Why Do Cuts Work?

Well, the fact is that *Apocalypse Now*, as well as every other theatrical film (except perhaps Hitchcock's *Rope*[3]), is made up of many different pieces of film joined together into a mosaic of images. The mysterious part of it, though, is that the joining of those pieces—the "cut" in American terminology[4]—actually does seem to work, even though it represents a total and instantaneous displacement of one field of vision with another, a displacement that sometimes also entails a jump forward or backward in time as well as space.

It works; but it could easily have been otherwise, since nothing in our day-to-day experience seems to prepare us for such a thing. Instead, from the moment we get up in the morning until we close our eyes at night, the visual reality we perceive is a continuous

[3] A film composed of only ten shots, each ten minutes long, invisibly joined together, so that the impression is of a complete lack of editing.

[4] I was aware, talking to an Australian audience, of the bias inherent in our respective languages. In the States, film is "cut," which puts the emphasis on *separation*. In Australia (and in Great Britain), film is "joined," with the emphasis on *bringing together*.

stream of linked images: In fact, for millions of years—tens, hundreds of millions of years—life on Earth has experienced the world this way. Then suddenly, at the beginning of the twentieth century, human beings were confronted with something else—edited film.

Under these circumstances, it wouldn't have been at all surprising to find that our brains had been "wired" by evolution and experience to reject film editing. If that had been the case, then the single-shot movies of the Lumière Brothers—or films like Hitchcock's *Rope*—would have become the standard. For a number of practical (as well as artistic) reasons, it is good that it did not.

The truth of the matter is that film is actually being "cut" twenty-four times a second. Each frame is a displacement from the previous one—it is just that in a continuous shot, the space/time displacement from frame to frame is small enough (twenty milliseconds) for the audience to see it as *motion within a context* rather than as twenty-four different contexts a second. On the other hand, when the visual displacement is great enough (as at the moment of the cut), we are forced to re-evaluate the new image as a *different context*: miraculously, most of the time we have no problem in doing this.

What we *do* seem to have difficulty accepting are the kind of displacements that are neither subtle nor total: Cutting from a full-figure master shot, for instance, to a slightly tighter shot that frames the actors from the ankles up. The new shot in this case is different enough to signal that *something* has changed, but not different enough to make us re-evaluate its

context: The displacement of the image is neither motion nor change of context, and the collision of these two ideas produces a mental jarring—a jump—that is comparatively disturbing.[5]

At any rate, the discovery early in this century that certain kinds of cutting "worked" led almost immediately to the discovery that films could be shot discontinuously, which was the cinematic equivalent of the discovery of flight: In a practical sense, films were no longer "earthbound" in time and space. If we could make films only by assembling all the elements simultaneously, as in the theater, the range of possible subjects would be comparatively narrow. Instead, Discontinuity is King: It is the central fact during the production phase of filmmaking, and almost all decisions are directly related to it in one way or another—how to overcome its difficulties and/or how to best take advantage of its strengths.[6]

The other consideration is that even if everything *were* available simultaneously, it is just very difficult

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[5] A beehive can apparently be moved two inches each night without disorienting the bees the next morning. Surprisingly, if it is moved two *miles*, the bees also have no problem: They are forced by the total displacement of their environment to re-orient their sense of direction, which they can do easily enough. But if the hive is moved two *yards*, the bees will become fatally confused. The environment does not seem different to them, so they do not re-orient themselves, and as a result, they will not recognize their own hive when they return from foraging, hovering instead in the empty space where the hive used to be, while the hive itself sits just two yards away.

[6] When Stanley Kubrick was directing *The Shining*, he wanted to shoot the film in continuity and to have all sets and actors available all the time. He took over almost the entire studio at Elstree (London), built all the sets simultaneously, and they sat there, pre-lit, for however long it took him to shoot the film. But *The Shining* remains a special exception to the general rule of discontinuity.

to shoot long, continuous takes and have all the contributing elements work each time. European filmmakers tend to shoot more complex master shots than the Americans, but even if you are Ingmar Bergman, there's a limit to what you can handle: Right at the end, some special effect might not work or someone might forget their lines or some lamp might blow a fuse, and now the whole thing has to be done again. The longer the take, of course, the greater the chances of a mistake.

So there is a considerable logistical problem of getting everything together at the same time, and then just as serious a problem in getting it all to "work" every time. The result is that, for practical reasons alone, we don't follow the pattern of the Lumière Brothers or of *Rope*.

On the other hand, apart from matters of convenience, discontinuity also allows us to choose the best camera angle for each emotion and story point, which we can edit together for a cumulatively greater impact. If we were limited to a continuous stream of images, this would be difficult, and films would not be as sharp and to the point as they are.[7]

[7]Visual discontinuity—although not in the temporal sense—is the most striking feature of Ancient Egyptian painting. Each part of the human body was represented by its most characteristic and revealing angle: head in profile, shoulders frontal, arms and legs in profile, torso frontal—and then all these different angles were combined in one figure. To us today, with our preference for the unifying laws of perspective, this gives an almost comic "twisted" look to the people of Ancient Egypt—but it may be that in some remote future, our films, with their combination of many different angles (each being the most "revealing" for its particular subject), will look just as comic and twisted.

And yet, beyond even these considerations, cutting is more than just the convenient means by which discontinuity is rendered continuous. It is in *and for itself*—by the very force of its paradoxical suddenness—a positive influence in the creation of a film. We would want to cut even if discontinuity were not of such great practical value.

So the central fact of all this is that cuts *do work*. But the question still remains: *Why?* It is kind of like the bumble-bee, which should not be able to fly, but does.

We will get back to this mystery in a few moments.

The Rule of Six

The first thing discussed in film-school editing classes is what I'm going to call three-dimensional continuity: In shot A, a man opens a door, walks halfway across the room, and then the film cuts to the next shot, B, picking him up at that same halfway point and continuing with him the rest of the way across the room, where he sits down at his desk, or something.

For many years, particularly in the early years of sound film, that was the rule. You struggled to preserve continuity of three-dimensional space, and it was seen as a failure of rigor or skill to violate it.[9] Jumping people around in space was just not done, except, perhaps, in extreme circumstances—fights or earthquakes—where there was a lot of violent action going on.

I actually place this three-dimensional continuity at the bottom of a list of six *criteria* for what makes a

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[9] The problem with this thinking can be seen in any multi-camera situation-comedy on television. Because the cameras are filming situaneously, the actors are necessarily always "correct" as far as their spatial continuity and relation to each other is concerned, but that absolutely does not prevent bad cuts from being made all the time.

good cut. At the top of the list is Emotion, the thing you come to last, if at all, at film school largely because it's the hardest thing to define and deal with. *How do you want the audience to feel?* If they are feeling what you want them to feel all the way through the film, you've done about as much as you can ever do. What they finally remember is not the editing, not the camerawork, not the performances, not even the story—it's how they felt.

An ideal cut (for me) is the one that satisfies all the following six criteria at once: 1) it is true to the emotion of the moment; 2) it advances the story; 3) it occurs at a moment that is rhythmically interesting and "right"; 4) it acknowledges what you might call "eye-trace"—the concern with the location and movement of the audience's focus of interest within the frame; 5) it respects "planarity"—the grammar of three dimensions transposed by photography to two (the questions of stage-line, etc.); 6) and it respects the three-dimensional continuity of the actual space (where people are in the room and in relation to one another).

1) Emotion   51%
2) Story   23%
3) Rhythm   10%
4) Eye-trace   7%
5) Two-dimensional plane of screen 5%
6) Three-dimensional space of action 4%

Emotion, at the top of the list, is the thing that you should try to preserve at all costs. If you find you have to sacrifice certain of those six things to

make a cut, sacrifice your way up, item by item, from the bottom.

For instance, if you are considering a range of possible edits for a particular moment in the film, and you find that there is one cut that gives the right emotion *and* moves the story forward, *and* is rhythmically satisfying, *and* respects eye-trace and planarity, *but* it fails to preserve the continuity of three-dimensional space, then, by all means, that is the cut you should make. If none of the other edits has the right emotion, then sacrificing spatial continuity is well worth it.

The values I put after each item are slightly tongue-in-cheek, but not completely: Notice that the top two on the list (emotion and story) are worth far more than the bottom four (rhythm, eye-trace, planarity, spatial continuity), and when you come right down to it, under most circumstances, the top of the list—emotion—is worth more than all five of the things underneath it.

And, in fact, there is a practical side to this, which is that if the emotion is right and the story is advanced in a unique, interesting way, in the right rhythm, the audience will tend to be unaware of (or unconcerned about) editorial problems with lower-order items like eye-trace, stage-line, spatial continuity, etc. The general principle seems to be that satisfying the criteria of items higher on the list tends to obscure problems with items lower on the list, but not vice-versa: For instance, getting Number 4 (eye-trace) working properly will minimize a problem with Number 5 (stage-line), whereas if Number 5 (stage-line) is correct but

Number 4 (eye-trace) is not taken into consideration, the cut will be unsuccessful.

Now, in practice, you will find that those top three things on the list—emotion, story, rhythm—are extremely tightly connected. The forces that bind them together are like the bonds between the protons and neutrons in the nucleus of the atom. Those are, by far, the tightest bonds, and the forces connecting the lower three grow progressively weaker as you go down the list.

Most of the time you will be able to satisfy all six criteria: the three-dimensional space and the two-dimensional plane of the screen and the eye-trace, and the rhythm and story and emotion will all fall into place. And, of course, you should always aim for this, if possible—never accept less when more is available to you.

What I'm suggesting is a list of priorities. If you have to give up something, don't ever give up emotion before story. Don't give up story before rhythm, don't give up rhythm before eye-trace, don't give up eye-trace before planarity, and don't give up planarity before spatial continuity.

Dreaming in Pairs

In many ways, the film editor performs the same role for the director as the text editor does for the writer of a book—to encourage certain courses of action, to counsel against others, to discuss whether to include specific material in the finished work or whether new material needs to be added. At the end of the day, though, it is the writer who then goes off and puts the words together.

But in film, the editor also has the responsibility for actually assembling the images (that is to say, the "words") in a certain order and in a certain rhythm. And here it becomes the *director's* role to offer advice and counsel much as he would to an actor interpreting a part. So it seems that the film editor/director relationship oscillates back and forth during the course of the project, the numerator becoming the denominator and vice versa.

In dream therapy there is a technique that pairs the patient—the *dreamer*, in this case—with someone who is there to *listen* to the dream. As soon as possible after waking, the dreamer gets together with his listener to review the dreams of the previous night.

Frequently there is nothing, or just a single disappointing image, but this is usually enough to begin the process. Once the image is described, the listener's job is to propose an imaginary sequence of events based on that fragment. An airplane, for instance, is all that is remembered. The listener immediately proposes that it must have been an airliner flying over Tahiti filled with golf balls for a tournament in Indonesia. No sooner has this description been offered than the dreamer finds himself protesting: "No, it was a biplane, flying over the battlefields of France, and Hannibal was shooting arrows at it from his legion of elephants." In other words, the dream itself, hidden in the memory, rises to its own defense when it hears itself being challenged by an alternate version, and so reveals itself. This revelation about bi-planes and elephants can in turn prompt the listener to elaborate another improvisation, which will coax out another aspect of the hidden dream, and so on, until as much of the dream is revealed as possible.

The relationship between director and editor is somewhat similar in that the director is generally the dreamer and the editor is the listener. But even for the most well-prepared of directors, there are limits to the imagination and memory, particularly at the level of fine detail, and so it is the editor's job to propose alternate scenarios as bait to encourage the sleeping dream to rise to its defense and thus reveal itself more fully. And these scenarios unfold themselves at the largest level (should such-and-such a scene be removed from the film for the good of the whole?) and at the most detailed (should this shot end on this frame

or 1/24th of a second later on the *next* frame?). But sometimes it is the editor who is the dreamer and the director who is the listener, and it is he who now offers the bait to tempt the collective dream to reveal more of itself.

As any fisherman can tell you, it is the quality of the bait that determines the kind of fish you catch.

Team Work: Multiple Editors

Not only does the editor collaborate with the director, there are frequent times when two or more editors are working simultaneously, sometimes with equal authority. This seems odd to many people, who do not see the same thing happening with directors of photography or production designers. But for some reason, which has to do with the collaborative mentality of editors and with the fact that the time pressure of post-production is not quite so unforgiving in its consequences as it is during production, multiple editors are often employed. I have worked, and enjoyed, collaborating with other editors on many films: *The Conversation, Apocalypse Now, The Unbearable Lightness of Being,* and *Godfather, Part III.*

The main advantage to collaborative editing is speed; the main risk is lack of coherence. But if there are upward of 350,000 feet of workprint (sixty-five hours), you are probably going to need to take that risk and have two editors, or at least an associate editor working under supervision. But problems can

sometimes arise if there is just one editor on a film and he develops a locked viewpoint about the material. This is particularly troublesome if the director and the editor have not worked together before and have no time to develop a common language. In this case, it might not be a bad idea to consider having multiple editors.

The Godfather was the first film on which Francis worked with two editors. Originally there had been just a single editor, but the problem of locked viewpoint became acute and he was let go after several months. The decision was made to reconstitute what had been done up to that point and start again, but because they had effectively lost those months, and it looked as though the film was going to be almost three hours long with an inflexible deadline, it made sense to hire two editors. The film was still shooting and there was just a lot of work to do: Each editor had a ninety-minute film to complete in twenty-four weeks. But unlike the later Godfather, Part II or Apocalypse, the work was split strictly in half. Bill Reynolds cut the first part and Peter Zinner cut the last part. There's a specific point where Bill's section ends and Peter's begins.

On Godfather, Part II, although the responsibility for editing was divided up in a checkerboard pattern, scenes were initially cut and recut by the same person.[16] But when Francis began to play with the structure of the film, people found themselves recutting what others had originally edited.

[16] The editors of Godfather, Part II, were Peter Zinner, Barry Malkin, and Richard Marks.

The interest on a $25 million film is around $250,000 a month. If having two editors can help you release that film a month earlier, they will have re-paid a good portion, if not all, of their salaries for the whole film. It is simply a matter of how much you want to achieve in the time you have available. If you end up with a cut-per-day rate of 1.47, as we did on Apocalypse, that means that many different avenues have been explored to get to the final product. If that's what you want to do, you probably need more than one editor.

Don't Worry, It's Only a Movie

Earlier I asked the question, "Why do cuts work?" *We know* that they do. And yet it is still surprising when you think about it because of the violence of what is actually taking place: At the instant of the cut, there is a total and instantaneous discontinuity of the field of vision.

I recall once coming back to the editing room after a few weeks in the mixing theater (where all movements are smooth and incremental) and being appalled at the brutality of the process of cutting. The "patient" is pinned to the slab and: Whack! Either/Or! This not That! In or Out! We chop up the poor film in a miniature guillotine and then stick the dismembered pieces together like Dr. Frankenstein's monster. The difference (the miraculous difference) is that out of this apparent butchery our creation can sometimes gain not only a life but a soul as well. It is all the more amazing because the instantaneous displacement achieved by the cut is not anything that we experience in ordinary life.

We are accustomed to such things, of course, in music (Beethoven was the innovator and master of this) as well as in our own thoughts—the way one realization will suddenly overwhelm everything else, to be, in turn, replaced by yet another. But in the dramatic arts—theater, ballet, opera—there didn't seem to be any way to achieve total instantaneous displacement: stage machinery can only move so fast, after all. *So why do cuts work?* Do they have some hidden foundation in our own experience, or are they an invention that suits the convenience of filmmakers and people have just, somehow, become used to them?

Well, although "day-to-day" reality appears to be continuous, there *is* that other world in which we spend perhaps a third of our lives: the "night-to-night" reality of dreams. And the images in dreams are much more fragmented, intersecting in much stranger and more abrupt ways than the images of waking reality—ways that approximate, at least, the interaction produced by cutting.

Perhaps the explanation is as simple as that: We accept the cut because it resembles the way images are juxtaposed in our dreams. In fact, the abruptness of the cut may be one of the key determinants in actually *producing* the similarity between films and dreams. In the darkness of the theater, we say to ourselves, in effect, "This looks like reality, but it cannot be reality because it is so visually discontinuous; therefore, it must be a dream."

(Along those lines, it is revealing that the words a parent uses to comfort a child frightened by a night-mare—"Don't worry, darling, it's only a dream"—are

almost the same words used to comfort a child frightened by a film—"Don't worry, darling, it's only a movie." Frightening dreams and films have a similar power to overwhelm the defenses that are otherwise effective against equally frightening books, paintings, music. For instance, it is hard to imagine this phrase: "Don't worry, darling, it's only a painting.")

The problem with all this is that the comparison of films and dreams is interesting, probably true, but relatively barren of practical fruits: We still know so little about the nature of dreams that the observation comes to a stop once it has been made.

Something to consider, though, is the possibility that there may be a part of our waking reality where we actually do experience something like cuts, and where daylight images are somehow brought in closer, more discontinuous, juxtaposition than might otherwise seem to be the case.

I began to get a glimmer of this on my first picture-editing job—*The Conversation* (1974)—when I kept finding that Gene Hackman (Harry Caul in the film) would blink very close to the point where I had decided to cut. It was interesting, but I didn't know what to make of it.

Then, one morning after I had been working all night, I went out to get some breakfast and happened to walk past the window of a Christian Science Reading Room, where the front page of the *Monitor* featured an interview with John Huston. I stopped to read it, and one thing struck me forcefully because it related exactly to this question of the blink:

"To me, the perfect film is as though it were unwinding behind your eyes, and your eyes were projecting it themselves, so that you were seeing what you wished to see. Film is like thought. It's the closest to thought process of any art.

"Look at that lamp across the room. Now look back at me. Look back at that lamp. Now look back at me again. Do you see what you did? You *blinked*. Those are *cuts*. After the first look, you know that there's no reason to pan continuously from me to the lamp because you know what's in between. Your mind cut the scene. First you behold the lamp. *Cut*. Then you behold me."[12]

What Huston asks us to consider is a physiological mechanism—the blink—that interrupts the apparent visual continuity of our perceptions: My head may move smoothly from one side of the room to the other, but, in fact, I am cutting the flow of visual images into significant bits, the better to juxtapose and compare those bits—"lamp" and "face" in Huston's example—without irrelevant information getting in the way.

Of course there are limits to the kind of juxtapositions I can make this way—I can't jump forward or backward in time and space (that is the prerogative of dreams and films).[13] But even so, the visual displacements available to me just by turning my head (from the Grand Canyon in front of me to the forest behind me, or even from one side of this room to the other) are sometimes quite great.

[12] *Christian Science Monitor*, August 11, 1973. John Huston interviewed by Louise Sweeney.

[13] But see footnote #16.

After I read that article, I started observing people, watching when they blinked, and I began to discover something much different than what they tell you in high-school biology, which is that the blink is simply a means to moisten the surface of the eye. If that's all it is, then for each environment and each individual there would be a purely mechanical, predictable interval between blinks depending on the humidity, temperature, wind speed, etc. You would only blink when your eye began to get too dry, and that would be a constant number of seconds for each environment. This is clearly not the case: People will sometimes keep their eyes open for minutes at a time—at other times they will blink repeatedly—with many variations in between. The question then is, "What is causing them to blink?"

On the one hand, I'm sure you've all been confronted by someone who was so angry that he didn't blink at all: This is a person, I believe, in the grip of a single thought that he holds (and that holds him), inhibiting the urge and need to blink.[14] And then there is the opposite kind of anger that causes someone to blink every second or so: This time, the person is being assailed simultaneously by many conflicting emotions and thoughts, and is desperately (but unconsciously) using those blinks to try to separate these thoughts, sort things out, and regain some kind of control.

[14] There is that telling phrase from classic cowboy (and now diplomatic) stand-offs: "he blinked." The loser in this mental game of chicken could not hold fast to his single position and instead allowed some other thought to intrude at the critical moment. The blink signals the moment he relinquished his primary thought.

So it seems to me that our rate of blinking is somehow geared more to our emotional state and to the nature and frequency of our thoughts than to the atmospheric environment we happen to find ourselves in. Even if there is no head movement (as there was in Huston's example), the blink is either *something that helps an internal separation of thought to take place*, or it is *an involuntary reflex accompanying the mental separation that is taking place anyway*.[15]

And not only is the *rate* of blinking significant, but so is the actual *instant* of the blink itself. Start a conversation with somebody and watch when they blink. I believe you will find that your listener will blink at the precise moment he or she "gets" the idea of what you are saying, not an instant earlier or later. Why would this be? Well, speech is full of unobserved grace notes and elaborations—the conversational equivalents of "Dear Sir" and "Yours Sincerely"—and the essence of what we have to say is often sandwiched between an introduction and a conclusion. The blink will take place either when the listener realizes our "introduction" is finished and that now we are going to say something significant, or it will happen when he feels we are "winding down" and not going to say anything more significant for the moment.

And that blink will occur where a cut could have happened, had the conversation been filmed. Not a frame earlier or later.

So we entertain an idea, or a linked sequence of ideas, and we blink to separate and punctuate that idea from what follows. Similarly—in film—a shot

15 Dr. John Stern of Washington University in St. Louis has recently (1987) published experimental work in the psycho-physiology of the blink that seems to confirm this.

presents us with an idea, or a sequence of ideas, and the cut is a "blink" that separates and punctuates those ideas.[16] At the moment you decide to cut, what you are saying is, in effect, "I am going to bring this idea to an end and start something new." It is important to emphasize that the cut by *itself* does not create the "blink moment"—the tail does not wag the dog. If the cut is well-placed, however, the more extreme the visual discontinuity—from dark interior to bright exterior, for instance—the more thorough the effect of punctuation will be.

At any rate, I believe "filmic" juxtapositions are taking place in the real world not only when we dream but also when we are awake. And, in fact, I would go so far as to say that these juxtapositions are not accidental mental artifacts but part of the method we use to make sense of the world. We must render visual reality discontinuous, otherwise perceived reality would resemble an almost incomprehensible string of letters without word separation or punctuation. When we sit in the dark theater, then we find edited film a (surprisingly) familiar experience. "More like thought than anything else," in Huston's words.[17]

16 This can occur regardless of how big or small the "idea" happens to be. For instance, the idea could be as simple as "she moves quickly to the left."

17 William Stokoe makes an intriguing comparison between the techniques of film editing and American Sign Language: "In signed language, narrative is no longer linear. Instead, the essence is to cut from a normal view to a close-up to a distant shot to a close-up again, even including flashback and flash-forward scenes, exactly as a movie editor works. Not only is signing arranged more like edited film than like written narration, but also each signer is placed very much as a camera: the field of vision and angle of view are directed but variable." William Stokoe, *Language in Four Dimensions*, New York Academy of Sciences (1979).

A Galaxy of Winking Dots

Along these lines, it would be fascinating to take an infrared film of an audience and find out when and in what patterns people blink when they are watching a movie. My hunch is that if an audience is really in the grip of a film, they are going to be thinking (and therefore blinking) with the rhythm of the film.

There is a wonderful effect that you can produce if you shine infrared light directly out in line with the lens of a camera. All animal eyes (including human eyes) will bounce a portion of that light directly back into the camera, and you will see bright glowing dots where the eyes are: It is a version of the "red-eye" effect in family snapshots taken with flashbulbs.

If you took a high-contrast infrared motion picture of an audience watching a film, placing the camera on stage and aligning the light source directly with the camera, you would see a galaxy of these dots against a field of black. And when someone in the audience blinked, you would see a momentary interruption in a pair of these dots.

If it were true, if there *were* times when those thousand dots winked more or less in unison, the filmmaker would have an extremely powerful tool at his disposal. Coherent blinking would be a strong indication that the audience was thinking together, and that the film was working. But when the blinking became scattered, it would indicate that he may have lost his audience, that they had begun to think about where to go for dinner, or whether their car was parked in a safe place, etc.

When people are deeply "in" a film, you'll notice that nobody coughs at certain moments, even though they may have a cold. If the coughing were purely an autonomic response to smoke or congestion, it would be randomly constant, no matter what was happening on screen. But the audience holds back at certain moments, and I'm suggesting that blinking is something like coughing in this sense. There is a famous live recording of pianist Sviatoslav Richter playing Mussorgsky's *Pictures at an Exhibition* during a flu epidemic in Bulgaria many years ago. It is just as plain as day what's going on: While he was playing certain passages, no one coughed. At those moments, he was able to suppress, with his artistry, the coughing impulse of 1,500 sick people.

I think this subconscious attention to the blink is also something that you would probably find as a hidden factor in everyday life. One thing that may make you nervous about a particular person is that you feel, without knowing it, that his blinking is wrong. "He's blinking too much" or "He's not blinking enough" or "He's blinking at the wrong time." Which means he is not really listening to you, thinking along with you.

Whereas somebody who is really focused on what you are saying will blink at the "right" places at the "right" rate, and you will feel comfortable in this person's presence. I think we know these things intuitively, subconsciously, without having to be told, and I wouldn't be surprised to find that it is part of our built-in strategy for dealing with each other.

When we suggest that someone is a bad actor, we are certainly not saying that he is a bad human being; we are just saying that this person is not as fully *in* the character as he wants us to believe, and he's nervous about it. You can see this clearly in political campaigns, where there is sometimes a vivid distinction between who somebody is and who they want the voters to believe they are: Something will always be "wrong" with the rate and moment that these people blink.

That brings me back to one of the central responsibilities of the editor, which is to establish an interesting, coherent rhythm of emotion and thought—on the tiniest and the largest scales—that allows the audience to trust, to give themselves to the film. Without their knowing why, a poorly edited film will cause the audience to hold back, unconsciously saying to themselves, "There's something scattered and nervous about the way the film is thinking, the way it presents itself. I don't want to think that way; therefore, I'm not going to give as much of myself to the film as I might." Whereas a good film that is well-edited seems like an exciting extension and elaboration of the audience's own feelings and thoughts, and they will therefore give themselves to it, as it gives itself to them.

One-and-a-Half English Patients

In 1995, I was hired to edit Anthony Minghella's film of Michael Ondaatje's *The English Patient*.

By this time, many of the problems outlined above had been solved—or were on their way to being solved—by the inexorable increase in processing speed of computers and a drop in the cost of memory. Although I had not edited a complete feature film electronically, I had directed and edited a four-minute music video for Linda Ronstadt in 1994, and a three-minute-long, five-layer newspaper montage for the film *I Love Trouble*, in 1995, both on the Avid. I was impressed by how things had changed in five years.

There had been three major breakthroughs:

1) **Memory capacity and processing speed** had increased to the point where storing the entire film on computer hard drives was now economically and technically possible; the quality of the digitized image had improved considerably; and the workflow was rarely interrupted.

2) **Two or more workstations** could now access the same set of hard drives on which the film was stored, which eliminated the danger of "bottlenecking."

3) **The software for a true 24-frame environment** had been written by Avid for their Film Composer program, assuring a one-to-one correspondence between the frames in the computer and the frames of film. This

was the breakthrough that made the crucial *edit decision list* perfectly reliable for the purposes of conforming the 35mm film.

Despite having a few lingering questions and reservations, I was eager to try digital editing, and *English Patient*, with its shifting time structure, seemed ideally suited for the flexibility that the Avid would give.

However, the producer of the film, Saul Zaentz, was trying to reduce the budget (all heads of departments were working on partial salary deferments), and renting an Avid represented an up-front extra cost of several thousand dollars a week—despite the potential for time savings farther along in the schedule. Also, *English Patient* was shooting in Italy and Tunisia, and Saul was rightly concerned about logistical support.

Anthony Minghella had edited his two previous films conventionally, on film, and was concerned about making the change to digital. Not only was it unfamiliar territory for him, but several of his friends had recently had unfortunate experiences with electronic editing: There had been technical problems, and the electronic system itself seemed to encourage studio interference.

So the decision was made to edit *The English Patient* directly on 35mm film, which was fine with me. Perhaps, on second thought, making a film in a foreign country and learning a new system at the same time would impose too many variables. There was always the next film . . . .

So we started production of *English Patient* at Cinecittà in Rome in September of 1995 with a con-

ventional mechanical setup: a KEM "8-plate" for me and a Steenbeck for my assistants, Daniel Farell and Rosmary Conte, in addition to the normal rewind benches and miscellaneous paraphernalia. As usual, we had my computerized database to keep a log of the notes and comments about each take as well as the photo duplicating equipment for taking representative stills of each setup.

However, six weeks into production, my wife, Aggie (who was preparing to fly to Rome for a visit) called with the news that our son Walter, had had a seizure the day before and been diagnosed with a brain tumor.

I notified Anthony and Saul and discussed the situation with them as best I understood it—Walter was okay and recovering from the seizure, but an operation to remove the tumor had been tentatively scheduled for two weeks later. The seriousness of the situation couldn't be assessed until the day of the operation, when a biopsy could be made.

I told Anthony and Saul that I was flying home the next day, expected to be gone for at least eight weeks under the best of circumstances, and that they should think about hiring another editor to replace me. Both Saul and Anthony refused to consider that possibility and told me that I should not worry about the film and to update them. So early the next day I was on my way home to Bolinas, a small town north of San Francisco.

This kind of extreme crisis, for which you are never prepared, has the effect of hurtling you, so to speak, through the windshield of your normal day-to-day life. Some magic agency puts things, blessedly, in a startlingly clear perspective: What is important stands out in brilliant relief; everything else recedes into the muted background. The event-horizon shrinks to what is achievable today or at most tomorrow. "What if?" is banished, and your role in the unfolding events has a solidly determined feel. It's some kind of self-protective mechanism with very ancient roots.

So the film, which had been my primary focus twenty-four hours earlier, now seemed as if it were a curiosity at the other end of a telescope.

Nonetheless, I was conscious that I had a professional responsibility to people who had put their trust in me. I was going to be away for at least two months, and shooting was not going to stop: An eight-week backlog in a twenty-week schedule has a tremendous force to it.

By the time I landed in San Francisco, it had become clear to me what I would propose to Saul and Anthony: If they really wanted me to continue as the editor on the film, we should install an Avid in the barn next to our house in Bolinas, ship the dailies to San Francisco after the unit had seen them, and I would start editing at home, able to be close at hand during my son's recuperation. It would involve a considerable extra cost to the film, as well as having the editor 7,000 miles away from the production, but there didn't seem to be an alternative as far as I was concerned. To Saul and Anthony's eternal credit, they accepted my proposal without hesitation.

Walter's operation went ahead as scheduled, and was successful. The tumor's biopsy was ambiguous, and he declined to have chemotherapy or radiation treatment. He spent several months at home, through the first assembly of the film. The joke went around that, since my wife is English, we had one-and-a-half "English patients" staying with us at our house in Bolinas.

Walter had been teaching mountain-climbing before all this happened, and his recovery goal became being able to join a cancer survivor's ascent of Mt. Denali (we called it "Mt. Denial") in Alaska, the tallest peak in North America. In June of the following year, he was part of a team of fifteen that successfully reached the summit. He has now worked with me on my last three editing projects—it has been almost five years since the operation, and his prognosis is good, thank God.

Man Meets Machine

The Avid—which is physically just a powerful personal computer and some video monitors—was quickly installed upstairs in the barn, and film began to arrive from Italy. One problem was maintaining communication with my film assistants, Dan and Rosmary in Rome, as well as with Anthony and Saul, who were shooting in a remote part of Tunisia by this time. Luckily, Rosmary had an email account, and this quickly became the highway on which both correspondence and database information was transmitted.