



it had to relate to the work on our  
inning film at half-speed in our  
s was helpful for a general under-  
nd thrusts and counter thrusts, but  
not directly applicable to anima-  
Don Graham had chosen certain  
ear, isolated examples of move-  
in his lectures, but, while they  
articulation, they were still essen-  
reises.

discussion of how the *Snow White*  
act in a particular situation, some-  
is actions might be similar to those  
in Eddie Collins. This led to every-  
the theater to see the exceptional  
1. We invited him to the studio,  
of his innovative interpretations of  
—a completely new concept that  
e into the little cartoon character.  
“leftover” dwarf, with no partic-  
not even a voice; so, now, to see  
becoming someone special, and,  
ne entertaining, was an exciting  
of all, everything Collins had sug-

g in the film that could be copied  
/ it was, but as source material it

was a gold mine. Freddie Moore had the assignment  
of doing the experimental animation on Dopey, and he  
ran the Collins film over and over on his Moviola,  
searching not so much for specifics as for the overall  
concept of a character. Then he sat down at his desk  
and animated a couple of scenes that fairly sparkled  
with fresh ideas. Walt turned to the men gathered in  
the sweatbox and said, “Why don’t we do more of  
this?”

Immediately other comics were brought in—enter-  
tainers from vaudeville, men who had done voices for  
the other dwarfs; all were put before the camera. No  
routines were filmed, just miscellaneous activities and  
expressions that might help delineate a character. Our  
own storymen who had a special talent for acting were  
dragged to the sound stage, and animators even photo-  
graphed each other. As Bill Cottrell said years later,  
“It all seems so amateurish now—but it was fun! It  
was fun!” And that spirit of fun and discovery was  
probably the most important element of that period.

Now we had film that had been shot just for us,  
directly related to the characters we were drawing, and  
even though the acting was crude, we all picked up  
ideas to enrich our scenes. We quickly found that  
there were two distinctly different ways this film could  
be used. As resource material, it gave an overall idea  
of a character, with gestures and attitudes, an idea that

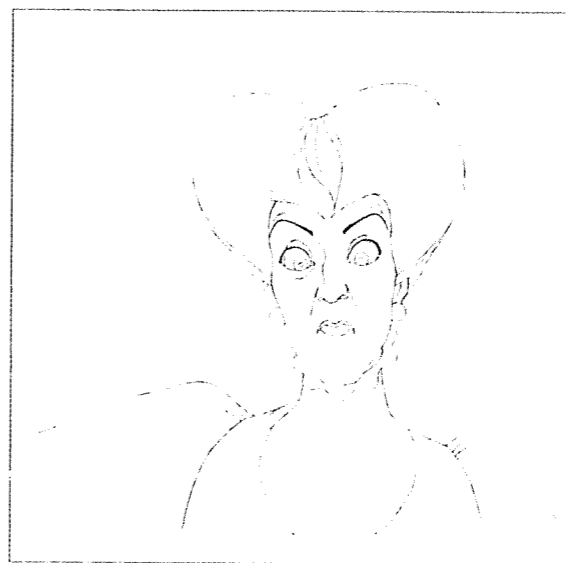
could be caricatured. As a model for the figure in  
movement, it could be studied frame by frame to reveal  
the intricacies of a living form’s actions.

At that time, the only way of studying live action  
frame by frame was to trace the film on our roscope  
machine. This was simply a projector converted to  
focus one image at a time, from below, onto a square  
of clear glass mounted in a drawing board. When draw-  
ing paper was placed over the glass, tracing after tracing  
could be made, each sheet kept in register by pegs at  
the bottom of the glass. It was tedious work and time-  
consuming, but this was the way it had been done for  
twenty years.

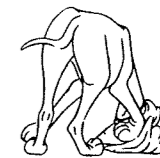
Naturally, Walt changed that situation in a hurry.  
He had the film processing lab work out a system of  
printing each frame of a film onto photographic paper  
the same size as our drawing paper. These sheets,  
which we called photostats, were then punched to fit  
the pegs of an animation desk, and the animator could  
now study the action by flipping “frames of film”  
backward and forward, just as he did his drawings.  
Here could be seen every tiny detail of changing shapes  
and relationships in the movements. At last, the ani-  
mators could study all of the mysteries that had in-  
trigued them so long.

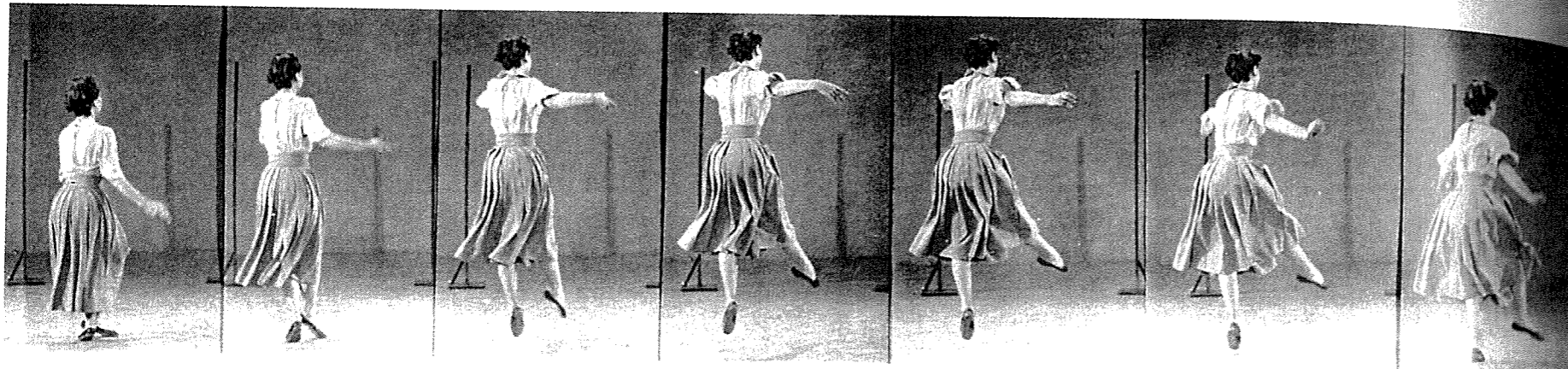
We were amazed at what we saw. The human form  
in movement displayed far more overall activity than  
anyone had supposed. It was not just the chest work-  
ing against hips, or the backbone bending around, it  
was the very bulk of the body pulling in, pushing out,  
stretching, protruding. Here were living examples of  
the “squash and stretch” principles that only had been  
theories before. And here was the “follow through”  
and the “overlapping action,” the changing shapes,  
the tensions and the counter tensions, the weight shown  
in the “timing,” and the “exaggeration”—unbeliev-  
able exaggeration. We thought we had been drawing  
broad action, but here were examples surpassing any-  
thing we had done. Our eyes simply are not quick  
enough to detect the whole gamut of movement in the  
human figure.

Some actions were so complicated they were impos-  
sible to draw in caricature, and many of the moves that  
gave touches of personality were too subtle to capture  
at all. The tilt of the head as it turned, the changing  
shape of an eye, the slight swelling of a cheek in a



*The animation of the wicked, scheming stepmother in Cinderella was based on the strong actions and expressions of Eleanor Audley. These photostats show the relationship of the features and the timing of the move, but the face had to be redesigned to match the other characters in the picture. Nothing on the photostats could be traced or copied, but they still gave an excellent guide for the action needed in the scene.*





fleeting smile, the raising of a shoulder as the body leaned forward—these were the precious elements of life revealed by the camera.

But whenever we stayed too close to the photostats, or directly copied even a tiny piece of human action, the results looked very strange. The moves appeared real enough, but the figure lost the illusion of life. There was a certain authority in the movement and a presence that came out of the whole action, but it was impossible to become emotionally involved with this eerie, shadowy creature who was never a real inhabitant of our fantasy world.

Not until we realized that photographs must be redrawn in animatable shapes (our proven tools of communicating) were we able to transfer this knowledge to cartoon animation. It was not the photographed action of an actor's swelling cheek that mattered, it was the animated cheek in our drawings that had to communicate. Our job was to make the cartoon figure go through the same movements as the live actor, with the same timing and the same staging, but, because animatable shapes called for a difference in proportions, the figure and its model could not do things in exactly the same way. The actor's movements had to be reinterpreted in the world of our designs and shapes and forms.

As long as we remembered to use the photostats only as a reference in making our own statement of what should be in the scene, our animation was never tight or restricted. Our drawing ability had to improve, our knowledge of anatomy and acting had to increase, and our judgment had to develop, but, with an apprehensive Walt Disney watching every line we made, progress was automatic—difficult, but expected. Our animation picked up a crispness, a force, and a richness it never had before. This took study and analysis and careful work, but once a movement was understood it easily could be incorporated into cartoon terms. We had made the big break with rotoscope.

No one knows for sure why a pencil tracing of a live action figure should look so stiff and unnatural on the screen, unless there simply is no reality in a copy. The animators had learned this in art classes, but, somehow, studying film of a moving model made them think that live action was different. The camera certainly records what is there, but it records *everything*

that is there, with an impartiality that is not the other hand, an artist shows especially that which might not be there. His drawings can be closer to reality than the object because he can be selective about what he chooses to show. For an animator chooses only those elements that are the point of his particular scene; things that are not essential until they become the dominant feature are either eliminated or simplified. What appears on the screen is a simplified statement that has clarity and vitality. The vitality has been gained by adapting the artist's own designs, the shapes and forms, in reaching an audience. The artists always have done this. Michelangelo's statue of David, for all of its idealism, is such a distorted normal proportion that it looks like a strange looking apparition walking down the street. The celebrated statues of classic beauties of art, who have not even fit into modern clothing, would attract only a few social functionaries. The point is that art is a copy; for it to have meaning it must be a statement of an artist's own statement of an artist.

The first live-action film was a reference only, and it was not a fit either our story continuity or our animation. It was not long before one animator liked on a piece of film a sound track, made a couple of drawings, and then incorporated that into his animation. Soon we were shooting film for special actions, so that an animator would not spend too much time searching for a reference.

As a director shot more and more animation, he realized that this was a wonderful business and staged. This was also an excellent form of communication with the audience. It was something tangible to the audience, and the director and animator were there, adding or cutting,



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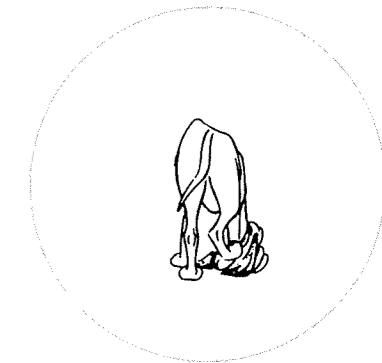
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that is there, with an impartial lack of emphasis. On the other hand, an artist shows what he sees is there, especially that which might not be perceived by others. His drawings can be closer to the true realism of an object because he can be selective and personal in what he chooses to show. From the photostats, the animator chooses only those actions that relate to the point of his particular scene; then he strengthens those until they become the dominant action, with everything else either eliminated or subordinated. What appears on the screen is a simple, strong, direct statement that has clarity and vitality. The spirit and life have been gained by adapting the human form to an artist's own designs, the shapes and forms that he uses in reaching an audience. This is no more than what artists always have done. Michelangelo's magnificent statue of David, for all of its power and beauty, has such distorted normal proportions that David would be a strange looking apparition were he to be met walking down the street. The celebrated Venus de Milo could not even fit into modern clothes, and most of the other classic beauties of art, who have enthralled men for centuries, would attract only stares of amazement at a social function. The point is: a work of art is never a copy; for it to have meaning to people of many generations and numerous cultures, it must be the personal statement of an artist.

The first live-action films we had shot were for reference only, and it was pure chance that something fit either our story continuity or our sound tracks. But it was not long before one of us had picked out an action he liked on a piece of film, synced it up with his sound track, made a couple of adjustments in timing, and then incorporated that action into his animation. Soon we were shooting film for specific scenes or special actions, so that an animator would not have to spend too much time searching for relevant material.

As a director shot more and more of his cartoon continuity in sequence with live actors, he began to realize that this was a wonderful opportunity to check planned business and staging before it was animated. This was also an excellent way of establishing early communication with the animator himself, for here was something tangible to discuss. The action was on film, and the director and animator could build from there, adding or cutting, doing more or doing less,



*Actress Helene Stanley devised a light dance step for Merryweather cleaning the house with magic in Sleeping Beauty. Later work on the sequence determined that the action would be better seen in front view, which was no problem once the action was understood by the animator.*

*1. First a drawing was made over the photostats, tracing action the animator wanted to retain, emphasizing points that made the movement unique, and noting the relationships and timing of all the parts.*

*2. Setting the photostats aside, the animator worked from his own drawings to capture the same action in the proportions of his cartoon character, who, at this point, was turned around to face the camera.*

*3. Using this second set of roughs as he would on any scene, he proceeded to animate normally. Occasionally he referred back to the photostats one more time for some fine point that did not seem to be working or to solve a difficult drawing problem within an action. After all, that is what a model is for.*

*(ANIMATOR: Frank Thomas —Sleeping Beauty.)*



strengthening or modifying; but, at least, they were starting from the same point.

All of this demanded more care in the planning and shooting of live action film. If the image on the film was right, a weak animator could get by with it and a good animator could make it even better. However, if the live action was poorly planned, or staged in a confusing manner, it would cause trouble for everyone, and the director would do better to throw the film away and start afresh with the animator and his storyboard. Essentially, the film should be considered a further step in the visual development of the story material, like an advanced story sketch, and it should be shot with that purpose in mind. Before going over to the sound stage, the director should take a hard look at the scenes he is planning to shoot and ask himself:

Is this material really ready to go into animation?

Does the business fit the story? The character? Is it right for the mood, the tempo, the overall idea?

Is it entertaining? Is it just somebody saying some necessary dialogue, or is it a situation that gives the actor a chance to build and contribute?

If we happen to get some funny action or new business, will it fit? Can this be used easily and effectively? Does it animate as it is? Will it make a good scene? Would I be excited if I had to animate it?

Am I helping the animator by shooting this, or will it be tough to handle once it is on his board?

And when the director is on the stage with the scene rehearsed and the actor ready, he should remember renowned film director Stanley Kubrick's final check: "Is anything happening worth putting on film?"

Unless a director is exceptionally wise, or an animator himself, he should ask the man who ultimately will animate the scenes to help plan the business on the stage. Almost always when someone else shoots film for an animator the camera is too far back, or too close, or the action is staged at the wrong angle to

reveal what is happening, or it is light where you want to see is in shadow. Occasionally will show only continuity of an actor's place to another, or just waiting, or a situation to do something interesting later. It must be staged with enough definition



The whole production unit often participates in crucial actions. In this scene for *Sleeping Beauty*, layout men Ernest Nordli, Don Codrick check their layout continuity; producer and Helene Stanley discuss their rehearsal; Clyde "Gerry" Geronomi; supervising director Eric Larson reviews the production designer Mac Stewart makes sure the action matches the scene that has been planned.



Actor Hans Conried portrays Capt. Hook. Don Barclay gives a very imaginative Peter Pan in this scene from *Peter Pan*. The boat, creating an action that would mate convincingly, while an unidentified stoical Indian princess Tiger Lily