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## *A Short Note on the Technique of the Sigiriya Pictures*

**A**RE the world-famous Sigiriya pictures true fresco or mere tempera paintings ?

Most authorities incline to the opinion that they are tempera in technique. The reasoning seems to be this wise : The Sigiriya pictures bear a close affinity to those at Ajanta. On detailed examination the Ajanta pictures have proved to be tempera paintings. Therefore the Sigiriya figures are tempera !

I might briefly deal with the technical differences between the two processes of mural painting.

## TECHNIQUE OF THE SIGIRIYA PICTURES

True fresco is a method of painting upon wet plaster with colours mixed with water. These soak into the plaster becoming permanently incorporated with it as it dries.<sup>1</sup> Only pigments which do not suffer from lime can be used, and only so much plaster surface as remains wet can be dealt with by the artist. In this rapid process those parts of the plastered portion that remain untouched by the painter have to be cut away at the end of the day. When the artist continues the work the surface is replastered and worked on while it is yet damp.

Tempera technique, on the other hand, is more leisurely. The whole wall or rock surface may be completely plastered and allowed to dry. A portion is dampened overnight and wetted once again the following morning. On this wet surface the painter works with the self-same colours used in real fresco.<sup>2</sup>

The difference between the two processes is that in the fresco the colours get incorporated with the plaster and become one with the surface itself while in the tempera the colours are layers on top of the plaster.

Havell, Herringham, Percy Brown and other well-known authorities are of opinion that the Ajanta pictures are mural paintings in tempera. Many reasons tend to support this view. The opacity of colours, a feature of tempera painting, is very much in evidence at Ajanta. The impermanence of colours, the peeling off of the pigment in certain spots and the thinness of the plaster (as thin as an egg shell in some places) further prove this contention. To hold the moisture in sufficient quantity for the purpose of applying the colours the plaster has to be at least a quarter of an inch thick for fresco painting. In a tropical climate it might be even more. In cave No. 9 at Ajanta the plaster ground is only  $\frac{1}{8}$  of an inch in thickness and the colours have been applied directly on the rock and polished like porcelain. In the Jogimara caves the surface does not appear to have been prepared at all, the painting being done on the roughly-chiselled rock.

In regard to the process of actual painting, analysis has proved that the artists at Ajanta and Bagh first sketched the outline with Indian red and brush after which they gradually modelled the figure. Then came the colours and once more, on top of all, another outline. The highest lights, the deepest shadows and the most delicate touches of colour were then applied, and finally such details as eyebrows, hair, etc.<sup>3</sup>

This certainly does not indicate the technique of fresco painting which is like lightning in the rapidity of execution, leaving no room for later touches.

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1. Technological Dictionary.

2. Percy Brown. *Indian Painting* p. 114

3. Mukul Dey : *My Pilgrimage to Ajanta and Bagh* p. 237

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Another observation in regard to the Ajanta pictures is that no joining-up lines of the plaster are visible. If the process were fresco these lines would have been inevitable, however expert the plasterers might have been. They are visible in the frescoed walls in Europe.

Even if the Ajanta artists did know the technique of the true fresco and its excellence over the tempera, I believe they were the victims of circumstances and could not have employed it. It has to be noted that the Ajanta paintings are for the most part in dimly-lit halls—so dark in fact that we are left to wonder by what light the artists did their work. It has been suggested by Syed Ahmed, the Curator of the Caves, that some system of reflectors of white cloth must have been used to throw a flood of light on the walls. However strong this reflected light might have been it is too much to suppose that it would have been sufficient for the artists to finish a piece of the wall before the plaster lost its dampness. We have also to bear in mind that the Ajanta compositions are intricate and often overcrowded with numerous figures. A number of artists could not have attempted to work at the same time on the same work, for then they would have hindered the light. One or two at a time could not have tackled these complicated compositions in the light available before the plaster got dry.

If these two factors of adequate light and complexity in composition were against the Ajanta artists for true fresco work they were all in favour of the Sigiriya artists. It is not difficult to imagine the Sigiriya Artist finishing his simple picture of one or two figures at a time on a wet surface in the strong light available in the open rock pocket.

An analysis of the plaster at Sigiriya has revealed a groundwork of tempered earth and kaolin, of a reddish brown hue and half an inch in thickness, coated with at least two layers of white chunam, one fourth to half an inch thick. The clay base, strengthened by the admixture of paddy husk, and perhaps shreds of coconut fibre, was first put on by hand, the chunam coating being smoothed over with a trowel.<sup>4</sup>

So that we see that the thickness of the plaster and its preparation are enough to retain the moisture and to admit of true fresco technique.

Havell is quoted as having observed in 1905 that : "There is no known process of tempera or oil painting which would stand to exposure of tropical weather for nearly fifteen hundred years as the Sigiriya paintings have done."<sup>5</sup>

Which would be more reasonable to suppose : that the Sigiriya artists used an unknown process of tempera technique or that they followed the known process of true fresco and thus made the pictures capable of withstanding the ravages of time and weather ?

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4. Bell : R. A. S. Journal Vol.XV No. 48, 1897

5. Sessional Paper 1909.

## TECHNIQUE OF THE SIGIRIYA PICTURES

What puzzled Bell in 1897 was the entire omission of blue in the Sigiriya pictures whereas this colour entered freely into the sister paintings at Ajanta. Bell commented that this omission was "difficult to account for."<sup>6</sup>

This would be no doubt more than difficult to account for if we take for granted that the technique employed was tempera. But, on the other hand, if we allow the possibility of their being fresco this absence not only of blue but green and other colours is easily explained.

A characteristic of the true fresco is a limitation in the choice of colours. This is due to the fact that the pigments have to be capable of resisting the decomposing action of the lime on the plaster when applied on while wet. As a result, these limited colours are obtained from natural earths. This explains the extreme moderation in the use of greens and blues as seen at Sigiriya for these colours have to be obtained from sources other than natural earths.

While at Ajanta the artists have a wide range in colours, at Sigiriya their choice is among three pigments—red, yellow and brown. The splash of green seen in the Sigiriya pictures has been proved to be a later addition. "A patch of the upper layer of chunam scaled off the *green* waistcloth of figure 12 in pocket B reveals an undercoating of *crimson*," writes Bell. This may signify, comments Bell (with a delightful unantiquarian levity), nothing more than that a contemporary artist was given a free hand to bring the ladies' dresses up to the latest Court fashion.

This overcoating is perhaps an attempt to get round the natural paucity of earth colours and done in the tempera after the plaster had dried.

Except for such touches of greens and blues there are no other examples of overcoatings at Sigiriya whereas at Ajanta in certain places whole scenes have been over-painted.<sup>7</sup> Owing to the opaqueness of the paint in tempera this is quite possible for the original scene would not be seen through the new coating.

True to the genuine fresco technique the colours of the Sigiriya paintings are so thin that the altered hand in figure No. 8 of pocket B is yet visible in spite of the frantic efforts of the artist to hide it. The artist changed his mind but before he had time to erase the original hand the plaster dried.

Not being incorporated in the plaster itself the pigment in tempera might begin to peel off though no such calamity might befall the plaster. That this happens at Ajanta is well known. But what is remarkable is that

6. R. A. S. Journal Vol. XV No. 48, 1897

7. Khandawala: *Indian Sculpture and Painting* p. 53

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at Sigiriya the plaster comes off now and then but the pigment does not peel off, except where the greens and the blues occur.<sup>8</sup>

However close in style the Sigiriya pictures are to those at Ajanta there is reason to doubt their affinity in technique.

The Indian pictures are tempera. The Ceylon ones are real fresco.

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8. It would be interesting to know whether, when the recent bulge in the plaster occurred, the pigment did peel off.

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