

Within Normal Limits

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INTRODUCTION

It is my idea that man is conditioned by his environment and that "environment" for contemporary man is the mass media network. We are conditioned more by television than nature. The mass media network of television, radio, magazines, books and newspapers is our environment, a service of environment that carries the messages of the social organism. It establishes meaning of life, creates mediating channels between man and man, man and society.

The subject of my thesis project is to show the cultural effects of the mass media network in the postmodern age. I wanted to concentrate on three central postmodern theories about mass media. First, television as a serial culture; second, television as a postmodern technology; third, entertainment as the dominant ideology of TV culture.

I have always been interested in Surrealism. After taking "Dada and Surrealism" and "Film History and Criticism" courses at RIT, I felt confident I would be able to combine surrealist film language and postmodern theories in my thesis project.

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A. RESEARCH PROCESS

After selecting my thesis topic, "Within the Normal Limits", my first task was to take an idea and make it into a working plan for a film ready to go into production. This plan was my story board and it was developed in several stages.

The basic concept of my movie can be summed up in the cultural effects of mass media.

Finding sufficient information on mass media was the first step in the research process. I found the best place to research was the Wallace Memorial Library at RIT. As I was going through numerous books, articles I became more aware of the complexity of the theories related to mass media. Since there were so many of them, I choose the following theories that I felt were most significant.

"Television" says video artist Les Levine "is the most obvious realization of software in the general environment. It shows the human race itself as a working model of itself. It renders the social and physiological condition of environment visible to the environment. The monitor is the electronic manifestation of the superego. We became aware of our individual behavior by observing the collective behavior as manifested in the television".¹

Such an approach is demonstrated by Jean Baudrillard in his essay "The Ecstasy of Communication".² In that essay, Baudrillard argues that in contemporary societies the physical structuring of social life has been fundamentally transformed. Previous eras had required and reproduced a set of related and equivalent contrasts between private and public life, and between subjective self and objective world. In contemporary times these relationships have been neutralized. So that, for example, an older conception of the self or psyche as projecting itself into objects in relationship of mastery and possession.(as in status symbols, like cars, houses), has given way to a flat, interchangeable equivalence of subject and object.

Baudrillard's metaphor for the subject-object dichotomy is the screen. A TV screen can not be thought of simply as an object to be looked at, with all the old form of psychic projection and investment; instead, the screen intersects responsively with our desires and representations, and

becomes the embodied form of our psychic worlds. What happens "on" the screen is neither on the screen nor in us, but is some complex, always virtual space between the two.

"TV and advertising and the exponential expansion of information not only threaten the integrity of the private world", says Baudrillard, "they actually abolish the very distinction of the private and the public. The public possesses the private, private encompasses the public".³ Above all, it is the TV screen which provides the metaphor for all of these themes: absolute visibility, the loss of interiority, the proliferation of information and communication; the schizoid subject of this "obscenity" becomes "a pure screen, a switching center for all the networks of influence".⁴

Although Baudrillard himself never uses the term "postmodernism", TV is in and of itself a representative part of the postmodern scene of simulation, ecstasy and obscenity.

In their book, Kroker and Cook argue theses concerning postmodern TV. TV is "in a very literal sense, the real world...of the postmodern culture, society and economy..... real popular culture driven onwards by the ecstasy and decay of the obscene spectacle....In postmodernist culture".⁵

Kroker and Cook's work shares the same ideas with Baudrillard's. TV is an instrument of oppression and intellectual deprivation; it transforms the actual individual into a passive, though perfectly functioning, media machine by implanting a simulated, electronically monitored, and technocratically controlled identity in the flesh"; it degrades socially cohesive groups into the amorphousness of "packaged audiences held hostage to the big trend line of crisis moods induced by media elites for an audience which does not exist in any social form, but only in the form of digital blips on overnight rating simulacrum", and it substitutes a world of flat images for a world of experience in "the triumph of culture of signification".⁶

Kroker and Cook examine three key theses concerning postmodern TV. The following three theses became the foundation of my thesis project;

Thesis 1: Television as a Serial Culture

Television is the emblematic cultural expression of what Jean Paul Sartre has described as "Serial Culture". For Sartre, the pervasive effect of the mass media was to impose serial structures on the population. Sartre can say that the voice is "vertiginous" for everyone just because the mass media produce "seriality" as their cultural form.⁷

And what is the serial culture for Sartre? "It is a mode of being", Sartre says, "begins outside themselves in the passive unity of the object" which has:

- "absence" as the mode of connection between audience members.
- "alterity" or "exterior separation" as its negative principle of unity.
- "impotence" as the political bond of the (media) market.
- the destruction of "reciprocity" as its aim
- the reduction of the audience to the passive unity of the "practico-inert" as its result.
- and the "three moment" dialectic:
 - "triumph" (when you know that you are smarter than the media elite);
 - "impotent indignation" (when you realize that the audience is never permitted to speak, while the media elite are allowed to speak, but have nothing to say) and;
 - "fascination" (as you study your entrapment as other in the serial unity of the TV audience, which is the "pure, abstract formula" of the mass media today).⁸

According to Sartre the overall cultural effect of television is:

The practico-inert object (that's TV) not only produces the unity of individuals outside themselves into an inorganic matter, but it also determines their isolation and, insofar as they are separate, assures communication through alterity.⁹

That's Sartre's "serial culture" as the sign of a contemporary society: just when the image becomes "vertiginous" for everyone; when the viewer is reduced to "absence"; and when vacant and grisly "alterity" is the only bond that unities that negative totality-the "audience".¹⁰

Thesis 2: Television as a Postmodern Technology

Television just because it is an emblematic expression of Sartre's "Serial Culture" in electronic form, it is also a perfect model of the processed world of postmodern technology. Indeed, television screens in any sense of technology as deprivation by means of three strategic colonizations, or subversions, of the old world of society.

1. The Subversion of Sociality: TV functions by substituting the negative totality of the audience with its pseudo-mediations by electronic images for genuine sociality, and for the possibility of authentic human solidarity. It is electronic communication as the anti-matter of the social.

The TV audience may be the most pervasive type of social community, but if this is so then it is a very special type of community. It is an anti-community, or a social anti-matter-electronically composed, rhetorically constituted community, in essence an electronic mall which privileges the psychological position of the voyager and cultural position of us as a tourists in the society of spectacle.

2. The Psychological Subversion: In the real world of television, technology is perfectly interiorized: it comes within the self. There a phenomenon as the TV self, and it builds directly on Sartre's sense of the "Serial Being". The TV self is not just a pair of flashing eyeballs. The TV self is the electronic individual who gets everything there is to get from simulacrum of the media. TV colonizes individual psychology best by being a "mood setter".¹¹

3. The Technological Colonization: Television is the real experience of the ideology and the culture of technicism.

1. The dominant "cultural formation" is the psychological voyeur and the audience linked together by images created by media elites.

2. The language of signification is the real world of television culture. Cars are horses computers are galaxies; beer is friendship.

3. TV is the information society to the hyper, where information means the liquidation of the social, the exterminism of memory, and the substitution of the simulacrum of a deterritorialized and dehistoricised image-system for actual historical contexts.

Thesis 3: Entertainment as the Dominant Ideology of TV Culture

Television is the consumption machine of the twentieth-century which parallels the production machine in the seventeenth-century. Television functions as the simulacrum of consumption in three major ways:

1. In The Society of the Spectacle.

That's TV: it is the break-point where capital in its final and most advanced form as a spectral image begins to disappear into itself and becomes that which it always was; an empty, nihilistic sign-system of pure mediation and pure exchange which, having no energy of its own, adopts a scorched earth policy towards the missing social matter of society.¹²

2. Entertainment is the "Ideolect" of television as a consumption machine.

When you go to a theater, or to see a movie something is presented to you by a creator. But in television there is a very important creator who isn't critical of the other form- the viewer.... with the vast number of buttons he/she can press at home, the TV viewer creates his/her own program schedule. A spectacle that reflects his/her private tastes and personal history.... Today each viewer can create his/her own TV life.¹³

3. TV functions as a consumption machine because it is a lifestyle medium.

The class society has now disappeared into mass society, and that mass society has dissolved into the TV blip. The notion of the serial self in electronic society as a TV blip.¹⁴

PRODUCTION PROCESS

1. STORY BOARD

I have associated myself with surrealistic philosophy, which by its own definitions is inexplicable. That is one of the attractions it has for me. Based on this, the "enigma" sacred to the Surrealists, and to me, became the cinematic language of my thesis project.

And so the Surrealists, whose arrogance about symbolism and allegorical inanities offered me the breadth and flexibility I was looking for, became the bridge that allowed me to be able to create a body of work that would fulfill the academic requirements of the Master's degree, the artistic requirements of my thesis advisors, and to be able to showcase the technical opportunities offered by the hardware\software.

Drama requires a plot that forces the viewer to move from point A to point B to point C along predetermined lines. It simply indicates a relatively closed structure in which free association and conscious participation are restricted. I believe strongly in the process of free association. Because of this, I didn't write a script. I developed my story boards in a way that allowed each frame to be birthed by the previous frame. I felt this technique would allow me to create the foundation for my thesis, satisfy all parties involved, and enable me to create a product that would be worthy of the effort I invested in it.

Once the research was completed I began to create visual equivalents of these ideas. I then began to draw, with pencil in a story board format. I continued drawing without stop, without evaluating, without consciously planning. The first image led to the second, the second to the third, and so fourth and so on. I freely associated ideas, combined, elements, added, deleted, dislocated, duplicated images at a furious pace.

I believe that an image is born from a juxtaposition of two more or less distant realities. And the more distant and true the relationship between the two realities the stronger the image will be the more emotional power and the poetic reality will be.

As you can see in my story boards (Appendix A) the images I used are all fragments of my imagination, rendered without the help of reference material. The existential nature of each frame seemingly had no reason at all for sharing the same environment. I as had hoped for, I was able to

forge ahead and thus created a story board that contained the possibility of a new meaning to each viewer. I had concerned myself with process. I did not limit myself nor the anticipate of individual interpretations that would be made by others. I would not foist my truth upon the viewers, but they would not hinder my creation by imposing their limitations on me.

2. CONSTRUCTION OF MODELS

I used polygons to construct objects as the building elements of every model.

In computer terms, A **polygon** is a fully closed, multi-sided, two-dimensional shape made of points and lines. These closed shapes exist on a single plane, so they have length and width but no depth. For instance, a square is a four-sided polygon. An **object** is a two or three dimensional shape made from one or more polygons or from a spline. For instance, both squares and cubes are objects. A **model** contains objects, the color applied to the objects, the background color, the lighting, and the camera position and lens. For instance, two cubes attached to each other is a model.

In general, to create complex models, I began with a polygon and used it as the basis for the objects and joined different object to each other. I used "Group" and "Attach" commands to join objects to each other.

Grouping objects helped speed up building and the animating process by allowing me to work with more than one object at a time. I also used the "Group" command to manipulate the model as a whole or to manipulate each object separately. When I decided to create a "Hierarchical (master/subordinate) relationship between specified objects I used the "Attach" command. By setting up a master/subordinate relationship between objects, I then was able to create complex shapes easily.

Here are the some examples of my models and how I created them:

2.1. ROBOT(see appendix B)

The robot was created by attaching and grouping with following components:

- 2.1.1. The Head Unit(subordinate to the backbone unit),**
- 2.1.2. The Shoulder Unit(subordinate to the backbone unit),**
- 2.1.3. The Arm Units(subordinate to the shoulder unit),**
- 2.1.4. The Backbone unit(master object),**
- 2.1.5. The Hip Unit(subordinate to the backbone unit),**
- 2.1.6. The Axle Unit(subordinate to the hip unit),**
- 2.1.7. The Wheel Tire Unit(subordinate to the axle unit),**
- 2.1.8. The Wheel Wire Units(subordinate to the tire unit).**

2.1.1. Head Unit

To create the head unit, I drew a sphere and manipulated it by using "Stretch" command. After selecting the sphere to be stretched, I selected the direction of stretch. In that case, I used all the axis' of stretch and then I reduced and enlarged the sphere until I deemed the head satisfactory. Next, I decided to create an inside surface of the head unit by using the "Drill" command. Before creating a hole through the head unit, I drew an organic drilling polygon the shape of the hole to be created by using "Polygon" command's spline tool. Later I placed the drilling polygon on the head unit at the desired hole location. I selected in order, "Drill Obj", the head unit to be drilled, and "Drilling" polygon. After the program calculated the drill, the screen prompted, "Create An Inside Surface" I answered NO to see inside surface. Later, I erased drilling polygon.

2.1.2. The Shoulder Unit

The shoulder unit was created by stretching a sphere by using stretch command.

2.1.3. The Arm Units

I created the arms unit by using the "Spiral" command. I began with a circle. After selecting the circle to be spiraled, I was prompted to set the following options to control the spiral.

1) Number of faces: 10

Number of faces determines how rounded or angular the final object will appear. For medium smoothness I tried 10 per loop. There is a trade-off between smoothness and speed: the more faces there are, the longer the object will take to render.

2) Spiral for how many faces : 100

Spiral for how many faces determines how many faces will be drawn altogether. By dividing the number of total faces by the number of faces per loop, the number of loops is determined. In that case, I decided to create 10 loops. I selected 100 for the number of total faces.

3) Radius change between loops: 0%

Radius change between loops determines how much wider each loop becomes. I decided that every loop would be the same width. I selected 0% for radius change between loops.

4) Height change between loops: 100%

Height change between loops defines the vertical distance between each loop. Height change is in percentages with 0% being no change, and 100% being the number of units in the average radius.

5) Horizontal shift between loops: 0%

Horizontal shift between loops pulls the spiral sideways. I did not want any shift so that I selected 0% for the horizontal shift between loops. After I set these options, I set the axis around the circle and the computer calculated and drew the spiral that I wanted. To create second arm, I duplicated first arm that I created.

2.1.4. The Backbone unit

The backbone unit was created by duplicating the arm.

2.1.5. The Hip Unit

I created the hip unit by using "Drill" command. I started with a sphere. Next, I decided to create inside surface of the hip unit by using "Drill" command. Before creating a hole through the hip unit, I drew an organic drilling polygon the shape of the hole to be created by using polygon command's spline tool. Later I placed the drilling polygon on the hip unit at the desired hole location. I selected in order, "Drill Obj", the hip(sphere) unit to be drilled., and drilling polygon. After the program calculated the drill, the screen prompted, "Create An Inside Surface" I answered NO to see inside surface. Later, I erased drilling polygon.

2.1.6. The Axle Unit

To create the axle unit, I used "CSModel". First I started with a circle to be used as cross section. To draw U-shape, I selected "CSModel". When I selected "CSModel" from menu, the screen was set to "ThreeView" and following prompt appeared: "Line", "Arc", "Spline", "Done". By using "Line" and "Arc" tools, I finished U-shape and selected "Done" from the menu. Next, I was prompted to place or edit the cross-sections. To place cross-sections(circles), I selected a point on the U-shape. A white X then appeared at that point, and I was prompted to select a cross-section to place there. When I had finished placing all the cross-sections, I pressed the space bar. Then, I selected Done from the menu. Computer calculated the "CSModel" and displayed it on the screen.

2.1.7. The Wheel Tire Unit

To create wheel tire unit, I started with a circle. In "Surface Revolution", I selected the circle to use. Next a more/less box prompted me for the number of faces.(It affects how rounded or angular the surface will appear). To achieve a smoother looking surface, I selected the number of faces 50. After selecting the number of faces, I drew the axis around

which all the sections will be placed. I wanted the object to have a hole in the center, I placed the axis outside of the circle. Computer calculated the model and displayed it on the screen.

2.1.8. The Wheel Wire Units

I created a wire unit(a cylinder) by extruding a circle. Later, I duplicated the wire unit 10 times and placed them at the center of the wheel tire unit.

2.2. CLOCK(see appendix C)

The clock was created by attaching and grouping the following five components:

2.2.1 .Clock Body Unit(master object)

2.2.2. Clock Floor Unit(subordinate to the clock body)

2.2.3. Clock Mile Unit(subordinate to the clock body)

2.2.4. Clock Hands Unit(subordinate to the clock mile)

2.2.5. Clock Numbers Unit(subordinate to the clock body)

2.2.1. Clock Body Unit

To create the clock body unit , I started with a circle. In "Surface Revolution", I selected the circle to use. Next a "More/Less Box" prompted me for the number of faces. (It affects how rounded or angular the surface will appear). To achieve a smoother looking surface, I selected the number of faces 50. Later, I was aware of that the clock I was creating will be very wide, I had to use higher number. After that experiment, I decided to create my models according to how big they would be appear in my animation.

After selecting the number of faces, I drew the axis around where all the sections would be placed. I wanted the object to have a hole in the center,so I placed the axis outside of the circle.

2.2.2. Clock Floor Unit

I created a circle with the same radius as the inside sides of clock body unit and attached it to the clock body.

2.2.3. Clock Hands Unit

To create the clock hand unit, I drew an outline of a clock-hand shape by using the "Polygon" command. Next, to create a hole at the clock hand, I placed a circle on the clock hand and cut the clock hand by using the "Cut" command.

I didn't delete the circle. To bevel the sides of the clock hand unit, I selected the line option in the "Bevel" command. When I finished beveling the clock hand, I painted it with metallic color. To create the second hand unit, I duplicated the first hand unit that I created. Next, I stretched the duplicated hand unit.

2.2.4. Clock Mile Unit

I created the clock mile unit by extruding a circle using the "Extrude" command.

2.2.5. Clock Numbers Unit

To create clock numbers, I used the "Text" command and extruded them with different height using by "Extrude" command.

2.3. TELEVISION(see appendix D)

The television was created by grouping the following components:

2.3.1. The Frame Unit(master object),

2.3.2. The Screen Unit(subordinate to the frame unit),

2.3.3. The Button Units(subordinate to the frame unit),

2.3.4. The Antenna Unit(subordinate to the frame unit),

2.3.1. The Frame Unit

The frame unit was created by using the "Bevel" command. First I drew a screen-shape polygon by using the Polygon's "Line" and "Arc" tools. This screen shape would be the basis of both the frame and the screen unit I then duplicated it to use for creating the screen unit later. To create frame unit, I selected the "Bevel" command. By using the beveling "Arc" tool, I drew the beveled sides of the frame unit. I repeated this process until the shape of the bevel was to my satisfaction. When I was finished beveling the frame, I selected "Done" on the beveling tools submenu.

2.3.2. The Screen Unit

I used duplicated screen shape as a basis of the screen unit. By using the beveling "Arc" tool, I created the screen unit.

2.3.3. The Button Units

Button units were created by extruding a circle.

2.3.4. The Antenna Unit

To create the antenna unit , I started with a triangle polygon. In "Surface Revolution", I selected the triangle to use. Next a "More/Less Box" prompted me for the number of faces. I selected the number of faces 10. After selecting the number of faces, I drew the axis around which all the sections will be placed. Later, computer calculated the model and displayed it on the screen. I then decided to create a V-shaped antenna so I duplicated the antenna unit to create the second antenna unit.

3. COLORS AND TEXTURE

After I created my models, the next step was to assign specific colors, and textures to them. In that step, I dealt with not only colors but also with displaying backgrounds, by importing pictures created in "TIPS" or, captured by the digitizing camera.

3.1. COLOR

Using the "Materials Palette". I set the color of whole objects, and individual polygons. Along with the color, by using the "Material Palette" I assigned highlighting and transparency attributes to my models.

To assign a color and its attributes to objects, I toggled the "Current Color Box" to "OBJ". Then I selected the up arrow at the top left side of the box. When I wanted to assign a color to an individual polygon, I toggled the "OBJ" to "PLY". Then I selected the up arrow at the top left side of the box.

To assign highlighting and transparency, I used I,W,T boxes (I) for intensity, (W) for width, and for (T) transparency. All these functions are located along the side of the "Current Color Box".

Intensity is the brightness of a highlight. The intensity box increases and decreases that brightness.

Width refers to the amount of surface area on the object that is reflecting a light. For instance when I wanted that surface area to be small, I decreased the width of the highlight.

Transparency is the amount of light that travels through an object. 100% transparency allows the viewer to see right through an object as if it were not there. 0% transparency makes the object opaque. I used these attributes not only in highlighting and transparency, but also in the dissolve effect in my animation.

3.2. TEXTURE

Before applying texture map to my models first, I had to save some pictures I created in "TIPS", or captured by camera. To apply a texture map, I loaded the pictures into each "Buffer" separately. Next I selected one to use. I also used the pictures in the buffers as backgrounds by using "Set Background" command.

The "Project", and "Apply" commands are used to texture map objects with images stored in the buffers. I used them for different purposes; I used the "Project" command to cast a selected picture onto my models in the same manner as a slide projector. And I used the "Apply" command to completely map any object.

Here are the some examples of how I applied color and textures to my models;

The Woman Unit (see appendix E)

To create a dream like quality, I assigned a highlighting and transparency effect to the woman unit. After experimenting with the intensity, width and transparency values, I decided to assign the following values;

I =100%
W=100%
T = 65%

The TV Screen Unit (see appendix F)

According to my story board, the TV unit was turned off, it later would be turned on. To give the screen the "Turned Off" effect I set the following values;

I =100%
W=50%
T = 30%

To show the pictures behind the screen I changed the values to the following values;

I =100%
W=0%
T = 65%

The House Unit(see appendix G)

I wanted to cover the walls of the House unit with newspaper pictures. To do that I used the "Project" command. First I placed the newspaper and the woman pictures in the buffers by using "Load Picture" command. After selecting "Project" command, I selected one of the walls of the house unit to be mapped. I then selected the newspaper picture-buffer to use. Next, a white frame appeared over the newspaper picture. By using the Project tools(move, rotate etc.), I adjusted the frame and I selected the "Save Texture Map". To see the result, I selected "Render". For the other walls of the house unit and stairwell unit, I repeated the same procedure.

4. CAMERAS AND LIGHTS

After building, modifying, and coloring my objects, I set the camera and the lights to achieve the best view for my models.

4.1. CAMERAS

I used the camera so that I could see my model from the best angle. Since the camera and the drawing plane generally move together, the commands for moving the drawing plane were included with the camera commands. Through the use of the camera commands, I was able to move anywhere in my model.

I used the "Revolve" command to rotate the camera so that I could see all the different sides of my model. (As the camera revolves, it changes positions, but always points at the same location in the world).

I used the "Pan" command to pivot the camera from side to side. (The camera remains in the same position relative to the model, but the direction it is pointing towards changes).

To pivot the camera up and down, I used the "Tilt" command. (The camera stays same position relative to the model, but the direction towards is changed).

To move the camera on its current X, Y plane (right/left and up\down), I used the "Track" command. (The depth of the camera does not change. While tracking, it does not tilt or pan, it always faces straight ahead.

The "Dolly" command allowed me to move the camera closer to or further from my model, thereby moving the drawing plane as well.

To move the camera back to its original position, I used the "View" command . It was very useful to set different camera positions for viewing my models. To do this, I positioned the camera, and then I saved that position by using the "Views" command. I also used this command mostly when I was animating.

4.2. LIGHTS

In my movie light doesn't play an important role. To get more light sources I used the "Add" light command.I then positioned the light sources by using "Move", "Z-Move" and "Scale" light commands.

5. CHOREOGRAPHY and RECORDING

5.1. COMPOSITION OF SCENES

In this step, I began to compose the relationships of my models according to my story board. I grouped and positioned them into a **scene** by considering the motion my models would be moving and the movement of the camera. As in theater, a scene is a collection of models.

Finally, I created 13 different scenes needed to finish my movie. And for each scene, I created one animation sequence called a script.

5.2. ANIMATION

One of the most important elements in making my movie was the "moving camera". I designed my animations to generate a constant mounting tension towards the camera. For example, my first scene was composed of three women, a mirror with a hand and an abstract landscape. Even in the absence of motion in my models, the animation of first scene was produced by moving the camera.

Generally, I designed an animation sequences according to these steps:

5.2.1. Positioning of a first camera position

I decided the initial characteristics of the camera: eye, interest point and view angle.

5.2.2. Creation of first keyframe of camera path

Once the camera was well positioned, I defined the camera eye as the first keyframe. (keyframe markers tell the program where and when the action should start, stop, or change direction. These keyframes not only help to determined the motion path of the objects(where they go), but also determined the timing or pace of the animation).

5.2.3. Creation of other keyframes.

Additional keyframes were created by moving the camera. The new camera position was then inserted as a keyframe. Other keyframes were created using same procedure.

5.2.4. Previewing the animation

After I finished creating the animation, before editing, I previewed my

animation with the "Real Time Preview". Because Real time preview displays the animation in the actual amount of time. While displaying the motion path, acceleration/ deceleration, I was able to decide if I was satisfied or not. If not, I adjusted and edited the scene.

5.2.5. Editing of Keyframes

Each Keyframe was modified and new keyframes were inserted between existing keyframes.

Using "Edit Frame" command, I made changes to my animation in two ways; When I wanted not to affect the rest of my animation , I used "Edit Only This Key Frame" option, When I wanted to change the rest of my animation, I used the "Edit only This Key and Beyond" option.

5.2.6. Spline visualition

In this step, all Keyframes are displayed for control purposes. Animation editors (timeline and timegraph) allowed me to make many other changes to my animation after it was created. Such as adjusting the lights or repositioning the objects, or the camera. For this purpose, I used "Adjust Graph" command.

The "Adjust Graph" command enabled me to change the direction of motion by pulling on the graph at a selected frame. I used " Adj Graph" to fine tune the motion paths of my objects after watching my animation with "Real Time Preview".

5.2.7. Definition of Spline parameters

Default values for the bias, tension, continuity, acceleration and deceleration were defined at each keyframe.

The "Adjust Spline" command allowed me to control the shape of the graph between keyframes. To change the speed of the motion I used "Spline" option under the "Adj Spline" command.

The "Spline" generally produces smoother motion. Also, it causes the motion path of objects to curve around keyframes instead of moving in an angular fashion.

When using "Spline", the three bars at the left determine the tension, continuity, and bias of the graph. The curvature of the graph determines the acceleration or velocity of motion. When the graph is curvin up, the motion is accelerating. When the graph is curving down, the motion is decelerating, and when the graph is flat, motion is at a stand still.

"Tension", "Continuity", and "Bias" are tools used to change the curvature of the graph, and thus the speed of motion. If the tension is set high, the spline will be taut between keyframes(faster change in position of the keyframe. If the tension is low, the spline will curve more(smooth motion). "Bias" determines whether a curve occurs before the keyframe(-1), at the keyframe(0), or after the keyframe(+1).

Continuity can help smooth the spline(and motion path) as it passes through a keyframe. If continuity is set high(+1), the graph will be smoother, thus the motion looks more fluid. If continuity is set low (-1) the graph will indicate a jerkier motion.

The second option "ACCEL" allows you to make the motion discontinuous rather than fluid. If "Ease In" and "Ease Out" are both set to zero, the motion will be the same speed throughout the interval. If Ease In and Ease Out are set to 50/50, the motion will accelerate for the first half of the interval and decelerate for the second half of the interval.

5.2.8. Time Control

Time was defined at each keyframe or at only the first and last keyframe.

I used the "Adjust Interval" command to add or subtract frames from an interval by moving a keyframe. (The number of frames in an interval determines how long the action of a particular item in that interval will take in the animation. The "Adjust Interval" command does not affect the length of the animation as a whole, but only affects the motion of the item selected).

For lengthening or shortening the intervals before and after, I used "Adjust Keyframe". (Adjust keyframe" doesn't effect the length of the animation as a whole.)

When I wanted to adjust the total length of the animation without changing the proportions of the intervals, I used "Screen Time". For instance, I created a 60 second animation for my first scene. After previewing it, I decided that it was very slow. I then changed the length of the animation without distorting the relative time of any particular action. Using the "Screen Time" command, I decreased the number of frames from 1800 to 1400. Therefore, I created 40 second animation without changing the proportion of the intervals.

5.2.9. Previewing the animation

My animation was previewed with the "Real Time Preview", "Storyboard". To see my animation, I previewed the animation with "Real Time Preview". I then wanted to preview my animation using "Storyboard" command to see the frames as a series of full-color pictures. The "Storyboard" command helped me to see details such as positioning and shading.

5.2.10. Creation of Script

When I was finished creating and editing the animation I saved it to the disk in script form. This allowed me to go back and make further changes.

Here are the some examples of how I created the animations.

FIRST SCENE(see appendix H)

1. COMPOSITION OF FIRST SCENE

I positioned and grouped my models (four women, and mirror with hand) into the abstract landscape. Camera was in world view.

2. ANIMATION

2.1. Positioning of the first camera position

After composing of my first scene, I decided to start my animation from background. To do this, I tilted down the camera -40 degree. This was starting position of the moving camera.

2.2. Creation of first keyframe of camera path

I set the first keyframe at 1.

2.3. Creation of other keyframes.

Next, I tilted up the camera 40 degrees. Then I set the second keyframe at 100. I dollyed in the camera. I set the third keyframe at 150. I wanted to stop the camera movement in front of the mirror. Without any changes, I set fourth keyframe at 200. To show same background again, I panned the camera -150 degrees. And I set the fifth keyframe at 300.

2.4. Previewing the animation

I previewed the animation with the "Real Time Preview". While I was watching preview, I saw the following problems;

1. The tilt up and dolly in motion of the camera wasn't connected very well at the second keyframe. So I decided to connect the tilt up and dolly in motions together.
2. Pan motion of the camera was too fast. I decided to add more frames between fourth and fifth keyframes.
3. The total length of the animation was too short. I decided to lengthen the animation as a whole after the all adjustments had been done.

2.5. Editing of Keyframes

I didn't use this step in my first animation sequence.

2.6. Spline visualization

To connect dolly in and tilt up motions of the camera, I deleted the second keyframe by using the "Delete Key" option under the "Adjust Graph" command.

2.7. Definition of Spline parameters

After previewing the animation a second time, I couldn't find any problem with the dolly in and tilt up motions of the camera.

2.8. Time Control

To solve second the problem, I added 50 more frames the between fourth and fifth keyframe by using "Adj Interval" command. After previewing the animation, I decided to lengthen the whole animation to 500 frames. To do this, I increased the number of frames from 350 to 500 by using the "Screen Time" command.

2.9. Previewing the animation

For the final control, I previewed the animation in both "Real Time Preview" and "Storyboard".

2.10. Creation of Script

After I previewed my animation, I saved it to the disk in script form.

FIFTH SCENE(see appendix H)

1. COMPOSITION OF FIFTH SCENE

The fifth scene was composed of only a clock unit. According to my story board, the clock and the clock hands were to rotate separately. Since their rotation axis' were not at the center of the clock, I had to define a new rotation axis for clock hands. First, I positioned the clock hands at the center of the clock. To set the "User Defined Axis", I used "Rotate" command's "Set User Defined Axis" tool. When I selected this tool, the screen turned to three view. Then, I set the first point of axis at the center of the clock in the front view. And, I set second point of axis at the center of the clock in the right side view. I defined "User Defined Axis" for second hand by using the same procedure . By doing this, I set the new Z-axis for both hands at the center of the clock, so that they could rotate around the same axis.

2. ANIMATION

2.1. Positioning of the first camera position

To connect the fourth and the fifth animation without cut, I finished the fourth animation, and started the fifth animation with the same background. To show only the background, I moved the clock to the left side of the screen using "Big View" command.

2.2. Creation of the first keyframe of the camera path

Not to show the height of the clock numbers, I turned the perspective OFF. Then I set the first keyframe at 1.

2.3. Creation of other keyframes.

I moved the clock to the center of the screen. Then, I rotated the whole clock -360 degrees around the Z-axis . I also wanted to rotate the clock hands separately. I rotated the little hand 1500, the big hand 1000 degree around the user defined axis. Then I set the second keyframe at 200.

To show the height of the clock numbers, I rotated the whole clock 360 degrees' around the X and Y axis". I also rotated the clock hands the same degree as in the previous keyframe by using the same user defined axis. To finish this animation with background picture, I "Zoomed-in" the background and I set the third keyframe at 400.

2.4. Previewing the animation

I previewed the animation in "Real Time Preview". While I was watching the animation, I saw the following problems;

- 1.The motion at the second keyframe wasn't smooth, so I decided to change the "Tension" and "Continuity" parameters at that frame.
- 2.The total length of the animation was short, so I decided to lengthen the animation.

2.6. Definition of Spline parameters

To produce a smoother motion at the second keyframe, I set the "Tension" to low(-1), and I set the "Continuity" to high(+1)

2.8. Time Control

To lengthen the whole animation to 600 frames. I increased the number of frames from 400 to 500 by using "Screen Time" command.

2.9. Previewing the animation

For final control, I previewed the animation with both the "Real Time Preview" and "Storyboard".

10. Creation of Script

After I previewed my animation and I was satisfied, I saved it to the disk in script form.

3. RECORDING

I recorded each script to the optical disk separately. Recording time of each frame changed based the complexity of the models and the animation.

Recording time of each script is as follows;

	Number of frames	Recording time(hour)
Title	250	6
Script 1	750	23
Script 2	500	15
Script 3	750	20
Script 4	1300	31
Script 5	500	18
Script 6	500	16
Script 7	600	12
Script 8	800	20
Script 9	700	21
Script 10	500	13
Script 11	300	6
Script 12	500	15
Script 13	1800	54
TOTAL	9,750	264

CONCLUSION

Several of my thoughts did not get incorporated into the final form of my movie. For instance, my idea to have a lot of people carrying a pyramid was not realized. That was due to system's limitation of memory. The computer memory only allowed me to draw four people, so I had to change my original idea.

Generally, I wanted to achieve the following four surrealistic attitudes in my thesis project:

1. "The Imagistic"

The "shot" has often been proclaimed as the basic element of film. When making a film, all creative energy at the time of filming is concentrated on making the "shot". However, in the surrealist film experience, the presence of the image (representing an idea) is more influential than our awareness of the "shot" itself. An image can only be contained by one shot, but a single shot can contain many distinct images. An image consists of a perception of movement in film where every element comes together to say one thing to a viewer; it becomes a complete reality; and the more elements that reinforce the objectivity of that movement, the more intense emotional effect.

2. "Conceptual"

The imagination, and its function in art, is a two-fold thing. The artist needs imagination to conceive something from nothing, and the spectator needs imagination in to interpret the art, and make it a concrete experience. If being creative is to be perceptive, then being perceptive is also a creative activity. The surrealist bases his reality on the validity of the observations and constructions of his own imagination: and by doing so, places a great importance on the conceptual abilities of mind.

To achieve these goals, I tried to compose my film based on transformation, not transition (cuts, wipes or dissolves). After recording my animation to an optical disk, I spent little time editing the animation and the sound, because I planned it that way.

From story board to editing, this thesis study was a good opportunity for me to learn all aspects of 3-D computer animation. I believe these experiences will be the basis for my further studies in computer animation.

ENDNOTES

1 G. Youngblood, Expanded Cinema (New York: Dutton, 1970), pp. 78.

2 Steven Connor, Postmodernist Culture: An Introduction to Theories of the Contemporary (Worcester: Billing & Sons Ltd, 1990), pp. 168.

3 Ibid., p. 168.

4 Ibid., p. 169.

5 A.Kroker and D. Cook, The Postmodern Scene: Excremental Culture and Hyper-Aesthetics (New York: St. Martin's Press, 1986), pp. 274.

7 Ibid., p. 268.

8 Ibid., p. 268.

9 Ibid., p. 268.

10 Ibid., p. 268.

11 Ibid., p. 268.

12 Ibid., p. 276.

13 Ibid., p. 278.

14 Ibid., p. 278.

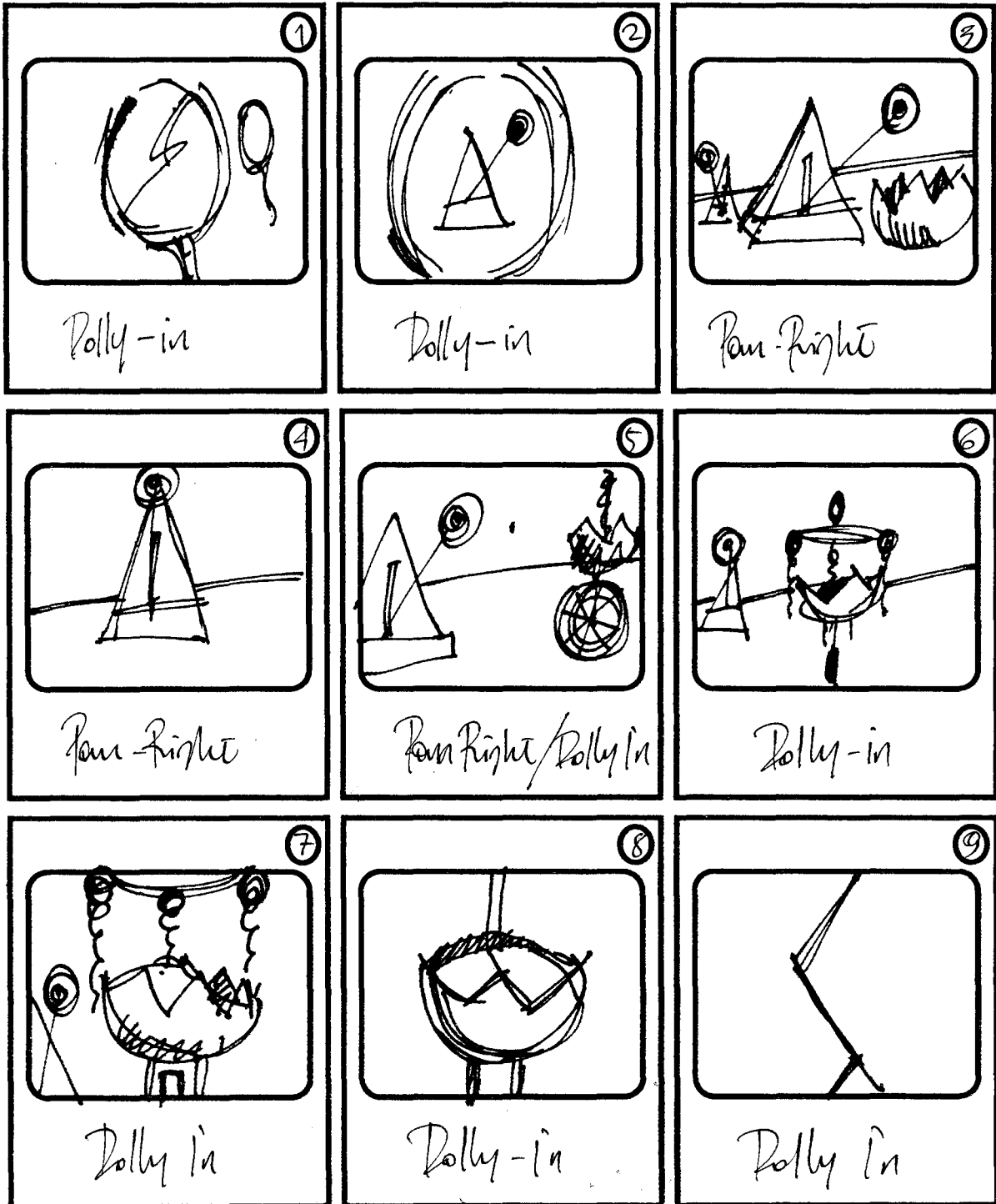
BIBLIOGRAPHY

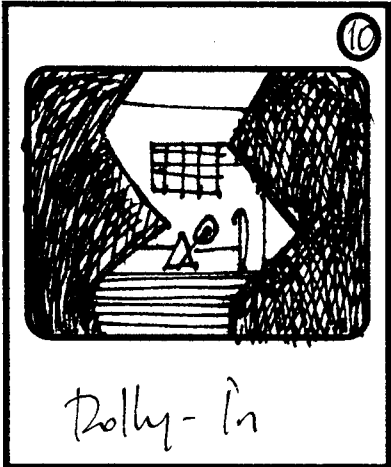
Kroker, Arthur, and Cook, David. The Postmodern Scene: Excremental Culture and Hyper-Aesthetics. New York: St. Martin's Press, 1986.

Connor, Steven. Postmodernist Culture: An Introduction to Theories of the Contemporary. Worcester: Billing & Sons Ltd, 1990.

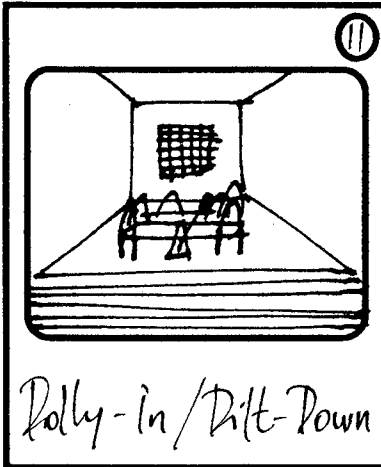
Youngblood, Gene. Expanded Cinema. New York: Dutton, 1970.

APPENDIX A: STORY BOARD

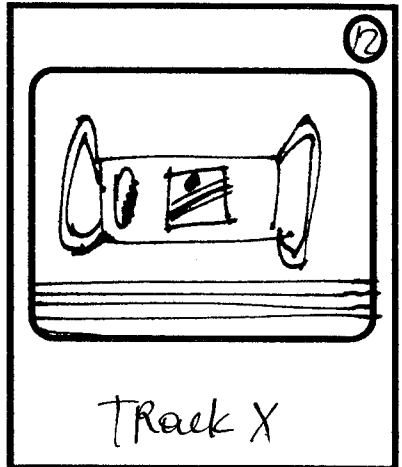




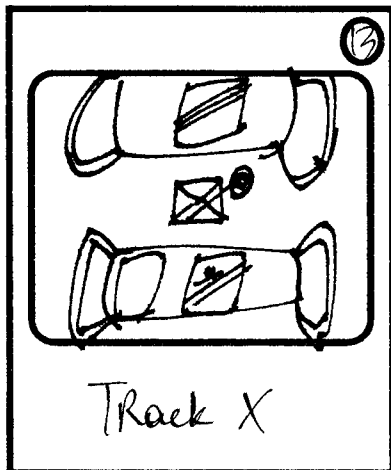
Dolly-in



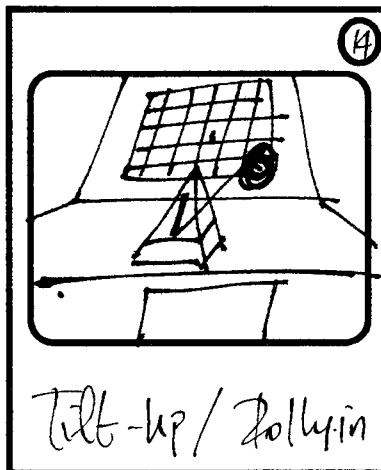
Dolly-in/Tilt-Down



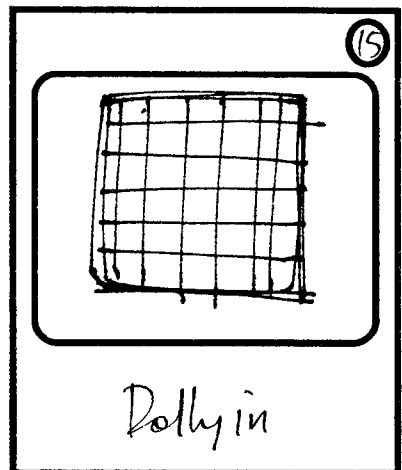
Track X



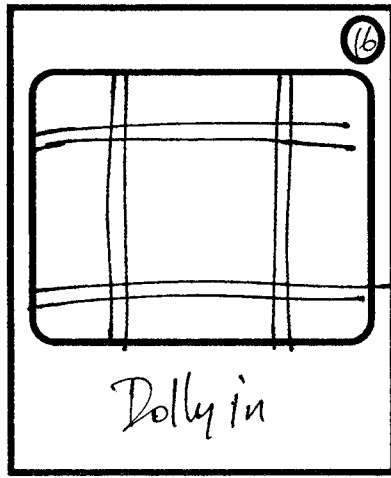
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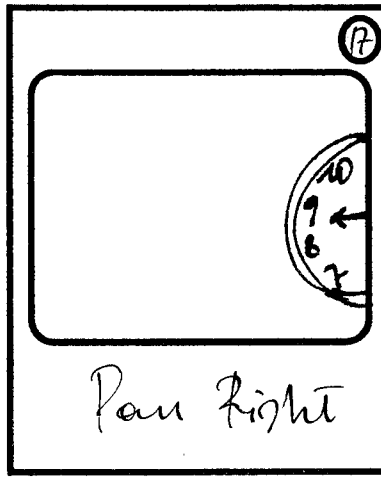
Tilt-up/Dollyin



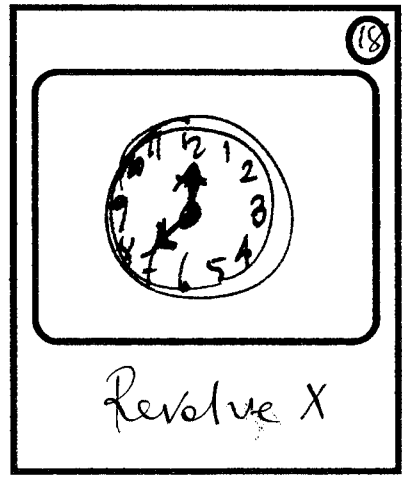
Dollyin



Dolly in



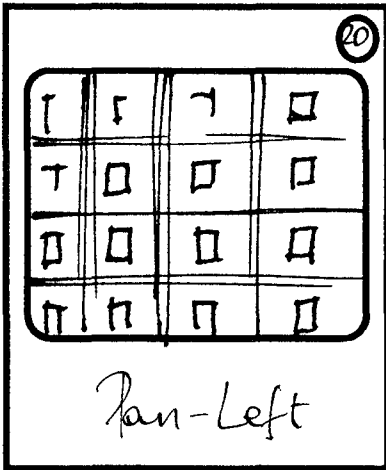
Pan Right



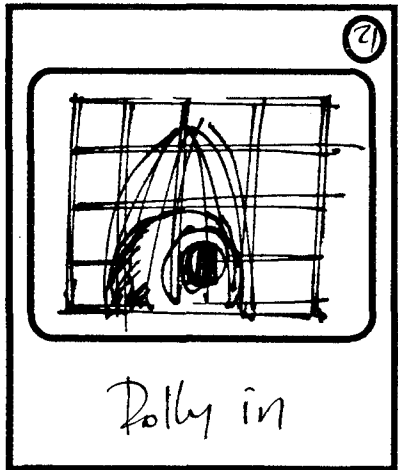
Revolve X



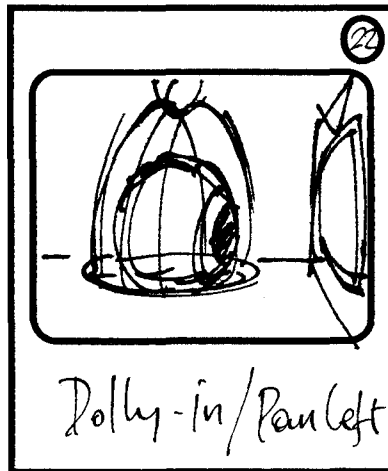
RevolveX/Dolly in



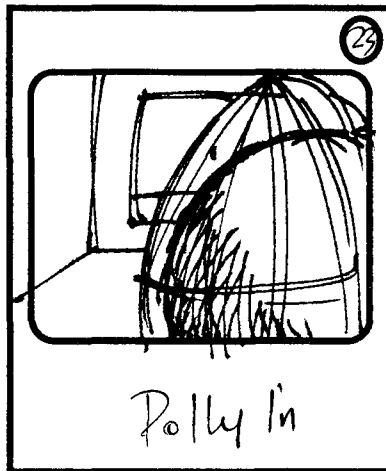
Pan-Left



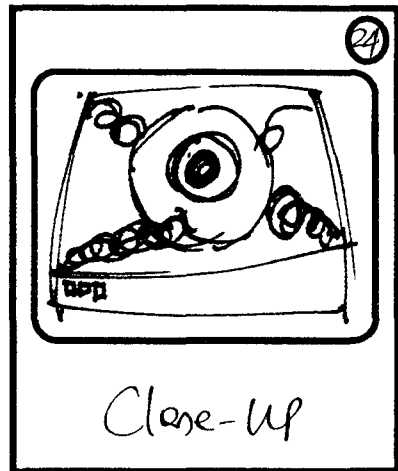
Dolly in



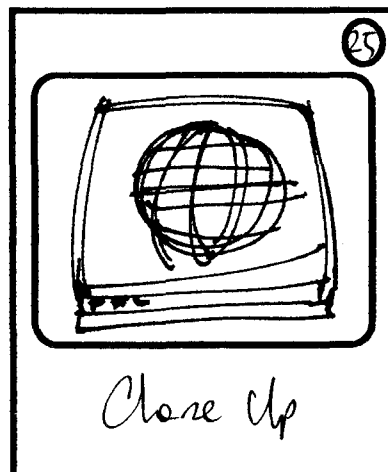
Dolly-in/Panleft



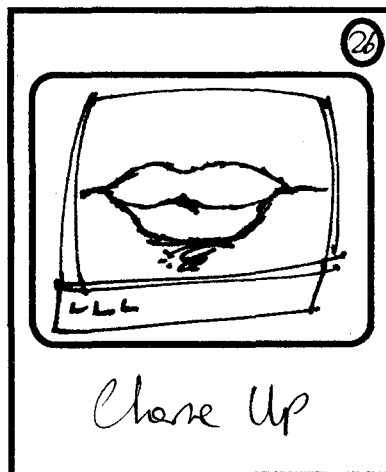
Dolly in



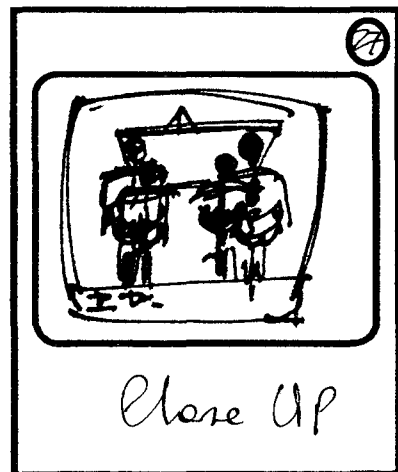
Close-up



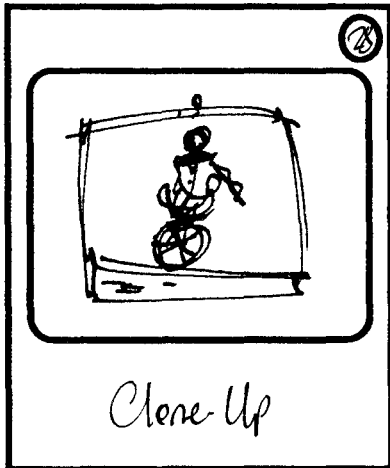
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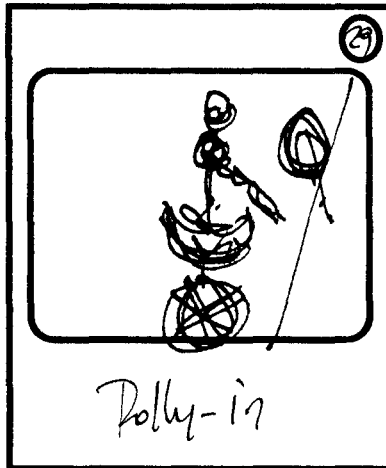
Close Up



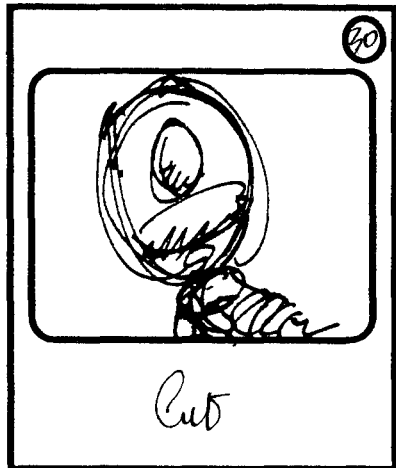
Close Up



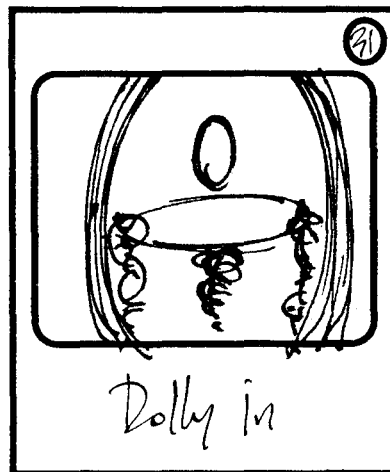
Close-Up



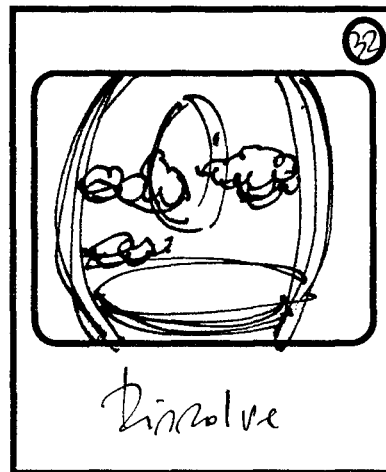
Dolly-in



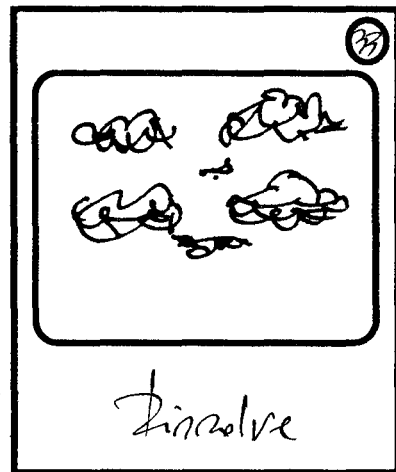
Cut



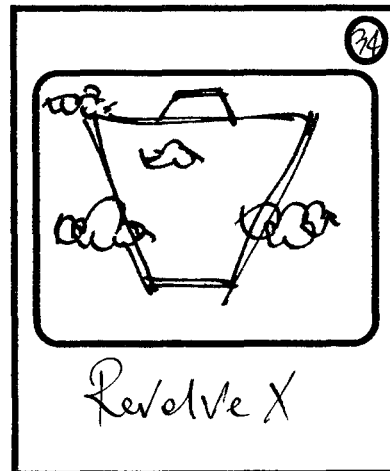
Dolly in



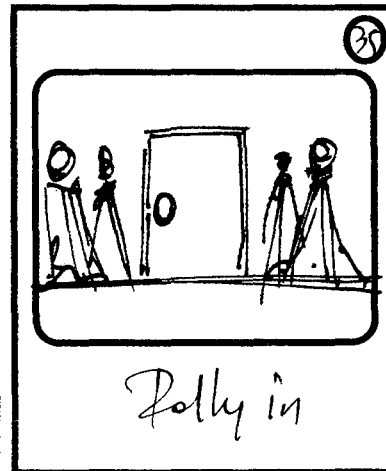
Dissolve



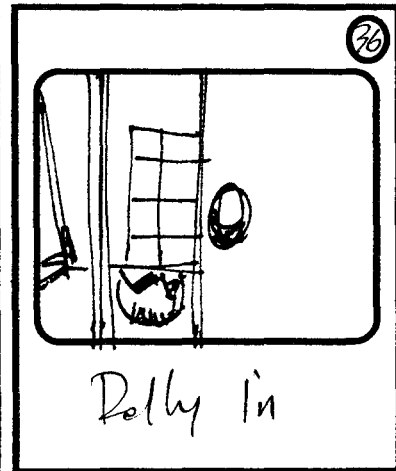
Dissolve



Revolve X



Dolly in



Dolly in

