The *The* Animator's Eye
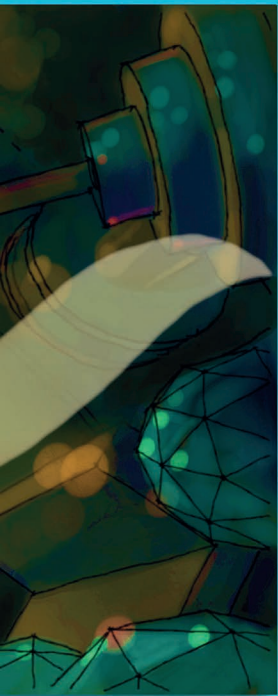
Adding Life to Animation with Timing, Layout, Design, Color and Sound

A **Focal Press** Book

FRANCIS GLEBAS

Routledge

The Animator's Eye

Supplementary Resources Disclaimer

Additional resources were previously made available for this title on DVD. However, as DVD has become a less accessible format, all resources have been moved to a more convenient online download option.
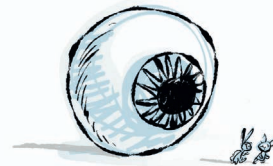
You can find these resources available here: www.routledge.com/9781138403154

Please note: Where this title mentions the associated disc, please use the downloadable resources instead.

The Animator's Eye

Adding Life to Animation with Timing, Layout, Design, Color and Sound

FRANCIS GLEBAS
PHD IN FANTASY

Notices
Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary.

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Contents

On the DVD

DVD Contents

On the DVD you'll find the complete three minutes and 30 seconds long animated film, *The Animator's Eye*. It's in full color with score and special effects. You can also watch a version that tracks the animatic along with the finished animation.

In addition, you can see the early attempts at creating the story. These are very rough drawings which were done to explore the various ideas to see if they had merit.

Included are the following animatics: *The Tragic and Comic Sack, Duplicating Sacks,* and *Why Did the Chicken Cross the Soccer Game?*

Also included is a video showing how I draw Iggy including drawing tips and tricks. It's always helpful to watch how others draw. And for animation reference, there's a video demonstrating various gesture movements. This also includes lip sync reference.

I would like to thank the following people for their help with the making of *The Animator's Eye*. First and foremost is Hans Karl who created the musical score that added the final illusion of life to the film. You can reach him at his website www.hanskarlmusic.com. J. D. Stewart provided audio production services for Hans. Chris Siemasko created the special effects of the eyes flying into the heavens for the final shot. Chris can be reached at Chrissiemasko.com. Bryan Cox provided the special effects for the transformation scene from the alligator to the bunny girl. Ryan Glebas edited all the animatics. Audio journey music courtesy of Michael Hammer michaelhammer.com

You can reach me online at francisglebas.blogspot.com

You can also find inspirational audio journeys to help you relax and get in touch with your inner creativity by Toni Pace Carstensen.

Toni Pace Carstensen is a certified clinical hypnotherapist, meditation teacher, and Reiki master.

Her healing practice combines guided visualization, age regression techniques, and Reiki energetic healing to assist clients in fulfilling their full potential.

She also has extensive experience in the entertainment industry with multiple Emmy award nominations and frequent work as a visual effects producer on feature films.

More information can be found on www.creativityconnection.com
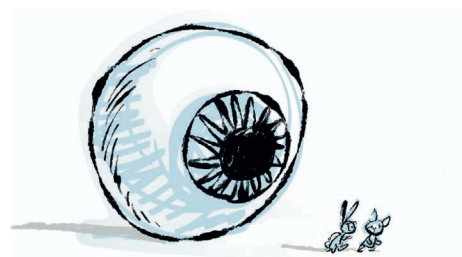
Preface

The Animator's Eye is your unique opportunity to journey inside a burning brain and watch the creative process at work! *The Animator's Eye* is the documented demonstration of the creative process at work, as it applies to bringing an idea to life using various animation tools and techniques.

There are many books available on the various aspects of animated film production. I am not the best animator, cleanup artist, layout artist, background artist, composer or editor. I will refer you to sources to further train your animator's eye in these areas. What this book offers is to see how the whole process of making an animated film fits together.

It's ironic that you can actually learn more from mistakes than you can when something appears seamlessly perfect. You'll see behind the scenes, including the mistakes as well as the successes. These mistakes can be embarrassing, but if they serve to instruct then it's worth it.

This book offers an overview for the novice as well as new ways of looking at old truisms of animation, such as the 12 principles of animation. Frank Thomas and Ollie Johnson did the animation world a great service when they presented their 12 principles, but what if there were more hidden principles? What if each phase of production had its own

principles of animated life? These principles of animated life apply if you're drawing, using cutouts, clay, computer-generated graphics or zombie bodies, and they apply to each stage from idea generation, animation, design, staging, color and sound.

We'll demonstrate the whole animation production process, beginning with the creative process of capturing of the original idea, through story development, animation production, art direction, production design, compositing and sound through to the completion of an animated film, as well as thoughts on distribution. Nowadays, anyone has the ability to have their own production facility right on their desktop. We'll look at various software packages available for animation production. *The Animator's Eye* film is a combination of traditional, digital 2D and computer graphics.

This book is not going to tell you what to do. Instead of a "how-to book" it's more like a "how-to and why-to book." You'll learn "how-to" but more importantly "why-to." We're going to train your animator's eye to get you to see and think in new ways about animation so you'll know why you're making your particular creative choices.

Warning! This is not an ordinary book. It is actually a movie and a book! *The Animator's Eye* film is included in this book as a flipbook as well as on the DVD. If timing is everything, how can you learn about animation without the element of time? Flipbooks allow you to study the animation in motion. You can flip as fast or slow as you like and the speed of the animation changes. You can even make it go backward.

My goal for this book is to provide a unique learning experience about bringing things to life through the medium of animation. Hopefully it may help you, the reader, become more alive as well. There's nothing worse than being a zombie.

Acknowledgements

I've been bringing things to life with animation for a long time and have learned from so many people in so many ways that it's hard to decide, let alone remember, who to thank. Instead of naming names, I'd like to share a story about the film *Incredibly Loud and Extremely Close*. It's the story of a boy who loses his father during the 9-11 tragedy. In order to process his grief, he goes on a journey, meeting hundreds of people, sharing his story with them and theirs with him. Without spoiling the movie, there's a simple close-up shot of a chain that symbolizes all of the interconnected stories that hold our lives together. We're supported by the interconnected stories of countless people, some of whom we may not even appreciate how they have helped us.

I am grateful for the chain links connected to all of my artist friends who generously shared their trade secrets with me. I'd also like to thank the "links" of artists that I haven't met but who have shared their inspiring work via the World Wide Web.

I want to thank the wonderful folks at Focal Press, for without their help this book wouldn't have existed.* This includes the editors, readers, layout people, marketers and distributors, all of whom provided interconnecting links to bring this book to life from the original idea to the finished book you hold in your hands.

I discovered something wonderful after completing my first book, *Directing the Story*. Through emails, personal introductions or comments and reviews on the web, I learned that my book touched people in ways that I couldn't have imagined. So in advance, I'd like to thank you, the reader, whether you're a fresh beginner or lifelong expert of the wonderful world of animation.

And, in spite of the fact that I said I wouldn't name names, I wish to thank my wife for her love and support during the marathon of making this book. And my son, Ryan, for the inspiration he's brought to my life.
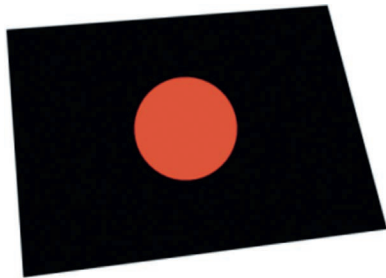

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*Dave Bevans, Gail Newton, Anais Wheeler, Chris Simpson, Joanne Blank, and Lauren Mattos.

Chapter One

My Introduction

Come on the journey to the center of the eye. Well, actually I'm inviting you to come on a journey to the center of my brain. However, since you'll be reading the account of the journey into my brain, you'll be doing it with your brain. As with any journey, what you'll gain is experience and brain exercise.

The journey began for me with my first book. Well, it really began when I first started working for Disney in their story department, and I realized how much I didn't know about storyboarding and storytelling. Every morning I'd get in early and type up notes about what I was learning. I would have felt like SpongeBob absorbing so much knowledge, but he hadn't been invented yet. I learned more in my first six months at Disney, being surrounded by so many incredibly talented and driven artists, than I did during my entire schooling. It was like every artist around me became my teacher.

It was several years later, during the time that I was directing *Pomp and Circumstance* for *Fantasia 2000*, that Alex Topete, the head of the cleanup department, asked me to speak to his crew during a lunch hour. I agreed and immediately panicked: "What am I going to talk about?" Well, I started talking to the crew and about two hours later they were still asking questions. I guess I had something to say after all.

Shortly after that talk, Jack Bossom, the head of Disney's artist development program, asked if I would speak to some new artists at Disney about a film topic of my choosing. I decided to talk about time in the editing process and as an example I chose to analyze the finale sequence of *Back to the Future*. It was amazing to study a small sequence in frame-by-frame detail. That's the only way a film will yield its secrets. The first time you watch a film you are under the spell of the story if, of course, the director's done his or her job. It's only during the second and third viewing that you can begin to see how it's put together. That's because the director is directing your attention so that you don't see how it's all put together; all of the effort is put into seamless storytelling. This is also why a magician never reveals his secrets by performing a magic trick twice—it would ruin the illusion.

So I presented "Time and Editing in *Back to the Future*" and this led to being asked by Tenny Chonin, the next head of artist development, to present this material to the whole studio. That's how this shy artist now found himself in front of 200 people presenting Disney lunch-box lectures on color theory, narration versus the hero's journey, and more.

Along the way I began to mentor story trainees at Disney, eventually teaching story and storyboarding at Walt Disney Imagineering UCLA and Gnomon School of Visual Effects. I found I really liked teaching as much as I enjoyed animation production. (Both of my parents being teachers might have had something to do with my passion to teach.)
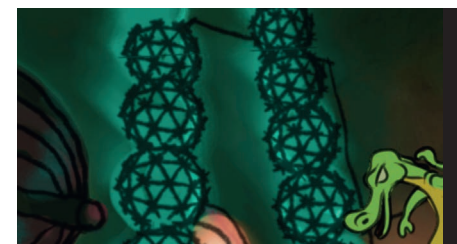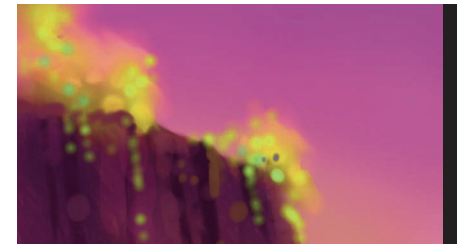
As long as I had good filmic examples to show, talk about and analyze, I didn't need notes. The examples were triggers for my memory.

However, something unexpected happened when I taught: my students told me that they had never heard of some of the stuff that I was teaching. I suppose that is normal for a teacher to hear coming from students new to a subject, but this wasn't just coming from new, inexperienced students. One woman said that she went through the whole [insert X famous film school here] and had never heard of some of the material that I was teaching. Another woman had been directing commercials for 15 years and this was new to her as well. One of the student's teacher evaluations said that they had a sneaking suspicion that I was a "super genius." Now don't think I'm big-headed, because the only other "super genius" that I know is "Wile E. Coyote, Super Genius." Being a super genius doesn't seem to help him, as he's always getting blown up! What all this feedback did clue me into was that I had something to teach and my own way to communicate it clearly, using examples that demonstrated the principles.

I completed my first book for Focal Press, *Directing the Story: Professional Storytelling and Storyboarding Techniques for Animation and Live Action.* The wonderful folks at Focal Press then asked me to start another book, *The Animator's Eye*, and my first thought was—Panic!—"I don't have anything to say." So here we are and I'm inviting you to journey with me into the very beginning of my second book, on the animator's eye.

Introduction

Before we begin our journey into the world of animation, you need to know that I'm not going to lie to you. Animation is hard work that requires a lot of learning and practice. But if you picked up this book it means you probably already know that and want to explore animation in spite of the obstacles. Animation is a labor of love. The first time you see your drawings begin to move it's like magic. It's time to learn some new magic tricks.

Here's a quick overview of what you'll learn in the upcoming chapters.

The Animator's Eye

We begin by meeting our tour guides to the nutty world of animation. They'll show you how to find ideas and bring them to life.

The Mad Science of Animation Right in Your Own Lab!

You'll learn the tools you need to create your very own mad-science-of-animation laboratory. We'll also learn the nuts and bolts of the animation pipeline that starts with the most important idea of all—the story.

That Reminds Me of a Story…

Here Iggy and Scared Bunny will show you why stories are shaped the way they are when they introduce their secret "Roller Coaster Theory of Storytelling," a novel way to come up with dramatic and fun stories.

Visionaries of Fantasy, Reality, and Surreality

Bonus: On the book's website. We'll also meet visionaries who'll show us surprising secrets of the animated universe, like the fact that our minds are trained to see faces. And we'll discover some of the tricks they've got up their sleeves.

Myths of Creation

Bonus: On the book's website. Creativity is one of the most important ingredients of the animation process. We'll learn the stages of creativity and how we can apply them to bringing animation to life. It's easy and fun when you learn to ask the right questions.

Secrets of Drawing

We learn that drawing teaches us how to see and drawing allows us to create the illusion of life. First, we'll learn the pros and cons of constructing drawings to create solid drawings. We'll explore force, gesture, and caricature with that old animation classic, the flour sack. Finally, we create characters and delve into their secrets for driving stories.

The Secret of the Animated Illusion

The secret of animated life is creating a believable illusion. It's the illusion of a real world filled with entertaining characters creating chaos. Here we'll learn the basic steps of animating a scene as well as exercises designed to train your animator's eye.

We'll learn the animation principles of the masters as well as some new ones. These animation principles fall into three categories—physical believability, principles of inner life, and staging to show the audience where to look. Each of the next three chapters will explore these principles.

The Laws of Animated Life

Here we dive into the world of physics to understand why we have the principles of animation. If your character's movements are based upon physical laws, then they'll be more believable as if they're real.

Cartoon Physics

It's all well and good to create believable characters but this is animation we're talking about. We're not shooting live action, we want to have some fun! Let's break some rules with cartoon physics. It's not E=MC Squared, but E=motion{x fun!}

Adding the Brain for Inner Life—Look, I'm Acting!

Once we can animate objects with believable mass and volume we're ready to learn the second set of principles—animated acting and inner life. We'll look at Iggy on the emotion wheel and how lip sync is ventriloquism in very slow motion.

Locomotion of Bodies without Slipping and Sliding

The body also tells a story so we'll explore body language and how to get around on two feet or more. And we'll learn about that ever-present danger for animated characters, the dreaded banana peel—sometimes they're invisible.

Watch Out for Zombies!

It's checklist time. Finally we'll learn how to spot zombies. One secret is the eyes. With their empty eyes, they move but don't move us. Remember, just because something moves doesn't mean that it's alive.

Creating a World

Now we put on the hats of the art director and production designer to learn the third set of principles to create worlds for our animation—staging for clarity. We'll learn the process of laying out animation, creating style guides, color scripts and designing and painting background.

Rules for Clarity of World Building—Design Style Guides

We'll learn the rules of design and how to design everything using a style guide.

Laying Out the Space

Layout is really a verb. It's the process of arranging imaginary things in three-dimensional space onto the two-dimensional picture plane guiding the audience where to look.

The Wonderful World of Emotional Color and Color Scripting

Like music, color is a magical element that guides the viewer/listener's emotions. We'll learn the value of color scripts for continuity and tracking the emotional journey of a story.

Painting Backgrounds

Here's a demonstration of the basics of painting backgrounds.

Putting it All Together in Post

Once we've completed our animation it's time to assemble all the pieces into a movie. The final secret ingredient that creates the final spark of life is sound. Music tells us how to feel. Remember, judicious editing is your friend and your audience will thank you for it—in other words, keep the story moving.

Special Effects

What would movies be without special effects? Animation has its own brand of special effects with an additional spice of life.

Compositing Layers and Editing

Once the animation, backgrounds and special effects are finished, it's time to put it all together and this process is known as compositing. We'll get to see how the layers combine to create the final image using the secret ingredient, blend modes.
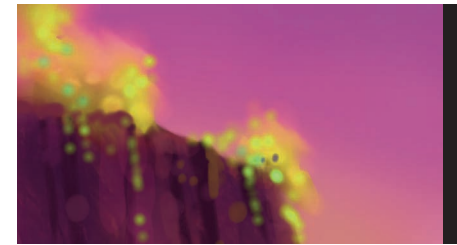
Finish with a Big Bang!

Sound adds life and music adds emotion. We're lifted out of the deadly silence into a world orchestrated with colorful timbres all to the beat. We'll learn some basic recording, mixing and mastering techniques and a simplified way to think about music. We'll also explore software that generates complete music.

Evolution of The Animator's Eye

Now we get to watch the whole process in action. Beginning with the initial swirl of ideas evolving into a story, we'll then watch the creation of storyboards, characters and settings, through to production of the final finished production.

Documentation of Preproduction

The Animator's Eye flipbook and film went through many incarnations. We'll explore how the creative process affected why certain decisions were made and how they evolved. We'll see how the constraints that I had on the book affected the film as well.

Documentation of the Production and Postproduction

The biggest problem that affected the production was the fact that there wasn't enough time. Even during production, changes had to be made for clarity, comedy and other creative improvements.

The Birth of Iggy and Scared Bunny, or Who Let these Two in Here?

I've worked with Iggy and Scared Bunny before. Here we'll learn where they came from, how they evolved, their history and how they came to take over the project.

How I Learned and Got My Animator's Eye

I've been involved with animation since I was a four year old watching the first animated series produced specifically for television, *Crusader Rabbit*. I started making movies as a teenager and followed a path in art and film production. Here's some of my early art and I show what's wrong with it so you won't have to make the same mistakes. It's also for inspiration—we all start from humble beginnings. The greats stay humble, always remembering there is plenty more to learn.

I also share how I got into the business, in spite of when in a job interview I referred to "stretch and squash" as "squish and squash."

It's Time to Say Goodbye and Let You Fly

How do we keep the dream alive? Where do you go from here? That's up to you, your imagination and your animator's eye.

The Flipbooks

On the edges of this book you'll find flip books. A flipbook is animation in a book form. You flip through the pages and the images appear to move.

It's very simple to flip—hold the book binding in one hand and flip, letting the edge of the page slide through under the thumb of your other hand.

But, where's the sound? There is no sound—it's a book. You can watch the complete film with the wonderful music created by Hans Karl on the DVD.

You can find additional material on the DVD or companion website when you see Iggy holding up the DVD.

Introducing Iggy the Pig and Scared Bunny

Who better to teach animation than two animated characters? They've even got references. You'll meet them before their fame, when they were working for me in a bunch of projects that never got off the ground. They say the projects failed because of my fear of flying.

WE'RE GOING TO BE YOUR TOUR GUIDES TO THE WONDERFUL WORLD OF THE ANIMATOR'S EYE!

BUT WE DON'T KNOW ANYTHING ABOUT ANIMATION...

WE'RE ANIMATED AREN'T WE?

IGGY: I think we need a better name for this book. *The Animator's Eye*? What kind of title is that? What is it, a medical book? I thought we were going to teach about how to avoid creating zombies! How about, *Iggy and Scared Bunny, Zombie Hunters*?

BUNNY: But there's more to it than just avoiding zombies. We'll learn about creativity.

IGGY: But the title doesn't even mention us? Why isn't it *Iggy's Fantastic Guide to the Animator's Eye*?

BUNNY: Because it's not about you, I'm in it too! It's about the 12 classic animation principles and how there are actually more than 12!

IGGY: Then why don't we call it *Iggy's 101 Principles of Animated Life and How to Avoid Zombies in the Process with a Little Help from Scared Bunny*?

BUNNY: *The Animator's Eye* is a look at what it means to be an animation artist, how they think and how they see the world differently from most people. It's about how to train your eye to be more imaginative and give it the animation know-how to share that vision with the world.

IGGY: I give up. Welcome to *The Animator's Eye*!

ANIMATE: "INSTILLED WITH LIFE," FROM THE VERB ANIMARE, FROM ANIMA "LIFE, SOUL."
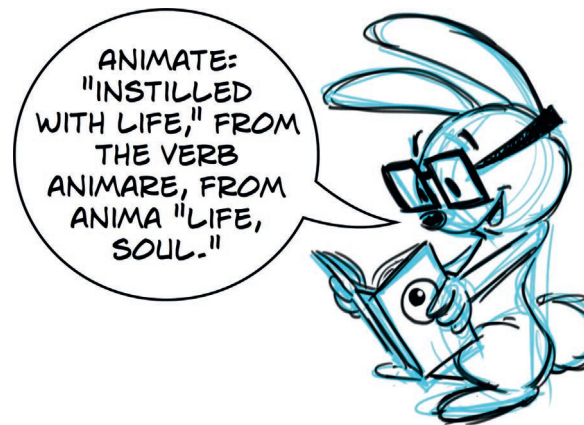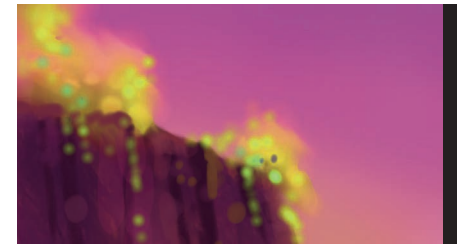
So what is the animator's eye? The animator's eye is one that sees life everywhere.

WHAT DOES THIS HAVE TO DO WITH ANIMATION?

Occasionally, you might see Iggy making this protest. I'm including many things in this book that I have found inspirational to the training of my animator's eye. They've

not all been directly related to animation. Besides, if I only gave you what information you already knew from within the field of animation, how could you learn anything new? Feel free to skip around, reading what you find interesting and helpful. The animator's eye and mind grow in mysterious ways.

Iggy and Bunny were actually an afterthought as part of this book. Actually, Iggy and Scared Bunny had cameos in my first book, *Directing the Story: Professional Storytelling and Storyboarding Techniques for Live Action and Animation.* I've known Iggy and Bunny for a long time, but once they entered into this book, they kind of took over. I'm including them for you to get ideas about how to give your characters life. Just let your characters go and don't censor them—they'll surprise you! My problem was they intruded so much it was hard to focus on writing the book. Excuse me. I'll meet you in the next section.

Author exits book.

AUTHOR (off screen): Iggy, put those fireworks down. Now!
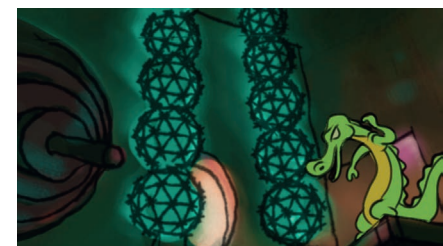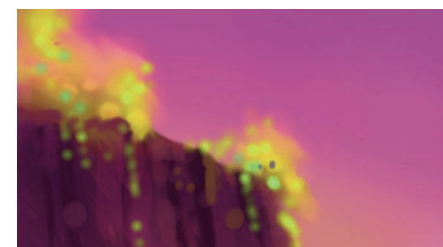
Chapter Two

Mad Science or Magic?

Why Would Anyone Animate?

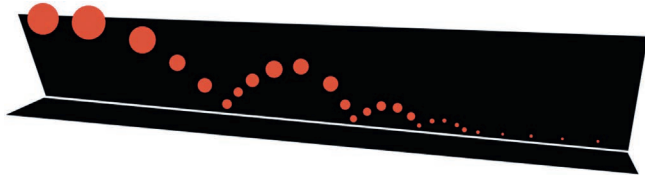Why would anyone in their right mind ever animate? But animators are not in their "right" minds, they're in their left and right minds, seeing things that mere mortals do not.

Animation runs at 24 frames per second (30 for video). One minute of animation thus requires 24 × 60 seconds, or 1440 frames per minute. An average animated feature runs 90 minutes, so that means 1440 × 90 = 115,200-plus backgrounds, rough animation, and storyboards. Why on earth would somebody do this to themselves?

Why is it only with animation that we measure the work in terms of counting the drawings? Do we ask bricklayers how many bricks they used to build a house? Do we ask carpenters how many nails they used? Do we ask race car drivers how many miles they've driven? I actually don't have an answer, but it's puzzling. Here's another quandary—why do people expect you to give them a drawing? You wouldn't ask a brick layer to give you a brick.

Animation is a labor of love. It's overwhelming in the amount of work, the cost, the time and creative energy needed. Why are so many people so passionate about it? How can they best channel their energy so as not to lose their spark during the work? These are some of the questions we'll look at during our journey.

Animation Process Pipeline

We're not only going to learn each stage of the animation process, but we'll see how all of the production stages of animation fit together. You then can specialize in the area that you're interested in or you'll have the knowledge to make a complete film yourself.

What are the steps of creating animation?
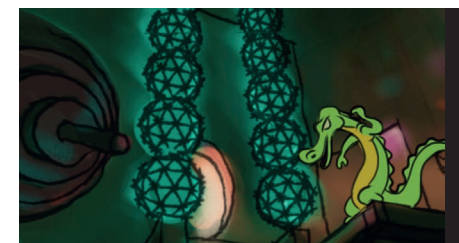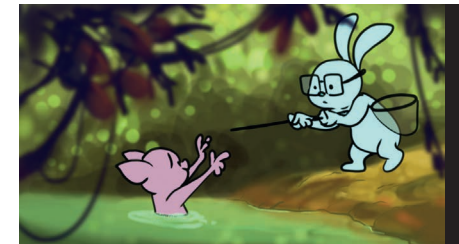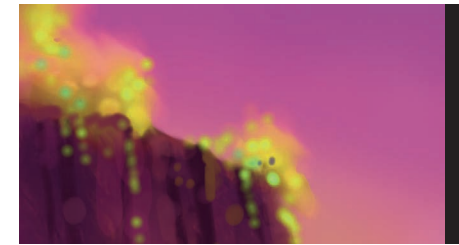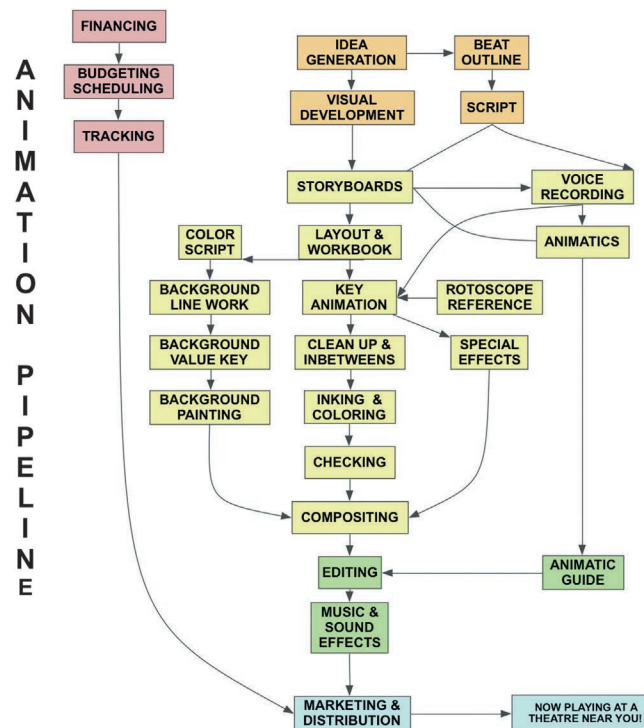
The pipeline of animation falls into three main sections: preproduction, production and postproduction, followed by marketing and distribution.

Preproduction is where it all begins, including story development, script writing, production design, storyboards, and animatics. At this stage a film might get a green light or go ahead to start production or head back for further development. If it goes back to development or is canceled, not much is lost in terms of costs (except for artist egos).

Production is where the real work and real money come in, to bring the preproduction to life. This includes the creation of style guides, layouts, timing sheets, workbooks, animation, cleanup, and inbetweening of characters and special effects. It also includes voice recording.

Postproduction is where it's all put together. This includes compositing of the images, editorial, sound design, and music scoring.

Finally, the film is ready for marketing and distribution.

Computers have varied this process, but more in terms of the technology utilized for the steps rather than a change in the process itself. Some of the steps of computer animation are related to live action being that they work in a virtual 3D space with lights.

Computer graphics has additional processes—previs, modeling, proxy models, rigging, texturing, blocking, camera, lighting, animating, procedural systems, rendering, and other stages with exotic sounding names, like sub-surface scattering.
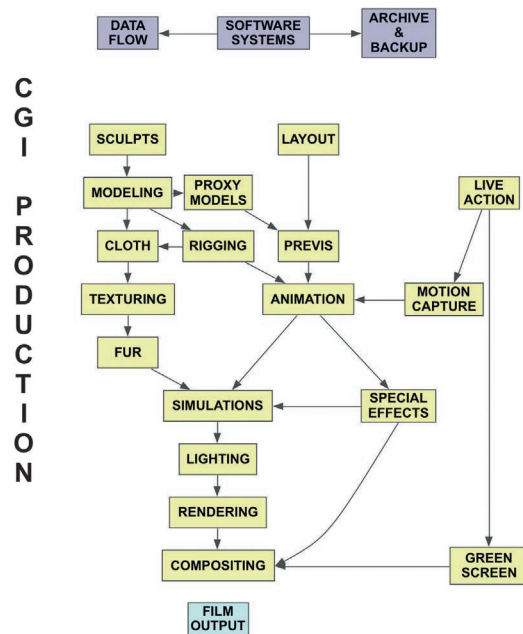
*CGI = Computer Graphics Imagery.

Check Your Checklist!

You wouldn't blast off to the moon without a checklist, would you? Of course not, you'd need to make sure you had maps, food, water, tools, air, and enough fuel to get there and back. Well, creating an animated film is not as complicated as rocket science but it probably has more steps involved. You're going to be creating thousands of files. Organization is crucial if you have any hope of completing your project. Hierarchical folders for your computer files are necessary to be able to find the files you need.

Checking has always been an important part of the animation process. Since there is so much work necessary, there is so much that can go wrong and somebody has to check that those errors don't survive the production process. At Disney, they actually had workers whose job it was to just check that all of the elements were created and that all of the colors were painted with the correct color. They also had the job of removing dust from the cels. Static electricity made the plastic cels like dust magnets.

Part of checking can be a simple checklist. In Atul Gawande's book *Checklist Manifesto: How to Get Things Right*, he describes the many benefits of creating and utilizing checklists. Checklists are created to catch errors even for experienced people. When Murphy's law states that if something can go wrong, it will at the worst possible time, then checklists are a safeguard against Murphy and his intruding, maddening law. Atul describes how doctors and airline pilots use them and have documented their efficiency in catching potential fatal errors. If it's good enough for them, then it's good enough for us animators, who only have to create life and not worry about any of our characters dying. And if that's not enough reason for you to start making checklists, remember, Santa's been using them for years and checking them twice.

We can use checklists for story flow to track character arcs and motivation. We need to insure that the story is driven by characters' decisions and their actions.

Checklists can be used for continuity and to make sure scenes have a clear structure and point. Checklists are useful for animating to make sure the principles of animation have been applied to really bring a scene to life.

Checklists are also a valuable tracking tool to monitor production progress and that the film is hitting its deadline milestones. The checklist for making the film for this book included four pages of spreadsheets to track 90 scenes of animation. The book itself required multiple checklists just to keep track of what sections were

written and which illustrations were still needed. Anytime you're dealing with more items than you can keep in your head, you need a checklist. For me, that's about seven items.

## Creating Your Very Own Mad-Science Laboratory of Animation

I don't know about you but I always wanted to have my very own mad-science laboratory. What is it about animation that makes me think about this? Maybe they're both spaces to bring things to life. So you need a place to create—your very own mad-science laboratory of animation.

It's truly amazing that today it is possible to have your own animation studio on your desktop complete with a DVD with surround sound! This was unthinkable not too long ago. Sure, you could make your own films with a 16mm camera but could you mix a score for it too? Could you make copies for worldwide distribution? Now you can. The game has changed.

What do you need to design your own mad-scientist animation laboratory? We'll look at a hybrid of traditional, 2D digital animation and 3D computer graphics used in the making of this book. While its emphasis is on digital 2D, the principles of animation design apply to 3D as well.

The traditional process of animation consists of hand drawing on punched paper. The punch fits onto pegs which register the paper so the animation doesn't jump around. The paper drawings are inked onto acetate cels. These
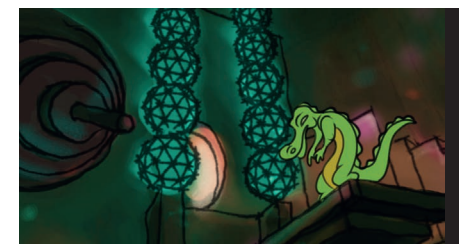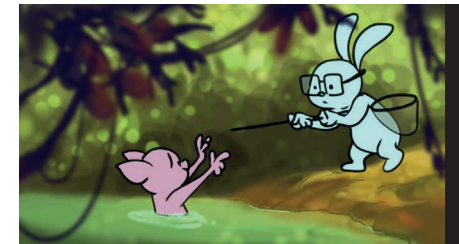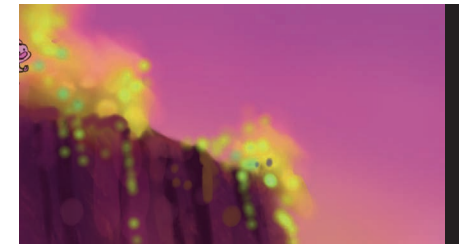
cels are painted on the back. This gives the cel its smooth flat color look with the line work hiding the edges. These cels then are combined with the painted backgrounds and again placed onto pegs and put under an animation camera. The frames are then exposed one after another.

The hybrid method consists of scanning the pencil animation paper with a digital camera or scanner. Once the images are in the computer, the process is now digital.

There are many software packages that can be used for creating animation. They basically allow you to complete all the necessary steps of the traditional process in the digital realm. For two-dimensional art, artists have used Adobe's Flash and After Effects, Toon Boom's many animation packages, Pencil, and Anime Studio.

In the three-dimensional world, there is also a wide range of software options to explore, from the high-end Autodesk Maya to the lower-end Hash's Animation:Master. There's also the very capable and free Blender 3D software with tons of tutorials available on the web.

I personally chose TVPaint Animation for my project. It has a wide-ranging toolset including complex compositing, camera moves and even a particle system. It's a raster-based drawing system like Adobe's Photoshop. One reason for my choice is that I want software that's going to be very expressive in terms of line quality. My favorites in this area are Autodesk's Sketchbook Pro and Photoshop. TVPaint's advantage is that the drawing tools are just as good and it has a multilayered timeline. I don't have to waste time saving and opening a new drawing; I just click the arrow key and then I can start my next drawing. I can even scrub through the drawings to see the animation move. This was my personal choice—you may find other software fits your workflow better.

Here's a photo of my own mad-scientist setup for bringing things to life.
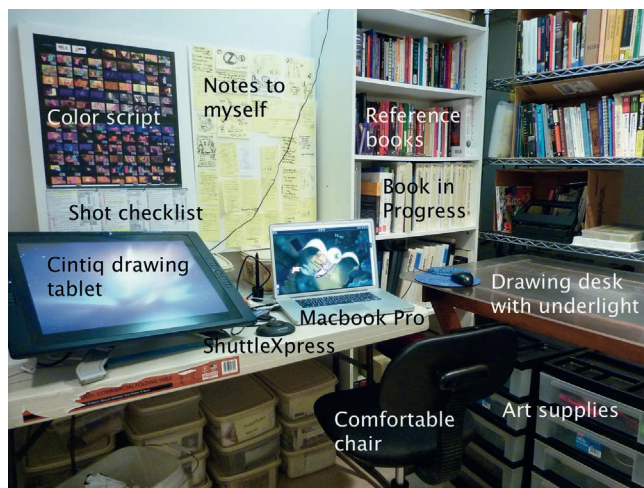
My lab here is in a small basement. I surround myself with flat surface space. In front of me I have my Wacom 21-inch Cintiq drawing tablet. I'm left-handed so it's on my left side. Next to the Cintiq is my Contour ShuttleXpress. This is a wonderful little device with which I can program in keyboard shortcuts to each of its five buttons, such as Undo and Save. In the center is a jog wheel that allows me to scroll through my animation frames forwards and backwards. To the right is my MacBook Pro laptop.

Behind the computer setup are several sheets of foamcore board. I taped my color script and shot checklist to one to remind me of my progress. The other foamcore is covered with sticky notes to remind me of things to include in the book. Off to the side are my book shelves. I actually like the metal kitchen-type shelving for getting organized. One last thing is to make sure you have adequate good lighting. You want your eyes to last a lifetime.

Equally important as the equipment is your state of mind in your studio. It should be a place where you can feel inspired and work without distractions. It should also be a place where you can get right to work and find what you need easily. Make it your dream. It doesn't need to have Tiffany lamps and rosewood desks, it just needs to be a space you can call yours.
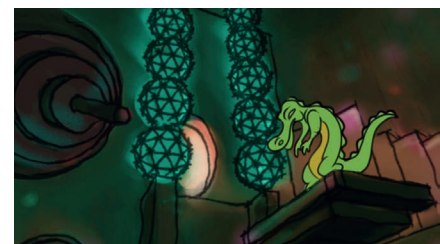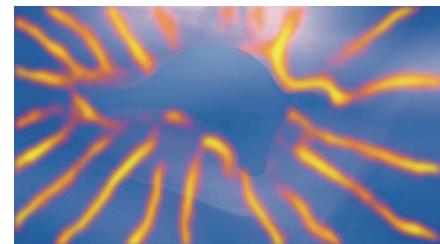
Should you listen to music in your studio? In some stages of the process I find it distracting, while in other stages, such as cleanup or rendering backgrounds, music helps keep me on task. When I need to do a lot of thinking I usually turn it off.

If animation is what you really want to do, invest in good tools, and they'll pay for themselves. A small Cintiq and a 13-inch MacBook Pro including animation software might cost between $2000 and $3000. Axiotron makes a Modbook, which is a Mac laptop with a drawing tablet on the top. A tablet PC laptop with software might cost a little less.

You don't need to go this high end when you're just starting. I didn't get my Cintiq until this year when I started animating for this book. I started animating with cutouts under a Super 8mm camera and using a homemade light stand. In fact, the desk in the photo is a homemade desk with under-light. You can start with little pads and make flipbooks. When you're employed in the industry you'll be able to afford fancier tools.

Good tools will make your life easier and make you look good.
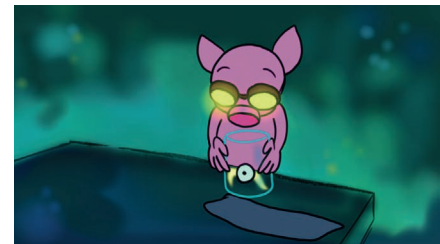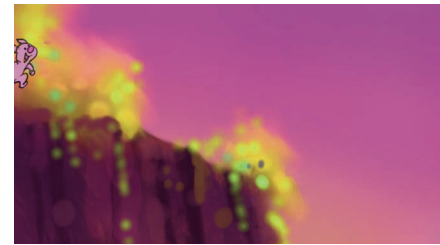
Chapter Three

That Reminds Me of a Story…

The Dramatic Structure of Stories

WHAT ARE YOU DOING!?

I'M EVOKING EMOTIONS FROM THE AUDIENCE!

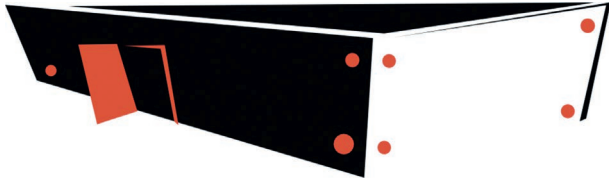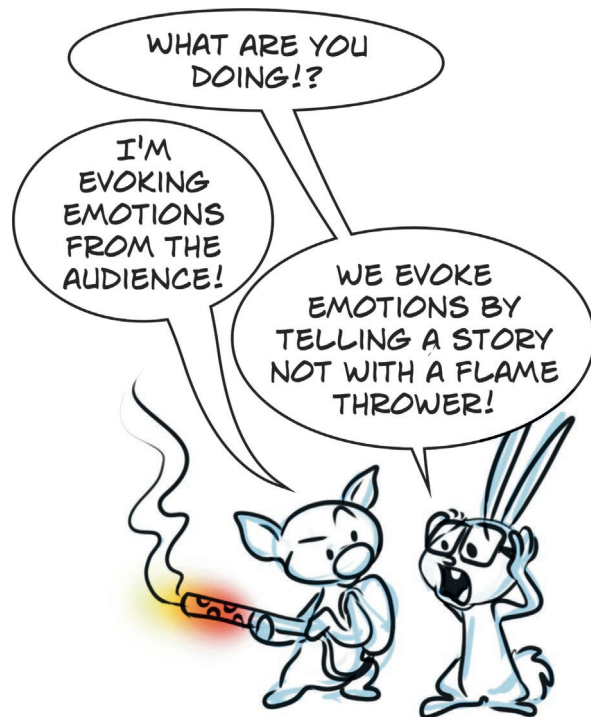WE EVOKE EMOTIONS BY TELLING A STORY NOT WITH A FLAME THROWER!

Here's Iggy's and Scared Bunny's New Definition of Story: A story is a way of using pictures and/or words in a sequential order to get an audience to feel a range of emotions and thus have a satisfying experience. Bottom line, this is what entertainment is—providing the audience with an emotionally satisfying experience.

Lessons from a Melodrama

When I ask my students, "Why do we watch movies?" someone always answers, "To be entertained." What is this mysterious quality of entertainment? If you could bottle it, you'd make billions.

My hometown of Moorpark had a melodrama theater that presented spoof melodramas. The characters were all clichés including villains who twirled their mustaches. We used to take my son and his friends and we were all encouraged to participate by cheering the hero and heroine and booing the villain. Everyone had a great time. Sometimes I'd bring a small sketchbook because the costumes and acting were way over the top, perfect for animation.

Suddenly, the concept of entertainment was crystal clear. Those actors up there wanted audience reactions! And it didn't matter if it was positive or negative. (Of course, at the end they wanted applause!) But during the show they wanted it all, the cheers and boos alike. This meant the audience was engaged and having a satisfying emotional experience.

There are many ways to achieve the goal of providing a satisfying experience. What do you want from your audience? Do you want to shock them? Give them insight? Make them laugh? Cry? Overwhelm them? Transfix them? Entrance them?

The animator's eye is a very personal eye with access to the realm of the imagination. Once you learn the tools you can access your animator's eye and offer your unique view of the world perceptually and philosophically, all reflected in your story. Narrative storytelling is the heart and soul of Hollywood filmmaking. The audience joins your characters on the story's journey and is transported to another place.

That reminds me of a story…

Where do we begin to tell stories? We've all been telling stories all of our lives. "There was the time my dog ate my homework. Fido really ripped it to shreds and his drool made the ink smear." Sound familiar? It's easy, right? Not so fast…

How do we come up with a story for our animation? Most people dream up a story they want to tell and then create characters. The characters did this and then they did that and so on and so forth, until finally, the end.
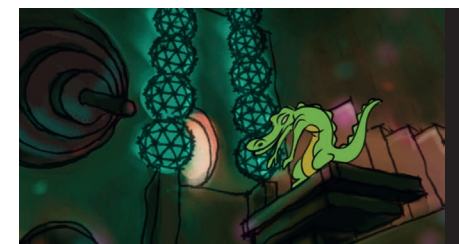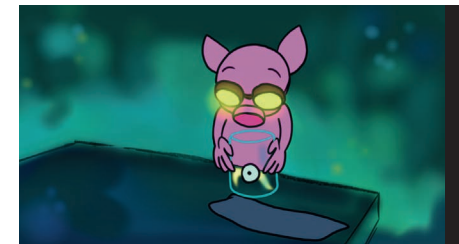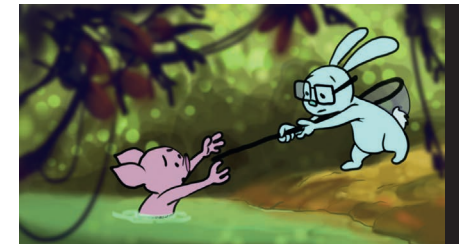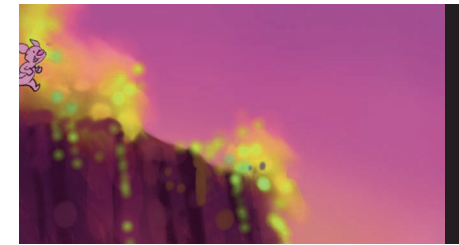
Let's try a different approach. First, I want you to answer several questions. Don't think up a story. Instead, think of what you want your audience to feel. Think about what you have to say about life. What's really important to you? How do you see the world? These questions lead you to your theme which underlines a story.

Next, imagine which powerful images you'd like to use. What would be unforgettable? What would be strangely beautiful? Super cute? Now what would be its horrifying opposite? These are just suggestions to get you to think about what would make your images unique.

Think about conflicts that can drive a story and make it suspenseful and exciting. What would drive your characters crazy enough to do wild outrageous things? Learn to think backward. What could have happened to get them in this predicament?

After you've explored these ideas, now think about the story you wish to tell. I'm hoping you've noticed that this has put you in a totally different frame of mind, an enlarged frame of mind. This will lead to a great story. You'll see later that this is how the animated story for this book was conceived. In addition to the questions I've proposed above, I needed to think about what animation concepts I wanted the film to demonstrate for you. You have to structure your story for an emotional response from your audience.

But animation's not real!

How can mere drawings or computer images affect us? Does it matter what's real? Stories affect us and that effect that people feel is very real.

I've heard of a story of a man riding on horseback during a raging storm to get to somewhere in a hurry. When he arrives his friends are surprised. He asks why they're surprised and they inform him that he just galloped on horseback over a frozen lake. The man immediately has a heart attack and dies. So what was real in this story? Was galloping over the frozen lake real? Or did it only *become* real when he learned that the lake was frozen? At this point he was already safely on the ground! He had already made it across the lake, and nothing else should have mattered. He died not when they told him the story that he rode over a frozen lake, but rather when he told himself the story that it was impossible to have ridden a horse over a frozen lake. It was the point where he made it real for himself. Stories can be that powerful.

Have patience, Iggy, you want to learn to make profoundly moving movies, right?

At what point is something real? Is reality a matter of communication? Then is the communication part of the reality? Thus, the observer really changes reality. In this case I'm not talking about quantum physics but rather the fact that we make a story our own. We supply our associations to all of the images we see.

This is a very powerful message for filmmakers with animator's eyes. Stories don't have to be true to be effective and your audience doesn't even need to believe a story to be affected by its structure. They don't need to believe, but you the filmmaker need to know it works. So, yes, drawings can affect us as strongly as live-action movies can. They're very real and maybe even tap into deeper, more primal layers of our minds.

Of course animation's not real. But isn't that what's so wonderfully magical about it?

What Kinds of Stories can the Animator's Eye Dream Up?

It's easier to ask what kind of stories animators can't create. The range of stories explored by animation cover every kind of human experience. Stories explore the myths of life. The animator's eye allows us to swap characters with other creatures. Where else could you have cats and dogs playing Shakespeare? *The Lion King* was structured along the lines of Hamlet. Uncle Scar kills Simba's father and takes over the throne. Of course there are big differences too. Hamlet didn't sing, "I just can't wait to be king."

Richard Linklater's *Waking Life* philosophically explores what dreams are. *When the Wind Blows* tragically explores an elderly couple's experience of radiation poisoning post nuclear war. And on the flip side, the wonderful *Oktapodi* explores the comic side of life in a powerful love story between two octopuses. Fairytales have provided lucrative fodder for the Walt Disney Studios for decades. It appears that they've run out of fairytales and now the rage is to make fun of them. Dreamworks has hit home runs using this ironic approach to fairytales with the *Shrek* franchise.

Part of animation's appeal is Peter Pan's world of Never Never Land where you don't have to grow up. Most grownups have lost the ability to play. What's worse is that they've lost the ability to even see any value in it. The worlds of childhood portrayed by Alice, Peter Pan, fairy stories, and monsters are very powerful.

What's behind these fantasies? Why is fantasy meaningful? What is their enduring appeal? How do they relate to the real world? Fantasies can make us make feel secure. This was one of the secrets that Disney knew; the world of childhood was filled with terrors. He also knew that terror contrasted with safety and belonging made for a powerful combination. Maurice Sendak's work, such as *Where the Wild Things Are*, also had this dark edge to the

portrayals of childhood. I think the film version of *Where the Wild Things Are* misfired in this regard. *Pinocchio* had a magical terror, and don't even get me started on the terrors of *Snow White* or *Fantasia*'s *Night on Bald Mountain*. Disney, like Freud, knew the power of the dark side and our wish to be protected from it.

There's a charm and magic that accompanies hand-drawn animation that harkens back to our flat drawings as kids. During *Piglet's Big Movie*, the Pooh gang lose Piglet's scrapbook while they're out searching for him. In Pooh's mind, since it was Piglet's book of memories, maybe it would remember where Piglet was.

A storm prevents them from searching any longer, so while they're warming their toes they set about recreating Piglet's scrapbook with crayons. I thought it would be wonderful to bring their drawings to life. Our animators in the Japan studio did a wonderful job bringing storyboard artist Robert Sledge's designs to life. This song sequence furthered the story by showing the characters that in each incident, from the time they built a house for Eeyore to the day Kanga moved in, Piglet had saved the day. They realized that they took him for granted. This was a story about the fact that, even if you're small, you can make a big difference and it was also about learning to appreciate your friends, all set to wonderful songs by Carly Simon.

It's fascinating that so much animation is really about bringing things to life and the life of the animation. The first *Fantasia* (1940) was all about sleep, dreams, death and waking. The fairies wake up with the change of seasons. The dinosaurs all die off. The hippos awaken to dance the ballet. The demon Chernabog wakes the witches and demons on Bald Mountain only to go back to sleep when the church bells ring. Sorcerer's Apprentice Mickey goes to sleep and dreams of conducting the heavens.

Fantasia 2000 was all about rebirth. The whales lose their child and then are reunited as the flock flies up into the sky reborn into a heavenly ocean. The forest dies with the eruption of the volcano to be reborn with the touch of the nature sprite. In the sequence that I directed, Donald is Noah's assistant and he and Daisy both believe that the other has been lost to the storm. When the storm waters recede our lovers reunite under God's symbol of redemption,the rainbow. The whole earth has been reborn. This might account for *Fantasia*'s timeless appeal—truly classic music set to imagery about life and death.

Why is Story so Hard to Get Right?

THEY DON'T CALL IT DEVELOPMENT HELL FOR NOTHING!

They don't call it "development hell" for nothing.

Theme and story are the hardest part of making a movie. This is further exacerbated by inefficient corporate structures that can easily derail a project. I've watched firsthand and secondhand and participated in many feature projects that were derailed by an ineffective process. I'm not saying their job is any easier but if all involved understood the dangers of where stories can go off track, it might avert some disasters.

Time and money are often wasted trying to make the first act of a story perfect. Studios will tweak it over and over, only then having to change Act One again once the theme and story are worked out and after discovering that the beginning doesn't set up the ending properly. David Ball's book, *Backwards and Forwards: A Technical Manual for Reading Plays*, reveals the truth, that a story only makes
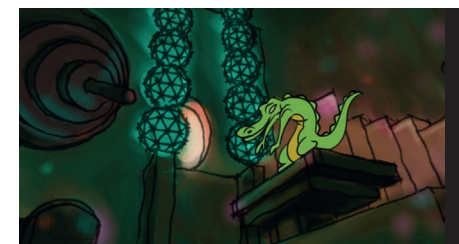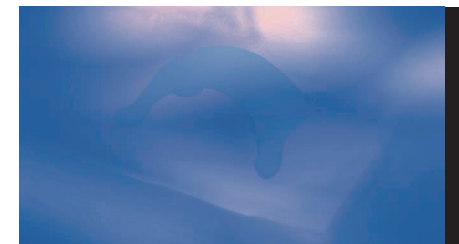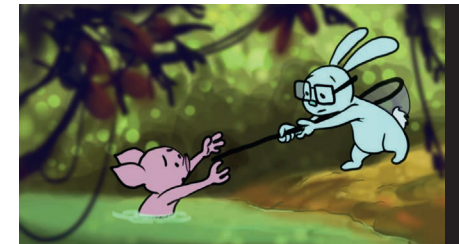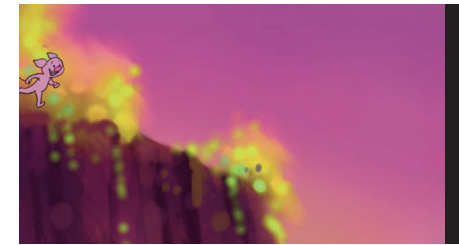
sense from one vantage point—the end. It is important to know where you're going and what it's really about. Create your end goal first.

Tremendous money can be wasted by the needs of the studio's production pipeline. The pipeline determines the production flow, according to the budget and time schedule, sometimes requiring that the movie start production before the story is ready. This is a recipe for a disaster of which the Hawaiian "Pipeline" is an apt metaphor—wipe out!

I've watched executives change their minds as to what kind of movie they're making and change the genre after a complete storyboard was assembled as an animatic reel. (An animatic reel is a version of the movie which just uses the storyboard panels with temporary dialogue and music.) This was a shame because they had a really funny movie, but they decided they wanted to make a dramatic action film. True story.

I've also seen problems arise because the writers were on projects not because of their qualifications as a writer, but because he or she were friends with the executives.

Let's look at how one studio consistently gets story right and why.

How Does Pixar Do Story?

While I have never personally worked at Pixar, I've read and talked to colleagues enough to understand their story process. It's a model process that most story artists at all studios intuitively want to execute but the typical studio pressures of limited time, budget, and insatiable need to "feed the pipeline" do not allow.

Pixar has several very small teams of storyboard artists and writers working on stories, getting them ready to fly. When they're ready, they pitch the results. If the pitch goes well then they develop it further. They'll keep pitching, showing it to progressively larger groups. Each time the character motivation gets refined and the story gets tighter. Finally, after this looping process of development and feedback they're ready to put it into the pipeline.

There are two things to take note of in their process. First is to let everyone contribute notes. This provides a group creativity and, as an added bonus, this builds morale. Secondly, they don't try to make it funny—yet. They focus on making the story work. At this early stage, jokes can distract from whether the story itself is working. Once they know the story works, they know they can make it funny.

This process is very efficient because you're just paying a small team to get a film ready. Pixar understands there will be many problems to solve. So they don't commit the whole pipeline to the project until it's ready. Having many of these story pods going insures that they'll have many projects ready as the pipeline is ready for the next project.

Pixar was not the first studio to use this development and feedback cycle. Walt Disney and the Marx Brothers did it before them. Walt pitched *Snow White* to his

artists, including acting out all the parts. He could see the whole thing in his mind with his animator's eye.

The Marx Brothers tested their comedy with a live audience and performed it over and over until their jokes were polished. Only then did they commit the performance to film.

Once you have the basic story, theme, story conflicts, and character arcs worked out, the story almost magically begins to write itself. But this happens only after a lot of research, exploration, development, and experimenting.

How to Create Interesting Characters Using Simple Rules

BUNNY: One way to get characters that will provide you with dramatic story situations and comedic material is to give them rules.

IGGY: We don't need no stinkin' rules.

BUNNY: Iggy, one of your rules is not to follow rules. You wouldn't be Iggy if you followed the rules.

In cartoons the rules for characters can be simplified. Find out what your character wants. Give them simple rules based upon those wants. Iggy is impulsive, impatient and doesn't follow rules. This gets him into trouble—instant story! Bunny's name says it all—scared bunny. Bunny is cautious and thinks too much. He's not as interesting on his own but he's a great companion for Iggy. You