

Paintings  
on canvas.

would offer advantages. Of the material I have designated as linen it must suffice to state that it presents the appearance of canvas of various degrees of fineness closely woven, being described by Mr. Andrews as 'resembling artist's unprimed canvas of modern times'. The few specimens of this canvas-like material examined by microscopical analysis have proved to be of flax fibres, but this does not altogether exclude the possibility of this material in other cases being cotton, the use of which at Tun-huang is provable since Han times. Among the papers used for pictures the naked eye and the touch easily distinguish a number of varieties differing in texture, colour, and apparently sizing. But no microscopical analysis has as yet been possible. When this is made in accordance with the methods first successfully applied by Professor J. von Wiesner, and extended also to the well-defined types of paper represented among the many dated Chinese manuscripts from the 'Thousand Buddhas', some help may yet be gained for the chronology of the paper paintings.

Paper of  
paintings.

Technique  
of paintings.

A variety of circumstances, among them in the first place the death of that honoured old collaborator Professor Sir Arthur Church, has also prevented so far a proper chemical analysis being made of the sizing used for the silk or canvas and of the colours employed. But as Mr. Binyon has already pointed out,<sup>26</sup> the technique is undoubtedly Chinese. With a single exception the paintings are all in water-colours. We find only one picture executed in tempera on a waxy ground over canvas, the fine painting of the goddess Tārā, Ch. lii. 001,<sup>27</sup> and that is unmistakably Tibetan in style and origin, thus confirming what has just been stated as the rule. In the absence of such detailed results as analytical examination and the systematic study of the paintings would yield, I am glad to be able to reproduce here a note on their technical execution with which Mr. Andrews has kindly furnished me at a time when both my artist collaborator and myself are separated by thousands of miles from the originals.

Mr. Andrews  
on technical  
execution  
of paintings.

'The method employed on all paintings is a thin tempera, the vehicle for the pigment being water with a medium added as a binder. Transparent colour is sparingly used as a glaze over the body colour, chiefly in the case of purple and crimson. The fabric appears to have been first prepared by impregnation with some kind of size or alum that the colour might flow evenly and to prevent the thinner colours spreading unduly.'<sup>28</sup>

'After sizing, the design was transferred to the material, either by pouncing through the pricked cartoon,<sup>29</sup> or, in the case of light coloured silk gauze, by merely tracing over the drawing placed beneath.<sup>30</sup> The outlines were then fixed by pencilling in with a small brush and grey pigment, resembling thin Chinese ink in the case of light coloured materials and light body colour when a dark material formed the ground. These were the guiding lines for the application of the masses of body colour, which were next laid in very thinly.

'The pigments were ground to extreme fineness and have therefore great covering power. The white which forms the body of nearly all the colours is of extraordinary efficiency, and in places where it is used in its purity, for example in the white touches of Ch. liii. 002, Pl. LVI, its fine quality is evident. Until it has been subjected to analytical examination the material employed for this white cannot be determined. But its exquisite purity and absence of discoloration after so great a lapse of time make it probable that there is no lead basis, and suggest the use of some fine white stone such as the stalactitic formations still in use for a similar purpose in the East.'<sup>31</sup>

'The masses of colour having been evenly laid, slight shadings and tints were added with much skill and deftness. The pink glow on cheeks, finger-tips, and toes, the accentuation of muscular development, the gradations of lotus petals, etc., show the utmost delicacy of handling, more particularly in the fine paintings on silk. Finally the outlines, usually in black, were

<sup>26</sup> Cf. *Exhibition of Stein Collection*, p. 8.

For a brief résumé of the characteristic features of Chinese technique in painting, cf. Petrucci, *Les peintres chinois*, pp. 7 sqq.

<sup>27</sup> For a successful reproduction of this interesting picture, see *Thousand Buddhas*, Pl. XXXI; cf. also below, p. 865.

<sup>28</sup> The method of preparation here assumed is manifestly the same which M. Petrucci describes as having been used in China for paintings on silk from the eighth century onwards;

cf. *Les peintres chinois*, p. 7.

<sup>29</sup> For a specimen of such a pounce, see Ch. 00159, Pl. XCIV.

<sup>30</sup> It is this tracing which accounts for such exact replicas as found, e.g., in Ch. i. 002; xxiv. 001, 002; xlvi. 001; see also Ch. iii. 002, xl. 007, and below, p. 863, note 13.

<sup>31</sup> According to M. Petrucci, *Les peintres chinois*, p. 8, Chinese painters under the T'ang obtained their white by the calcination of oyster shells.