

DIVE BOMBER AND TANK

Fresco painted by José Clemente Orozco

for the Museum of Modern Art, June-July, 1940

Notes on the preparation of panels and the fresco
 technique used in painting DIVE BOMBER AND TANK

The fresco for the Museum of Modern Art is painted as a unit on six portable metal frames. On each frame galvanized wire lath was firmly mounted on a welded steel framework. To this, three ground coats of plaster (the scratch, the brown coat and an equalizing coat) were applied thinly on successive days, wet in wet. When finished these coats were left to dry out and harden.

- (1) The scratch coat is composed of:
- 3 parts medium coarse marble dust
 - 1 part old lime putty, slaked for six years
 - 1/2 part portland cement
 - shredded goat hair
 - rough finished and scratched
- (2) Brown coat:
- 2 parts marble dust
 - 1 part lime putty
 - 1/8 part cement
- (3) Equalizing coat (finished with wood float):
- 2 parts marble dust
 - 1 part lime

Each of the six frames when completed will weigh about five hundred pounds, making the weight of the entire fresco approximately a ton and a half.

At the beginning of each day of painting, the final layer of plaster--the intonaco (2 parts fine river sand to about 1 1/2 parts lime putty)--will be applied to the area which Mr. Orozco will paint that day.... At the end of the day the plaster will be cut on the bounding line of the day's work. The following day, fresh mortar will be joined to the previous day's work. Thus piece by piece the fresco will be brought to completion. Mr. Orozco estimates that it will take about four weeks to complete the entire fresco.

Mr. Orozco makes no completed cartoon before painting. He enlarges his small-scale designs by a system of coordinated points applied by means of red lines to the equalizing coat. This leaves him free to improvise on the final layer of plaster.

Mr. Orozco paints with the following colors:

Vine black
Venetian red
Indian red
Light red
Yellow ochre
Ochre brune mate
Cobalt blue
Marie Collart green (light and deep)
Lime white
Cadmium red light
Burnt sienna (deep)

Louis Rubinstein, technical assistant to Mr. Orozco, has supervised the preparation of the panels.

Some Notes on Fresco Painting:

The colors used in "true fresco" palette must be thoroughly permanent and lime proof. Earth colors, iron oxides and a few synthetic colors such as vert emeraude are used. These dry pigments are ground in water and brushed on the surface without any binding medium. Toward the close of each painting day the surface begins to carbonize and, in time, the pigments are sealed permanently in a crystalline film. The colors actually penetrate the wall, producing the deep sombre tones characteristic of fresco painting.

The enemies of fresco are humidity, salt and industrial gases. Fresco painting is an old art. Examples have been found in Egypt, ancient Greece and Pompeii. It flourished in Italy during the Renaissance period and was revived by 19th and 20th century artists and particularly by the modern Mexican school.