
NEW OBSERVATIONS
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Video
$5.00

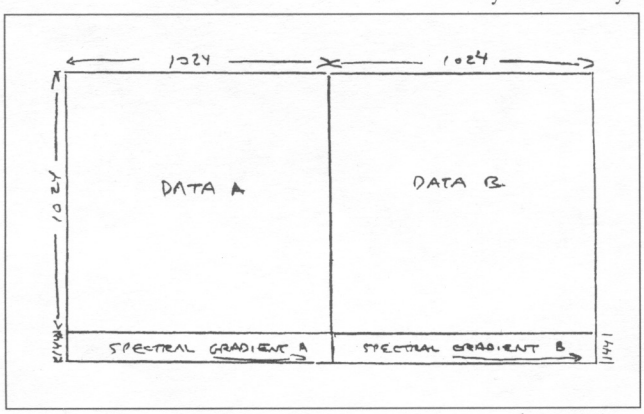
Peter Fend

VIDEO ART INQUIRY

Reality is, of course, not perceived as in a single-frame photograph. A photograph is the image resulting from the mechanization of perspective of drawing and painting. After the camera was developed and photographs could be taken, there was no further need to make perspective pictures. The visual analyses of the Renaissance had been industrialized. The attempt to make compositions or illusionary 2-dimensional representations of 3-dimensional reality became absurd if conducted by hand. Even the idea of being a good draftsperson or a good sketcher became absurd.

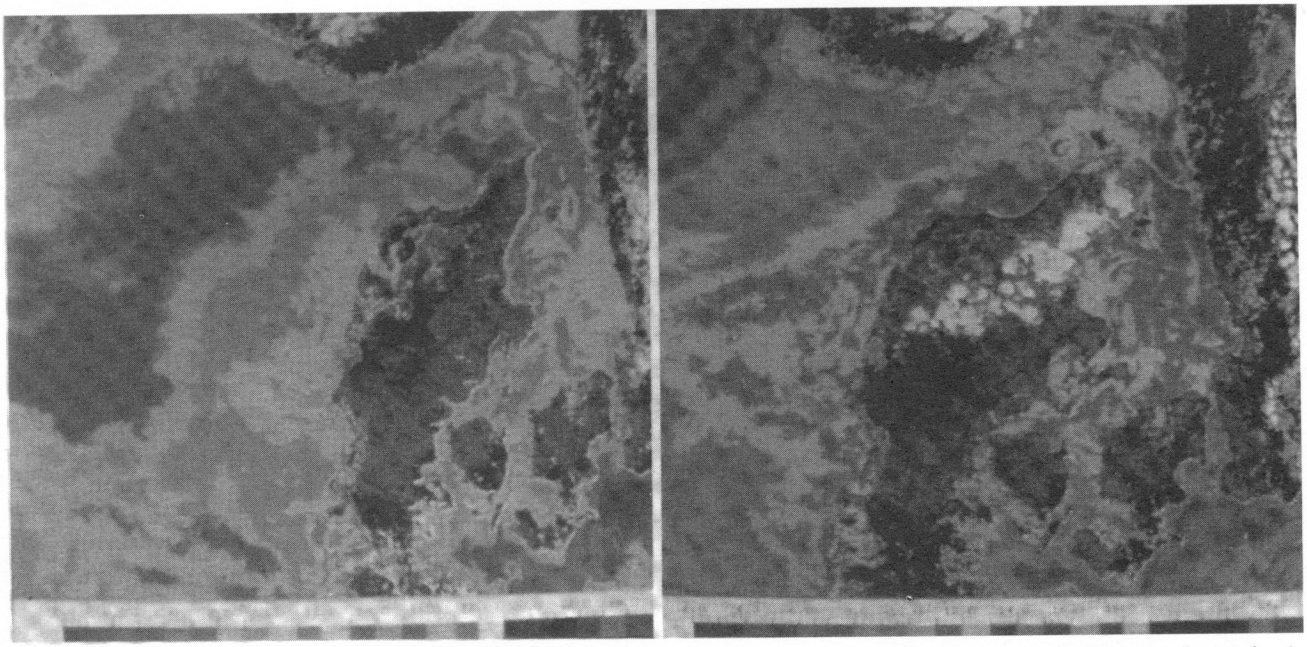
All the imagery we were being flooded with in the mid-twentieth century was either a photograph or an imitation of a photograph – with the exception of Suprematist and Constructivist paintings, especially in Poland, Russia and Italy. Attempts to break out of the box of perspective were started by a few Europeans, notably Lucio Fontana and Ecchurarrean Matta, and this inquiry gradually escalated into field-theory painting. The ideas were picked up from the writings of the Futurists.

In the same manner that it took centuries for perspective and the idea of pictorial space to take hold in Western civilization, so now it takes – given the foreshortened rate of change – at least decades. Pioneering efforts at the beginning of the century have yet to emerge fully. We have lingered long in the abstracting of representational painting, like Abstract Expressionism, which never breaks away from the idea of a picture space into which we view – an idea fully satisfied by the camera.



As is apparent in the thrust at a general theory of relativity, and as is apparent in recent scientific studies of how the eye and brain (or retina and cortex, i.e. retinex) coordinate, the function of seeing is not to take snapshots but to constantly scan all around in search for changes of coloration and motion. Motion and coloration cannot be detected except in a relation. One object is seen to be more red than another, or one figure is seen to be moving relative to another. The retinex sees changes. It sees changes in relation. A static image becomes meaningless. This corresponds to the fact that we feel pressure only when it is actively applied to our nerve endings, as on fingertips, and that we cease to feel such pressure as soon as conditions become constant. The nervous system, of which, the eyes are a major part, cannot detect feeling or data per se but can only detect changes in data. Just as the deer cannot see a hunter if the hunter stands motionless, so we cannot see a photograph if we were to look at it straight on, motionless.

While it is true that we can see many photographs and that we can read all over any one photograph for information, it is also true that much of that moving all over a photograph or moving between photographs allows a constant



Processed imagery from AVHRR of the North Sea, 15-16 May 1988, showiing the change in a 24 hour span , an explosion of the algae bloom from the small point where it began. Anholt, to nearly all the waters surrounding Denmark. The darkened area in the water around Denmark indicates the increased temperature of the sea-surface, about 6-8 degrees warmer than normal. Compare by contrast, the relatively cooler water of the Baltic.

interruption of retinex time. Most of the information actually perceived is totally irrelevant or repetitive, and it has to be excluded from the thought-stream. By consequence, a person wishing to convey information visually cannot be efficient if he or she must use still frames.

An artist organizes visual data, and attempts to make it interesting and understood. Artists are masters at getting a great deal of information across in a very brief span of time. They make it easier for us to weigh the information and to make decisions on it. They perform a vital function in society. They develop the instrumentation of society that is used in communicating facts and ideas. When they develop a very efficient instrumentation, like perspective drawing, they cause a certain pleasure in the viewer: they produce something called beauty.

The task now in the evolution or advancement of human culture is to convey information about phenomena in our habitat – whether on microscopic or macroscopic scale – in a manner more commensurate with the actual functionings of the retinex. We have solved the problem of the rendition of space: that solution is the camera. Now we have to solve the problem of the rendition of motion, or events in time – or, in a certain sense, time itself: that solution lies somewhere beyond the digital computer teamed up with video camera. Now we have mechanized perception of events in time-space, leading ultimately to film chronophotography, soon we shall computerize and automate perception of events in time-space. We shall approach a perfect mimesis of the biological computer-camera system in ourselves – the retinex – and we shall have a method of information transfer from one individual to another that closely corresponds to information transfer within each individual. Snapshots of space will be gradually – but never satisfactorily – replaced by computer- programmed rapid video scans of space through time divided into slices no more than 1/60th of a second in span. If we were ever to achieve computer-receptor rendition of visual reality at a scan rate approaching the speed of light – which is the same speed of electric charges in the nervous system – we would approach the literal replication of sight.

For sight is not a means for taking pictures but is a means for constantly monitoring and comparing and contrasting and recalling and reviewing and scanning changes in the light flux striking the retina.

Sight is very rapid, and it may seem complex with its constant re-framing of scenes through action of the cortex computer, but it is also extremely simple. The retinex detects only three primary colors, which are represented in

film and video as cyan, magenta and yellow. With these colors, these particular wavelengths in the overall radiant spectrum, the retinex sees all that human beings can see. Of course, the colors can combine, and they can have greater or lesser intensity, and of course they can change through time (even a milli-second) in one location in the field of vision, but all that complexity of color changes arises from three colors.

As function of the painter is to mimic sight, the function of the painter today is to mimic sight with the latest available technology.

For about five centuries visual research by artists and scientists in the West concentrated on the rendition of 3-dimensional space in a 2-dimensional plane. 3-dimensional space is apprehended only because of constant changes in the position of the viewer and the objects viewed, not because of any one impression on the cortex; our recognition of space is a function of time. To be supremely accurate in our recognition of space, we must become much more accurate in our recognition of a 2-dimensional surface, and that entails our becoming much more flexible, alterable and adjustable over time, much more motile, in such a recognition of a surface. Visual research, then, will concentrate on achieving an ever greater momentariness of perception of simply an outright 2-dimensional field.

The artist today, if he or she is seriously conducting visual research and therefore means seriously to contribute to our understanding of the environment as much as the first Renaissance investigators into perspective have contributed, must work with the tools of that cybernetic and computerized analogy. The artist must practice ways of rendering surfaces rich in detail and data which allow completely new color-readings, completely different weighing of the incoming wavelengths in their relation to each other, in the shortest possible slices of time. Computers and highly-accurate color video cameras are now available. From the US space program and from modern electronic microscopy science, extremely rich color data is available on computer tapes now which has been closely correlated with natural reality. That is: it is possible now, with computerized digital color data, with computers to translate that data to video streams, and with video monitors and cameras, to study reality with close accuracy; it is possible now to attempt rendering that reality with close accuracy both to the reality and to the biology of the human retinex system. Any number of prominent and well-placed painters have suggested that painting turn to the large body of accurate satellite or electronic microscopy data for tests on the sight-mimicry capacities of video-computer assemblies. I cite Paul Sharits, leading film and video-color-theory investigator, and prominent painter Robert Irwin.

It is understood in recent scientific investigations that colors and transparencies and movements are all relational, and that the eye-brain combination in human beings never really has a shutter but always is re-reading and re-framing the environment. Little visual research by artists has begun on this matter. For example, only with the Futurists has there been investigation into the phenomenon of utter misapprehension of visual reality that accompanies an emotionally-charged event. We would assume that, if our retinex were as automatic as a camera, that everyone would agree on the identity of persons in a crime or car crash while the event was occurring. But, especially on the impact of a dread event, the retinex gets overloaded with messages and simply cannot frame the event. For that reason, matters often seem to visually explode. Little, of course, is recalled. By working with video, a painter might better understand the relation of brain to retina, might better see the margin at which consciousness loses track, and might therefore better be able to describe the psychology of sight. What is required is the transparent medium of film or video, and distinct shifts in shutter or scan speeds towards finding the optimal level of information intake.

A much more palpably important function can be obtained by video-computer studies with verifiable and realistic high-detail color data. That function is the monitoring of ecological systems from high-altitudes. That program can best be conducted by video.

Aerial and satellite cameras now take in a variety of spectral readings on ground activity within fixed frames and at regular intervals of time. It is virtually impossible for any individual to process that data intelligibly. For any one scan there are multitudinous spectral readings, and each one of those readings reveals information of a certain weight in the overall mental calculation of what is occurring – or metabolizing - in the environment. The solution, apparently, lies in mimicking what the retinex already does: extremely swiftly running through all the many different color-weighted readings of the scene, all within the space of a few seconds. This can be accomplished by a computer-video combination. Given that aerial and satellite data now gives 255 varieties of intensities in each of the three primary colors, the possibilities of manipulation for accuracy are great.