

THE PREHISTORIC HAND PICTURES AT GARGAS: ATTEMPTS AT SIMULATION

by

MARTIN WILDGOOSE, EVAN HADINGHAM, and ALEX HOOPER*

ABSTRACT

A number of experimental methods of reconstructing prehistoric hand images like those in the cave of Gargas, France, are described and assessed. The results of experiments using these methods are evaluated from the point of view of the bearing they have on our knowledge about the creation of the original pictures in the cave.

There are some 230 known images of human hands painted on the walls of the cave of Gargas, near Aventignan, Hautes-Pyrénées, France.¹ These are difficult to date, but may be as much as 30,000 years old. Many of these hand pictures show some deficiency of finger joints, for which Janssens² and Sahly³ have put forward possible medical and non-medical explanations, without coming to any definite conclusions.^{4,5}

One of us [M.W.] has completed a series of tests attempting to recreate negative hand images in the style of those at Gargas, on a variety of materials including limestone and paper. The aim of the tests was to learn more about the methods the Gargas painters may have used to achieve their results and about some of the problems they may have encountered. The tests might also suggest clues as to whether or not actual deficient human hands were used as templates for the paintings.

Many of the paintings of hands in the cave show clear evidence of being applied by some paint-spraying technique. Thus, the following three spraying methods were used to apply two mixes of red ochre (i.e., haematite), one with water, the other with milk. The ochre had been obtained, via a concrete products firm, from a natural source in central Derbyshire, England. (1) With paint held in the mouth and then blown on to the background through tightly pressed and vibrating lips. (2) With a plastic straw or reed 200 mm long by 4 mm diameter, which had been cut two-thirds through the circumference approximately 40 mm from one end. When bent to a right-angle, the

*Alex Hooper, History Department, Archaeology Section, Ahmadu Bello University, Samaru-Zaria, Nigeria.

¹ Claude Barrière, *L'art pariétal de la grotte de Gargas*, Parts I and II, Oxford, British Archaeological Reports, 1976.

² Paul A. Janssens, 'Medical views on prehistoric representations of human hands', *Med. Hist.*, 1957, 1: 318–322.

³ Ali Sahly, *Le problème des mains mutilées dans l'art préhistorique*, Thèse de Doctorat des Lettres (Toulouse), Tunis, 1969.

⁴ Evan Hadingham, *Secrets of the Ice Age. The world of the cave artists*, New York, Walker, 1979.

⁵ Alex Hooper, 'Further information on the prehistoric representations of human hands in the cave of Gargas', *Med. Hist.*, 1980, 24: 214–216.

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short end was held in the paint solution while the operator blew into the long end of the reed. A spray of paint was thus emitted through the split in the reed. (3) With a commercial spray normally used for “misting” plants.

Each of these spraying methods was used with the following templates. (a) The operator’s hand held against a wall or other support, sometimes with fingers bent to simulate missing joints. (b) Positive images of hands, made by spreading wet clay on the palm and then applying the palm to the wall. Any gaps in the positive images thus produced on the wall were filled in with more clay. The various spraying methods were then carried out. When dry, the clay readily flaked off the wall leaving a negative hand print. (c) Templates of hands, some with finger joints missing, cut from thin card to simulate birch bark, held against a wall or other support.

RESULTS

The straw or reed spray gave the best pictures (i.e., those most similar to the Gargas pictures), followed by the commercial spray. The mouth spray produced acceptable images, but was difficult to operate sensitively and could only be used with a very limited number of positions of the head. The best results with this method were obtained when the mouth was close to the template, which should be placed against a vertical or nearly vertical surface.

Of the templates, the artificial cut-outs worked well and were the most versatile, giving many varied images of deformity or mutilation, and being capable of any required orientation or position on the supporting background. Template (a), the operator’s hand with or without fingers bent, worked well but was not so versatile as the cut-out templates, because it proved difficult to place the fingers correctly for single phalange stumps as in some of the Gargas pictures. Also, method (a) was not so versatile at positioning on the wall and in difficult nooks and crannies as the cut-out template method. Method (b), with the clay templates, gave hard outline images which did not resemble the Gargas hands.

There proved to be no noticeable difference between milk and water in the mixing and application of the ochre paint, although milk gave a more bearable taste to the operator using the mouth spray method. It was noted, however, that the water-based paint had faded considerably after only two years’ exposure to the English climate, while the milk-based paint had retained much of its original colour.

CONCLUSIONS

1. Mutilated or deformed hands are not absolutely required to make prints similar to the Gargas “mutilated” hands, in that template method (a), the operator’s hand with fingers bent, and especially template method (c), the artificial cut-outs, can produce acceptable simulations.
2. Pictures of hands with single phalange stumps, as in some cases at Gargas, can only have been produced by template method (c), the artificial cut-outs – that is, if the templates used at Gargas were not actually mutilated or deformed human hands.
3. Some hand prints at Gargas are in physically difficult positions on the cave walls and could have been made more conveniently with artificial templates than with human hands.

4. It is unlikely that spray method (1), the mouth spray, would have been used on any surface not vertical or nearly so.

5. The main point in favour of template method (b), the clay hand prints, is that extensive traces of scraping of fingers through wet (but not hardened) clay are evident at Gargas. However, this method did not give satisfactory copies of the original hand prints.

6. There remains the possibility that human hands – not necessarily those of the person applying the paint – that were actually deficient in finger joints were used as templates by the artists of Gargas. The fact that some hand impressions preserved in the now hardened mud within the cave show stumps instead of fingers adds weight to this possibility.⁶

⁶ Barrière, *op. cit.*, note 1 above, p. 81.