

# Traces of Artistry

## *The Chronicle of Higher Education*

Last June, I stood holding my breath in the National Gallery in London, my eyes not 10 inches from Jan van Eyck's "Man in a Red Turban." Painted in 1433, it's a small picture, about 10 by 7 inches. For any painter, including an abstract painter like myself, there's a tingle that comes from being so close to such a painting. No intermediary is necessary, and none is present. The thrill of the painting is that it comes to you, perceptually, directly from the artist, almost as if it came off the easel that very day.

How did he do it? Did he really use a one-haired brush? Even if he did, what talent allowed him to get all those tiny details so perfectly? How did he so deftly fit the proportion of the parts of the face into the whole? How did he get the effect of the roundness of the head, and achieve a sense of air around it? What kind of eye and hand achieved that touch, that light, those transparencies, those colors? And into the black space surrounding that painted face, which many suggest is a portrait of Jan van Eyck himself, he delicately yet clearly inscribed the words *Als ich chan*—"The best that I am capable of doing."

This little painting, and its ancient motto, to me stands for all great painting. If a mortal

human being can make this kind of beauty, then the Greeks were right: We are partly gods. The best of us can create wonders that cast a splendor on the brief existence of the rest of us. The painting elicits a sense of awe in nearly everyone who sees it. We understand it to have been drawn freehand, from the artist's observation of the real world—"eyeballed," as the contemporary British painter David Hockney calls it.

But recently Hockney proposed a startling theory to account more prosaically for such art: Starting around 1430, artists had help, in the form of lenses, that enabled them to get proto-photographic projections of their three-dimensional subjects onto their two-dimensional panels, canvases, and sheets of drawing paper before they started to paint or draw. In his just-published book, *Secret Knowledge: Rediscovering the Lost Techniques of the Old Masters* (Viking), and in the BBC-produced film, *David Hockney's Secret Knowledge* (broadcast in Britain in October), Hockney argues that Jan van Eyck and other old masters, including Holbein, Vermeer, Hals, Velázquez, Rembrandt, and Caravaggio, used more tools than their eyes, hands, and brushes to achieve their astonishing pictorial realism.

Hockney, whose argument is supported by the forensic math of his friend Charles Falco, a physicist and professor of optical sciences at the University of Arizona, claims that one can see all this just by looking carefully at the pictures.

According to Hockney, the sudden appearance around 1430 of a drastically heightened realism in European painting is largely explained by the use of lenses. He says that artist-used lenses first showed up in Brugge, in Flanders, but quickly spread to Florence and beyond. At first, these lenses were concave mirrors, followed by the camera obscura, literally a "dark room" with a small hole in one wall. With strong enough light coming from the outside, an image of something out there could be projected (albeit upside down) onto an opposite wall. In the 1600s came lenses like the kind in telescopes, which were then inserted into the holes of cameras obscuras.

Now, art historians have known that artists in the 17th century used lenses, but to what extent they were used has been unclear. For his book *Vermeer's Camera: Uncovering the Truth Behind the Masterpieces* (Oxford University Press, 2001), Philip Steadman, an architect and an expert in computer-aided design, constructed actual models and studied the perspective geometry of Vermeer's paintings. He concluded that Vermeer used the camera obscura not just as an optical aid (as the art historians Lawrence Gowing and Walter Liedtke both argue), but as a veritable booth in which he sat and traced the entire outline of at least 10 of his paintings.

Hockney goes even further. In essence, he argues that artists started using lenses about 200 years earlier than Vermeer, and that lenses were used much more widely than previously thought. Hockney admits that not all old-master painters used lenses (Rubens, for example). But he concludes that in many cases, lenses were as important, if not more important, than artists' training and talent in observing and depicting the physical world around them. Lenses, in other words, accounted for the Renaissance's great leap forward in painterly verisimilitude.

To understand fully the revolutionary nature of Hockney's theory, it helps to know that not one of the major art-history textbooks now commonly used in American art-history-survey courses—Marilyn Stokstad's *Art History*, Helen Gardner's *Art Through the Ages*, or H.W. Janson's *History of Art*—contains the word "lens" in the index. The word "mirror" appears in some books, but never in the context of its use as a lens. According to Falco, Hockney's discoveries concerning lenses would have been made by somebody else ages ago if art historians had been routinely educated in the science of optics; they then would have known that concave mirrors function as lenses. In other words, art historians were asleep at the wheel and have once again allowed the sentimental humanities to be embarrassed by hard-headed science.

But few art historians at last month's standing-room-only New York Institute for the Humanities symposium convened to evaluate Hockney's theory were chagrined by it. In fact,

many on the star-studded panels and in the audience weren't buying it at all.

Now, I lay no claim to understanding the physics involved in Hockney's theory. But after listening to all the panelists, pro and con, reading Hockney's book, watching a tape of the BBC program, and reading rebuttals from art historians, critics, and artists, on the Internet and elsewhere, I'm almost completely convinced that Hockney is right that artists used lenses. What surprised me at the symposium, however, was the implicit denial on the part of everyone—supporters of Hockney and naysayers alike—that Hockney's theory, if true, might have negative consequences for painting, art appreciation, art history, or culture in general.

That nonchalance came in four flavors, which might be described as: (1) "No big deal. Moreover, it's not all that interesting, so let's get on with looking at the paintings for aesthetic pleasure"; (2) "I've known this all along—see my publications on the subject"; (3) "Optics are a neat tool, but well-trained, skilled artists, especially those with the rigorous drawing training that was normal in the Renaissance, didn't need them, because they can do this kind of complicated, difficult stuff without lenses"; and (4) Hockney's own motto, "Optics don't make marks" (meaning, "Don't get hung up on how the lines on a canvas were made; all that matters is what's between the lines"—the artist's touch).

There was a general consensus, in short, that tools are tools, tools are neutral, artists have always used whatever tools were available to them, and there is no moral or aesthet-

ic issue involved if they did a lot of tracing.

But I think that there are larger implications to Hockney's theory, assuming it is right, and that it will cause serious cultural damage. Let me begin with the idea that Hockney's theory is neither a big deal nor all that interesting. On the contrary, it shakes the foundations of much of art history, as well as realist painting as an art form. Learning that artists used lenses extensively in the 1400s shifts the "photographic" flat image from a minor, late-game player in Western art to a member of the starting lineup. And when it comes to the aspirations of young artists who want to make realist paintings like the old masters, it casts a pall. It becomes reasonable for them to wonder if they, too, shouldn't use lenses in their drawing and painting. More important, it subverts the way that most of us look at and derive meaning from old-master paintings. And it subtly but profoundly alters what we who love Western painting think being human is all about.

It's not that I think an enormous hoax has been perpetrated on millions of field-tripping schoolkids over the years. But make no mistake about it: This theory undermines the concept of artistic genius, and it's disingenuous of experts on both sides of the debate to dismiss the question of the legitimacy of using lenses as a mere prejudice against artists using certain "tools." Artists who (inadvertently or not) fobbed off paintings based on glorified tracing as paintings based on drawing from life or from imagination are arguably akin to a trapeze act using a net the audience can't see, or to Milli Vanilli lip-synching their songs in concerts. All

the contentions that it's what's between the traced lines that counts, or that the quality of projection-based drawings lies in the quality of the lines, simply aren't persuasive: The biggest difference between the drawing of an untrained 7-year-old and a professional, realist artist lies in the problem of proportion—a problem solved instantly by tracing.

The argument that none of this matters in the end, because the paintings still look the same as they did before Hockney came along, is as problematic as the assertion that Christ's not really rising from the dead shouldn't matter to Christians because they've still got the wonderful code of conduct that Christianity offers. To a lover of old-master paintings, Hockney's theory is like suddenly finding out at, say, 50, that you were adopted. Your adoptive parents may be nice, but you're still in shock, and you feel a sense of betrayal. Clearly, Vermeer wasn't cheating in the strict sense. There were no legal rules for artists like him to follow. But the revelation about the extent to which he seems to have used the camera obscura makes us feel as if he had cheated, and we're disappointed, at the very least. An inexorable psychological shift takes place in how we look at and understand the work of old masters when we learn that the artists in question didn't "eyeball" the world to achieve their images, but used the crutch of at least partly tracing projected images. Their achievement is unavoidably ratcheted down a notch.

The argument that painters have always used tools, and that tools are neutral, is a variation of the general thesis that technology is

always neutral. But is this true for art? In order physically to scratch out her sentences, Jane Austen was compelled to dip her quill pen, endlessly and carefully, in and out of the inkwell, and to pause frequently to sharpen it. Could it be that, in the very act of writing with such a pen—with all the sounds, minuscule drips, and hurried blottings—instead of easily clacking out words on a computer keyboard, Austen found some part of her cogent observations and wry wit?

It could be argued that the basic tools of the painter—the pencil, brush, straight edge, sighting stick, and pestle with which to grind pigments—might also affect the final painting. How can we dismiss out of hand the particularity of a painter's studio and tools, when this is precisely where physicality counts? Even something as seemingly insignificant as the smell of oil paint, as opposed to acrylic paint, might affect a painter. On a larger scale, technological changes obviously have affected the history of painting. Think of the Impressionists painting outdoors. *Plein air* painting became possible only after the invention of the metal tubes that enabled artists to carry their paint with them into the countryside. Exotic drawing aids, the most famous of which is the drawing grid—a rectangle webbed with wires or threads—have been around for centuries. (Looking through a drawing grid, the artist gets guidance in the proportions and location of the subject.) Even linear perspective itself might be considered a sort of tool—an intellectual tool, as Leonardo argued. (Leonardo also advocated various uses of mirrors by artists.)

Tools are never neutral in art. In fact, they are crucial in understanding the meaning of an art form. The more elaborate the tools used in making a painting, and the more the artist relies on them, the more the marks approach those made by a machine. But that doesn't satisfy those of us who love and admire a painting as much for the way it is done as for the image itself.

In his famous 1935 essay "The Work of Art in the Age of Mechanical Reproduction," Walter Benjamin discussed what it is we lose in the modern age of the photographic image. He argued that the ability of a machine to make multiple reproductions sets up a division between the genuine article and the fake, the original and the copy, the authentic and the inauthentic. We can't help but look at original works of art differently from the way we look at copies of them. There is an aura surrounding the original work of art, Benjamin says. If old-master painters truly used optics as extensively as Hockney thinks, they were tracing images (arguably a primitive form of mechanical reproduction), and the aura surrounding their work inevitably diminishes.

Art historians' apparent ignorance of the extent of artists' use of lenses and how early they began using them, and even the nonchalance of some art historians, who intimate that they knew about it all along, threaten to shrink further the already-reduced role that stylistic analysis plays within the discipline of art history. If Hockney is right, art historians—for all their looking obsessively at brush strokes, poring over dusty documents, and tracking down the

family trees of patrons—simply blew it. In fact, Hockney's discoveries cast doubt on our already-shaky confidence that we can ever know anything of the past. If we missed something as big as van Eyck tracing the chandelier in his jaw-droppingly beautiful painting "The Arnolfini Portrait," what else have we missed?

And how did Hockney *not* miss it? Was he subconsciously looking for lenses because his own art is photographically derived? (His work includes a lot of photo-collages.) Was he, like the rest of us, monocularly conditioned by millions of images made with cameras of all sorts? Certainly, Hockney is intensely aware (as Andy Warhol was before him) of the way photography flattens everything in its sight. And Hockney must be aware that there's more than visual flattening going on in the staggering proliferation of photographically derived images (including video and digital images) in the mass media. Probably, like the rest of us, he's felt the way that a TV image of a slick blonde shaking out her freshly shampooed tresses achieves a grotesque, socially "flattened" equality with footage of a horrible disaster when it is aired immediately afterward. Perhaps Hockney was, as some panelists suggested, *looking* for projected images. That doesn't make him mistaken, any more than art historians who have recently discovered more and better women painters in art history, simply because they finally were looking for them.

Yet the looking-for approach to history is not without its dangers. In this case, it risks reading into history our own characteristics as moderns, at ease and in love with the photo-

graphic image. Hockney's theory of optics began, in fact, with a hunch that the early-19th-century portrait drawings of Ingres looked peculiarly like the photographically traced images done by Warhol. (I disagree with that observation: Ingres's line is much more variegated than that of Warhol.) Hockney says that when he looked closely at the Ingres drawings, he thought to himself, "I couldn't do that." That realization led him to look for the lenses that would explain the surety, swiftness, and accuracy of Ingres's line. Although it is questionable whether "I couldn't do that" is a good reason for a garden-variety contemporary artist to doubt the old masters, to be fair to the talented draftsman Hockney, the same statement from most of us would amount to, "I couldn't even conceive of doing that."

But the larger point is that if van Eyck, Vermeer, Ingres, and others were using optical copying tools in making their art, and we didn't realize it before now, then all along we've been laboring under unreal expectations of what a great artist can do. We still have Raphael and Rubens and their ilk—those Renaissance artists with the searching kind of line that gropes its way to the final image. But now it seems that a sure line is accomplished with a lens. Hockney's theory takes something away from what we thought human beings are capable of achieving. Before, when looking at an old master's masterpiece, we might have thought, "My God, what a marvel this is. I'm so happy somebody in this imperfect, troubled world can do this." For me, Hockney's discovery undercuts what I'd thought had been among the

highest achievements in painting. I can't help but feel tremendous loss. And I am not consoled at all by Hockney's assertion that the use of lenses actually elevates the artists, because it shows how smart they were to figure out how to use them.

It's significant that at the symposium the word "talent" was uttered only once by a panelist, and then by a psychologist, referring to a 5-year-old drawing prodigy (who in all other respects was profoundly disturbed). Talent has been deemed mostly irrelevant in modern art, but it was essential in the premodern days of masters and apprentices. At the symposium, the word of choice on the part of all the panelists—whether scientists, art historians, or artists—for what it was, exactly, that the old masters *had*, was "skill," not "talent." But skill is not the same as talent. Some day soon, a computer-driven painting machine might be able to digitally replicate an old-master painting, stroke by stroke, from the canvas up. That machine would possess a "skill" that would have been programmed into it. At the conference, the critic Susan Sontag suggested that Hockney's theory contributed to the "Warholization" of art. (Warhol once said, in fact, that he wanted to be a machine.)

In light of Hockney's revelations, even a genius like van Eyck turns out not to have been able to paint quite like the van Eyck I knew beforehand. Like many, I will not apologize for having loved certain paintings because I thought that the artists actually made them from scratch by looking lenslessly out into the world. No matter how we look at it, in the

abstract, at least, the tip of the pyramid of human achievement in figurative painting has been lopped off. Truncated like that, the enterprise of the old masters looks a little diminished.

So, what about *Als ich chan?* Although I'm reluctantly persuaded that van Eyck probably started "Man in a Red Turban" by tracing an image reflected from a concave mirror, I still can't quite believe that he painted it or finished it that way. For all its near-perfection, there's something strangely wrong about the picture. It has a just-off quality to it: The color isn't quite right, and there's something about the perspective and the eyes of the sitter that doesn't strike

me as photographic. Somewhere along the line, I think, van Eyck must have cheated on his cheating. I think he might just have sneaked a good long look at the world and his painting straight on, not just at the image he was tracing upside down. Precisely because of its wrong qualities, it is beautiful, and I'll keep going back to the National Gallery whenever I can to look at "Man in a Red Turban." But I can never again be the innocent I was last summer.

*Laurie Fendrich*

*11 January 2002*