

**Chair, Jardin  
de Luxembourg,  
Paris,  
10th August 1985.**



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# Which Way Is Reverse?

*We are still looking at pictures of the world and what we think the world looks like.*

**by David Hockney**

*The second annual James Michelin Distinguished Visitor Lecture brought artist David Hockney to a packed Beckman Auditorium last November 16. Established by a gift from New York fashion designer Bonnie Cashin in memory of her uncle, the lecture series is intended to foster a creative interaction between the arts and sciences. James Michelin was "a splendidly talented petroleum geologist," according to Vice Provost and Professor of Physics and Applied Physics David Goodstein, who introduced the lecture. Although Michelin was educated at UC Berkeley, he held a longtime dream to return to study at Caltech. "It may be precisely because he never did so that the family has such warm feelings toward us," Goodstein suggested.*

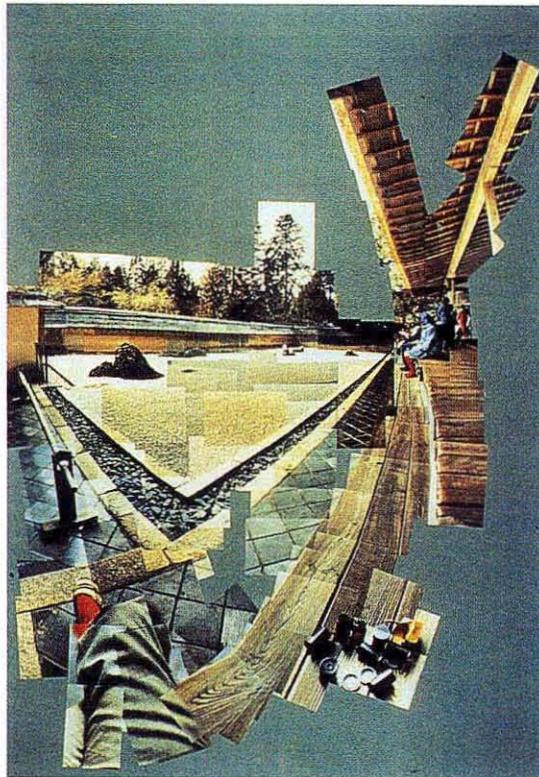
*Goodstein sought to introduce Hockney, one of the world's best-known and most influential artists, "in a way that will be more meaningful to us scientists than a list of his one-man shows." He described how someone, several years ago, had given Hockney a Polaroid camera, which in Goodstein's own hands might have produced a few fuzzy snapshots. "But with a camera in David Hockney's hands, what we got back was nothing less than a whole new way of seeing the world." Paying Hockney "the biggest compliment I'm capable of paying," Goodstein compared him to Richard Feynman, who also "saw the world with fresh new eyes."*

I will tell you straightaway I'm not a professional lecturer of any kind. I don't teach either, so I'm not that used to it, although I have given some lectures. And when I was asked to give a talk here, I did think about it and thought, well, I suppose there are things that could interest scientists as well. And I thought perspective could be interesting, so I agreed to come and talk

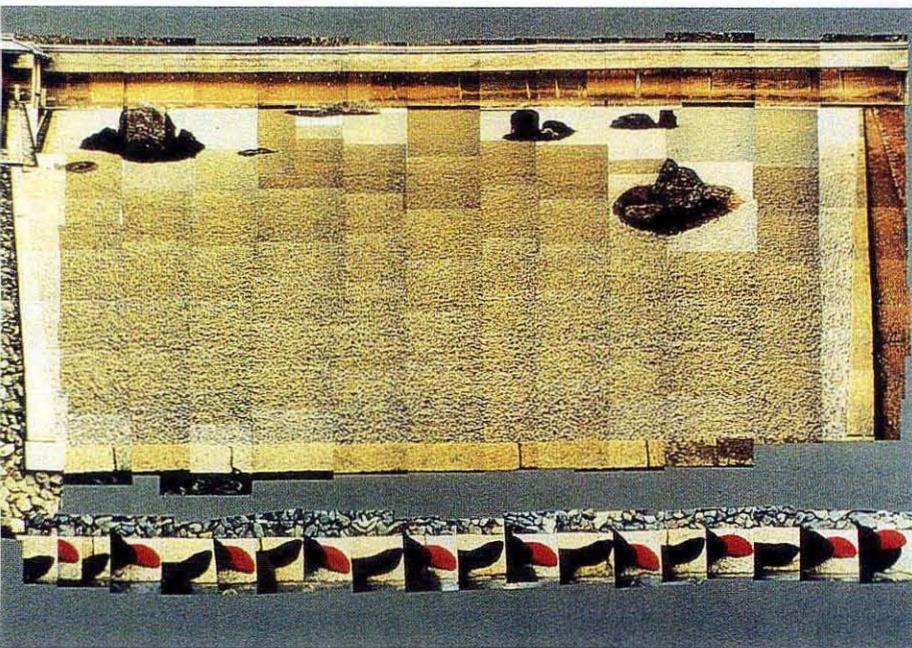
about it. The main thing that I'm going to talk about is the depiction of space on a flat surface—what it does to us and so on, and my own inquiries into this. I've been deeply interested in photography, because of perspective in photography.

Picasso was one of the first artists to make an attack on perspective. These female nudes are seen from many different angles. [These were unavailable for reproduction, but can be viewed in the Zervos Catalog.] The journey he made over the 40 years between these two works (the first one was painted in 1908) is fascinating, but not much explored today. Nevertheless, we are still looking at pictures of the world and what we think the world looks like. I mention Picasso here because, fortunately or unfortunately, at the same time another kind of picture came along that people thought was much more realistic—the moving picture. Everybody thought it was much more vividly lifelike than cubism.

A lot of people in Hollywood are interested in putting reality onto a flat surface. They're always trying to make more vivid movies, and one of their attempts was what they called 3-D movies. These always seemed to fail, never seemed to get anywhere. I thought it was for a quite simple and obvious reason, a question of simple arithmetic: They'd actually got it wrong and what they were really trying to do was make 4-D movies, because any movie is three-dimensional in the sense that it's got two dimensions of space, and linear time makes it three dimensions. And all attempts to make four-dimensional movies will fail because that would be like real experience, and you'd be so confused you wouldn't



**Right: Sitting in the Zen Garden at the Ryoanji Temple, Kyoto, Feb. 19, 1983. Below: Walking in the Zen Garden at the Ryoanji Temple, Kyoto, Feb. 21, 1983.**



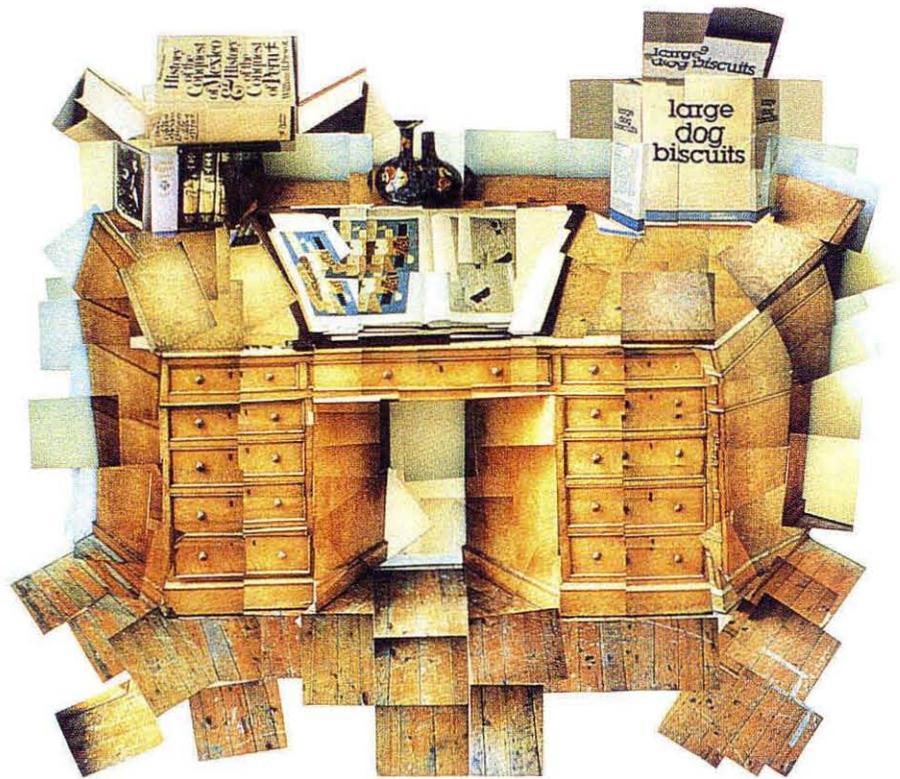
*If you suggest that there's movement in the viewer, the shape of things alters, and I was fascinated by this. . . . It means maybe we're not sure about the shapes of things anyway.*

know you were at a movie. In movies it's very difficult to show grandeur in space. Fifty years ago the novelty of movies was so great that we accepted pictures of grandeur—*Ben Hur* and things like that; we accepted the space. Today we see so many moving pictures that I don't think we can accept it in the same way.

There *are* different ways to make a more vivid picture. One of my interests in perspective in photography and the reason why I felt like giving a talk here on what I call reverse perspective is that I think we accept too easily particular ways of looking at the world. We accept the "realism" of photographs, and I think this will begin to give us problems. These problems would be noticed first, I think, by people who actually make, or construct, pictures. Of the two photographic collages I made of a Zen garden in Kyoto, Japan, the first one [left, above] was made with me just sitting there—you can see my legs—and I'm just moving my head and my eyes around with the camera. And that's the kind of shape you get; the garden itself was a rectangle.

Then I thought about this garden quite a lot, and I wondered how it would be possible to make it a rectangle in a picture, even in a photograph. Of course, the most obvious way would be to rent a helicopter and go above it and point your camera down, and the garden would be a rectangle as it is in nature. And you could do that. But then, while I was walking around Kyoto, it occurred to me that to make it a rectangle you have to see it as a rectangle, which means you have to move. The next photograph is the same garden. I calculated how many photographs I

**The Desk, July 1st,  
1984.**



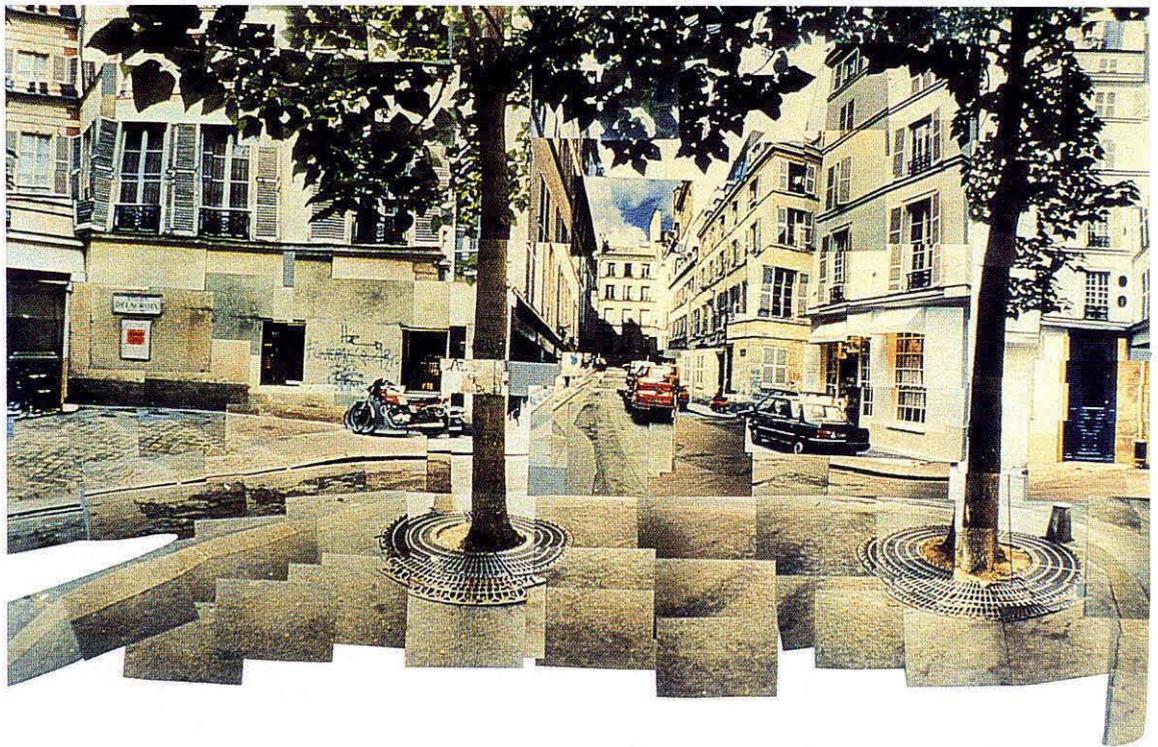
needed to take (I should take more photographs at the top than at the bottom because of what happens), and then I stood along the bottom—you can see where my stocking feet make a pattern. I used four rolls of film, each with 24 exposures—that's the lot; I used them all—and a half-frame camera, a tiny Pentax that I carried around in my pocket. All the pebbles actually are in the right place; there's no repetition (you'd recognize the repetition of the pattern if you just took one picture and filled it in), which meant that I had to look at all the pebbles and connect each photograph. I had to fix points—fix little patterns that I could then link with the next photograph and so on. And I was counting all the time. Other photographers there were probably thinking I was a little mad really, with this stupid little camera that normally any photographer would think was a very unserious camera. But I realized if you make a collage using plenty of negatives, you're actually making a picture with quite a big negative, really.

So, if you suggest that there's movement in the viewer, the shape of things alters, and I was fascinated by this; I'm still fascinated by it. It means maybe we're not sure about the shapes of things anyway. Here's a desk that I photographed. Again, to get reverse perspective it means you have to move. In ordinary perspective the infinity is a long way from the viewer. In reverse perspective the infinity is actually in you, the viewer. I've made the suggestion that if the infinite is God, then in pictures with ordinary perspective you could never connect. But in reverse perspective you can connect because it's

within you as well. This gives a theological explanation for reverse perspective that seemed to make more sense to me.

The vanishing point was an invention of 15th–16th-century Italy. It is only European. The moment people realized what it was, military technology was able to develop, using triangulation and so on. But there are other connections. The vanishing point means that the viewer is very still. On a Chinese scroll it's not possible ever to have a vanishing point because it would mean you'd stopped moving. In 15th-century Italy most of the pictures being painted were commissioned by the church, mainly the depiction of the crucifixion. This is speculation on my part, but if you look at the first pictures where they used one-point perspective, there's a great advantage and a disadvantage in it. The one great advantage is that the volume of a body looks weightier; in fact, it could show suffering better. So this would make it attractive to the church. In Eastern religions nobody developed the vanishing point. I made a movie about two Chinese scrolls—one where the vanishing point was never used and another where it was. I suggested that the latter one showed an artistic decline. And China did decline from a country that was obviously very advanced in the 16th century. When I asked why, I was told that they'd lost their intellectual curiosity—and military technology was better elsewhere. Military technology was clearly connected with the vanishing point.

I think it's quite fascinating to be able to make new kinds of space in pictures. The chair



**Right: Place Fürstenberg, Paris, August 7, 8, 9, 1985.**  
**Below: Paint Trolley, L.A., 1985.**

in the Luxembourg Gardens in Paris [page 22] was made from one role of film; the whole picture is 24 negatives on a little role of 110 film. For one of the first very complex pictures I made, of the Place Fürstenberg in Paris, I was moving about constantly. I also had to construct it in the Place Fürstenberg. I would shoot one day, then have the photographs printed, glue them down on a board, and then take the board with me to tell me what to do next. For instance, say, to take the photograph of the Atelier Delacroix, I was standing over to the left in front of it, not in the center. The viewpoints are actually many, creating the effect of a different kind of space. It seems to me that way.

Another aspect of altering perspective this way I noticed was that you could get closer to things by being actually involved in them. It seemed to remove a distance. The photographs of the collage [on the inside front cover] were taken sitting behind the wheel of a car. When I was sitting in the car, I realized I could see all the wheel in front of me and it seemed closer to me. In a single photograph of it, there's something stopping you connecting with the wheel; this is an impossible photograph to take with a single shot, really. But in the collage it's a very close view of something right in front of you. I felt it's a kind of closeness; you seem to be closer to things.

And here's a single photograph of a trolley that I kept brushes and paints on. But I wanted to show more of it in the collage photograph by moving around it. I made these originally for French *Vogue*. French *Vogue* had asked me if I would do 40 pages for them, and I told them I

wasn't that interested in fashion, really; I couldn't think of 40 pages. But they said I could do anything, and so I actually did a whole 40 pages of photography and perspective for them. These were part of it.

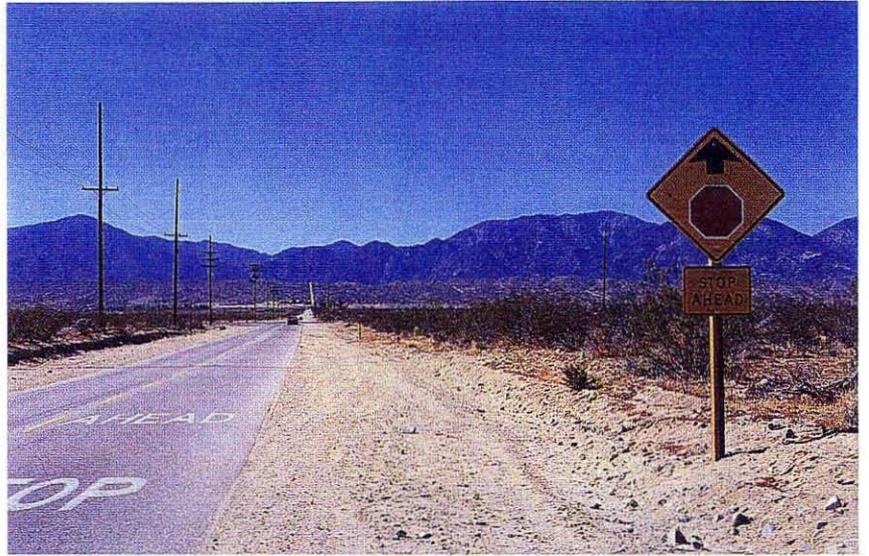
The last photograph I made before I stopped exploring photography was made out on Pearblossom Highway. First look at the single photograph taken by the side of the road. My version of the same scene is seen in a very different way. Although it looks like one particular view, it's actually about 800 views. And again, I'm walking about continuously. To make this photograph, I went out every morning to Pearblossom Highway (out in Antelope Valley, about an hour's drive), and I had to take a quite big ladder, because, if you think about it and look at the picture carefully, you'll notice that the lettering on the ground, for instance, is actually photographed from above. And for the stop sign—you can see it's actually just one photograph—I was up the ladder right in front of it. Otherwise, from the ground it would appear at an angle. You get a very different way of looking—compare the "Stop Ahead" sign photographed from the road. Actually, when I was doing this, a police helicopter came and circled above, obviously thinking this is very strange—somebody up a ladder next to a stop sign! What is he doing?

I constructed it out there. I'd stick the first pictures down on a board, and then I would look at it and take more photographs. It took about nine days of taking photographs. Then I made the small version, and then I made a second bigger version, which was shown in the Los

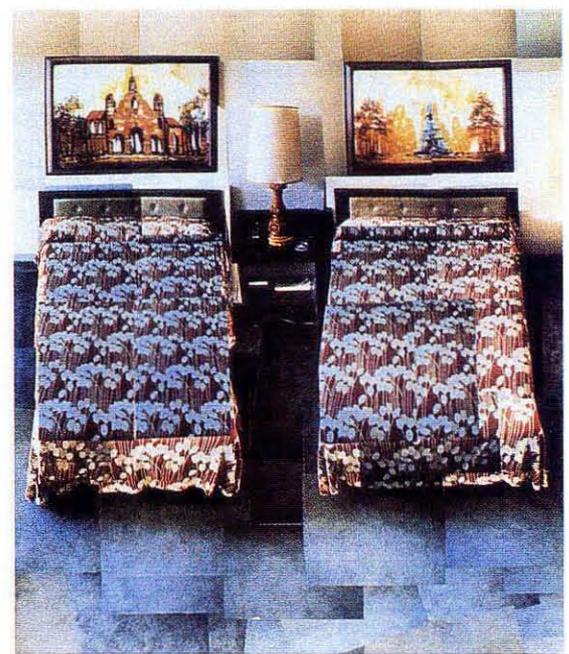


*Although it looks like one particular view, it's actually about 800 views. And again, I'm walking about continuously.*

**Pearblossom Hwy.,  
11-18th April 1986, #2.**



**Left: Room 229  
Palmdale, Calif.  
11th April 1986.  
Right: Room 209  
Palmdale, Calif.  
16th April 1986.**



Angeles County Art Museum when I had a retrospective. I was told that people looked at that picture longer than at any other picture in the show. But I assume that was because most people know about photography and in some sense understand it. Originally I did this for a story my friend Gregor von Rezzori had written about Humbert Humbert chasing Lolita all over the Southwest, but it was never used. He had described a landscape, and he also described motel rooms being the same and so on. So I also did these two motel rooms, again from a different viewpoint—constructing it and making perspective different.

I then gave up photography and spent a lot of time once again painting and in the theater. Theater too, Italian theater and opera, involves making space and illusions of space behind a flat plane. (The English did it another way.) In the *Turandot* we did recently in San Francisco, we made an illusion of a very grand space in quite a small space using perspectives that were not real ones in any sense.

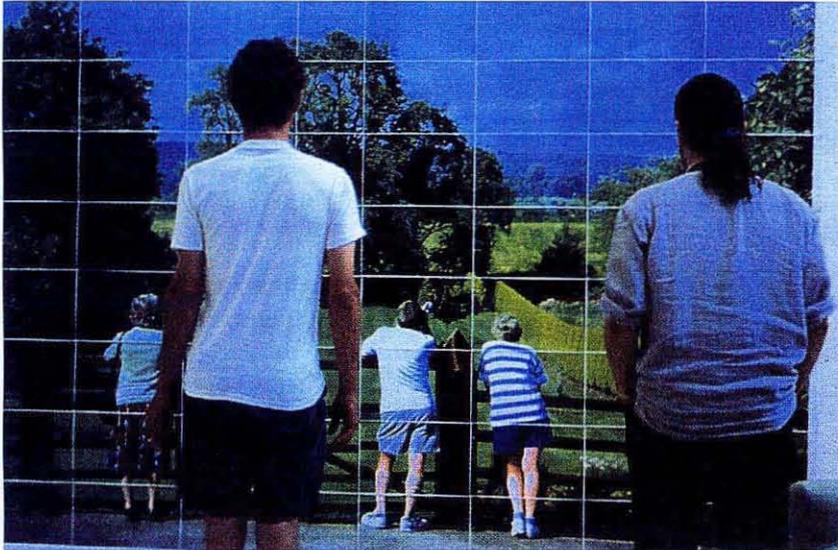
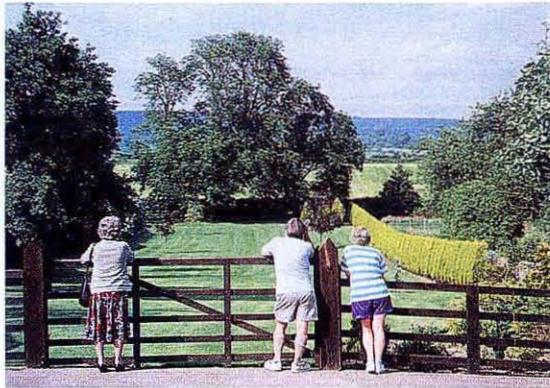
But I do still take pictures sometimes. I took this little snap in Yorkshire last summer, in a town called Coxwold, where Laurence Sterne wrote *Tristram Shandy*. I was just walking past this lane, and I saw these three people stopped there, so I took the picture because I realized that what you're doing looking at the picture is exactly what they're doing. They seem to be looking at a picture as well. What were they looking at? Well, it was actually a day when all the gardens were open in the village, and so they were simply looking at gardens. I then played

with the idea a bit, and I made a great big version; we blew one up on a laser printer at different levels. I stuck them around the studio—put people in front of them as well. It was all quite interesting.

A couple of months ago I was asked to take a photograph for a London newspaper. I put two paintings together in a corner. Then we put a chair there that was done in reverse perspective; and I painted the floor because I thought it then made it look as though we were sitting in the whole picture [page 30]. After that, though, I put a painting in this space, and it takes you a while, I think, to realize what the space is. I made one that I thought was like a family of paintings—mother painting, father painting, little baby painting—but I was fascinated with what was happening. It seemed to me that even in the photograph you are forced to see some other dimension. And I realized that this was, of course, because I was photographing flat surfaces in space, but the thing about them is that they're flat surfaces with something on them, so there's a kind of illusion on that space. And then there's an illusion on the very space you're looking at. When we printed them on our laser printer, we got such terrific vivid color that at first people didn't see them as photographs at all. I think in some pictures you can see how it's set up. As I say, it was all accidental; each painting was begun individually.

Some people keep telling me that I'm wasting my time, really, because the perspective we like is one that makes us more comfortable. Well, that's OK, but I don't think it's always going to

**Right: People looking, Coxwold, Yorkshire, July 1993.**  
**Below: In the studio, people looking at people looking.**



*I was just walking past this lane, and I saw these three people stopped there, so I took the picture because I realized that what you're doing looking at the picture is exactly what they're doing.*

be like that. I've also made the point, as well, that there are things going on that are themselves actually quite fascinating and revealing about pictures. Everyone who lives in Los Angeles knows the power of images; we've even seen social disturbance from images. It's coming out of images, the way images are made, and I watch things like that quite carefully myself, because I think what could be happening is that the photograph itself might be losing its veracity. When I say veracity I mean that the photograph has had a unique position in pictures for 150 years in the sense that whatever you see in a photograph or think you recognize, you do tend to think that at some point in time, in space, this object existed. And that's now not necessarily the case. The computer can now recreate things, can draw as well as a photograph. If the photograph loses its veracity, what will that do to us? A very profound change would happen, and I can see a very disturbing side to it; it's like pulling the ground from under us in some ways.

On the other hand, it can also open up enormously our vision of the world. I think somehow or other we need to see more; we need to see bigger spaces. I do think wider perspectives are needed. Anybody who's used a video camera knows that it's a very small section of what you can see that you can see with a video camera. Recently I was in Monument Valley at dawn with a video camera. As the sun was rising in the east, over in the west was a storm coming towards us. And as the light came, you could see the clouds moving, and a great big rainbow appeared, with lightning happening in the middle. Being there was one of the most exciting and thrilling experiences I'd had. When the sun came up and hit the tops of the monuments, I thought it looked as if Moses was going to speak at any moment. But the widest angle of the camera could only see a tiny section of the scene; it wasn't possible to see it all in one.

I think we can look at things in new and fresh ways even with the old camera, even with a video camera. I've been asked if I would design a movie, and I said, well, as far as I can see, the cameraman designs the movie. It's the way it's seen that does it. I must admit I've resisted going into it simply because I know perfectly well there's too many people involved. The theater is enough for me—to have to compromise. Collaboration means compromise; I accept that. I accept it in the theater. But in the theater it's not many people; in movies it's a lot of people, I'm told. And frankly, I can see with new technology, the new little video cameras, you could do an awful lot at home. I'm assuming

Three studio installation shots, November 1993.



*I was photographing flat surfaces in space, but the thing about them is that they're flat surfaces with something on them, so there's a kind of illusion on that space.*



kids will figure it out. There are new ways you can make movies very cheaply really, because anybody can make a picture as good as you see on television. Television is a bore because the picture itself is very boring. High-definition television has been available for five or six years. The difference is amazing. Why isn't it here? That picture hasn't changed for 30 years. The illusion of sound has changed enormously, but not the picture. People think the picture's fine. I don't. I think it's terrible.

I'm still excited by the possibilities of combining movement and vision to produce new, exciting pictures of the world. But there might be something in just standing in one place and looking from a fixed viewpoint as well. When I draw my dogs I have to set up a piece of paper and just wait until they're still. Right now I'm exploring painting, but I did take some photographs today. So I keep going back to photography, but I tend to think we put too much on it really. I got a marvelous catalog in the mail about two months ago from the British Royal Academy, called "A Golden Age of English Watercolors." The book was of landscapes, mostly of Italy and England. And I loved looking through it and I thought, if these were photographs they would be very boring, actually. Because each of these paintings is a different way of looking, describing, and so on, and each one tells you a great deal. And they make the world more exciting to me, even though these are mostly from the 18th and early 19th centuries. Beautiful things. I don't think photography can do that really. There's a lot it can't do. □