. Despite a heart heavy with sadness, these moments of relaxation and affection, far from the desolate, ravaged landscape of Fréjus, brought each of them a little comfort and hope. Three of them, Michel, Simone and Louis Infantolino, aged 11, 12 and 15 respectively, were invited to Tehran by Empress Farah Diba and Princess Ashraf for a holiday at the court of the Shah of Iran, HM Mohammad Reza Pahlavi.

If some of the orphans left the site of the catastrophe to stay with members of their family, most stayed. Many applications for adoption were received by the City's Disaster Relief Department. Other people offered to pay for their education or wanted to leave them all their belongings. But the extra-municipal commission, created to manage the orphans' situation, decided that none of the adoption requests would be accepted and that the children of Fréjus would remain with their families and friends and continue their studies in boarding school.

Fréjus received an impressive number of letters on this subject, as well as money orders both from France and abroad. The Disaster Relief Department distributed the donations and took charge of the orphans' future with the help of their respective guardians and the French Red Cross, while the Inspection Académique du Var took responsibility for supporting them throughout their schooling.

3 STARTING OVER / UNDERSTANDING

THE FUND MANAGEMENT COMMITTEE

On 5 December 1959, an inter-ministerial meeting was held in Fréjus, bringing together the Ministers of the Interior, Public Works and Transport, Health, Agriculture and Construction. Among the decisions taken that day, some were emergency measures whilst others were for the longer term; an official was specially appointed to ensure the start of rebuilding operations. A meeting on 14 December was held to draw up a new urban plan for the most affected districts, such as Les Arènes and for the whole Reyran valley. The setting up of a committee, led by the Prefect and local elected officials, allowed the management of the funds collected through subscriptions.

The mayor of Fréjus was appointed as the sole authorising officer for the disaster funds, which were to be channelled solely through the Fréjus main treasury, for greater clarity and control of the financial operations. On 26 December 1959, the government voted a budget of 4 billion old francs to repair the damage caused by the dam failure.

REHOUSING

Another huge project was that of rehousing the victims. After the emergency solution of using the town's hotels or host families, a temporary solution had to be found that allowed families greater independence. The Ministry of Construction delivered prefabricated houses a few days after the disaster. Others were offered by the CIMADE (Comité Inter-Mouvements Auprès Des Evacués) and the Secours Catholique. They were put up on requisitioned land such as the Clos de la Tour, the Roman Theatre district, Paouvadou hill and Bel Air and Madeleine districts. After a few months, the houses were grouped together on the Bellevue site in the style of a hamlet and equipped with the public services necessary for its operation. In the last phase of rehousing, buildings were put up on Avenue de Provence and in the Villeneuve district for families whose homes had been completely destroyed.

The Génie Rural (Agricultural Engineering department) supervised the rebuilding of farms that had been razed. The order consisted of building a dozen fairly small houses and their farm buildings, using modern construction techniques and bringing the housing in line with the standards in force without disrupting their inhabitants' lifestyles. Jean Parente, a young architect, carried out a precise survey of the destroyed buildings and started to subtly integrate some modern references (reinforced concrete structure, use of steel) without taking away the rural and Provençal character. The aim was to systematise the architectural vocabulary (banded or loophole windows, loggias, pergolas, gabled walls, gutters) and the construction techniques in order to streamline the building sites.

The largest farm, Bonnet farm, was built on a small mound where a tree had withstood the storm. Here Jean Parente recomposed a landscape, setting the residential building and the barn around a courtyard with a large oak tree. The plan is resolutely functional. Eager to make references to the local architecture, the architect mixed stone walls and tile roofs with sculptural concrete channels, steel posts and an exterior staircase inspired by Le Corbusier. The gently sloping roofs are designed to be in harmony with the landscape in the manner of the Scandinavian masters of modernity like Alvar Aalto.

VISITS FROM OFFICIALS

On 9 December, a week after the dam failure, four ministers: Robert Buron, the Minister of Public Works and Transports, Pierre Sudreau, the Minister of Construction, Bernard Chenot, the Minister of Public Health and the Population and Pierre Chatenet, the Secretary of State in charge of general administration issues, came to Fréjus to assess the measures required to help the population and bring life to the ruins.

On 13 December, Michel Debré, the Prime Minister, was welcomed to Fréjus by Antoine Roulies, Prefect of the Var, André Léotard, the mayor of Fréjus and various municipal and departmental personalities, as well as representatives of the Army and the Navy. The officials visited the cemetery and the worst affected districts of the town, taking stock of work in progress, the needs and the challenges. A conference was held in the Villa Marie, during which the Prime Minister expressed his emotion in the face of the terrible loss of life and the death of so many children, as well as the government's position: "*Politics should not be involved in this matter. That would be an insult to the dead and the victims. We must first and foremost deal with the disaster.*"

Lastly, on 17 December, General de Gaulle, the French President, walked through the streets of Fréjus. After bowing before the graves of the victims in Saint-Etienne cemetery and crossing the devastated streets of the Arènes district, he went to Villa Marie where he wrote in the town's visitors' book: "Que Fréjus renaisse" (Let Fréjus be brought back to life).

4 COMMEMORATING / TRANSMISSION

A.C.C. MALPASSET, AN ASSOCIATION FOR MEMORY AND TRANSMISSION / 1

Created in 2008 to organise the commemoration of the 50th anniversary of the failure of Malpasset dam, the A.C.C. Malpasset association, whose board is made up of survivors of the tragedy, works daily to preserve the memory of the disaster and its victims.

The association's missions focus on passing the memory on to young people and organizing on-site visits, conferences and thematic exhibitions. In order to perpetuate the history and the memory of the catastrophe, the association collects testimonies and receives donations of documents likely to be of interest to researchers, in close collaboration with the Archive department which digitizes them, as well as Fréjus's Archaeology and Heritage department.

Regarding the defence, protection and development of the site of the ruins of the dam, the association makes proposals and participates in the commission set up by the Communauté d'Agglomération Var Estérel Méditerranée to have the government award the *Grand Site de France* label to the massif of Estérel.

Not forgetting the wave of international solidarity that helped the survivors in 1959, the association itself participates to the extent that it can, in actions of solidarity during natural disasters around the world.

Since 2008, the association has published 4 major works:

Souvenons-nous: photographs and the story of the event by Jean-Paul Vieu, a young journalist in 1959.

Souvenirs Intimes: a collective work where each Frejus inhabitant was invited to write their strongest memory of the drama, independently or in a writing workshop.

Sur les traces de Malpasset: a book of artistic photos of the places that are still in the condition they were in in 1959, by author and photographer Michel Eisenlohr.

L'odyssée du barrage: an autobiographical account by Jean Berthold Van Tuat.

A.C.C. MALPASSET, AN ASSOCIATION FOR MEMORY AND TRANSMISSION / 2

A supportive twinning

Vajont dam (Northern Italy - Belluno Province), built at the end of the 1950s, is above the village of Longarone. After analysing the site, the specialists warned of the dangerousness and fragility of the rock surrounding the future reservoir. However, the authorities did not take their recommendations into consideration and continued building the dam.

In the night of 9 October 1963, at 10.39pm, a landslide caused the collapse of the left side of "Le Toc" mountain. 260 million cubic meters of earth and rock suddenly fell into the reservoir of Vajont dam and two gigantic waves, propelled into the valley at an unimaginable speed, destroyed the villages of Longarone, Pirago, Rivalta, Villanova and Fae in the valley below. Although the dam was practically undamaged, there were over 1900 victims in the Longarone area.

In 2013, the members of the A.C.C. Malpasset association travelled to the 50th anniversary commemoration of the catastrophe to share their emotion with the Longarone inhabitants. Since then, this "supportive twinning" has led to cultural and touristic exchanges. Symbolically, a sample of earth from Malpasset was scattered in the Garden of Remembrance in Longarone and earth from Longarone was placed in the base of the Structure of Remembrance in Fréjus.

The Walk of Remembrance

Like the inhabitants of Longarone who, for each commemoration, walk from the town to Vajont dam, the A.C.C. Malpasset association, with support from the Fréjus municipality and the Crédit Agricole, proposed its first "Remembrance Walk" for Fréjus inhabitants in 2014.

Over the past years, the walk has followed different routes between the dam and the Memorial. The route symbolises the trajectory of the wave. As they walk, the locals stop at the sites that were razed by the wave and that have a history for the survivors present.

The walkers, adults and schoolchildren, are therefore united by the same memories, but also by the joy of coming together again. All the inhabitants of Fréjus and the region, as well as friends and supporters are invited to this moment of communion and exchange.

TRANSMISSION ACTIONS TO YOUNG PEOPLE

Since the A.C.C. Malpasset association was created, its members, in conjunction with the Archaeology and Heritage Department, have been actively participating in various educational activities on the Duty to Remember. They speak to classes, accompany outings to the site of the dam and welcome the pupils to the ceremonies of remembrance.

The Malpasset-Boson investigation module

During the year 2016-2017, the students at Chênes school carried out a project of investigation to discover the site. All the sessions were accompanied by Pascal Chatard (then Educational Advisor of the district), the members of the A.C.C. Malpasset association and the Archaeology and Heritage Department and they were filmed for Véronique Lhorme's and Marc Nardino's documentary film: "Malpasset, les héritiers".

"Observing, asking questions, carrying out the investigation like budding scientists, going up the Reyran valley, discovering the blocks of stone, the devastation, then understanding and being moved by it. 9-year-old children, the Fréjus townspeople of today, opening the newspapers from '59, looking at the photos, reading the witness accounts, meeting people who had suffered. Their discoveries were filmed, the story was handed down, history will not be forgotten: they are its heirs! Their teacher has now given them an ultimate duty: that of memory. Nicolas Schmitt, teacher at Les Chênes school.

Educational actions 2019-2020

In the year of the 60th commemoration, the Archaeology and Heritage Department coordinated an educational project that twenty-four classes from Fréjus schools participated in. In order to develop the students' reflection, through observation, description and the formulation of hypotheses, the project began with understanding the Malpasset site, its geological characteristics and the historical context that led to the construction of the dam. The second session in class took the students back to the territory's water requirements from olden times to the present day. A meeting with someone who witnessed the disaster completed the project in an emotional manner. Lastly, the classes went to see the "Malpasset, 60 years on..." exhibition to discover the many images and archive documents, photographic and cinematographic works that constitute the traces of this still living past.

NEW ELEMENTS 2019-2020

Creating a multimedia tool

After collecting hundreds of documents over the previous years, it seemed essential that the A.C.C. Malpasset association should pass this heritage on to as many people as possible. Using the new technologies, the association ordered a multimedia tool from the Sociétés Exetera/La Cuisine aux Images, which was made possible thanks to the scientific work and close collaboration established with the Archaeology and Heritage Department and the Municipal Archive department. Intended to be instructive and accessible to all audiences, its content includes many illustrative archives, documentaries, plans and videos, a map of the territory, virtual tours and a 4-minute graphic animation created for the occasion.

A marked trail at the dam site

In May 2019, the A.C.C. Malpasset association was contacted by a group of 1st year students at Nancy's Ecole Nationale Supérieure de Géologie regarding a project to set up a marked trail at the dam site. Together with geologists Jean-Jacques Biteau and Jean-Marie Masset, the students came to stay in Fréjus and met with the association's members and town representatives. Aware of the opportunity this type of collaboration represented, the Fréjus town council, the A.C.C. Malpasset association and the Intercommunal Association for the Protection of Estérel Massif decided to set up this marked path as soon as possible. Some ten information boards were therefore put in place in March 2020.