James D. Weinrich of Boston University School of Medicine says the new work fits in with a theory he and colleague Richard C. Pillard have developed on the origin of sexual orientation. Presented most recently at a meeting in Boston in June, their theory holds that homosexual men have brains that are masculinized but not "defeminized."

The theory is a behavioral parallel to what happens during physical development. Human fetuses are known to be bipotential at an early stage — they have precursors for both male and female genitalia. Two substances "create" males. One stimulates the development of male genitalia and the other inhibits development of female genitalia. If either substance is missing, ambiguous genitalia result. (If both substances are absent, the fetus develops into a female.)

That bipotentiality may also exist in the brain, and in homosexuals "both sets of circuits may be operating," says Weinrich.

"The finding by the Stony Brook researchers that one little part of the brain [the part that responded to estrogen] doesn't defeminize suggests that there might be other parts of the brain that don't defeminize," he says. —*J. Silberner*

Artistic chemistry: East meets West

Painted Chinese silks were all the rage in 18th century Europe until textile merchants in France and England sensed a threat to their own income and clamped down on imports with prohibitive trade laws. The results were a rerouting of the fabrics to eager colonists in America and elsewhere, and a rush among Europeans to copy the Chinese styles. Some smuggling continued, and by the end of the century, the dresses, drapes and tapestries adorning European parlors were a bewildering mix from East and West.

When faced with a piece from that period, modern textile curators often use physical traits such as the width of the fabric (Western silks are usually narrower) or its sheen and "feel" (the Chinese method of finishing silks left them soft and clinging) to trace the textile's origin. But such methods lose their value when a broad swath of cloth has been trimmed to upholster a chair, or when a worn, fragile silk has lost most of its sheen.

To help unravel the tangled histories, Leanna Lee-Whitman of CIGNA Corp. in Philadelphia and Maruta Skelton of the Winterthur (Delaware) Museum have mixed scientific and artistic sleuthing techniques. Their systematic method combines visual characteristics, such as brush stroke and paint thickness, with a chemical analysis of the pigments used, thereby elevating subjective observations to "a connoisseurship reinforced with scientific data," the researchers report in the current issue of TEXTILE MUSEUM JOURNAL (Vol. 22, 1984).

The study began when Whitman brought back a scrap of painted silk from a vacation in England and ran the piece through the Winterthur Museum's X-ray fluorescence analyzer, an instrument that detects inorganic elements by bombarding the spot to be analyzed with radiation from radioactive isotopes. The object responds by emitting radiation characteristic of the atoms from which it is made. To the scientists' surprise, Whitman's swatch contained traces of silver.

A careful check of other pieces of the same genre from museums around the world showed that the Chinese often outlined flowers and leaves with silver, a practice not followed by Western artists. Some Chinese browns were also distinctive, based on iron oxide, while Western browns were more often organic pigments.

Artisans of both continents used greens containing copper, but many Western greens showed brown discoloration — a clue, the scientists say, that a common European green not used in China contained an easily oxidized copper acetate. The Chinese favored greens from malachite.

In addition, the Chinese customarily used a ground layer of lead-based white paint beneath most colors, to lend depth and texture to a petal or leaf, while Western artisans relied on the white fabric itself for white coloration.

X-ray fluorescence is often used to study glass and metallic artwork. Its nondestructive nature, high sensitivity and speed (an analysis takes six minutes) make it an ideal tool, Skelton says, for the study of worn and fragile silks.

—*D. Franklin*

Acc. #1923-31-8, Cooper-Hewitt Mus., N.Y.

Acc. #29015, Musee des Tissus, Lyon

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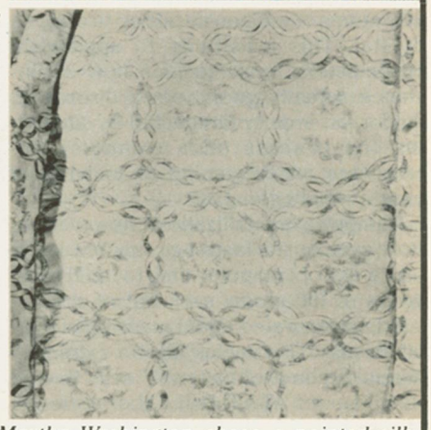

Martha Washington chose a painted silk inaugural gown (lower left, with detail lower right) made with fabric that was probably Chinese. Brown paints used in Western silks (upper right) were usually organic pigments, while browns in Chinese silks (upper left) contained iron oxides.