

Urban Pollution Is Turning Glory That Was Rome to Dust

By HENRY TANNER

ROME, March 14 — From an office on the Piazza Santa Maria Nova, the Superintendent of Archaeology for the city of Rome looks out on the Colosseum, the Roman Forum and the Palatine. And he does not like what he sees. The most famous monuments of ancient Rome have been so damaged by pollution and vibration from auto traffic that they are decaying rapidly, their firm and smooth marble turning to soft plaster that crumbles under the most gentle touch.

The monuments deteriorate more in a single year than they did in a century in the period before the city center was taken over by cars and buses, the superintendent, Adriano La Regina, said in an interview.

In speaking of stone turning to plaster, he and his colleagues mean to be taken literally. When it rains — and rains in Rome are often heavy — a chemical reaction between the water and exhaust fumes and emissions from heating plants produces sulfuric acid. The acid rain then washes down the monuments, eats into their surfaces and turns the calcium carbonate of the marble into calcium sulphate, chemically plaster.

Sculpture Has Fallen Off

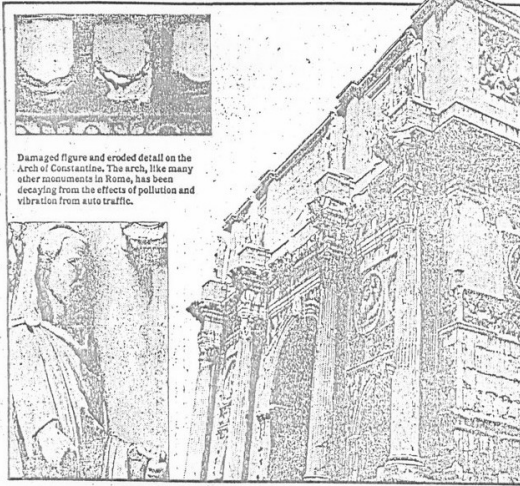
Comparative photographs of the Column of Marcus Aurelius on the Piazza Colonna show that many of the sculptured figures in its intricate relief that were intact in 1900 have been mutilated and become unrecognizable, if they have not fallen off. The same is true of the Column of Trajan, the Arch of Constantine, the Arch of Septimius Severus, the Arch of Titus, the Temple of Romulus and other monuments standing between the Piazza Venezia and the Colosseum.

At the present rate of decay virtually all the sculpture on these monuments will disappear within 20 years, Mr. La Regina said. This would mean, he added, that more than 80 percent of the sculptured record of three centuries of Roman history — from Domitian, who died in 96 A.D., in Constantinople, who died in 337 A.D., to the present — would be lost.

The same or already done is irreparable, he said, because scientists have found no way to reverse the chemical process.

Partly at his prodding, the first measures have been taken to slow the decay. Scaffolding and protective wire mesh have been put around the Column of Marcus Aurelius and Trajan and parts of the Arch of Constantine. For the next 5 to 10 years these treasures will be hidden from tourists and Romans, their surfaces will be cleaned and eventually, perhaps, they will be covered by a transparent protective layer of chemicals.

Traffic past the Arch of Constantine has been reduced and will soon be hal-



Damaged figure and eroded detail on the Arch of Constantine. The arch, like many other monuments in Rome, has been decaying from the effects of pollution and vibration from auto traffic.

ed. One street, the Via della Consolazione, next to the Arch of Titus, has been closed. For the last two months the police have been enforcing a long-standing but generally neglected regulation limiting access to parts of the inner city to residents and officials.

Eventually, Mr. La Regina hopes, most traffic will be diverted from the Colosseum and the Forum; he wants to see a "green zone" all the way from the Piazza Venezia to the Via Appia Antica. People living in the center of the city, which has no polluting industries, may be required to put filters on oil burners or change to gas.

Mr. La Regina is an official of the national Ministry of Culture, which is responsible for historic monuments. The city government is responsible for the urban environment, including traffic and real estate.

The city became more concerned about the state of the monuments when Giulio Carlo Argan, elected as an inde-

pendent on a Communist ticket, became Mayor in 1976. His successor, Luigi Petroselli, a Communist who took over three months ago, has also announced to protect the environment.

Monuments and Lung

The campaign was pushed by city officials and by Mr. La Regina. He has found an echo in the newspapers and in neighborhood meetings. He thinks there is wide public support for traffic restrictions and other environmental measures. "People have seen the pictures of marble turning to plaster and they are wondering what pollution is doing to their lungs," he explained.

One of the principal culprits in the deterioration of ancient Roman monuments was Mussolini, the Fascist dictator, who saw his short-lived empire as the direct extension of the Roman Empire. To create a grandiose setting for his theatre, he tore down residential neighborhoods, churches and monu-

ments dating from the Middle Ages and the Renaissance that stood near the ancient ruins. He cut three highways through the city, with the result that all traffic from the west had to come to the city by the principal ruins, with the Piazza Venezia, where Mussolini had his headquarters, as the traffic hub.

The idea now is to reduce the traffic and eventually to stop it by widening arteries away from the city center. Officials are also discussing plans for restoring the human dimensions around the Roman monuments. The hills that Mussolini sacrificed to his grandiose perspective will not be artificially restored, but there is talk of turning part of the Via dei Fori Imperiali, the wide highway between the Piazza Venezia and the Colosseum, into an underpass and using modern landscaping to transform the entire zone into a pedestrian park with facilities for recreation and entertainment.