

Analysing textiles found in Francis Bacon's studio to aid authentication of his artworks

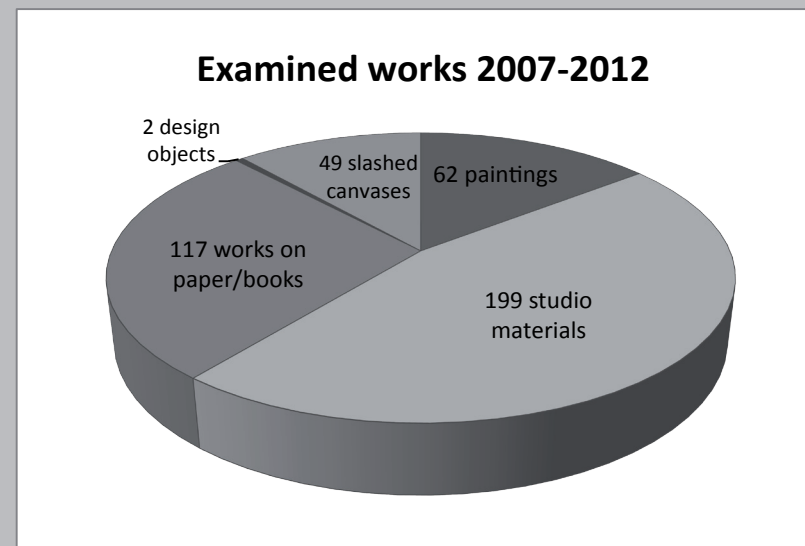
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In an on-going art technological research project, Bacon's artworks and documents as well as materials attributed to the artist are being investigated.

The aim is to elucidate Bacon's working process and to help with authentication and conservation.

Visual examination, Cross-sections, PLM, FTIR, (Py)GCMS, SEM-EDX



Project Phase I: 2007-2010
Study of Materials and Techniques of Francis Bacon [Russell 2010]
Project Phase II: 2010-2013
Completion of Database and Using it for complex art historical investigations

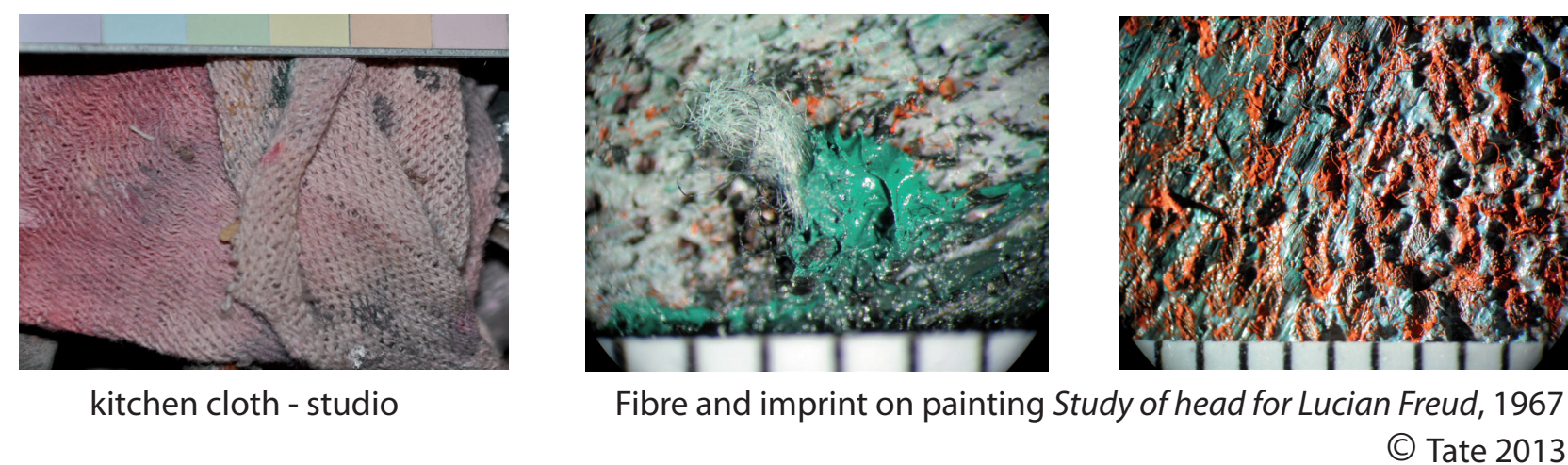
Francis Bacon Project - Approach - Further Study

The **MATERIALS** found in Bacon's studio document his working process and give further insights for interpretation of his work (sketches, written notes, cloths).

The examined **PAINTINGS** show marks of working tools such as various fabrics which highlight Bacon's delicate surface shaping process. Whether this is useful for dating is presently being investigated.

Detailed information about paint formulation and observations such as surface pattern or the delution of paint, collected in a searchable **DATABASE**, enhance our understanding of the buildup of Bacon's artworks and allow complex comparisons.

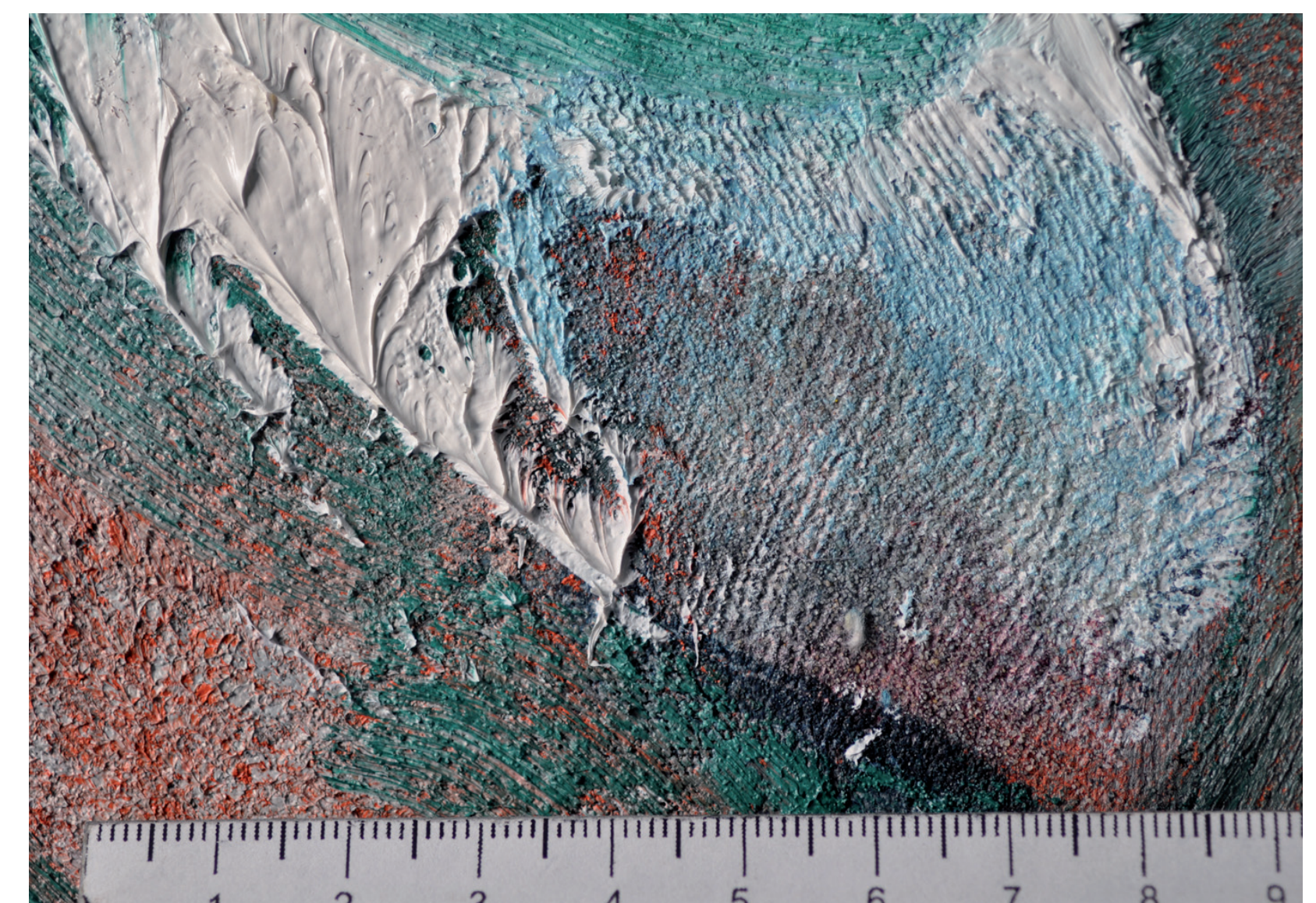
Cloths - Fibres - Pattern



Francis Bacon used various textiles to apply and modulate paint on his canvas paintings. Pattern and fibres of textiles found in his studio and on paintings were compared to investigate if these could help with dating and authentication.

From six types of textile patterns (A-F) which were found in the studio (including the pattern of two paint rolls which could also have left fibres on the paintings), three types (A-C) were found as imprints on paintings. The most common pattern types on paintings are A and B. The pattern of the rolls could not be found as imprint but their use is suggested in some backgrounds which show small, evenly spread peaks.

Eight different fibre types (I-VIII) have been analysed using PLM and FTIR. The most common one on paintings is cotton followed by animal hair. The initial results show many similarities (e.g. morphology, Vis spectra) and give evidence that Bacon used the fabrics which can be found in the studio for the painting process.



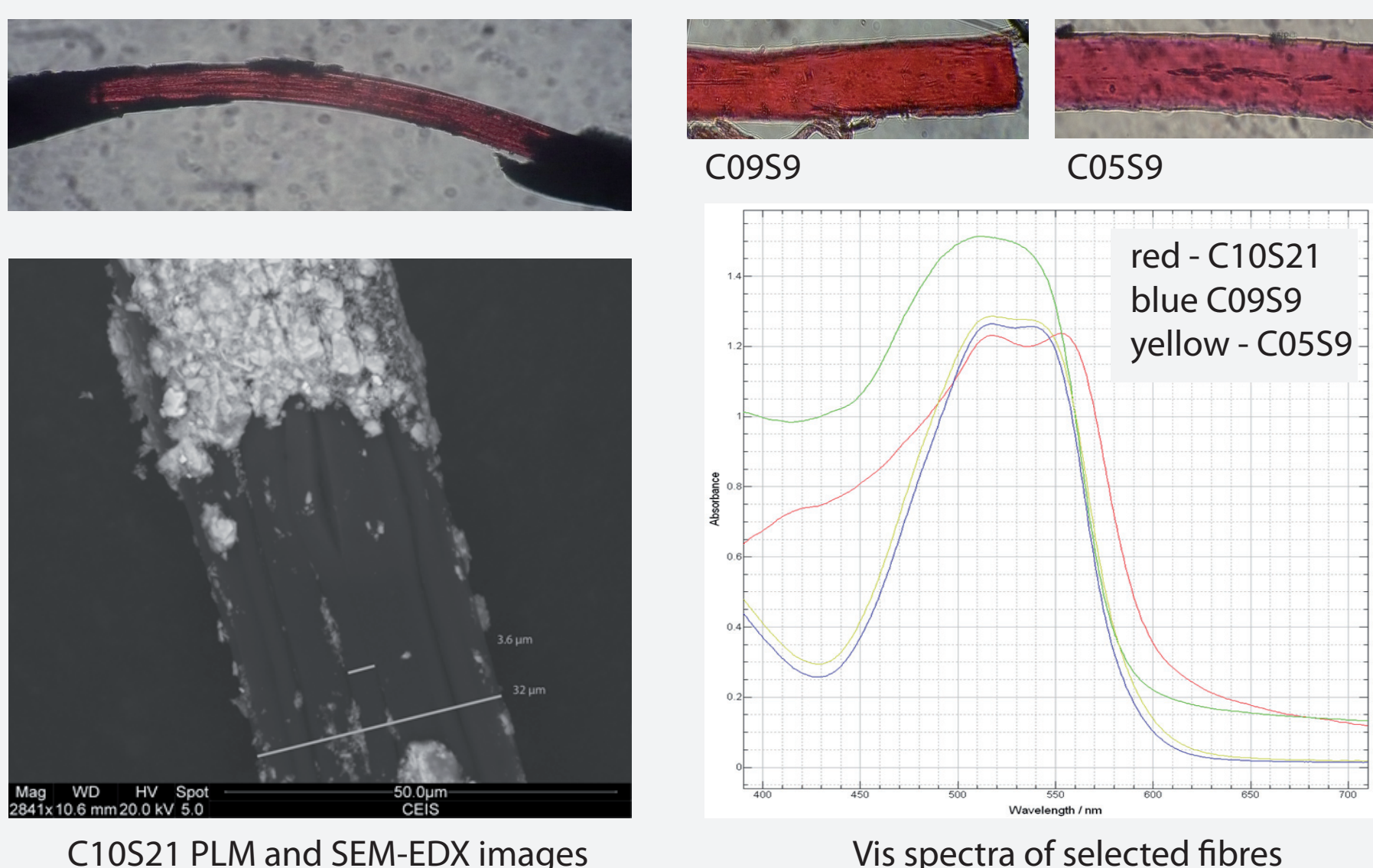
Detail of Study of head for Lucian Freud, 1967 © Tate 2013

Type	Pattern
A	Single knit jersey fabric Yarn diameter: 0.4 mm one element/ loop 2 x 2 mm
B	Corduroy (various widths)
C	Two-by-two rip knit
D	Pick terry/terry towelling (also known as 'Turkish towelling')
E	Felt, upturned fibres
F	foam material (air bubbles)

Type	Fibre
I	Cotton
II	Wool, animal hair (c- cashmere/ goat, s- sheep)
III	Modacrylic
IV	Polyester
V	Polyamid (Nylon)
VI	Polyurethane
VII	Viscose
VIII	Other synth. fibres

Red fibres have been found on various paintings and compared. Examples from paintings:

C05 - Study of head for Lucian Freud, 1967
C09 - Three Studies of the Male Back, 1970
C10 - In Memory of George Dyer, 1971



C10S21 PLM and SEM-EDX images

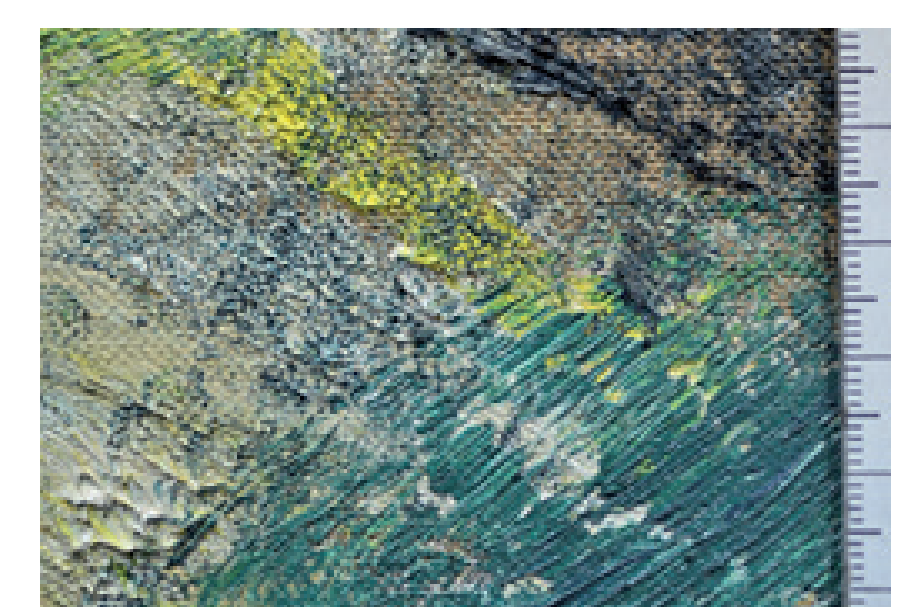
Vis spectra of selected fibres

Bacon refined his technique over his working life and this evolution can be reconstructed by comparing the different patterns found on his paintings:

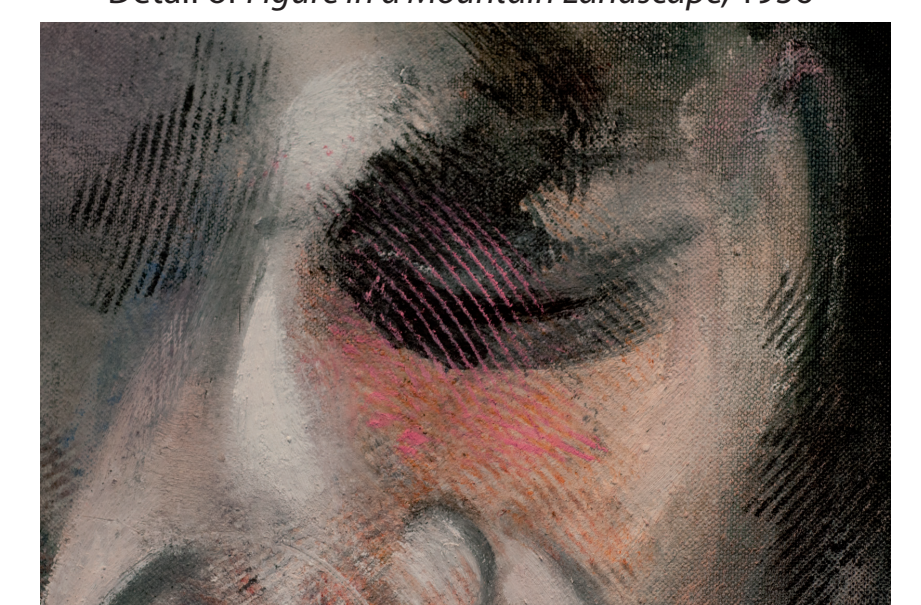
Figure in a Mountain Landscape, 1956 is the earliest painting we have analysed which shows this technique though with this work its use is probably accidental.

In contrast to the early subtle application in the 1950s (only type A pattern), the works in the 1960s show obvious and well-placed patterns. Here, the artist seems to have planned his use of this technique and executes it confidently.

In the 1960s, he also begins to use corduroy fabric (pattern type B) which shows a distinct pattern of parallel lines whereby thin and thick corduroy lines can be distinguished.



Detail of Figure in a Mountain Landscape, 1956



Detail of Two Portraits for Self-Portrait, 1977



Patterns and fibres found on the fabrics in the studio and on the paintings are comparable. Dating of Bacon's works seems possible to a limited extent by analysis of the evidence of his pattern application. This will have obvious benefits to art historians researching this artist.

Left: Textiles found in Bacon's studio