ARTS & LETTERS

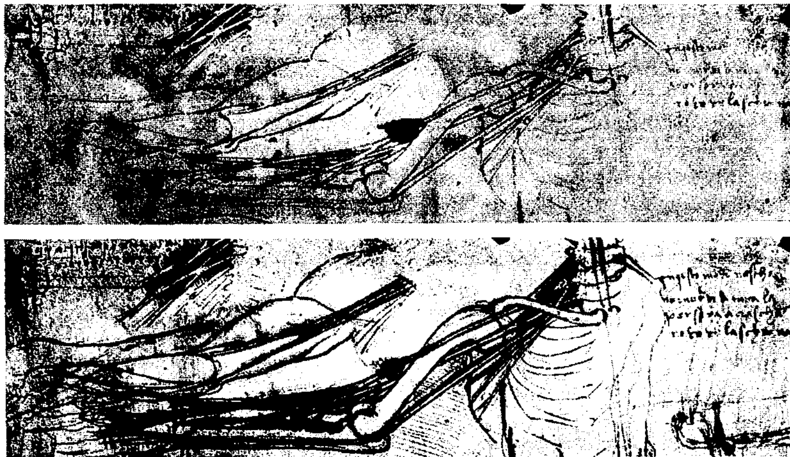
New Light on Leonardo

"Drawings by Leonardo da Vinci at Windsor Newly Revealed by Ultra-Violet Light" by Jane Roberts and Carlo Pedretti, in *The Burlington Magazine* (June 1977), Elm House, 10–16 Elm St., London WC1, England.

Of the drawings by Leonardo da Vinci in the vast Royal Collection at Windsor Castle, several have so deteriorated that they are no longer visible to the naked eye. Drawn with (presumably) a metal stylus on chalky paper, the sketches, which date from the 1480s, appear to have faded as early as 1517: Dürer's Dresden sketchbook of that date, into which the artist copied two of the Leonardo works in question, shows little more than what can be seen today. But with the aid of ultraviolet photography, report Roberts and Pedretti, portions of the Windsor drawings were recently brought to light.

The newly revealed sketches include dozens of anatomical drawings of skulls, spines, arms, and legs; architectural designs for towers and churches; experimental studies for major oil paintings; an assortment of doodles and puns; and even plans for a device to mix mortar—possibly invented during the rebuilding of the walls at Pavia in 1487. In addition, the ultraviolet photographs have further clarified Leonardo's studies for the Uffizi *Adoration of the Magi,* first discerned by A. E. Popham through ultraviolet study in 1952.

In an analysis accompanying publication of the 18 "restored" Windsor drawings, the authors explain that, while ultraviolet light



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A drawing by Leonardo as it appears to the naked eye (above) and under ultraviolet light (below). The newly deciphered writing in the upper right-hand corner translates as: "In this manner originate the nerves of the whole person at each projection of the spine."

is often used to examine manuscripts and works of art, results for many of the Leonardo drawings had so far been spotty. (Ultraviolet light excites the surface of paper, producing fluorescence; but dark lines—even invisible traces of lines—will not fluoresce, thus allowing faded markings to reappear.) The authors speculate that since earlier experiments involved chalk landscape drawings on paper coated with calcium, ultraviolet light could not distinguish the lines from the paper.

The drawings in the Roberts-Pedretti study, however, appear to have been made with a metallic instrument—probably an alloy of copper and lead—whose tracings inhibit fluorescence even though they are no longer visible to an unaided eye. Unfortunately, a precise chemical determination cannot be carried out without destroying a part, however minute, of the original drawing.

Settling Scores

"A Reappraisal of Schubert's Methods of Composition" by L. Michael Griffel, in *Musical Quarterly* (Apr. 1977), 866 Third Ave., New York, N.Y. 10022.

Many musicologists have claimed that composer Franz Schubert (1797–1828) wrote his music rapidly, intuitively, almost impulsively, without the laborious reworking that marks the finished scores of Beethoven and other contemporaries. But in this careful analysis of Schubert's autograph scores, Griffel, professor of music at Hunter College, argues that the composer's creative process was in fact arduous and methodical.

Schubert followed his working procedure rigorously. First, the piano score was sketched, then the melody-carrying voices on the orchestral score, followed by the other parts. One shade of ink was used for the melodies, another for other voices, revisions, and corrections. Some drafts would become illegible because of the number of errors; they would therefore be recopied, yielding the clean pages that have misled specialists for so long. (In other words, observes Griffel, the faultless pages in a Schubert autograph score are the very pages that gave him the most trouble.) Once a manuscript was completed, dated, and signed, the composer would destroy all his preliminary sketches—unlike Beethoven, who left behind a record of trial and error.

Thus, the "Great" Symphony, says Griffel, was written and revised over a three-year period (1825–28), and its pencil corrections and different colored inks and paper reveal clearly the various stages of the work. Griffel also throws light on the mysterious "Unfinished" Symphony—the "cleanest" of Schubert's works—which boasts a signed and dated title page *(den 30. Octob 1822. Wien)* despite the fact that it was incomplete. Griffel speculates that the composer made a gift of it to the Styrian Music Society in Graz (which had elected him an honorary member) because he was too ill, and later too lazy, to compose something new.