John Brealey and the Cleaning of Paintings

“The way the picture looks is the picture.” John Brealey

DIANNE DWYER MODESTINI
Paintings Conservator, The Samuel H. Kress Program in Paintings Conservation, Conservation Center of the Institute of Fine Arts, New York University, New York

PART 1

Of all the interventions that works of art may undergo, the cleaning of paintings is the most contentious. And for good reason. A painting is irreversibly altered by cleaning, although some methods are gentler than others. When I was in graduate school in the early 1970s, I was taught to clean paintings according to a procedure which in its general principles had been developed at Harvard University’s Department of Technical Research at the Fogg Museum. The department was founded in 1928 under the direction of the esteemed Edward Forbes, and George Stout was its first conservator.1 The painting, whether small or large, panel or canvas, was laid on a table. Next to it were four preprepared solvents containing, in varying proportions, petroleum spirits, acetone, methyl alcohol, and diacetone alcohol; the two latter components are and were regarded as aggressive and penetrating. The conservator began in a corner of the work and, using cotton swabs dampened with the various mixtures, worked on small squares to determine which solvent removed the varnish most effectively. This surface coating was then removed, square by square; a square was regarded as clean when no dirt or oxidized resin appeared on the cotton swab.2 If color did appear, it was judged to be from a previous restoration, even if the distinction was difficult to detect under ultraviolet light or microscope. When possible, cleaning was done under magnification, with the use of a binocular stereo microscope. This method, combined with periodic examination of the surface with ultraviolet light to detect any telltale fluorescence, ensured that all traces of discolored varnish were removed from the surface.

Earlier restorers, who were usually also painters, were thought to have been able to mimic the original with uncanny skill using oil paint and natural resin. Attempting to restore form, they might glaze over original areas that had been damaged. The scientific approach promulgated by the Fogg in the 1930s and 1940s regarded this as dishonest. A conservator, a title considered as more accurate and professional than that of restorer, was guided by a code that confined retouching to areas of discrete losses. The term “inpainting” was coined to distinguish the work of conservators from that of restorers. At the Fogg, experiments had been made with techniques, such as hatching, that were immediately identifiable as additions to the original.

The painting was not considered as a work of art; an overall consideration was neglected in favor of a microscopic view. The reasoning was simple. Below the layer of varnish, the paint is composed of pigments and linseed oil, a translucent leathery compound produced over time by the polymerization of linseed oil, the most common of the drying oils employed as a painting medium. It was thought that linseed oil was “insoluble in such ordinary solvents as alcohol, turpentine, benzene, and kerosene, and [since] both Damar and Mastic [resins present in varnish] are soluble in these solvents, one can with care remove all varnish without disturbing the paint or glaze.”3 This hypothesis was, however, proved false by Nathan Stolow in 1961, when he presented research on the effects of commonly used solvents on relatively young paint films made with lead white and several types of linseed oil. He reached a startling conclusion: part of the paint film was removed each time a painting was cleaned.4 Stolow’s work was widely published; its importance was universally acknowledged, and thus it is all the more surprising that his findings went unheeded.

My teacher, as well as many others in this field, was unconcerned about this effect of cleaning, suggesting that the paint was like a stone wall, the pigment particles being the stones and the medium the mortar. A solvent which penetrated into this “wall” might remove tiny particles of “mortar” (medium) from the matrix but certainly did not cause the wall to be in danger of collapse. This analogy implied that material
leached from the paint film was of no importance because, although the loss might be scientifically measurable, it was invisible under ordinary conditions. The only criterion for damage to the “stone wall” of the paint film was the appearance of pigment particles (“stones”) on the swab.

During varnish removal the painting sometimes becomes “blanched,” looking as if it were covered by a light frost. This change indicates that a once-continuous layer is being eroded. The paint film is no longer translucent but opaque, and light diffracts from the surface at altered angles, causing a blanched appearance. This phenomenon could indicate that the linoxyn was being leached of its more easily soluble components as Stolow’s experiments predicted. Another explanation, that put forward by Helmut Ruhemann, chief restorer at London’s National Gallery from the 1940s through the 1960s, was that blanching was in fact “remnants of the old varnish . . . probably [left behind] by the fast evaporation of the solvent.” He held that residual resin deposits scattered the light unevenly and that the blanching could be removed by another pass, perhaps with a stronger solvent, to get down to the linseed oil and pigment layer which was considered impervious.

The general attitude was that a painting, like any other specimen, whether a bronze sword or circus banner, was nothing more than a cultural artifact. Those who did not agree with this approach were suspect. They were not conservators, professionals with an academic background trained in the correct scientific methods. Rather they were “restorers” (usually modified by “commercial”), a term that had a pejorative tone, and were not welcome in the American conservation establishment. Not every museum, however, accepted the scientific approach. There were whispers about Murray Pease, a Fogg graduate who had been removed from his position as paintings conservator at the Metropolitan Museum in 1957, because the chief curator believed that he had overcleaned El Greco’s masterpiece *The View of Toledo*, removing some of the final glazes. In 1959 Hubert von Sonnenberg came to work on the Metropolitan’s paintings collection. A young German art historian who had studied in Munich, he was one of the few pupils of Dr. Johannes Hell, a private restorer in London, known to be the most prudent of picture cleaners and an anti-Ruhemann. In 1962 Sonnenberg became the head of a separate department for paintings conservation located in a penthouse built for this purpose over the north wing of the Museum.

In 1974 von Sonnenberg left the Metropolitan to become head of the Doerner Institut in Munich. The following year John Brealey was appointed departmental chairman. He had a fine reputation in England where his clients included the Royal Collection, the National Trust, museums such as Edinburgh, Dulwich, the Fitzwilliam, and the Ashmolean, and important private collections. After years of work he had recently finished the complicated restoration of Mantegna’s *Triumphs of Caesar* in Hampton Court Palace to international acclaim. He too had studied with Dr. Hell.

Shortly after John finally arrived—it had taken him more than a year to close his practice in London—he
took the three members of the department to lunch and spoke brilliantly and bewitchingly for several hours about artists, collectors, and art historians and about the cleaning of paintings. When he later found me preparing to clean a painting flat on the table, he told me, not unkindly, that I was using the wrong approach. He put the painting on an easel in front of the north-light window and using a simple mixture of white spirit and acetone showed me how to remove the varnish with a large swab which he rolled on a chopstick from a Chinese restaurant. As he worked, he explained that varnish should be removed evenly: the restorer should work in overlapping circular movements like those used by a “French polisher” to obtain a even finish on a piece of fine furniture. He emphasized the importance of observing color relationships and formal values as they emerged. He did not persist in any one area and paid as much attention to the darks as to the lights. The swab moved continuously, sweeping smoothly over light and shade, never following a contour because this would make the areas of local color look like cutouts. He never broke through the discolored coating to make a “window,” a practice he condemned as an expression of the restorer’s vanity, done only to produce a dramatic photograph. Like most restorers, John could tell when the painting’s entire surface was evenly cleaned by the feel of the paint when the slippery varnish is gone. When this state was reached, he brushed on a temporary varnish. The painting as an image could then be evaluated and discussed.

Part of John’s pedagogic method was to involve as many people as possible in this discussion: everyone in the department, interested curators, and visitors who were constantly dropping in. How did the picture’s space work? Could you walk into the landscape? Did the distance recede convincingly? Did the sky rise up over your head? Did the transitions in the flesh tones work convincingly? Was the jug round? Was the table flat? Was the illusion of foreshortening believable?

John expressed his opinions and feelings in front of a work of art with an eloquence that allowed others to share his perceptions. It was this gift, in part, that made him a great teacher. Painting, he said, was a conjurer’s trick. This glorious thing called painting consisted merely of the skillful manipulation of “colored muds” to create beauty and provoke emotion in the viewer. The paint itself was just a humble material used by the artist to give expression to his genius. The restorer must therefore try to understand how the artist’s mind worked. This process was complicated by the alterations that many paintings had suffered not only from restorers’ interventions but also from the passage of time.

The transformation of drying oil into linseed takes place over a long period, decades rather than years. During this process the way the drying oil refracts light changes, and thus the relationship between the binder and the pigment, is altered. Dark pigments become significantly darker while the light passages, especially those painted with body color such as white lead, retain much of their original brilliance, becoming only slightly more yellow with drying. John compared this change in color relationships to the sounds made by a damaged piano which has a complete range of high and low notes but which has lost those in the middle. Even when a painting is in relatively good state, this tonal gap affects all the formal values. According to John, the restorer’s job was not to remove all traces of foreign material but to present a painting that reads convincingly despite the changes worked by time and interference.

While removing the varnish, John would often stand back to judge changes from a normal viewing distance. An important part of his approach was the constant application of a temporary varnish, especially during the cleaning of large canvases, so that the range of tones remained saturated. He rarely used the term “balanced cleaning,” but he often spoke of “holding back” in the lighter passages. Many people mistakenly thought this meant deliberately leaving yellow varnish, “selective cleaning” as it was later characterized by his critics. His actual habit was to refrain from persisting in the lighter and more colorful passages, a common temptation for a picture cleaner, and to pay attention to the darks, making sure they were not “bunged with stuff.”

After the initial cleaning and evaluation, the painting was taken to the photo studio and scrutinized under UV lamps. Residues of oxidized varnish fluoresced a characteristic light green, and these passages were circled with chalk. The painting was then taken back into the daylight, and the patchy varnish residues were often cleaned locally. In some cases John added isopropyl alcohol to the solvent mixture, which he thought helped to “redistribute” yellow varnish over passages that were already too light or aggressive. John deplored patchy cleaning because it interfered with the development of form and space, and he was scathingly critical of the common practice, which he called “vignetting,” that is, neglecting the corners.

For John varnish removal was dictated by the painting itself rather than by a rigid system. Impressionist paintings, for example, have characteristically high-key palettes, and their surfaces were repeatedly gone over with solvent to remove all traces of discolored varnish and dirt that would have interfered with the freshness of the color and therefore with the artist’s
intent. The brushwork of the impasto was carefully cleaned out by softening the accumulations of resin and teasing them off the surface with a blunt podiatrist's tool and tiny swabs. In general, for paintings of all schools, old retouchings were usually removed. This was sometimes done under the microscope. Finally there was the "tidying up": even after the surface appeared evenly cleaned under UV light, the restorer would go back and remove patches of grime or other residues that disturbed the progression of formal values.

As a student of Hell's, John had strong views about the controversy at the National Gallery in London, which was provoked by the cleaning of Velázquez's *Philip IV in Brown and Silver* in 1936 and was taken up again in 1946 with the return of the paintings that had been cleaned at various storage depots outside London during World War II. Many felt that the cleaning had been harsh and radical and that the pictures had been irreparably damaged. In 1947 the gallery mounted the didactic exhibition "Cleaned Pictures (1936–1947)" to justify its cleaning methods and to answer its critics. A well-known Hogarth etching, *Time Smoking the Picture*, was used as the cover illustration of the catalogue. In its writings Hogarth discussed alterations caused by time, a phenomenon that was perhaps Brealey's greatest interest. Hogarth observed:

Let us now see in what manner time operates on the colours themselves; in order to discover if any changes in them can give a picture more union and harmony than has been in the power of a skilful master, with all his rules of art, to do. When colours change at all it must be somewhat in the manner following, for as they are made some of metal, some of earth, some of stone, and others of more perishable materials, time cannot operate on them otherwise than as by daily experience we find it doth, which is, that one changes darker, another lighter, one quite to a different colour, whilst another, as ultramarine, will keep its natural brightness. . . . Therefore how is it possible that such different materials, ever variously changing . . . should accidentally coincide with the artist's intention?  

The complicated effects of time described by Hogarth were ignored by senior members of the National Gallery staff who, with the support of science, were ready to demonstrate that nothing but later yellow varnish had been removed from the pictures in question. In spite of the "Cleaned Pictures" exhibition, numerous public defenses, and the favorable Report of a Committee of Confidential Inquiry into the Cleaning and Care of Pictures in the Gallery (Weaver Report), published in 1947, conservation work continued to generate controversy in England in the 1950s and 1960s. The views of the two camps—those who favored "thorough" cleaning and those who advocated a more moderate approach—are recorded in editorials, letters, and essays in such distinguished journals as the *Burlington Magazine* and the *British journal of Aesthetics*. The leading spokesman for the opposition, Ernst Gombrich was harshly critical of Helmut Ruhemann, the principal advocate for thorough cleaning. Gombrich remained adamantly opposed to radical cleaning until his death in 2001. He was not a writer who liked dirty paintings; he rebuffed a critic who urged him to join the critical assault on the cleaning of the Sistine ceiling, saying that he had been up the scaffold and was fairly happy with the work.  

In his running dispute with Ruhemann, Gombrich attacked the circular argument that "what resisted our solvents must have been a glaze, what dissolved was evidently only a varnish." He posed a more sophisticated criterion, writing:

Surely when many independent observers agree that certain paintings now look stripped, harsh or incoherent after "cleaning" it is not sufficient to reply or imply that since none of the original pigments can be shown to have been removed these critics must obviously be enamored of dirt. . . . The whole problem of how we should cope with shifts in relationships is one of baffling complexity. What I want to argue against is only the simplicite denial that there is anything problematic in radical "cleaning."  

No one was a more passionate adherent of this minority view than John Brealey.

Until Brealey's arrival at the Metropolitan, the cleaning controversy had caused few waves in the United States—those who abhorred the radical cleaning at the National Gallery and elsewhere quietly pursued their own course. But suddenly there was an articulate and determined proselytizer who made good use of the bully pulpit of the Metropolitan Museum and who relished his role as a gadfly. An article in the February 1976 *Art News*, Sylvia Hochfield's "Conservation: The Need Is Urgent," brought John's beliefs to a wider public.  

In Hochfield's research she had interviewed the newly appointed head of Paintings Conservation at the Metropolitan. John found her an intelligent listener who became something of a convert. Her text began with an observation by the French philosopher Étienne Gilson: "There are two ways for a painting to perish, the one is for it to be restored; the other is for it not to be restored." This oxymoronic statement was the foundation of the article, which offered long paraphrases of the author's conversations with John Brealey.

Hochfield presented Brealey's views about alterations due to time, the impossibility of returning to
the artist’s original intent, the dangerous and irreversible nature of cleaning paintings, the perils of overreliance on scientific apparatus, the usefulness of the graduate training programs, and the fallacy that conservation was universally beneficial. Echoing John, Hochfield wrote:

The paint film . . . undergoes chemical processes that transform the colors and thus destroy the original harmony of the picture, as if the chords of a symphony had turned to discord. Darker colors become even darker and more translucent with time, until subtleties of modeling and detail disappear in impenetrable shadow. . . . Looking at such pictures is like listening to a musical composition in which the bass notes are no longer audible. . . . If the colors changed equally, the balance of the picture would be maintained, but they do not. Some colors, such as ultramarine, change only slightly, others become lighter. The dulling of the darker colors makes the brighter ones too vibrant by contrast and the distortion of color relationships distorts the spatial relationships . . . areas of blue and red bounce out of the picture plane and shriekingly blue skies turn distance to flatness.\(^2\)

But the battle was joined with this classic Brealey statement:

Pictures are terrifying in their demands on you. You cannot hope to do the right thing by an artist by simply removing discolored varnish and attending to the mechanical defects, reducing the work of art to a laboratory specimen. Everything that you do to a painting has esthetic consequences. It’s a matter of interpretation, not of hygiene. Many people can play the piano with technical proficiency, but that isn’t enough. A pianist stands or falls on his understanding of the composer’s intention. To pretend that it is not a matter of interpretation is incredibly naive, and it’s the same with a conservator. You’re faced with a great number of technical and esthetic anomalies—the picture is distressed physically, or it doesn’t read convincingly. It’s not just a question of retouching and dealing with thousands of defects. You have to be highly selective. You have to do the absolute minimum to recover a semblance of the painting’s original integrity. Of course, you have to know the scientific side. One takes that for granted—but it’s not enough. Technical problems are very important but they’re only 10 percent of the thing. The real problem is to understand the artist’s intention. If you don’t, everything you do will be subly off.\(^3\)

**PART 2**

John Brealey was an eloquent speaker and never more so than when talking about the cleaning of paintings. Like many other great conservators, he did not leave a written record,\(^4\) and, so far as I know, apart from an interview for an oral history project, none of his many discourses were taped. Shortly after I left the museum in 1987, I lunched with John. (He often joked that the title of his memoirs would be “Out to Lunch,” and in fact this daily ritual, invariably lasting two hours, was an important mechanism for spreading John’s ideas and initiating projects.) He loved to make people laugh, but on this occasion he became very serious and told me that some day I must write something about the cleaning of paintings, even if it had to be privately published. Since then I have read and lectured and continued to work on and look at paintings, applying the principles I learned from John and reflecting on them.

John Brealey did not invent a new approach but he was the most articulate spokesman for a humanistic, as he called it, way to clean paintings. In order to bring some sense to the ongoing confusion about cleaning, I have culled the sparse literature for what seem to me the most relevant historical and philosophical precedents for Brealey’s views, despite his assertion that nothing useful had been written in the past. I have included publications which attempted to rebut or rephrase his views. While John was aware of these articles, he dismissed them out of hand—John Brealey read Proust, technical literature bored him. I have tried to put Brealey into the larger context of the field of paintings conservation from the 1950s through the 1980s.

Hochfield’s 1976 article in *Art News* alarmed American conservators. Brealey’s challenge was quickly taken up, and the debate over the proper cleaning of paintings became heated. Much was said, though little was written. Emotions ran high, and as in the past, no satisfactory understanding was reached although for a period Brealey’s views imposed a certain amount of caution, especially at American museums.

By 1972, before Brealey’s arrival at the Metropolitan Museum, trouble was brewing at the National Gallery in Washington, D.C., over the cleaning of Rubens’s *Gerhier Family*, acquired the previous year from Geoffrey Agnew, a London dealer and a close friend of Paul Mellon, the president of the board of trustees. After its acquisition, the painting was sent to Richard Buck, one of the first graduates of the Fogg, at the Intermuseum Conservation Association in Oberlin, Ohio, for cleaning and restoration. Both Agnew and the Rubens scholar Michael Jaffé were outraged

31
by his work and considered the painting “ruined,” a term that critics do not use lightly. But as Gombrich observed, “When we historians make a mistake (as we often do) nothing much happens, for we can be corrected by other historians. The texts remain, after all, unaltered. With restorers the case is different. They must alter the texts themselves.”

Does “overcleaning” a painting “ruin” it? Apologists for those accused in past cleaning controversies usually asserted that no original paint had been removed. However, the Burlington Magazine editorial of December 1947 regarding the cleaning controversy at London’s National Gallery pointed out:

It is not sufficient always to dismiss taste contemptuously, it is not always sensible to clean dogmatically down to the paint. It is a matter of deciding which is preferable, in any particular instance: whether to reveal a frail fragment of truth, so worn and ghost-like as almost to fall into the category of falsehood, or whether to make do with a sturdy half-truth, by stopping halfway. And in cases where colours in the course of centuries have darkened or grown dim whilst others have kept their brilliance, it is a question of deciding whether misleading tonal contrasts are preferable to misleading dirt.

This editorial acknowledged the essential dichotomy between those restorers concerned only with complete varnish removal and those primarily concerned with aesthetics. There was little further discussion of this issue, however, since few of those qualified to speak would dare suggest that masterpieces had been and were perhaps continuing to be spoiled by well-meaning professionals working for internationally renowned museums.

In 1985, provoked by Brealey’s outspoken views, Gerry Hedley, professor of restoration at the Courtauld Institute, in an unpublished but widely circulated paper, formulated a set of distinctions which were immediately and almost universally adopted by Anglo-American conservators. He attempted to resolve the dispute by defining different, but equally valid, approaches to the cleaning of painting. His argument assumed that overcleaning does not mean that any original material has been removed and then divided conservators into three different types of cleaners: total, partial, and selective.

Hedley understood “total cleaning,” or “complete cleaning” (what Brealey contemptuously called archaeological or hygienic cleaning) to mean that all the varnish and dirt have been removed from the surface and that the restorer has cleaned down to the original paint. Hedley argued that this is the only truly objective method because “only by cleaning down to the original paint can we hope to evaluate the exact nature of an artist’s technique.” He dismissed, while not denying, the importance of allowing for alterations in color and tone because “at least with masterpieces greater nuances of form and handling and more bold use of color [are revealed by ‘total cleaning’].” Further, he argued that once a painting has been totally cleaned any changed relationships can be adjusted during the retouching (John Brealey believed that this was a distasteful practice which a restorer should resort to only when a painting was so damaged by cleaning that the final glazes had been removed).

Hedley’s second approach, “partial cleaning,” was practiced at the Louvre where the restorers left a uniform, thin layer of varnish over the entire painting. How this well-nigh impossible feat is accomplished is not explained. Finally, there is a third method, presumably that practiced by John Brealey, which Hedley calls “selective or differential cleaning” in which “an attempt is made . . . to restore the relationship of values believed to have existed in the original work. This is done by removing more of the discolored yellow varnish from some areas than others.” Presented in this manner, the method seems highly subjective and arbitrary. “The restorer must discover within the aged painting an ideal form (the original set of relationships) which no longer itself has an independent real existence. This type of Neo-Platonic approach is not verifiable . . . nor is it passive . . . since the form is to be created not merely recognized.”

Hedley was not the first to propose alternatives to total cleaning only to disparage them. Ruhemann himself had observed that some museum directors and curators, worried about damage done to certain later paintings, such as works by Reynolds and Stubbs, rejected “thorough cleaning” and opted for alternatives: semiclean or part-way cleaning (Hedley’s partial cleaning), undercleaning (leaving discolored varnish in the brushwork), or artistic cleaning (cleaning only the light passages). He condemned the latter practices, and drawing on a lifetime’s work on paintings, his defense of complete cleaning is informed by many practical details that Hedley’s highly theoretical thesis lacked. The simplistic categories of “total,” “partial,” and “selective” cleaning were appealing to those who felt that conservation should be objective and scientific and were both confused and offended by John Brealey’s insistence on humanism, sensitivity, and aesthetic values. Even after twenty years Hedley’s labels have tended to stick in one form or another.

Long before the American cleaning debate, a sophisticated model for the cleaning of paintings had been presented by Paul Philippot, an aesthetician and son of the great Belgian restorer Albert Philippot. His essay “La notion de patine et la nettoyage des
paintures” appeared with little fanfare in the quarterly journal of the Institut Royal du Patrimoine Artistique in Brussels. It is informed partly by the ideas of Cesare Brandi, the Italian art historian and aesthetician who founded Rome’s Istituto Centrale di Restauro and wrote the somewhat hermetic Restauro: Teoria e pratica (1978). But more importantly Philippot had a knowledge of a restorer’s experience in front of a painting. Philippot’s essay was available only in French until it was included in the Getty Institute’s 1996 compilation of essential readings in conservation. The language barrier may have caused his elegant thesis to be neglected for so long by the mainly Anglo-American partisans on both sides of the cleaning controversy. Philippot, however, presents in a nutshell the principles of cleaning espoused by John Brealey and others.

He begins with the following assumption: “In the case of paintings certain transformations occur naturally over time that are totally irreversible.” These changes include: development of craquelure; increasing transparency as the binding medium dries; heightened contrast between these transparent areas and the relative opacities of less developed areas; alteration of certain pigments; yellowing and loss of transparency of the oxidized varnish; and exudation of the binding medium toward the surface.

Philippot argues that it is therefore impossible to “re-establish or even to determine” the way the painting looked when it was created. The so-called patina of a painting is the sum of these normal deterioration processes and is not a scientific but a critical concept. The restorer must therefore make an aesthetic judgment when cleaning a painting because the alteration of the old, not necessarily original, varnish “can attenuate the effects of damage or increased contrast.” To pretend that judgment can be put aside and an entirely objective method adopted by completely removing a deteriorated varnish is in itself a “manifestation of taste” and therefore subjective.

For Philippot, the cleaning of paintings, like connoisseurship, is not based on intuition but a rational thought process which includes a knowledge of the evolution of materials as well the experience to be able to distinguish actual damage from patina and to form an idea about the original appearance. There is, odd as it may seem, a scientific process for arriving at aesthetic decisions and judgments about the “original unity.” Factual knowledge, comparison, and keen observation allow the conservator to measure alterations based on how they affect forms. Every cleaning is different. Maintaining veils of varnish is useful for some paintings and not for others (those, for example, where there has not been much alteration). This is not to say that cleaning should be approached hygienically because all paintings have at least a slight patina. Philippot continues:

Cleaning then becomes the search for an achievable equilibrium that will be most faithful to the original unity. And it is clear that the solution must be arrived at on a case-by-case basis. The cleaning of a painting can thus never be conceived of as a purely material operation and as such, “objective”: the elimination of varnish—and eventually of overpainting—that recovers the original layer. To clean a painting is to proceed, on the basis of as exact as possible a preliminary knowledge of its present condition, toward a condition that, without violating the original material, more faithfully restores the original image. This progression ultimately implies the capacity to foresee the final result, for without this it is impossible to know when to stop, and cleaning then becomes a blind hunt for a treasure that will only end with the original material (and not always that!). In fact, the veil that an ancient varnish carries will generally be quite valuable when there is a question of offsetting heightened contrast or balancing worn areas with those that are intact, yet cleaning can usually be taken much further when alteration due to patina is minimal. In this case however, one must also take into account the fact that radical exposure of the original pictorial layer almost always accentuates its materiality to the detriment of the image, and that bestowing a new appearance on an ancient object can create a discord within the work of art that is a kind of falsification. It emphasizes the material to the detriment of form, and indicates the predominance of a hygienic interest in the object over an aesthetic interest in the image.

Many scientific studies of the effects of solvents on oil paint, particularly those of Stolow, confirm Philippot’s conclusion: “the migration of the binding medium toward the surface in the course of drying . . . may very well be altered by excessive cleaning long before this is revealed by a loss of pigment.” It is essential to respect the translucent skin of the linoxyn layer. When this skin is broken, “a wound is opened through which color appears with the same materiality it has on the palette, interfering with its own formal transfiguration in the image.” Such a violation changes the surface of the oil paint film, leaving the familiar ravaged look.

Another argument against “total cleaning” is the effect of the interaction between a solvent-based varnish and a young paint film. Examining a paint cross section, Richard Wolbers noted in 1985 that the boundary between paint and varnish was ambiguous, not a clear-cut interface similar to that between the layers of an onion. Other researchers have since shown that some varnishes act on paint films in much the same way solvents do: they extract the same soluble
components and cause the same embrittlement and disruption of the oil film.\textsuperscript{26} One of John Brealey’s essential beliefs was that varnishing was the root of the “vicious cleaning cycle.”

Contemporary texts from every period, paint sample analysis, and experience indicate that the materials used in painting and the manner in which they were employed were exceedingly complex. The varnishing of an oil painting was by no means straightforward or uniform. Artists had a strong interest in the optical properties of their paintings which were affected by factors other than lighting conditions. Some pigments, such as the darks, are poor dryers and require more medium, while others, like lead white, retain their original luminosity. Selective varnishing was often used to saturate areas which had sunken and become matte. As Helen Glanville points out in her excellent essay on the use of varnish in seventeenth-century Italy,\textsuperscript{27} an absorbent ground was, on the one hand, desirable, because it soaked up some of the excess oil which caused yellowing and therefore made the colors fresher, but was, on the other, problematic, because it caused sinking in of colors. Documentary sources indicate that there was a preference for a more matte appearance of certain colors, such as blue which was often applied with an aqueous medium.

At times, in paintings in excellent condition, the varnish is bound to the paint in such a way that its removal will affect the subtleties of the final modeling. The famous amber varnish of the De Mayerne manuscript may indeed be present on Orazio Gentileschi’s \textit{Lot and His Daughters} in the J. Paul Getty Museum.\textsuperscript{28} The published research identified a copal resin but was not able to exclude varieties from anachronistic sources.\textsuperscript{29} No claim was made that the “amber” varnish on the Gentileschi was tinted. Sarah Walden confuses this vexed issue when she writes that “The Getty provided new evidence that many of the harsh blue skies and raw bright faces we have become accustomed to in restored Old Masters today, not least in the National Gallery, would originally have been veiled by glazes or tinted varnishes.”\textsuperscript{30}

The use of patina by painters, particularly in the eighteenth and nineteenth centuries cannot be dismissed. Recently the conservation department at the Philadelphia Museum was able to demonstrate the existence of a real patina, a gray final pigmented layer applied to alter the tone of certain colors, in the work of the American painter Thomas Eakins and there may be other instances.\textsuperscript{31}

The practice of using an intermediate varnish layer between stages of eighteenth-century painting is well recorded, as is the addition of varnish to the medium in nineteenth-century painting. Some paintings are so soluble that they cannot be cleaned at all without injury to a corrupt medium that contains soft resins and often balsams, wax, essential oils, and other soluble ingredients. This is particularly true of many eighteenth-century English paintings such as certain works by Stubbs and especially by Reynolds, who recorded his own experiments with various mediums. John Brealey often talked about paintings by J. M. W. Turner, an artist whose work he knew well and loved, who employed all manner of materials and habitually interlayered watercolor and oil with noticeable alterations, recorded by Ruskin, occurring soon after the painting left the artist’s easel. Paintings of the nineteenth and twentieth centuries are rife with experimental techniques, mediums, and materials.\textsuperscript{32}

The restorer is always standing on shaky ground, not infrequently undermined by the work of his predecessors. In the past the use of caustic solutions to remove stubborn oil varnishes was common. Such alkaline reagents can saponify even fully polymerized drying oil films, and the tragic damage from past cleaning with “soda” is widespread. Essential oils, sometimes used in cleaning solutions, remain in the paint film, softening it over time and making it vulnerable to even mild solvents. The use of slowly evaporating solvents (such as dimethyl formamide, pyridine, cellosolve, and butyl acetate) can also have a deleterious long-term effect since they work slowly and deeply, leaving pigment particles in suspension.

The belief that there are two equally valid approaches to the cleaning of paintings—total or partial—is simplistic and uninformed. It is appalling to see surfaces so raw that the skin or enamel of the original paint must have been violated. Monographic exhibitions, which often include some works cleaned for the occasion, are telling about the state of restoration. In a recent old master exhibition one work had been so strongly cleaned that it stood out from all the other pictures and had to be toned down by using a yellow filter over its spotlight.

Every painting is different and must be approached without preconceptions. Cleaning a painting always involves some risk. It should only be undertaken for a compelling reason, for example, the expectation of significant gain in meaning. One might wonder which present practices critics will be lamenting fifty years from now. As John Brealey often said, “Pictures always make a fool of you.”
NOTES


2.04 PREPARATIONS FOR CLEANING PAINT

• Support[ing] the picture properly to avoid damage by pressure
• Providing adequate illumination. Strong white light such as direct sunlight gives the best visibility and should be used whenever possible. . . . The parts of the picture that are not being treated should be covered to protect them from light and heat
• Providing suitable devices for magnifying. A binocular loupe is often useful because it increases the effect of depth, magnifies slightly, and permits working closer to the picture. A low-power binocular microscope is useful for examination and for cleaning difficult details.
• Providing adequate ventilation and covered containers for solvents and waste cotton
• Arranging the equipment so as to permit maximum safety and efficiency

2.111 FIRST METHOD

• A solvent or solvent mixture is chosen. If one that dissolves the coating without affecting the paint cannot be found, one should be chosen that affects the paint as slowly as possible . . .
• A swab that is moistened with the solvent is rolled over the first areas to be cleaned. If the solvent can be used safely on the paint for a moderate length of time, it is applied liberally so that the coating will be dissolved quickly. . . . If the solvent rapidly affects the paint, it is used sparingly . . .
• The coating is taken off in adjacent areas. The areas are not overlapped so that the paint will not be exposed to the solvent twice in rapid succession . . .


13. Ibid., p. 31.


15. The controversy at the National Gallery of Art, Washington, D.C., became increasingly heated and broadened to include a number of other paintings, the most well known of which was Rembrandt's The Mill. John Brealey's role in the controversy is still misunderstood. The story is perhaps worth recounting in a separate paper. Briefly, Paul Mellon asked that Agnew, Jaffé, and the restorer Mario Modestini visit the gallery. After the highly critical Agnew and Jaffé reports had been submitted, the gallery declared a moratorium on cleaning. The staff was alarmed and turned for support to a professional organization, the American Institute for Conservation. Eventually a panel was nominated to evaluate the work done at the gallery. Although the decision was not unanimously in favor of the conservation department, the majority opinion was favorable, and the gallery declared itself satisfied with the work accomplished by its staff. The two exceptions were The Mill and The Gerber Family. On the advice of Mario Modestini, the excessively pale sky of the Rembrandt was toned down to balance better with the darkened foreground. The Rubens group portrait was ultimately sent to Mario Modestini in New York. Modestini says that the painting was severely overcleaned. The final smudges had been removed from the flesh tones, revealing the grey imprimatura so that the lower cheeks and jaws of all the sitters seemed to be bearded. There were inconsistencies in the other passages related to different types of canvas that had been cobbled together to make the support—a common practice of Rubens. Modestini removed Buck's varnish and retouching and did extensive work on many areas of the painting, especially the flesh tones, hair, sky, and areas of the satin. The painting was quietly put back on exhibition.


18. From my own experience, and that of colleagues at other museums, it is possible to demonstrate, using archival photographs, that original paint was often removed. At the Metropolitan Museum of Art passages from some paintings were scraped off by the Conservation Department while it was under the direction of Fogg graduate Murray Pease. This happened especially when paintings were already damaged and much restored. For example, Atalanta and Meleager, a work on panel by Rubens, had once had at least remnants of a cord across the youth's chest that was tied to his cloak. From a conviction that this was repaint, it was scraped off, presumably with great difficulty. On another occasion, when Mario Modestini was restoring El Greco's Vision of St. John, Murray Pease came to discuss the work. Pointing to a thick passage of copper green draper which was pooled on the
surface like enamel, Pease said that it would have to be scraped off. A complete set of X radiographs had been made of the painting which clearly showed numerous losses under the repaint. Modestini showed Pease the evidence of fragmentary remains of the hands and arms of the putto holding the suspect drape. The green was in fact original and, when the painting was restored, made perfect sense.


23. Ibid., p. 375.

24. Ibid., p. 376.


28. Mark Leonard, Narayan Khandekar, and Dawson W. Carr, "Amber Varnish" and Orazio Gentileschi's 'Lot and His Daughters,' Burlington Magazine 143 (January 2001), pp. 4–10. The resin was not present over the entire surface. This argues in favor of its authenticity since it is consistent with Baldinucci's comments that artists varnished only locally. Even if not an "original" varnish, a first full varnish applied to a lean paint layer, that is, one containing a high proportion of pigment to binder, not too long after the painting has been finished, might penetrate in such a way that it could not be removed later without affecting the final glazes.

29. Narayan Khandekar, private communication (January 2005). The strongest evidence for an original varnish is the paint cross sections that show that a layer of copal varnish does not extend into cracks and therefore must have been applied when the paint film was still relatively young.

