

**ANIMATION IN ART EDUCATION:**

**The Animated Classroom**

by

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**Abstract**

Our society is surrounded by a vast array of messages conveyed more and more with moving images animated to seem so realistic that it becomes difficult to know whether the images being viewed are “alive” or created by the human hand. Animation is a relatively overlooked area of art education and educators are not likely to have experience with the positive learning prospects that can be incorporated into the classroom. Whether from lack of technological expertise or exposure, this medium proposes to encompass all teaching areas to broaden the spectrum of educational possibilities of all types of learners, including those with learning disabilities. Students and teachers show an enthusiasm for the medium but may lack the educational tools or, hold certain assumptions about animation that may make it a difficult medium to use within the confines of the classroom or institution.

The intent of this project is to supply the reader with concrete forms and ideas that can assist educators in their attempts to integrate art education with different subject matter. Teaching aids such as simplified lesson plans for animation projects are included as well as discussions surrounding the benefits gained through using animation techniques and its historical development. A rationale for its place in the curriculum is a key component.. References and resources are provided as well.

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## Acknowledgements

The poet Ted Hughes was once asked in an interview if poetry is something that gives hope. He replied: “For myself, I formulated the little notion that art is in general a psychological component of the immune system. As the body tries to heal itself from any stress or shock or infection, the corresponding harmonic, in consciousness, is art. So our constant struggle to pull ourselves together and to deal with difficulty and injury and illness and with threats and fears, manifests itself--at a psychological level--as art. We may not think at the moment that it’s the most valuable thing we do, but of any past civilization it’s the one thing we want to preserve, because it still operates for us as medicine.” (Smith, 2002, p. R5)

My daughter, Bo and my son, Adam deserve first mention as they have supported me and sacrificed years to my academic and arts career for me to discipline my talents to become *ultra* professional. Also, to my dad--Bill Pawlivsky, for his encouragement and financial support for the lean times— and my mother, Esther Skwarek for teaching me to embrace my creativity, thank you both. Without them, their support, love and empathy, I would not be the artist, parent and human that I strive to be every day.

To my loving family of friends, acquaintances and community members (who know who *they* are), past instructors, teachers—you’ve *all* been morally and financially supportive especially during the rough times when I didn’t think I’d make it...there isn’t enough paper, ink or internet time to thank you all enough! Dr. Bill Zuk (, a warm, wonderful mentor who despite his heavy responsibility, assisted my quest with unending humor, resources and kindness; and Dr. Don Bergland for his wry, dry wit and his optimism about the future of visual arts!

Finally, Dr. R. “Bob” Dalton, et al (Phyllis)—the quotes are actually ‘angel wings’—for believing in me, when most times I didn’t even believe in myself...oh yes, and letting me make him laugh! We came a long way from that first meeting at Camosun College--thank you for keeping me focused on my dreams and ‘good medicine’.

## Introduction

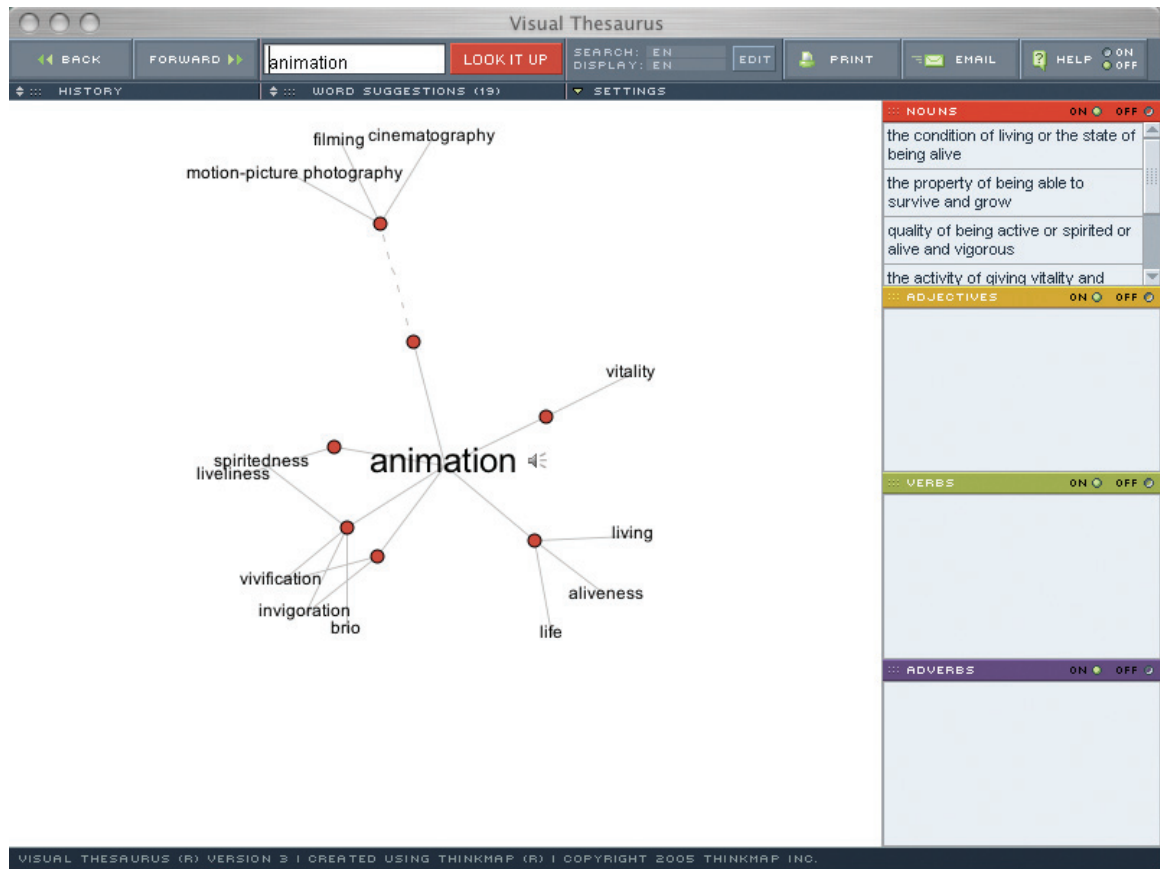


Figure 1. animated text (*Visual Thesaurus*, 2005)  
<http://www.visualthesaurus.com/>

...to animate!

...to make alive!

I can't remember a time when animation wasn't a part of my life, nor anyone else's for that matter. As kids we would constantly mimic Woody Woodpecker's latest wisecracks to each other while arguing whether Wiley Coyote should or shouldn't get to catch the Roadrunner once in awhile! For Canadian youths watching CBC (Canadian Broadcasting Corporation) there would often be a National Film Board animated film to watch between programs. Often they were better than what was on before or after them.

I now find myself coming full circle. My academic and educational interest in the magic of animation is the culmination of experimenting with and creating just about every type

of fine art medium available. Everything was, and still is, grist for my artistic mill. Simple pencil sketches for thumbnails of graphic design projects, playing the piano, professional photography, digital editing of video, experimental printmaking techniques, textile construction, complex animation projects – you name it and I’ve tried it. With perhaps the exception of bungee cord jumping into a pool of paint, my life’s experience culminates very nicely (thank-you!) into the wondrous world of animation.

I began noticing the animated nuances and gestures in my world that are communicated daily through thousands upon thousands of images moving around me. My own children especially like to animate toys and other objects in their world. Pushing toy trucks around the floor, my son would vocally mimic the sounds of big trucks. My daughter brought her stuffed toy animals to life almost the whole time she was awake. Once they discovered Mom’s video camera could stop-motion capture their toys moving across the floor, seemingly by themselves, their view of their world changed. One amusing animation technique author calls it “visual acrobatics” (Locke, 1992, p. 10). The magic remains but now my children are further empowered to make their own animated movies. I’ve yet to meet a kid that doesn’t want to animate!

A few summers ago, I was invited to host and design a series of animation workshops for the Greater Victoria Public Library and its various branches. Part of the literacy program involved visiting artists working with small groups of children who had signed up for it. The first day I was overwhelmed by the enthusiastic response. Kids who weren’t on the list had shown up just in case a participant didn’t arrive. Kids came despite being younger and older than the registration requirements. Even parents stayed to see what was going on. The pattern followed for the next six workshops with children of all ages and arts backgrounds arriving early and staying late. Animation books were all checked

out shortly after the workshops ended and there was no shortage of volunteers to help pack up the materials or clean-up. I'd like to credit Dr. Bob Dalton (my supervisor for this project) for his idea of using the "Dr. Frankenstein" movie script line "he's alive!" as it's a humorous yet apt description for this phenomenon. The "Dr. Frankenstein theory" describes what happens when I have observed the power to bring some inanimate object to "life" even if it means using a small pad of paper and a pen to make a drawing of a ball appearing to bounce across the page.

### **Making it Work**

The individual techniques used in animation production, whether a simple thaumotrope or a sophisticated computer generated movie, have artistic components that, when combined by physical motion can "come alive". The artist is a magician whose sleight-of-hand creates wonder and astonishment in audiences, young and old alike.

Then, why is it that teaching animation seems relatively rare in art education in many schools? Looking at the curriculum for British Columbia's Ministry of Education Integrated Resource Packages (IRP) that provide the basic information that teachers require in order to implement the curriculum, the word animation is mentioned only once in the Visual Arts K to 7 prescribed learning outcomes. In fact, it's only referred to as a video resource (BC Ministry of Education, Curriculum Branch, 2000). To be fair, animation creation can fulfill each of the four content organizers of Perceiving/ Responding and Creating/Communicating on which the learning outcomes are based. One of the best values that animation education offers is its ability to bring many different types of art forms together. I have provided several art lesson plans and projects that use simplified and inexpensive materials in the appendices of this volume.

One reason animation may not be winning any popularity contests with teachers may be the mysticism surrounding the process. Creating an animated film or video might *seem* daunting for the lone elementary/grade school teacher with limited funds, equipment, and space to produce a grandiose Disney-like production. Or, perhaps it is the lack of methodology in universities. Little time is available for art education in teacher-preparation programs. Some elementary generalist teachers have had no art courses at all! Others have very limited time to cover much, and classrooms with large numbers of children may be difficult to manage without specific instruction in animation lesson planning. Another problem may be that visual art is narrowly conceived as painting, drawing, and sculpture. Electronic arts cross boundaries and may be 'sullied' by labels such as 'entertainment' or 'low brow.' During my experience working in the print and visual communications field, I've determined that technological innovations, such as computer technology, are adopted quickly at the industry and vocational level. Science, business, commerce, entertainment, and publishing have embraced and explored this method of visual, high technological production while many in fine art worlds are debating the legitimacy of digital production of imagery (Bergland, 1997).

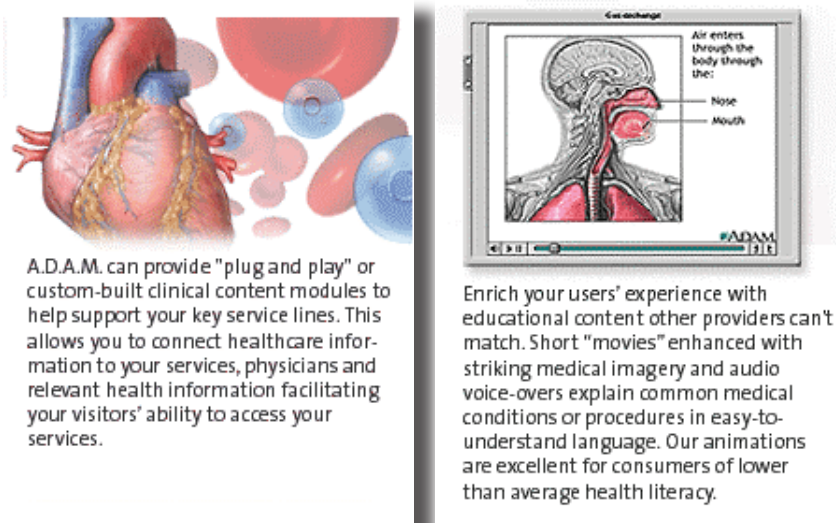
However, the educational exposure to these developments at the curriculum level doesn't happen as quickly. Perhaps this is due to lack of financial and public support from ministries of education and local school boards. Support sometimes comes from industry if there is some gain or profit that might come from exposing youth to their products through supplying them to schools. Apple computers, Microsoft software, and other such technologies are examples of corporate support. Scanning images to be used in animated productions has been happening for almost three decades, yet many classrooms and school studios have only acquired the equipment/technology to accomplish this in the last part of this decade. In my opinion, there is very little difference between teaching a child

to scan an image or photo-capture it versus cutting out paper pumpkin shapes to make Halloween decorations! Maybe children could digitally scan in that pumpkin shape, move it around, capture a few frames, and “bring it to life,” or video tape it moving around using the camcorder buttons to record, pause on, and off making their frames! Again, supporting teachers by assisting and upgrading their knowledge would be highly advantageous to ease animation into the classroom.

In most elementary schools there are tools that can be used to create simplified animation projects but it takes a great deal of research, experimentation and motivation by individuals to bring a relatively simple process to fruition. In the 1960s, to the early ‘80s several art educators such as Degge (1985), Lanier (1982) and Feldman (1992), promoted popular arts in art education. A number of authors [see Appendix A] have produced books to encourage simple animation projects for the interested individual or teacher. The huge technological leaps during the last few decades may have left the low-tech animator wondering whether or not it’s worth it to begin what may prove to be a labor-intensive production or to lobby school principals for funds to purchase high-tech digital equipment. Unfortunately, there seems to be very little curricular support besides the current development of video productions and computer programs unless a teacher is personally interested in animation. This means that they must be willing to expend time and focus energy on developing animation projects themselves, either within their arts blocks in the curriculum or by integrating them within other teaching subjects. In the minds of many teachers, experimental animation projects don’t seem to compare to the big budget productions enjoyed in a movie theatre as entertainment, yet it is the examination and study of animation technique that teaches us exactly what animation movement is all about. The activity of frame-by-frame composing of images, text and perhaps even sound, creates the magic that enthralls and excites.

Among other things, student involvement in production develops understanding and appreciation for this art form. Introducing students to the visual language of cinematography via animation education, I feel, is essential in today's visually saturated world. Consider the suggestion by Harold Pearse (1992) that art educators might begin to see art as a social process, renaming it "cultural production" so therefore the artist and artifacts are understood and interpreted in a broader context and greatly expanded array of cultural forms and interactions.

Virtually all subject matter has been presented and documented through some type of



animation technique whether in the scientific fields, business and commerce, fine arts, or education. Animated medical presentations (Figure 2.) are

Figure 2: Examples of the A.D.A.M. anatomy model images available to medical students to study the human body, virtually replacing outmoded methods of educational material of the past. Grey's Anatomy may never be extinct but the possibility of reaching a broader range of students with varying learning styles is very exciting and maybe even more fun!

The Physics Classroom

http://www.physicsclassroom.com/mmedia/qt/vectors

RBC Financi...ine Banking University ...mbia Canada Google Apple - Mac...g Mac OS X Apple

StudyWorks! Online

**the Physics Classroom** a high school physics tutorial

**Multimedia Physics Studio**

**QuickTime Movies**

Horizontally Launched Projectile

Non-Horizontally Launched Projectile

Car "Rear-Ends" Truck - Inelastic

Truck "Rear-Ends" Car - Inelastic

Head-On Collision Between Car and Truck - Inelastic

Roller Coaster

## Vectors and Projectiles

### Horizontally Launched Projectile Animation

**QuickTime Movie**

Observe the motion of the projectile below. Observe that there is no horizontal acceleration; that is, the horizontal velocity does not change during the flight of the projectile. There is however a vertical acceleration; the vertical velocity of the projectile changes by 10 m/s every second. This can be verified by sliding the frame control or using the Step Forward button in the Movie Controller. The digital display shows that every second, the vertical velocity changes by approximately 10 m/s (9.8 m/s to be exact); it could be said that the vertical acceleration of the projectile is 10 m/s/s (or 9.8 m/s/s).

Horizontal Velocity	Time	Verticle Velocity
$V_x$ 8.00 m/s	$t$ 1.65 s	$V_y$ -16.19 m/s

The diagram shows a car on the edge of a cliff. A blue arrow labeled  $V$  points horizontally to the right. Below the cliff, several blue arrows represent the projectile's velocity at different points in time. Each arrow is decomposed into a horizontal component  $V_x$  and a vertical component  $V_y$ . The horizontal component  $V_x$  remains constant in length, while the vertical component  $V_y$  increases in length downwards as time progresses, illustrating constant horizontal velocity and constant downward acceleration.

Information is available (at other sites) about the following topics:

[QuickTime Movies](#)

Figure 3: Example of the Physics Classroom website

Another example (Figure 3.) uses animated illustrated tutorials through an on-line educational website for high school physics students. Although simple in form, the

visualizations team up with text to explain the complexities of formulas that might otherwise be confusing without some form of demonstration for the learner. Students can

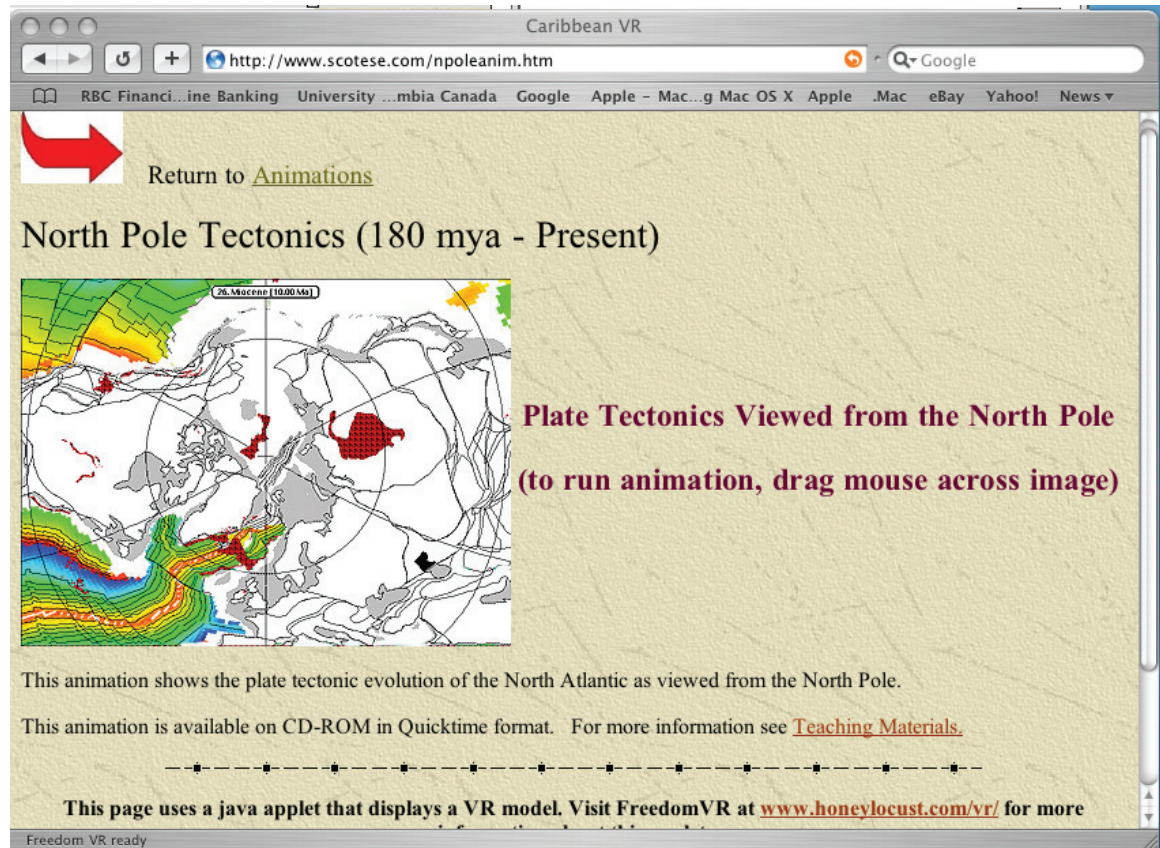


Figure 4. Animated Paleo map on Scotese's website

activate the animations while reading about the formulas that make it all happen!

Students studying at Earth and Ocean Sciences in the University of Victoria's weather department use Professor Scotese's (Figure 4.) web, flip books and CD-ROM animated paleo and weather maps showing geographical and climatic changes throughout history. I discovered his Paleo flip book while on a school field trip and it was a big hit with the kids. Unfortunately, they weren't supposed to 'play' with it because it's considered a resource book for the department!

Primary school students tend to be much more sophisticated and knowledgeable about animation than their parents. The popularity of manga, also known as *animae*, is evident everywhere at my son's middle school as well all around our home. Japanese Yu-Gi-Oh

cards featuring characters from the videos and dvds, Dragonball Z computer games, not to mention the plethora of specialized gaming computers such as XBox, Nintendo DS, and PlayStation saturate my children's life with animated images. Bookshops carry a wide range of graphic novels, and the selection of animation at video/dvd rental stores has increased not only with current productions but re-releases of animated productions made decades ago. The 'information highway' has allowed a greater degree of knowledge to be accessed now more than at any other time in history. It only stands to reason that when students are able to understand differing methods and styles of communication transportation, they can then begin to examine, explore and critique their visual world.

So, not only is animation useful as a tool to *encourage* education and knowledge but it is also potentially fun and playful! Saturday morning cartoons are a perfect example of how alluring animation is to young and old alike. Anthony Kinsey summed up these ideas with this passage:

In a world in which we are all in danger of becoming passive receivers, soakers up of pre-packaged, pre-recorded, pre-digested entertainment, any activity which enables us as individuals to turn the very technology of mass entertainment into an opportunity for creative expression is surely to be welcomed and encouraged.

(1970, p. 8)

This project is divided into sections that explore my teaching creed philosophy, animation education, animation's history, creating animation, implications for teaching, as well as recommendations for further study, followed by appendices listing helpful resources for students and teachers.

Chapter One introduces my teaching philosophy; it explains the significance of exploring and using animation processes and techniques as an integral part of the art world and a necessary topic in art curricula. Supporting this position are arguments and quotes from art educators and researchers that encourage this type of exploration. Through some of my own experiences and observations using animation techniques, I have discovered that once the minor technical obstacles are overcome, the process of producing an animated product is enervating and enjoyable for students and teachers alike.

Chapter Two defines and describes animation, and explains methods of achieving it through specific animation activities. The case for animation in the classroom is developed through a discussion of educational benefits such as: the potential for animation's new pathways of communication, as well as individual and group-specific needs that can benefit by using animation techniques to achieve curriculum outcomes.

Chapter Three provides an overview of animation history and acknowledges cultural differences in a brief consideration of works from various areas of the world – from Eastern Europe, South America, and Southeast Asia. Consideration is given to how animation is used as an educational medium in academic disciplines or fields such as business/commerce, sciences, fine arts and the humanities. This investigation helps to build a case for including animation as part of the art curriculum in our elementary, intermediate, and secondary schools. Animation is best understood as having a place in a continuing tradition of art rather than a recent arrival on the scene. This chapter reveals the early beginnings of animated art, how animation is part of the beginnings of film history, and its place in the history of art. A short summary documents the progression of artistic efforts to represent 'movement,' from cave art of 30,000 years ago to 19<sup>th</sup> century animation inventions – forerunners of children's toys invented in the mid 1800s as well as demonstrations of visual movement machines designed primarily to entertain adults in

formal environments. The growing status of animation today can be seen in its acceptance as a discipline of study in post-secondary institutions. Art colleges such as Emily Carr College of Art and Design (Vancouver), Sheridan College (Toronto), California Institute of the Arts, and universities such as Ohio State, University of Southern California and yes, even Harvard, are offering it! I will then briefly introduce and discuss international, national, regional, and local animation artists as well as examining their different styles and presentations relevant to their cultures and art traditions.

Creating animation is the subject of Chapter Four, beginning with examples of how different mediums can be animated as well as how technology influences the decisions of the animator. A few examples of my own animated projects as well as those of students in my workshops and classes are discussed; these descriptions and still pictures describe productions exploring time and space, movement, metamorphosis, and narrative. A step-by-step approach is given to planning and implementing an animated project including: conceptualizing through brainstorming for ideas, visual/text storyboarding; sound/voice/music; image capture choices; editing, titles/credits; and presentation to an audience.

Chapter Five will conclude with general advice to art education instructors at a post-secondary level, and primary/secondary teachers of other subjects where animation techniques might be employed to advance student learning and engagement. Practical advice is given for setting up an animation station within a general-purpose classroom. At the other end of the spectrum, a more sophisticated studio setup is described—a dedicated classroom for animation activities with a range of facilities, equipment, materials and resources. A critical and historical perspective—animation appreciation—follows the development of studio suggestions. How can students be guided into analysis, interpretation, and judgment of animation in all its forms? Teachers often require suggestions on venues and presentation of animation. As a performance art, film

festivals may take place, or websites may be used to make the work available to much wider audiences. A discussion of these possibilities is included. Recommendations are included for further research on children's development by studying their responses and understandings of animation; students learning different subjects via animating and animation; as well as a variety of ideas to explore animation in an academic arena.

The Appendices offer lists of resources such as information to find out more about the world of animation and the continuation of animation education such as post-secondary programs and supportive organizations. Suggestions for animation lesson plans, additional illustrations and information to aid the art education teacher or generalist offer aid in classroom and studio instructions, add the final element.

## 1.0 Personal Teaching Creed for Art Education

What is it about visual and creative artistic ventures that excites and entices? Color, shape, movement, medium, and light, with or without text, can be used to create art just as sounds (notes) of varied pitch, tempo, and volume can become music. So, the idea that something might or might not be ‘art’ depends on the individual listener, viewer or audience. By promoting the power of perception and opinion, the arts and creating art can set the human spirit free. Consider this philosophy-- that the very concept of art is open. Morris Weitz (1956) argued that we can not define art because it is always changing. Artists “redefine” art with each work they create. The concept of art cannot be closed, this is a word that requires openness. Attempts to define art attempt to limit art – they are used to exclude or disallow any product that stands outside that boundary. Could I or should I be allowed to censor another’s values based on my perceptions, even if that product-claimed-to-be-art could cause me discomfort? I believe that this is what ‘art’ does for us. It rebels against its definitions, and provides a balance to a part of the world that puts up fences, preventing others from entering into a discussion. This is precisely why art is so valid. Viewers are welcome to express differing views, formulate judgments, and also to respond on an intuitive level.

Practicing, producing, and viewing art allows us to experience freedoms in various forms, from the spiritual to the physical. From my observations in classrooms, workshops, galleries, sidewalks, cinemas, and studios, I have experienced and viewed such transformations. A despondent child putting paint on paper transfers hidden feelings and experiences, bringing them into the world and releasing tension. Adults that claim they are not artists are quite capable of putting together collages from magazine photographs and text that create messages about how they respond to mass media images.

Illustrations, whether visual or textual, reflecting pain and inner turmoil often serve as vents for frustration or despair and yes, sometimes, even joy. The one who helps and encourages these experiences can illumine a pathway to freedom and empowerment. Art as expressive therapy is only one of many reasons it is important. In my opinion, what art *does* for us is far more valuable than what it *tells* us or what it *is*. “The experience of art becomes a moral adventure rather than merely an aesthetic interlude.” (Danto, 1996 p.15). This may be why art is so difficult to defend and art educators are consistently exploring ways to advocate for it. As art educators and students, I feel we should investigate the matter of why art seems to be marginalized despite its enormous contributions to individuals and to society as a whole.

Popular culture often reflects the emotions and feelings that come to surface through artistic expressions, whether through comics or animated movies. As a child I often *fell* into the trance of the Saturday morning cartoons because I could identify with the seemingly simple characters and the revolving plots they encountered. As a parent, I’ve observed my own children’s pull toward specific types of products of our visual culture such as manga comics and animation from various cultures, Pixar animated movies, and computer games such as Halo II. Animated computer generated games with considerable memory provide a world that my son enters alone as well as with his companions, where the fantastic is commonplace and he and his pals are all-powerful.

### **1.1 Popular Culture and Animation**

For me, few things are as amazing to observe as a child watching her or his drawings or cutout shapes becoming animated subjects. Whether it’s video-recorded playback, a computer-animated program of stop-motion art, or a simply made flipbook, animating one’s idea, giving it movement *is* exciting. Children think they’ve become wizards! In our society adults make almost all of the rules. Most kids’ lives are dominated by adults,

even after they've become young adults themselves. Animating their art gives them an opportunity to feel a sense of self-efficacy and enables them to explore other roles while expressing ideas, at times communicating with adults about their perceptions and feelings.

All of the ingredients—technology, resources and imagination—required to create a simple animated narrative can be and should be carefully considered by educators. Teaching animation to children, I have found that they are usually eager to use images and text to create their messages. Even children who don't think they can draw their own images are quick to use found imagery such as magazine pictures, catalogue cut-outs, or 3-D objects such as toys to convey their ideas. Communication is an essential tool in any relationship; age-appropriate animation tools can facilitate dialogue.

To illustrate how potent combined textual and visual communication is in our society, consider the significance visual images seem to have in our world. An average person is exposed to an estimated 3,500 images in a daily barrage of visual stimuli (Green, 2000). Young people in North America watch an average of 2,500 hours watching television shows (Barry, 1997) from the time they are born until ready to graduate high school. With so much time spent, the content absolutely must be examined and critiqued. According to Green, “the inherent power of images and ethical issues that are raised by societal imagery...warrant the curricular attention that art educators should afford the study of images”(p. 19).

Grasping a basic understanding of how images are made to move and how the human mind processes these messages makes us aware of how such imagery is created and its influence on our thinking. By creating animated art, the student may realize a whole dynamic process embracing many communicative forms such as visuals and audio (text/

music), and layering them together. The presentation and its content, as well as the animation process, when done well, intermingle to create a greater whole.

“...illusions created by film and TV are so convincing that we are hardly aware of their pictorial connections” (Feldman, 1992, p. 455). The whole is greater than the sum of its parts.

For example, viewing the Hollywood blockbuster Jaws, (Figure 4) without the music, or listening to the music

without the picture, might not really be all that scary.



© Copyright 1995 - Universal City Studios, Inc. - All rights reserved.

Figure 4. Photo still from the film, Jaws, 1975

Values communicated through animation are being studied by scholars investigating animations' social impact. Usually found within a Film Studies or Popular Culture department, animation as an entity is getting more attention. A newly launched, peer-reviewed academic journal called the Animation Journal has appeared in the United States. Editor Maureen Furniss is an accomplished animation studies scholar who also teaches histories of experimental and character animation at the California Institute of the Arts. Countries such as the United Kingdom and Japan are even further ahead, providing animation courses within elementary schools and receiving additional financial and technical support from industry and business. Because animation production has become a thriving industry as well as an art form, it invites a great deal of support from sponsors such as Lucas Films, Disney, Pixar, and Aardman, as well as software producers like Adobe. British Communications Educational and Technology Agency

(BCETA), a United Kingdom agency supports education throughout the country ranging from primary to post-secondary; through its efforts, BCETA has enabled thousands of children to participate in school arts projects using the latest motion-capture educational animation software developed and sponsored by them. Realizing that understanding how animated imaging works is best done 'hands on,' especially with young children, the software business found a way to stimulate a market and at the same time contribute to arts education. Similar corporate/education relationships can be seen with artist materials companies such Binney and Smith (manufacturers of Crayola products) and art teachers.

If a child were to realize that he or she could someday be a university professor specializing in animation studies, it would probably *knock the socks off that kid*. When asked by students in my animation classes about working in animation production, I inform them that millions of jobs use some sort of animation technology. Anyone using a computer in their job will likely have animated graphics like desktop icons. Retail store employees may have animated advertisements located in the aisles. Many businesses have television sets turned on for entertainment or news programs for their clientele. I've even seen animated graphics advertising products and services on the inside of the bathroom door in the mall washroom! Commonly used business computer programs have integrated animation technology. For example, Microsoft and Star Office programs offer PowerPoint and Impress and this feature is often used for public presentations in many areas of professional life. Of course, it is simplified, including pre-packaged images, text, and timing devices that can be altered for a particular use; nonetheless, it is used by many businesses and educational institutions to effectively communicate ideas to small or large groups of people. Why? Because it uses text and imagery moving on the screen, whether on the monitor or on a projection screen, to convey messages effectively, engaging audiences in ways that overheads and flip charts cannot.

Animation is a multi-level, multi-sensory medium that often transcends textual language barriers and is perhaps one of the most effective art education media to demonstrate a “constructivist” teaching approach. Donovan R. Walling, in his book *Rethinking How Art is Taught* (2000), focuses on the concept that humans learn best when actively involving their mind and body as opposed to being passive receptors of information directed at them. “Effective learning requires both *invisible* activity—thinking, constructing new knowledge and new understandings—and *visible* activity—demonstrating understanding through some form of action” (p. 53). Animation creation, integrated with any subject being taught, involves the mind as well as the body. Even with computer animation, a storyboard must be conceived, drawn, and copied, perhaps by drawing pad and stylus or mouse connection to a Central Processing Unit. Wonderful things really happen when a student becomes actively and creatively involved with the story-telling process, even if the purpose of the animation is to explain a concept in physics! Moving a thing seems simple but what is *moved* can be pretty powerful stuff. I recall seeing a Walt Disney studio-created animation movie with Donald Duck and his friends teaching arithmetic concepts back in the mid-1960s. I was motivated by the film and aided in learning my multiplication tables, which wasn’t such a funny task for me.

Walling makes reference to Howard Gardner’s ideas of multiple intelligences.

Gardner set out a theory that humans possess not a single intelligence but a number of intelligences, related to the manner in which they approach understanding (Walling, 2000). Because animation productions usually use many art forms (visual art, music, drama, dance, writing), its attraction and magic can often transcend verbal, linguistic or spatial learning boundaries. Students assessed with learning disabilities, such as difficulty reading text (dyslexia), may be more capable and adept at transforming their thoughts using a broader range of communication tools, especially when many of those implements can be combined in a form that supports rather than dismisses, different types

of articulation. Walling uses Gardner's theory in concert with other research findings to propose educational reform. Rita Dunn (1995) points out...

Certain classroom practices cause many children, particularly boys, real pain. One of these requires that students control their abundant energy...sit still, memorize facts, and answer questions...Another requires auditory memory skills from children who are not biologically able to remember most of what they hear during a 40 or 50-minute lecture...(p. 56)

What better way to combine that "abundant" physical energy with "instruction that meets the varied learning styles of the students, including the art classroom, which should offer art education for students who *are* comfortable with traditional learning patterns" (Dunn, p. 56).

Works for me! Educating with animation techniques creates a constructivist environment where students can feel empowered by participating in their learning process. Learning becomes proactive and interactive as well as a reactive one.

## **1.2 Technology and Learning**

I absorbed a lot of knowledge—first hand – with information and computer technology from the onset of my first experience working in a communication job at the local post office in 1978. *Automation* was a key word in the work place. The need to sort, bundle and get mail delivered faster for larger and larger amounts of postal goods made demands on industry to increase the speed at which machines could process the mail. Working for a printing company next, I had to learn to operate mechanized presses as well as computerized reproduction cameras that calculated exposure and light. Mastering the Texas Instrument calculator was an early step in learning to manage more complex digital equipment such as a phototypesetter and a computerized timer in the darkroom. Animation is about movement, how we manage that movement has gone hand-in-hand

with the other advancements in transferring data, whether text or image.

Artists sought to create the illusion of movement in their art for centuries. Technology can contribute to that objective. Consider the following statement about animation:

“Animation is art in movement. More, it is the art *of* movement” (Laybourne, 1998, p. 12). If defining animation means giving it its own aesthetic criteria based on movement combined with artistic elements and therefore, types of movement, which is really what technology is about, how sophisticated does technology have to be? Perhaps starting with the simplest forms of movement can give students the foundations of animation and how technology moves art, therefore creating another art form in itself.

The following questions are just a few I’ve heard since I began my research on this topic. What is technology and what does it mean for animation in art education? Does it mean that schools and teachers can *only* expect to teach animation if there is a state-of-the-art (excuse the pun!) computer digital equipment lab and knowledgeable technicians available to instruct students and staff alike? What grade level would the typical student have to be at to receive this instruction? What computer programs are needed to produce animated movies? Should school-spending priorities place the purchase of technology and software ahead of textbooks? Perhaps there is a creative way to answer and solve some of these dilemmas faced by educators, administrators and parents.

As a matter of fact, it is the very notion that animation *requires* sophisticated or high technology that spurred me to explore why animation education in schools is rarely taught in the primary grades. I am convinced that expensive technology is not necessary and maybe not even desirable! Most students can benefit from the basic ideas conveyed with basic levels of technological input because these ideas are the bedrock of animation

and moving image productions—especially the frame-by-frame approach that uses the more current principle of Phi phenomenon or the arguable persistence of vision theory.

In February 2001 during my first year in graduate studies, I attended a British Columbia Art Teachers' Association Annual Conference for the first time. Since I come from a post-secondary and vocational background, this experience proved to be an epiphany for my thesis/project idea! The first day, I attended what I thought was going to be an animation workshop, instead turned out to be a promotional activity for a post-secondary level, privately operated animation school. After a 20-minute spiel on the benefits of secondary student graduates enrolling in their program, several teachers in the room put their hands up for questions. One woman asked the presenter if they were providing any resource material (such as lesson plans) so that she could actually teach animation techniques to her students in elementary school. There was an immediate reaction from most of the other teachers who had the same query. Unfortunately, the VanArts Media school representative being questioned couldn't offer any advice or recommendations. I put my hand up and asked if I could tell them about my knowledge of animation education for kids.

I could not have predicted the high level of interest that followed. After being inundated with requests for websites, books, videos, and how-to ideas, it occurred to me that perhaps what I needed to do was find out what resources *were* available and accessible for K-12 art educators. This made me start an informal investigation by asking other teachers I met during the next two days of the conference what they were using for resources. Evidently interest was high but resources were few. In discussing the findings of this casual survey of teachers with my supervisor, it quickly became apparent that this was the topic for my project.

There is a definite need for research in this area and the tools to carry it out were already in my expertise background. Having a strong academic background in the visual arts and film studies, and a strong foundation in photography, graphic design, and music, and having created several animation projects already, I was highly motivated to get started. I felt certain that this level of interest would remain high for years to come, which it has!

What art educators really need are comprehensive and current lesson plans and projects that can be used with children in Kindergarten and up through the grades until high school or even beyond! An essential requirement, as I was reminded by those BCATA conference teachers, was to be able to instruct and create simple animation art using commonly found equipment and materials in most classrooms. Most schools *do not* have the sophisticated electronics to create high-end productions. The use of school computer labs is often limited to the students taking specific computer courses; it is typically not open to an art class. Teachers expressed considerable interest in low-tech animation tools. These would be the animation artists' hands, imagination, and possibly a VHS camcorder, 35mm film camera, VCR/TV monitor, or any other image-capturing device that might be hiding in a cupboard or closet in their school or home.

What is technology and why is it so important in animation? Here is the definition for technical from the Meriam-Webster on-line dictionary:

Etymology: French, from *technique* technical, from Greek *technikos*

**1** : the manner in which *technical* details are treated (as by a writer) or basic physical movements are used (as by a dancer); *also* : ability to treat such details or use such movements <good piano *technique*>

**2 a** : a body of *technical* methods (as in a craft or in scientific research) **b** : a method of accomplishing a desired aim.

There are several more definitions of technology and its derivatives but more important is

the fact that it all comes down to *ways to move something*. How basic or sophisticated the method used, may be described by the terms low and high technology. In animation, for example, using fingers and thumbs to move or flip through a group of pages with images while viewing would be an obvious example of low technology. Higher technology animation might use a camera connected to a computer to capture or photograph each image on the pages and save this data in the computer's memory storage hardware. The data can then be recalled and sequenced so the individual images could be viewed as quickly as the flipbook. By using computer programs and/or video, the sequenced images can be saved to be viewed and processed at another time. The speed of the motion is really the key to successful animating. Slower time between frames might not provide the *persistence of vision* necessary for the brain to connect the images and the sequences

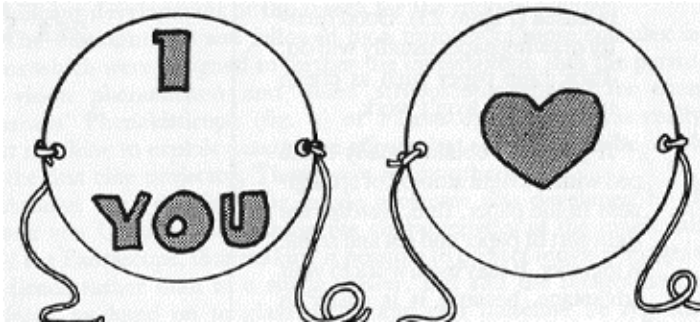


Figure 5 – Sample of thaumatrope courtesy Film Animation Techniques, Locke, (1992).

seen by the eyes. A grade two child may achieve the needed speed using a simple animated toy such as a thaumatrope.

Using her or his thumbs and forefingers to twist rubber

bands back and forth, this device (Figure 5) can be made to flip so quickly that the two-sides look like one combined and complete image. Persistence of vision between the eyes and mind is reached when the moving object achieves a speed where the image is read as continuous. Here the object moves but the image appears stationary. This is one form of animation. This phenomenon will be discussed further in Chapter Two.

### 1.3 Integrating Arts

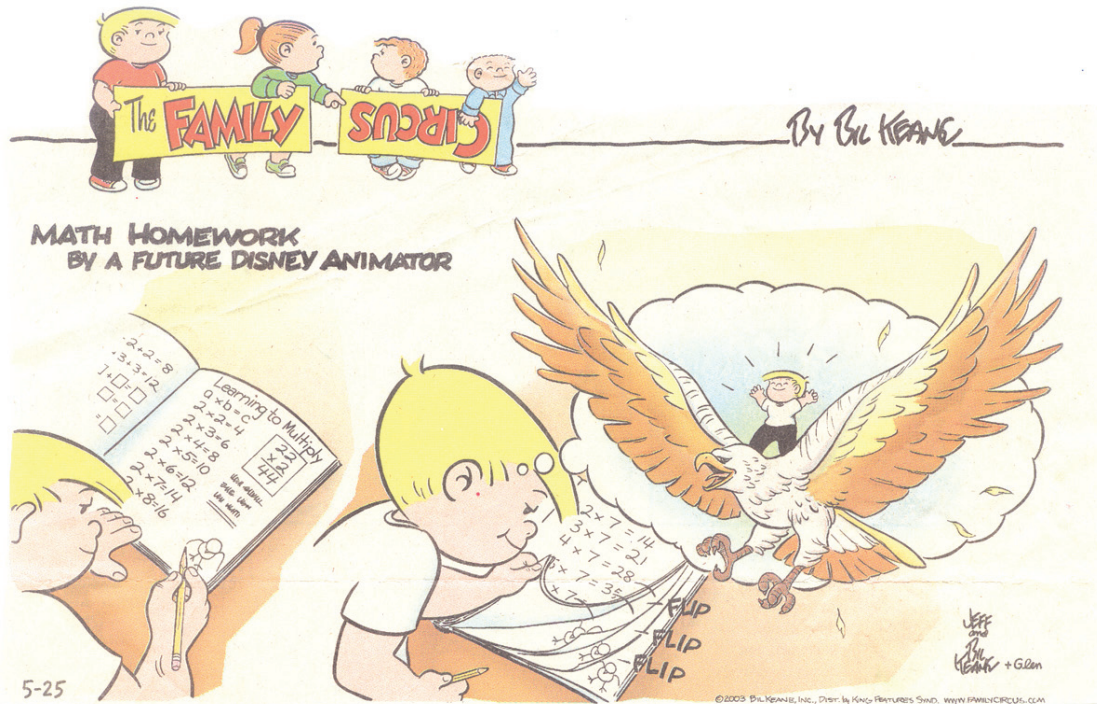
Sometime during my life, it occurred to me that I had a particular learning style, one that seemed to differ from many of the other children in my classroom. A few of my school teachers as well as friends with backgrounds in education, observed and commented

that I most likely have an abstract random (AR) learning style. I never realized that this term would be a key to determining my career path and life's work. Several definitions have come my way and one that seems to describe it best comes from the *Gregorc Style Delineator* (Taylor, 1998). AR learners tend to use intuition and feelings, preferring to learn in unstructured environments. I've also been labeled concrete random (CR) with descriptors such as leadership, frequently tardiness or at least less aware or concerned about time, risk-taking, prime movers of change, not accepting of can't or won't. Since I've become more knowledgeable about the common methods of teaching in our schools, and students' learning styles, I've come to see that I have a set of characteristics that are regarded as a learning deficit --Attention Deficit Disorder (AD[H]D). Success in schools favors students with the ability to sustain attention for long periods of time, to remain still, and to use language as the principal means of thinking and communicating. I have always felt more comfortable communicating and expressing myself with images, gestures, body movement, and music.

When I was a baby, my mom laid out several yards of fabric on the floor to cut out pattern pieces for a dress. She looked away for a moment and I crawled over, picked up a pen and started drawing circles on the fabric. That was her first experience with a daughter that would need to find kinesthetic ways to explore, to learn, and tell the world what she wanted to say. The urge to visually communicate has always been my *modus operandi*. Making a living wage at it was even more difficult until I decided to fill in the gaps of my experience with post-secondary education in visual communication. It is very fulfilling for me to share my intrigue of animation art with young people as well as adults.

In common usage the term art education is very narrowly defined. Education *involves* art and art *involves* education. Most learning requires the use of visual and textual elements. Popular culture author and modern life philosopher, Ayn Rand writes that:

[A]rt does not *teach*—it shows, it displays the full, concretized reality of the final goal...teaching is not the purpose of art work, any more than it is the purpose of an airplane. The primary purpose of the airplane is not to *teach* man how to fly, but to give him the actual experience of flying. So is the purpose of an art work. (pp.134-135).



Cartoon courtesy of Bill Keane, 2005

*How we learn is just as important as what we learn.* If animating the life cycle of a salmon with a flipbook for a grade three science class helps students absorb the information quicker and retain it longer, we might be closer to adopting this animation method in areas outside the traditional boundaries of art as a subject. In the Appendix of this volume I have listed several options for integrating low-tech animation projects with some examples of possible subjects in the curriculum. Also, many of the references listed can assist the art educator in locating projects that can be integrated into classroom topics.

I feel that animation integrated with curricula will not only add to the enjoyment of

the process of learning, but in the larger picture, prepare both the student and teacher for different levels of communication that are currently practiced by our culture, such as digital imaging techniques. “All educated people should know how to use basic graphic, text, animation, video, and audio software...tools of literacy in the 21<sup>st</sup> century” (Bergland, p. 148). Fortunately, British Columbia’s schools have guidelines to assist in visual arts integration.

The following information from the most current prescribed outcomes provided by the Ministry of Education’s **Principles of Learning** dovetails very well with animation education expectations:

This Integrated Resource Package (IRP) sets out the provincially prescribed curricula for dance, drama, music, and visual arts for Kindergarten to Grade 7. The development of this IRP has been guided by the principles of learning:

- Learning requires the active participation of the student.
- People learn in a variety of ways and at different rates.
- Learning is both an individual and a group process.

<http://www.bced.gov.bc.ca/irp/fak7/fak7toc.htm>

#### Introduction to Fine Arts Kindergarten to Grade 7-Introduction

After examining the outcomes for fine arts curricula for kindergarten through grade seven, it would be advantageous to connect these ideals to how they can be applied to the learner and teacher. The following excerpt from the same source, explains what values visual arts have to our society and why they are a significant part of the educational process:

#### Context

Images are created, communicated, responded to, and perceived within personal,

social, cultural, and historical contexts. The visual arts have been integral to cultures throughout history, serving as dynamic individual and social forms of expression. The visual arts express and are influenced by:

- personal contexts such as gender, age, life experience, beliefs, and values
- social and cultural contexts such as religion, socio-economic status, ethnicity, and aesthetics
- historical contexts such as time, place, and point of view
- evolving technologies in all contexts

All of these contexts are interconnected. The visual arts are also subject to ethical, economic, and legal considerations that vary according to context.

<http://www.bced.gov.bc.ca/irp/fak7/vaintro1.htm>

Fine Arts K TO 7 Integrated Resource Package

Introduction

## 2.0 Animation Education – School and Community Settings

This section will provide an explanation of animation and how it can benefit teachers and students as a means of visual and textual communication either in the arts based classroom or studio. Students are growing up in communities that are relying more and more on complex multimedia messages developed using basic animation technology. Deciphering and constructing these forms of communication is an activity that is becoming more common in businesses, various institutions, and homes--parents often concede that their children are becoming more media literate than they are. In school settings, arts education with animation history and instruction included, could potentially bring many students a sense of empowerment in their interpretation and description of events in their worlds. A reference to curriculum expectations from the British Columbia Ministry of Education reveals a range of meaningful and relevant areas of inquiry and objectives for a visual arts education. Those include:

[A]pplying visual arts skills to real-world design, problem solving, and communications; exploring career applications of visual arts skills; experimenting with a variety of new technologies to create images; and a new emphasis on creating and understanding images of social significance to the community...

<http://www.bced.gov.bc.ca/irp/fak7/apcapp.htm>

Introduction to Fine Arts Kindergarten to Grade 7

Appendix C- Applied Focus in Curriculum

The Fine Arts Curriculum for kindergarten to grade 7 is not viewed by the Ministry of Education as detached from practical daily experiences. On the contrary,

[An] applied focus in all subjects and courses promotes the use of practical applications to demonstrate theoretical knowledge. Using real-world and

workplace problems and situations as a context for the application of theory makes school more relevant to students' needs and goals. An applied focus strengthens the link between what students need to know to function effectively in the workplace or in post-secondary education and what they learn...

<http://www.bced.gov.bc.ca/irp/fak7/apcapp.htm>

Introduction to Fine Arts Kindergarten to Grade 7

Appendix C- Applied Focus in Curriculum

## 2.1 What is animation?

Defining animation can be difficult because, although there are thousands of people animating everyday, animation is integrated into our daily lives and we rarely stop to think about *what* it is. A Canadian pioneer of the medium and award winner for a number of National Film Board animation productions is Norman McLaren. In a search of “the true essence of animation,” international animator Georges Sifianos asked Norman McLaren to clarify the following notes regarding his definition:

1. Animation is not the art of DRAWINGS-that-move but the art of MOVEMENTS-that-are-drawn.
2. What happens *between* each frame is much more important than what exists *on* each frame.
3. Animation is therefore the art of manipulating the invisible interstices that lie between frames...the critical decision which the animator has to make has to be made between the first drawing and the second drawing—just exactly how much *movement* he has to make. (Incidentally, I said “drawings” for a simple and rhetorical effect; static objects, puppets and human beings can all be animated without *drawings*, but I failed to include them).

(Sifianos, 1995, p. 62)

The quotations from Norman McLaren's ideas about animation really tell the reader

what the *essence* of animation is really about. It is the practitioners of animation who constantly redefine animation. Back to Weitz's open concept of "defining" art and add McLaren's descriptors of animation. What animation *does*, is an easier question to answer, than what *is* animation. Creating art as animation is what happens when two or more frames are linked together through movement. The root of animation comes from the French word "animae" meaning to move, or more casually, to make come alive... come to life. That perhaps is the main reason it is such an exciting process. Add the movement, or space, or time between frames and we have a fourth dimension, extending art beyond two and three dimensions.

## **2.2 Cognitive abilities developed through animation activities**

*Cognitive* is defined as the act or process of knowing, including both awareness and judgment. Learning how to produce animated projects whether in the form of the flipbook, or sequential images/text/sound in a simplified word processing program, can often assist in the learning process by creating an atmosphere of production and involvement. Again the constructivist theory appears to be an excellent model that naturally fits with animation integrated into subjects and topics in curriculums.

I found some interesting statements made by Eisner (2004) in his "Artistry in Teaching" response to Coleman's (2004) article "The Pedagogy of Making" that seem to support how "an act of making...was a constructed form...that could participate, one way or another, in qualities having artistic character" (p. 1) from Sir Herbert Read's philosophy, coinciding with Coleman's ideas that responsibility and accountability are the teacher's and the student's activities which seem to mimic "the artist's approach to teaching." (p. 1) She feels that the "artist's pedagogy is so powerful that...artists should be teaching teachers" (p.1) which is the "necessity of making" that creates the dynamics that occur

when the student's "choices are at work, not someone else's." (p. 1) When a teacher has goals that need to be addressed by curriculum, no matter how 'dry' the subject might seem, wrap it up in an animated project and the classroom sizzles with energy. The collaborative nature of animation production lends itself naturally to curricular integration that can exist in our education system. In referring once again to Eisner's article, he states that:

It may be that by shifting the paradigm of education reform and teaching, from one modeled after the clocklike character of the assembly line into one that is closer to the studio or innovative science laboratory might provide us with a vision that better suits the capacities and the futures of the students we teach. (p.1)

I feel that supporting educators with an approach to their curriculums that doesn't require a great deal of expense but rather an alternative model that focuses on the cognitive outcomes with a pedagogy that is fun and energetic would be welcome in any educational setting.

Support for such a model comes from a collaborative body of research done by leading educational researchers in the U.S. *Champions of Change: The Impact of the Arts on Learning* was an initiative to understand how the arts can impact learning by exploring why and how young people were changed through their arts experiences (Arts Education Partnership, 1999). In one of the studies, researchers Burton, Horowitz, and Abeles gained empirical evidence resulting in their determination that students in 'low-arts' schools were negatively impacted in their "critical cognitive competencies and personal dispositions" (p. 44). Their study revealed that the complexity and multi-dimensional abilities developed through the studies in arts-based schools encouraged cognitive competencies including "elaborative and creative thinking, fluency, originality, focused perception, and imagination" (p. 43). The "habits of mind" established a "flexible

interweaving of intuitive, practical, and logical modes of thought (p.43) that come from and is characterized in arts learning. Students using animation techniques integrated with different disciplines could extend these learning benefits.

Gardner and Pace (1997) describe a model school, as one that encompasses and integrates arts as part of the interdisciplinary atmosphere of the education process. Using Gardner's theory of multiple intelligences, Key Learning Community School started in 1987 in Indianapolis focusing on an arts-based interdisciplinary education. Animation is an integral part of the curriculum, producing and enjoying strong excellent examples of animation participation by its teachers and students. Key Animators involves students of all ages collaborating to bring a variety of productions to fruition. Their latest claymation project, The Cat and the Parrot, a multicultural tale available from the school's website (Key Learning, 2005), is a wonderful example of the melding of animation education, encouraging multiple intelligences as well as developing numerous cognitive abilities.

### **2.3 Social benefits gained through animation's new pathways of communication**

One of my major reasons for teaching animation history and studio techniques, is that almost all multimedia stem from combining single images or frames and connecting them together in sequences to deliver a message. The importance of this message is further supported by the modes of delivery; motion pictures are shown via the television, cinema, video games, or internet. Media literacy in a media saturated world adds an important critical dimension to animation education. Students can analyze and develop critical skills by learning more about how animated images affect them. One of my colleagues, Liam Arthurs, writing about technology-based images in the art classroom articulated my conclusions in his comments:

The media of television, commercial art, adverts, computer graphics, film,

even new video technologies, including arcade games, have the potential to provide an appropriate and readily available source of information for the purpose of increasing students' informed value judgements. (Arthurs, 1992, p. 29)

The constant barrage of visual information that students encounter from infancy, throughout their childhood and adolescence, justifies an education in media literacy and critical thinking. The influence of the media isn't necessarily negative or positive but the individual messages delivered can be deciphered more effectively when the viewer can deconstruct the imagery and consciously make decisions, weighing the merits of the argument.

Ideas surrounding teaching about film production in schools have been evolving since the 1960s. I've found that these value laden arguments particularly interesting because there seem to be so many different justifications for why educators need to embrace this area of art education. Some common ones include self-discovery, critical thinking, subject integration, and of course, visual communications. Rachel Powell, an arts educator at Birmingham University, recounts that complaints are commonly heard about how vulnerable children are to mass media; those often superficial and even dishonest messages will adversely affect children unless and until educators are "prepared to take the obvious way of developing standards of criticism in children. The way to learn what is well done and what badly...is to try to do it yourself" (Lowndes, 1968, p. 12). In his book, Film Studies in Schools, Lowndes presents a variety of supportive statements as well as lesson plans that include animation creation for teachers.

The primary motive was to inculcate among students an analytical, critical, discerning attitude about films themselves. By learning to make a film, the student inevitably develops a knowledge of film methods and film values. His (or her)

attitude as a viewer changes from that of passive spectator, to active adjudicator.

(Lowndes, p.10)

Students often start wondering and questioning what they view in television news casts, commercials, programs, video/computer games, and movies. Questions such as: How are animation techniques used in these productions? Why are humans able to fly by themselves in movies but not in real life? What about background sound? Is there really an audience laughing at the situation presented on the sitcom or has it been dubbed? Although most of my work revolves around animation education, putting together even the most primitive animation project can offer a lot of background into how and why we entertain and educate our society with visual media. Instead of apathy from students, I've seen them become eager and excited about creating their own multi-media art.

Quoting again from the *Champions of Change* body of arts education research, students that participated in active arts learning, similar to the discipline based arts education model, dramatically improved their outlook on their lives. Not only did these students perform better in school, they gained self-confidence and security to set and attain personal goals previously thought denied to them, either because of their social and/or economic backgrounds (Champions of Change, 1999, p. viii). Their findings were "enriched by comparisons of student achievement in 14 high-poverty schools" that developed innovative arts-integrated curricula with the aid of the Chicago Arts Partnerships in Education (CAPE) that explored students' participation in arts education in schools as well as the community.

#### **2.4 Emotional growth benefits and special needs students**

For many individuals encountering difficulty with perception and communication, either visual or verbal, involvement in creating animation can transcend these difficulties.

Because of the nature of the multisensory nature of animation--kinesthetic, audio, and

visual--it invites a coupling of the emotional as well as the intellectual aspects of the mind. For example, my son's reading difficulties in his primary grades caused him a great deal of grief. One day he turned on a computer sitting unused in his classroom's coat closet and found an animated language program called Reader Rabbit (Broderbund software) that we also happened to have on our computer at home. Suddenly he was excited about going to school for the next few weeks because his kinesthetic and visual interests were being utilized.

The animated program was not the complete solution to his reading difficulties at school but it sure made him feel better about going to his grade one class in the morning. Using several different types of learning assistance programs at his school over the next few years, we discovered that when graphic definitions of pictures and word associations were presented with sounds and movement, his success rates for many other subjects increased. This is an anecdotal account of my personal experience as the parent of two children that have diagnosed learning disabilities as well as the diagnosis of Attention Deficit Disorder, My personal involvement in the education of my son and daughter helped to convince me that teaching animation should be a significant part of everyone's education. This conclusion is also strongly supported by my own experiences as a student. I found the arts as a method of validating myself, allowing me to communicate about my world in my own way. Further investigation is warranted. To what extent can experiences with animation help children with disabilities, whether visible or not, participate more fully with their world by feeling empowered.

I believe that a child's whole life can be improved significantly just by offering alternatives for communicating her or his thoughts and feelings. Curriculum with animation included and integrated might just be an answer for many schools and many students as it apparently has been for the Key Learning Community school mentioned earlier.

### 3.0 Animation's history



Figure 6, An example of the Chinese Horses in a continuous series of iconography of Lascaux at the beginning of the Magdalenian Age, 17,000 years ago, Lascaux Cave,(2004).

If one were to examine the history of art throughout the ages it would be fairly easy to find examples of the 'suggestion' of movement created by our earliest ancestors. Cave drawings (Figure 6) of animals running, sketches and paintings

of people or objects captured in the moment of movement, are attempts to graphically represent a phenomenon that seems to intrigue humans. Animation's history may have begun when humans first started drawing images on stone surfaces in caves. Perhaps it was the urge to be able to *visually* narrate an activity or to use the paintings as a mnemonic device.

Once the discovery of a phenomenon called *persistence of vision* was realized many millenia later, the urge to investigate as well as invent practical and playful uses led to a whole industry that continues to grow to this day. The development of photographic and pre-cinematic techniques dove-tailing with this 'discovery' by the academic community of the British Empire, significantly increased the progress of the technology that gave rise to live action films or 'movies' as the masses decided to call them. Because animation relies on the creation of many individual drawings/images rather than live action, it has a closer affinity with the [photo]graphic arts rather than the theatre (Giannetti, 1996),

however, that premise depends again on the animator's creativity. The evolution of present day commercial and fine art animation media capture, are based on the simple frame-by-frame concept. Each sequence is captured individually, then replayed at rates between 15 and 30 frames per second (fps) differentiating it from live-action which



Figure 7, Oriental shadow puppet, Burns (2004).

is captured continuously (Giannetti, 1996). Of course, many animators have bent and broken these definitions to create exciting, new productions that combine both formats, excluding or including frames of live action edited either in the studio or in the computer. The following sections will attempt to describe the evolution of present day animation as well as high-lighting animators who stand out in their careers. This small sample does not represent the amazing number of people involved in

producing animation every day around the globe, whether in a commercial, industrial or home studio.

### 3.1 Historical development, technology, cultural aspects

Sequential images used by humans for storytelling have been recorded since neolithic artists' scratchings on stone. Bas-relief on Greek temples, Egyptian funereal paintings, medieval stained glass, Indonesian shadow puppets (Figure 7) and of course, the Sunday

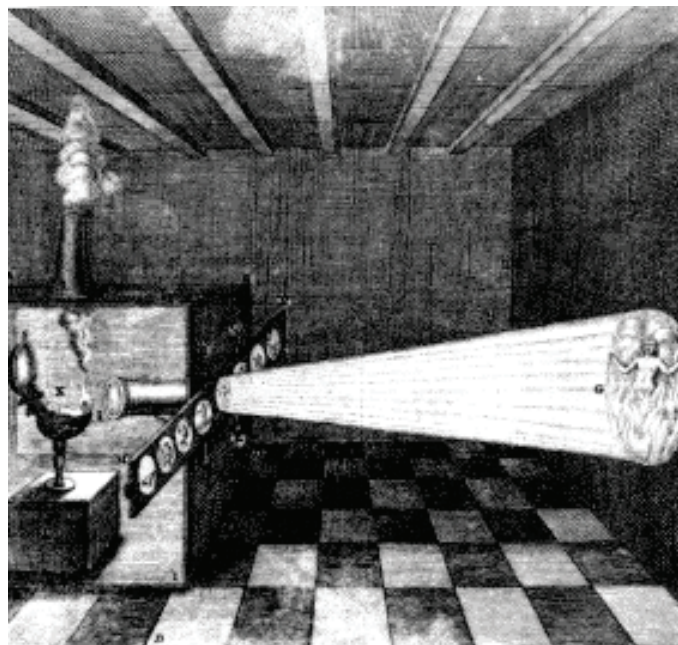


Figure 8, Althanasius Kircher's illustration of a 'magic' lantern, Burns, (2004).

newspaper comics (Locke, 1992). In the mid the seventeenth century, Athanasius Kircher's first published image (Figure 8) of the 'magic lantern' appeared in *Ars Magna Lucis et Umbrae*. This early version of the slide projector is also considered the "father of motion pictures and the grandfather of television" (Judson, 1994). Many sources credit Kircher with the invention or with the discovery of the use of 'camera obscura' for projection, but some sources suggest a much earlier precursor from as early as 3000 BC with the Egyptians and Babylonians (Burns, 2001). The technology was greatly advanced by Kircher's improved magic lantern, and subsequently many academics and scholars refined and developed those ideas.

Three men, in particular, made significant breakthroughs: Claude Francois Milliet De Chales, a French academic invented the sliding, illustrated-on-glass mechanism. Johann Zahn author the text 'Oculus Artificialis Teledioptricus Sive Telescopium', Wurzburg, 1685-1686, an extensive academic book on camera obscura and the magic lantern. And Pieter Van Musschenbroek (Kinsey, 1970), a Dutch mathematician and philosopher—very likely the first to attempt motion through a simple effect in the magic lantern (Burns, 2001). He took the work of Zahn a step further by producing two sets of slides. The rear slide was typically the background and the slide closest to the lens was of the figure or main character(s). As Zahn had used a circular disk with many pictures, and Kircher had used a horizontal series of a few slides, Musschenbroek created slides of both the foreground and background, thus producing what was a primitive form of movement. The forward panel of slides were connected to a string which, when pulled slightly would give an illusion that the figure was separated, or standing in front of the background evoking a feeling of space or depth. By using two sets of frames simultaneously, Musschenbroek was able to create a sense of motion for the first time (Burns, 2001).

The discovery of perceptual phenomena included Peter Mark Roget (also creator of the

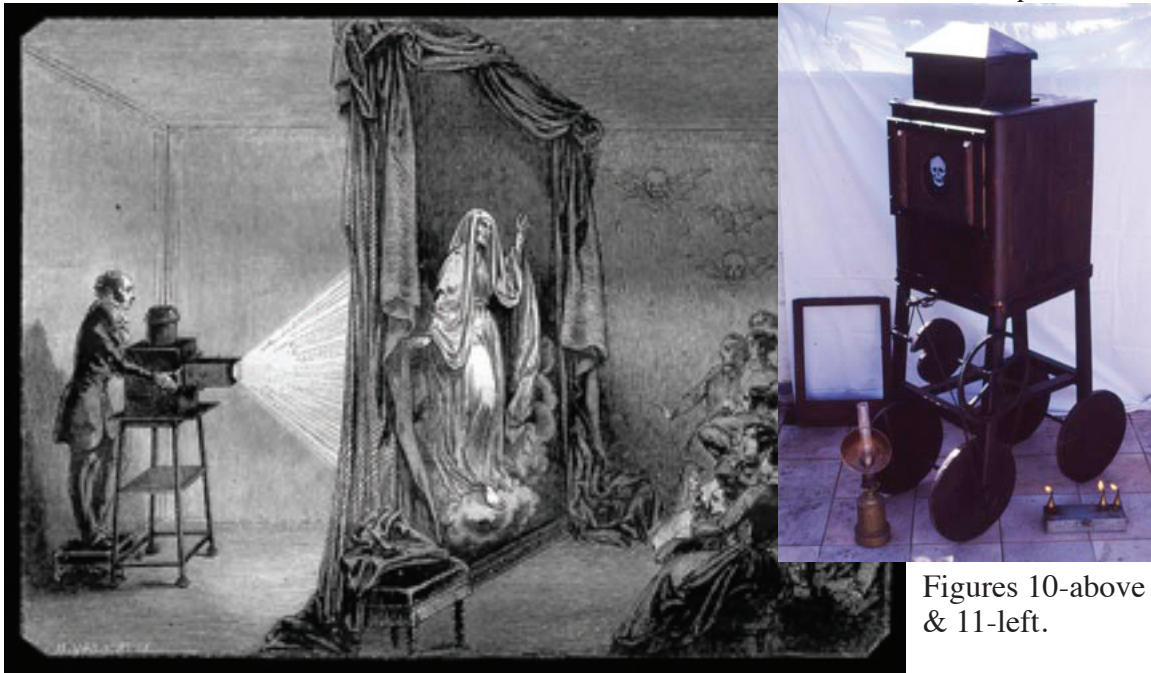
thesaurus), who coined the term, *persistence of vision* to explain how we see movement. In a presentation to the Royal Society of London in 1827 (Wade, 2004) Roget described how objects will appear to be moving if there is a very brief interruption between the display of each image. The brain interprets the images as a seamless flow. The phenomenon of persistence of vision had been known to the ancients, and had been measured accurately by Patrice D'Arcy in 1765 (Wade, 2004); was explored and applied in novel ways in the early nineteenth century through the production of scientific 'toys'.

In the context of a rapidly industrializing 19th century Europe, interest shifted from science to mass amusement, education, not to mention profit. Once it was determined that moving objects or images could be made to look as if they were creating movement independent of a human (as in a puppeteer), there was an explosion of ideas turning visual 'tricks' into entertainment. Among these new inventions was the Fantasmagoria (Figure 9) (Phantasmagoria) that offered up 'horror' shows. Looking back, we get a sense of the progress of animation devices and the growing sophistication of the medium. The magic lantern that Kircher described in the mid-1600s became a wide spread, popular pre-cinematic tool to animate images for amusing the public. A modified type of magic lantern (Figures 10 & 11) was used to project images on to walls, smoke, or to a semi-transparent screen using rear projection. Further developments



Figure 9, Phantasmagoria demonstration that imitated the magic lantern's theory, Burns,(2004).

in projection devices, screens, and cameras, in combination with new understandings of visual perception led to rapid expansion of an industry and public appetite for its images and stories. Hundreds of animation devices were invented and



Figures 10-above & 11-left.

Magic Lantern examples courtesy of Paul Burns' website The Complete History of the Discovery of Cinematography website© 2001.

produced (Figure 12). Reynaud's Optical Theatre (Figure 13) using a projector called a Praxinoscope in 1892 (Locke, p. 18), was a major breakthrough in public cinematic performance heralding today's movie theatres. *Pre-Cinema* is a name often used to describe these inventions. The name, however, is misleading since it implies that these inventions were made with the ultimate result of cinema already in mind. The truth is that all these inventions were mostly 'stand alone' experiments, some of which were



Figure 12. Commercial leaflet by Emiel Reynaud announcing his popular optical toys, (Collection Veerle Van Goethem), courtesy of Early Visual Media, (2003)

later used by the pioneers of cinema: Reynaud, Muybridge, Marey, Demeny, Méliés, Skladanowsky, the Lumiere brothers and many others (Weynants, 2003, phantasmagoria pt. 1, p. 1).



Figure 13. Emiel Reynaud presents his “Theatre Optique” in the Musée Grévin in Paris, Weynant, (2003)

### *3.1.1 Science, toys, and education*

What does all this have to do with animation education? The history of animated ‘toys’ and visual phenomena needs to be explored to better appreciate the links between science, art, and education. Animation is a classic example of the many relationships between technology, creativity, and learning. Without the concerted efforts of scientists, artisans, entertainers, entrepreneurs, educators, parents and children, many of our present day methods of communication would not exist. Investigation continues on all fronts, including new research on the science of motion. Scientists are developing new theories about how the human eye and brain respond to visual stimuli; persistence of vision has been reconsidered and replaced with the ‘phi effect.’

Perception of motion comes from viewing a series of separate, slightly different pictures in quick succession due to the phi effect. Information about what happens in between the individual images is delivered to the brain and movement is then perceived — an interpretation capability of the brain. This effect enables us to watch the movies (moving pictures) and interpret smooth motion! The phi effect is enabled by our visual sensory memory — iconic memory — that stores exact replicas or icons. Iconic memory retains

images for only a fraction of a second before passing information on to the short term memory. Movie films are projected so that each successive frame appears just before the previous one leaves the iconic memory. Successive images blend together creating the impression of smooth movement. Movement appears smooth if sequential images are projected at least 24 times per second. At a rate lower than 20 frames per second, movement starts to appear jerky (Questacon, 2005)

Anamorphic images were also very intriguing optical perspective toys. Subjects often seen in popular 19th century optical toys such as the hidden bird and birdcage become clearly visible in a cone mirror. A reflective cylinder, cone, prism or pyramid was placed in the middle of the illustration to view the optical puzzle (Figures 14 & 15). Many



Figure 14. Courtesy Early Visual Media, (2003)



Figure 15. Courtesy Early Visual Media, (2003)

people do not realize that some common forms of anamorphose are around them today (Early Visual, 2003), such as the oversized optical perspective bicycle example that might be painted on some streets (Figure 16) indicating bicycle routes in their neighborhoods. The icon is painted as a vertically 'stretched' bicycle so from a vehicle's perspective it looks like a regularly proportioned image. There were so many optical inventions during the late 19th and early 20th centuries that patent offices were kept



Figure 16. Courtesy Early Visual Media (2003)

busy with registrants. One exceptional discovery by Louis Aime Augustin Le Prince, a British film pioneer, is his sequential shots in 1888 of the Leeds Bridge (Figure 17), his son playing the melodion, and the family in their garden. Had he been able to produce the photographs on celluloid rather than on paper, the sequenced images could have been shown as a film. These photographs can be seen on several web sites, most notably Charles Lucassen's Anima site, which is listed in the reference section of this writing. Even though audiences were thrilled with seeing photographic images



Figure 17. Leeds Bridge still, 1888. Courtesy Anima/Lucassen (2005).

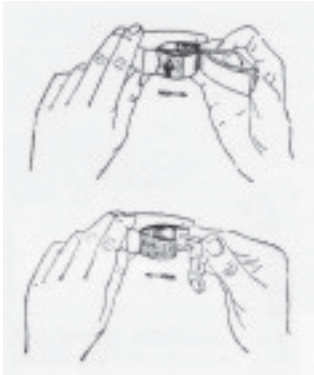


Figure 18. Filoscope, Who's Who of Victorian Cinema (1996)

projected on a screen, demand for animated

illustrations in various forms continued to escalate. Popular optical toys such as the flipbook-like Filoscope (Figure 18), continued to be produced, often being renamed and reformatted with photographic or animated stills from early motion pictures

as well as more sophisticated inventions, such as Muybridge's

Zoopraxiscope projector (Figure 19):

Described by the Illustrated London News as a ‘magic lantern run mad (with method in the madness)’. It was basically a projecting phenakistiscope, with a contra-rotating shutter. The silhouette images, derived from

Muybridge’s sequence photographs, were painted around the edge of a large glass disc. Muybridge’s influence on the world of art was enormous, overturning conventional

representations of action by artists. His work in pioneering the use of sequence photography led to the science of chronophotography developed by Professor E-J Marey



Figure 20. Multiple image chronophotograph, circ. 1890, E-J Marey, Courtesy The Bill Douglas Centre for the History of Cinema and Popular Culture (2003)



Figure 19. Eadweard Muybridge’s Zoopraxiscope projector, MOMI (1999)

(Figure 20) and others, and stimulated many inventors, notably, Thomas Edison, leading to the introduction of cinematography in the 1890s (MOMI, 1999, Brian Coe).

These photographic and technical research developments ushered animation into the 20th century ‘hand-in-hand’ with its sibling, live action cinematography. Also during this time, social reforms started to create a broader interest in public education as more and more people left agricultural lifestyles to pursue jobs in factories spurring on urban development. In 1917, the Metropolitan Museum of Art embraced animation for public education, combining storytelling with visuals using media such as stereopticon slides, and comic strips. Museum staff wanted to encourage ‘Education Enhanced by Entertainment’. Children, unaccompanied by adults, would

flood the lecture rooms to see what they described to be moving pictures—slides projected through magic lanterns shown with images from the museums’ collections. This use of popular art methods in the service of art education provided a form of cultural transmission that served to balance the immense influence of commercially made movies and the colored Sunday comics. It also served to increase public appreciation of art and craftsmanship while also creating a life-long habit of museum attendance (Fleisher Zucker, 1998). The story hours featuring early forms of animated images was seen by museum staff to be a highly effective method of education—providing enjoyment and at the same time teaching (Fleisher Zucker).

### *3.1.2 Leading animators of the 20th century*

Animation experienced a major growth spurt with the advent of photographic film during this time. Edison was marketing the kinetoscope (Figure 21) and several other inventions such as the bioscope and mutoscope, all popularizing moving pictures. The

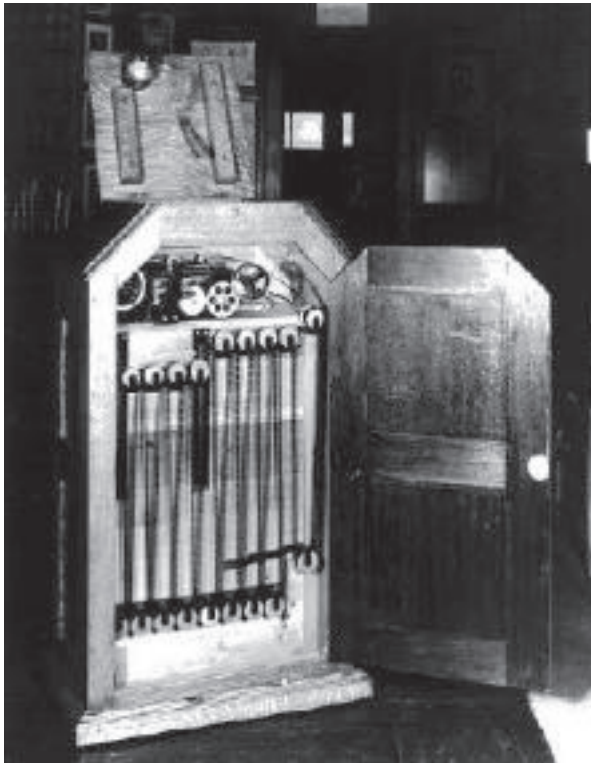


Figure 21. Edison’s (‘peepshow’) Kinetoscope  
Courtesy, MOMI website.

Lumiere brothers’ introduction of the cinematograph to project films eventually replaced the ‘peepshow’ machines mentioned earlier. French animator, Emile Cohl, American comic artists James Stuart Blackton and Winsor McCay, German animation artists, Lotte Reninger, Oskar Fischinger and Walther Ruttmann all seem to share the role of “father of the animated cartoon.” We may add to this group Raoul Barre, a French-Canadian who, in 1913, set up the world’s first studio devoted

exclusively to the production of animated films (Locke, 1992). The ‘parents’ all created animated drawings that would eventually become the forerunners of modern animation. Lack of space and time, limit the amount of writing about the drama, excitement, artistic and technical adventures that culminated at this time but a brief animation history timeline (McLaughlin, 2000) is included in the Appendices of this project as well as extensive lists of references to film and movie history documentation. Suffice to say, North America became a leader in animation creation, commercially as well as artistically mostly due to political strife in Europe and Asia. World War I and II saw a dramatic change in the demand for educational as well as entertaining animations as, more and more, the public appetite for more sophisticated forms of animated films broaden. Foreign film and animation producers as well as artists, flocked to the United States and Canada (Figure 22) to escape the wars and economic shortages not to mention social persecution. It’s interesting



Figure 22. from left: Emile Cohl, Lotte Reiniger, Walther Ruttmann, J. Stuart Blackton, centre: Oskar Fischinger, early animators, *The Animating Apothecary* (2005).

yet sad, that Stalin and the Nazis recognized the huge potential that films, including animation, had on the masses and used the wonderful qualities of the medium to produce political propaganda that seemed to crush the imagination of those forced to create it.



Figure 23. Still from Melies *La Voyage dans la Lune*, 1902, courtesy The Missing Link.

Animation became popular for special effects in live action films as well as being used for titles and credits. Georges Melies, a magician and illusionist, made films that were among the first to use animation techniques such as stop-motion and superimposing images (Figure 23). Méliès accidentally developed *stop trick* (not to be confused

with *stop motion*) when his camera had a malfunction and dropped a few frames. When viewing the film, he realized that the moving object he filmed disappeared where the camera stopped working (Answers.com, 2005). The nature of live action movies and animation technology began to merge together creating what are now considered ‘special effects’ beginning an exciting time for film makers and animators all over the world.

It seemed natural that comic strip artists as well, would gravitate to the process but since animation could also be expensive and time-consuming, finding commercial uses to finance the project also became creative. In fact, the first animated commercial was made in 1897 when audiences were still marveling at glass-plated slides projected in modified magic lanterns. An enterprising Englishman by the name of Arthur Melbourne-Cooper used matchstick figures advertising Birds’ Custard Powder. A couple of years later he made another ‘matchstick’ film in aid of British soldiers fighting in the Boer War (Locke, 1992). Once audiences became enamored with the animated ‘magic’ it was very clear that the expenses of the production could easily be paid for by business interests.

### ***3.1.3 Women in animation***

Women were more involved in animation creation and production in the early days of



Figure 24, *The Adventures of Prince Achmed*, 1926, Courtesy of William Moritz, Animation World Network website, (1996)

movies than in live action movies. One of the first full-length animated films was produced by Lotte Reiniger of German origin. As a teenager, in 1912, she created shadow films from cutout silhouettes and was only 24 years old when *The Adventures of Prince Achmed* was first shown to audiences (Figure 24). Many animation and film researchers refer to

Disney Studios as the inventor of the first feature full-length animation with *Snow White*, but this may have been as a result of negative press in Europe and North America to German accomplishments prior to World War II. Reiniger made a second feature, *Dr. Dolittle*, released in 1928, as well as 70 other animated films up until 1979, two years before her death. Few prints of her early works survived the war but many copies have been made available through Canada's National Film Board (Moritz, 2001).

Other prominent women contributors to animation were Claire Parker of Boston and Mary Ellen Bute (Figure 25), a Texan, both working principally in the 1930s and into the mid-century (Locke, 1992). Bute actually hired Norman McLaren—before he moved to Canada—employing his skills to help with her animation productions.



Figure 25, Mary Ellen Bute, The Museum of Modern Art/Film Stills Archive (Moritz, 1996)

Bute proved to be an important as a formative influence on Norman McLaren. She used titles to preface her films, explaining them to an average audience as a new kind of art linking sight and sound. This playful and democratic approach was shared by McLaren.

Bute used combs and colanders and whatever else to make the imagery in her films, encouraging a delight in simplicity and novelty of experimentation. Moritz, (1996) suggests this left its mark on McLaren, too.

Mary Ellen Bute was the first American to make abstract films and the first in the world to use electronically generated images in film. In the 1940s through the '60s, many other pioneering women like Faith Hubley worked in tandem with their husbands or significant others. Unfortunately, women in Central and Eastern European animation history were usually sidelined or in the background as silent partners writing scripts for their husbands-directors, helping them as art directors, production artists and performing many other anonymous duties. Russian artist Vera Ermolaeva, created beautiful, innovative animations but her career ended abruptly when she was deported to Siberia in 1934. Worth mentioning is a notable woman, Claire Parker who, along with her husband Russian-born Alexandre ("Alosha") Alexeïeff, began creating and producing works such as *A Night on Bald Mountain* in Paris, but only because her family's financial, educational, and social support encouraged her to experience life to its fullest. Parker fell in love with the pinscreen style (Figure 26) Alexeïeff conceived for creating gravures animées (animated engravings). The couple created many animated films, becoming part of Europe's animation history.

The fact that women were and are employed in the animation arts, both commercially and independently is an important point that we,



Figure 26, *The Nose* (1963) by Alexandre Alexeïeff and Claire Parker, Courtesy of Cecile Starr (Bendazzi, 1996)

as educators, must relay, especially to female students. My own formal educational experience taught me that women still have a long way to go in establishing themselves in the field as well as in the academic realms. Often female animators efforts were overlooked *because* of a tendency for them to focus on independent productions considered more as fine art than as commercially viable movies.

The number of females working as animated filmmakers has dramatically increased in the past quarter century, particularly in the United States and Britain. Animation scholar Jayne Pilling attributes this development to both an attempt to redress gender imbalance in funding policies in arts and television, and to the rise of independent and alternative filmmaking in the United States. Many animation classes are now offered in art colleges and universities, providing opportunities for emerging artists who wouldn't otherwise have access to the male-dominated profession. (PBS, 2002)

A further explanation lies in the content and constraints of the medium. Linda Simensky, the Cartoon Network's vice president of original animation, suggests that independent filmmaking is an area of animation for women which offers more room for self-expression and no real traditional hierarchy in which to fit (PBS, 2002).

#### ***3.1.4 Emergence of animation studios and large scale production***

As the decades moved from the 1930s to the turbulent 1940s, animation shared as large a role as films and movie making in America, especially with Hollywood's business influence. Walt Disney, who was more entrepreneur than animator, teamed up with animation artist, Ub Iwerk and started several studios before Disney Studio's business became a commercial success. The blockbuster—*Snow White and the Seven Dwarfs* in 1938 set Disney in the forefront of animation. Trouble soon followed when Walt Disney

refused to share the film's huge box office profits with the company's artists and production staff; they walked off their jobs, (Figure 28) eventually to unionize. Even though it was one of the longest strikes in film history, it did set the stage for greater recognition of animators' work. As America began its preparations to enter World War II, the U.S.



Figure 28, Disney Studio Strike of 1941 (PBS, 2002)

government formed the First Motion Picture Unit (FMPU) in 1942. Also known as the 18th Air Force Base Unit, it was located in Culver City, California its mission was to produce films used to train the troops. The animation unit produced hundreds of training



Figure 29, FMPU training film, 1942 (PBS, 2002)

films (Figure 29). Animators from Warners, Fleischers, Disney, MGM and independents, enlisted in the Army and were assigned to the FMPU (PBS, 2002).

Animation researcher Bill Mikulak (1996) examined Disney's aptitude for marketing the studio's

animation drawings and cels in the 1930s and early 1940s. The shrewd animation mogul aligned his studio with several art galleries and museums such as the Museum of Modern Art. This effort produced a flurry of debate in the press challenging the norms of what was considered "lowbrow" popular culture and "highbrow" elite culture. The blurring of distinctions between high and low, or fine and popular art continues to this day and certainly contributed to Disney's well documented commercial success. Animation art fueled the debate on how art is defined as well as the questions of art production and just what is art. What might have been a clever business maneuver by Disney actually assisted all animators by bringing animation into the limelight.

Technological advances in the 1950s brought animated productions into millions of homes through the medium of television. The commercial and educational possibilities increased as did the demand for entertaining. Yet there was a down side to this widespread popularity and proliferation. There is a negative impact due to corner-cutting or *limited animation*, a method in cel animation where only a portion of a figure is redrawn for movement but the rest of the figure and/or background remains stationary (Locke, 1992). Producing a half hour cartoon show like the Flinstones or the Jetsons every week meant simplifying the drawing process for speedy production. However, Kinsey (1970) writes that television has made a positive impact by reducing Hollywood's dominance and increasing the sophistication of the audience providing a broader outlet for more creative and innovative animation. Some of the most successful advertising campaigns have been brought out by avant-garde animation artists as well as the explosion of educational and amusement materials (p.14).

The combinations of live action, soundtracks, writing, performance arts and music have made animation into a new art form that constantly challenges art theorists, educators and social philosophers whether on the big screen or the desktop monitor. In 1961, one of the first computer-generated (CG) animation films was produced at Bell Laboratories in the United States, and bore the lengthy yet tantalizing title *Two-Gyro Gravity-Gradient Attitude Control System* (Locke, 1992). The revolution of computer-generated imagery was just beginning and computer scientists/engineers discovered an expansive new palette for the arts. The pixel replaced the type slug as the world's communication technology of choice, according to James Bailey, writing for *Arts Education Policy Review* and *Technos 7* in 1998. In the 44 years since that first CG animation, the speed of graphic developments has allowed animation artists to create their own flavor of animated works. With the transition from film to video tape (analogue) and now to digital capture, animation is even easier to produce, but what of the costs? The marriage of technology

and creative artistry has yet to overcome all of the obstacles. Pixar Animation, Lucas Films, and Disney spend years and millions of dollars producing animated movies but for all the expense, it is still the essence of the frame-by-frame that creates the magic and it is the people (Figure 30) such as Chel White, who's technology explorations brought

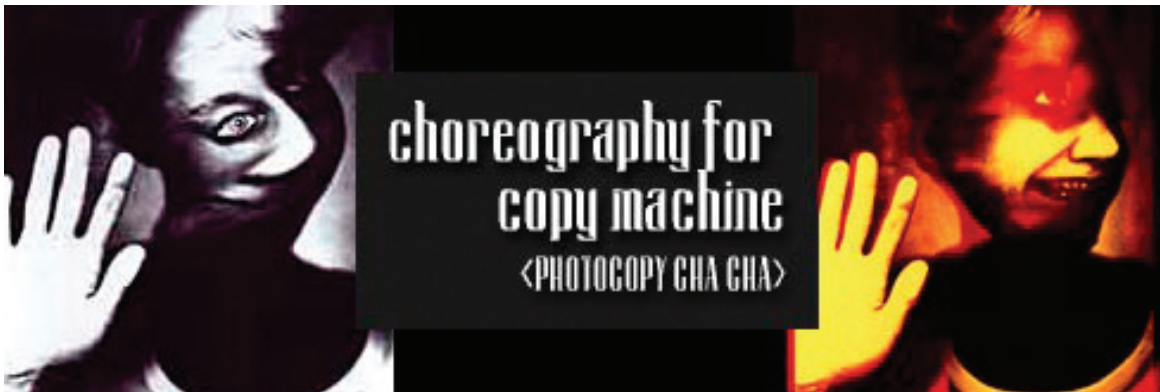


Figure 30, Photocopy Cha Cha (USA, 1991), the first animated film created on a copy machine by Chel White (Curious Pictures, 2005).

the world its first animation made entirely out of photocopies. These ‘explorers’ are the driving force behind it. In the next few sections, I will offer a few examples of artists/ auteurs involved in animation at levels from international acclaim to local artists within reach of the local classroom or studio. By no means will this be a comprehensive list but simply a sample of some of the artists I found in my research.

### **3.2 International Animators**

Animation and many of the techniques used to make animation are perhaps one of the most recognizable forms of cinema yet there are few people who are aware of how much effort and dedication go into creating one or two moments of a production. When recognition is made, whether through industry awards or by scholarly acclaim, it is often the studio financing the production rather than the individuals that created it that garner the attention. Recently, however, animator's names have started to become more and

recognizable, mostly due to the way that animated imagery is becoming part of everyday life — in theatres, on television and computer screens, on billboards. Many families have owned or own a VCR or DVD player with at least one animated production on tape or DVD. The following are examples of animation artists known at the international level. Some names occur in several categories because they are known locally, regionally, nationally and internationally. Because of the collaborative nature of animation, many talented artists' names remain unknown.

- Disney Studios (U.S.) started by Walt Disney, is one of the most recognizable names internationally because of the way he parlayed his business around animated films. The studio employed thousands of artists, some gaining international recognition from their association with the characters they created for the studio. Best known of the animators employed by Disney Studios are: “Disney’s Nine Old Men”, the first of the studio’s animators to work on feature-length animated films: Ward Kimball, creator of Jiminy Crickett, the Cheshire Cat, Pecos Bill, Dumbo’s Crows (Evans, 2001); Eric Larson, started animating on Sleeping Beauty and retired 1973 (New York Times, 2005, Eric Larson); Les Clark, one of the first animators of Mickey Mouse starting with Steamboat Willie he went on to direct for Disney Studios until his retirement in 1973, (New York Times movies, 2005, Les Clark; Wikipedia, 2005, Les Clark); Frank Thomas, joined Disney in 1934 and started animating on Mickey’s Circus working on several productions as well as voice acting until his retirement in 1978,(Wikipedia, 2005, Frank Thomas); Ollie Johnston directing animator at Walt Disney Studios from 1935 -1978 as well as studio’s animation techniques pioneer for production, (Wikipedia, 2005, Ollie Johnston); Milt Kahl as an uncredited animator on Mickey’s Service Station in 1935, as animation director on a number of Disney features including Alice in Wonderland, Bambi, and Winnie the Pooh’s Blustery Day until his retirement in 1976 (New York Times, 2005, Milt Kahl); Marc Davis, main creator of Thumper, Tinker Bell, Briar Rose,

and Cruella De Vil as well as characters for many Disneyland ride and show animatronics (Wikipedia, 2005, Marc Davis); John Lounsberry started with Disney in 1940 working on Pinocchio and continued to animate or direct until 1977, (New York Times, 2005, John Lounsberry); Wolfgang Reitherman animator and then chief animation director on various Disney feature films produced from 1940, until his retirement in 1980, from Pinocchio to The Fox and the Hound (Wikipedia, 2005, Wolfgang Reitherman); Freddie Moore character animator best known for being the resident specialist of the animation of Mickey Mouse and most notably for redesigning the character in 1938 for his landmark role as The Sorcerer's Apprentice in Fantasia, a look which remains Mickey's official look to this day (Wikipedia, 2005, Fred Moore); Vladimir Tytla not to mention a host of others who worked for the studio at one time or other in their careers.

•Warner Brothers studios (U.S.) with producer Leon Schlesinger employed Tex Avery, Chuck Jones, Fritz Freleng, Bob Clampett and Bob McKimson — creators/artists on Looney Tunes and Merrie Melodies featuring such characters as Bugs Bunny, Daffy Duck and Porky Pig.

•Metro-Goldwyn-Mayer (MGM) started by Hugh Harman and Rudy Ising, Disney and Warner vets joined by Tex Avery (Droopy Dog), Ub Iwerks (Figure 31), Bill Nolan, Walter Lantz, also Bill Hanna and Joe Barbera - creators of Tom and Jerry, who eventually left to start their own studio, Hanna-Barbara Productions. Their successful merge into television kept the MGM former animators employed after MGM closed their doors on animation in 1957 (Crandol, 2001).

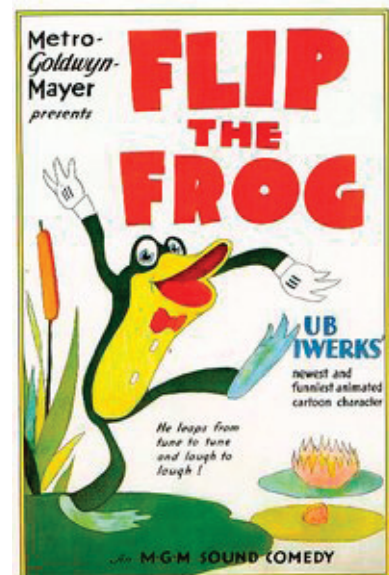


Figure 31, Flip the Frog poster (Wikipedia, 2005)

- Max Fleischer with brother Dave, inventor of the Rotoscope (U.S.) - creator of Koko the Clown and Betty Boop (drawn by Grim Natwick) among other successful characters, started their animation studio to rival Disney. The Fleischer brothers' studio was also responsible for "The Bouncing Ball" and the term cartoon being used for animated creations (Evans, 2001).

- Otto Messmer, Joe Oriolo and Don Oriolo (U.S.) - creators and artists of Felix the Cat (Crandol, 2001) and a variety of spin-offs including Baby Felix productions currently on networks available worldwide. Felix is the first television star (Figure 32) in North America when the character appeared in the first ever 1928 television broadcast and subsequent continuous broadcasts into 1944 (Felix the Cat, 2005).



Figure 32. A television broadcast timeline featuring Felix in 1928, 1936 and 1937. From a 1944 Life magazine article (Felix the Cat website, 2005).

- There are also many animators in the U.S. that have gained international reputations for their work in advertising such as Chel White, mentioned earlier, who originally started as an avante garde independent animation artist. Steve Oaks (Figure 33), famous for his stop-motion, clay mation and 3-D media productions.

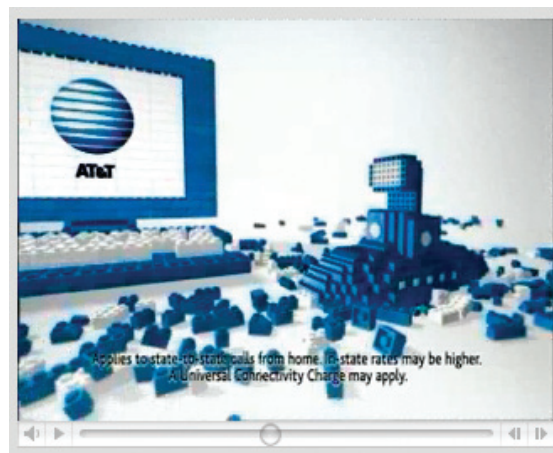


Figure 33. 'lego' stopmotion & computer generated ad (Curious Pictures, 2002)

Many countries share international fame through such festival collections as World



Figure 27, *Snezny Muz*, Petra Fundova, Czech Republic (1986)

Animation Celebration (WAC) in Pasadena, California and The 24th International Tournee of Animation: a series of 14 animated short films, produced by Terry

Thoren just to name a few. In the Czech Republic, women seemed to have thrived in the art and production areas of animation. The British government began a large movement in the 1970s to start funding equal opportunities for women in media and this has aided in a more distinctive place for education and career opportunities as well as awards. Russia and Germany also made their contributions, particularly in the production of the ‘cut-out’ or silhouette film depending on government assistance (Kinsey, 1970). Spain, Argentina and Italy combined animated puppets with live-action film and stop-motion filming or what is also known as *pixellation* (Locke, 1992) contributing a certain style to their productions. Again, this is only a short list of artists from a few countries:

- Czech Republic: Petra Fundova (Figure 34), Michaela Pavlatova’s Reci, Reci, Reci (Academy Award nomination 1994). These artists base their works on the reactive social affects reflecting the stormy political history of the country.

- Japan: Hayao Miyazaki, Toei Douga (Toei Animation Studio) best known for Princess Mononoke and Spirited Away (Academy Award 2003).

- Australia/New Zealand: Len Lye (1901-1980) who was best known for his direct

film technique, in which he scratches or draws on celluloid film, adds a soundtrack and produced avante garde animated films similar to Norm McLaren's work and in fact, they were good friends.

- Austria and Germany: Bärbel Neubauer (Figure 32).

- United Kingdom: Aardman Productions and Nick Park (Wallace & Gromit, Chicken Run, etc.), Halas & Batchelor Studios (Joy Batchelor and John Halas) as well as as host of many more names to numerous to mention.

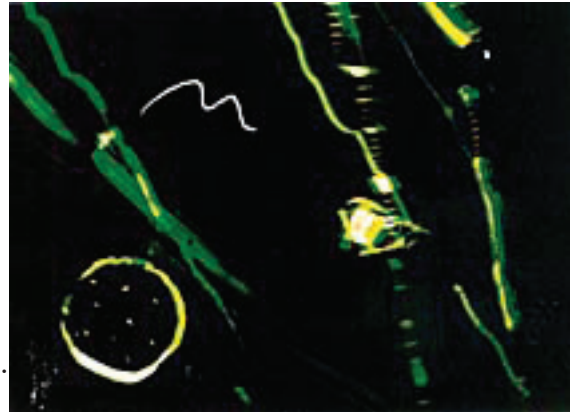


Figure 32, Bärbel Neubauer's direct film (scratched) Moonlight, (Moritz, 1998)

### 3.3 National and Regional Animators

Canadian audiences are extremely lucky to have a culture that produces so many award-winning animation artists, many of whom should be listed in the previous section since they are internationally acclaimed. So why is it their names are virtually unrecognizable to most Canadians? From Raoul Barre 'grandfather' of the National Film Board, Norman McLaren all the way to Wendy Tilby, Canadians have produced many animated films that have been nominated (over 30!) and won, Academy Awards as well as hundreds of international prestigious awards. Again, I prepared a short list of Canadian animators that only exemplifies a fragment of this country's talent.

- One of this country's first animators, Raoul Barre (1874-1932) started his own animation studio in Montreal and then moved to New York in 1913. He developed a slash and tear technique for doing levels in animation and he also devised the peg system for

registration (McLaughlin, 2001 - Appendix D).

- Norman McLaren (Neighbors, etc.) passed away a few years ago but the legacy of his work with the National Film Board (NFB) and his association with many of Canada's most talented animators makes his name synonymous with animation.

- Associated with the NFB as well as independents, are such notables as Charlie Thorson (one of the first creators of Bugs Bunny [Walz, 1988]), Frédéric Back (Crac!, The Man



Figure 32, still from When the Day Breaks (Acme Filmworks, 2005)

Who Planted Trees), Kaj Pindal, John Weldon and Eunice Macauley (Special Delivery), John Kricfalusi (Ren and Stimpy), Colin Low (Romance of Transportation), George Dunning (dir./Yellow Submarine), Jim McKay, Arthur Lipsett (Very Nice, Very Nice), Rene Jodoin, Derek Lamb, Gerry Potterton (Heavy

Metal), Co Hoedeman (The Sand Castle), Caroline Leaf (The Street), Michael Snow, Stephen Williams (Jurrassic Park, The Mask), Duncan Marjoribanks (Abu, the monkey in Aladdin), Amanda Forbis (The Reluctant Deckhand, co-dir./When the Day Breaks), (Figure 32) Wendy Tilby (co-dir./When the Day Breaks, String), Richard Condie, Ishu Patel, John Weldon, Janet Perlman, Sheldon Cohen and Roch Carrier (The Sweater), and Michael Mills (The History of the World in Three Minutes Flat), Cordell Barker (The Cat Came Back), Richard Reeves (Linear Dreams), Stephen Arthur, Helen Hill and many young animators currently in study and training.

### 3.4 Local Animators

The British Columbia coast seems to be a place that grows animation artists. Perhaps it is due to the significant profile that the arts have in Vancouver and Victoria as well as Vancouver Island. Vancouver, in particular, is a mecca for animators and students of animation, with several animation post-secondary programs available throughout the city. These listings are by no means complete and I've also included the names of well-known artists that have used animation as a medium.

- Jack Shadbolt, Vancouver - although he has passed away, Shadbolt experimented with and made animated productions in the 1970s and 1980s. Animator Stephen Arthur created an NFB produced film with over 80 of Shadbolt's paintings for Transfigured (1999).
- a.k.a. Cartoon, founded by Danny Antonucci (MTV series The Brothers Grunt, a new Cartoon Network series, Ed, Edd 'n Eddy, debuted on Canada's Teletoon)
- Al Sens (The Twitch, 1973), Al Sens Animation Ltd. and former instructor at Emily Carr Institute of Art and Design (ECIAD)
- Marv Newland, International Rocketship
- Atomic Cartoons, Rainmaker, Mainframe Entertainment and Electronic Arts (very large studios employing over 1000 artists between them).
- Hugh Fouldes (Citizen Harold (1971) formerly of ECIAD.
- John Taylor (ECIAD), the program's first instructor as well as being involved with the NFB Pacific Centre in Vancouver.
- Barry Ward, Bardel Animation Ltd., animator on The Prince of Egypt and DreamWorks, producing Joseph
- David Bowes, Bowes Productions & Associates Inc., formerly of Victoria, BC, Bowes and Lisa-Jane Gray's production Twisteeria (1999) for YTV skyrocketed the creative geniuses to Canadian fame. A Camosun College Visual Arts graduate, Bowes grew up and attended school in Victoria. His father Douglas Bowes taught art in several schools in

Victoria. The studio is now located in Vancouver.

- Delaney & Friends, Chris Delaney (The Adventures of Nilus the Sandman, a series for the Family Channel)
- Natterjack Animation Company, founded in 1993 by Steven Evangelatos.
- Network of Animation (NOA), Owner Herve Bedard is specializing in international co-produced Japanese animations with Cybersix and has done work with Gordon Stanfield. They are also working on their Billy the Cat series.
- Gordon Stanfield Animation Ltd. recently produced 26 episodes of Kleo the Misfit Unicorn for YTV.
- Studio B Productions Ltd., founded by artists Chris Bartleman and Blair Peters in 1988.

Animation thrives in Victoria and evidence may be seen in the numerous media articles such as the Times-Colonist story by Michael D. Reid, June 5th 2005 with the headline “Animation Sensations” regarding the inclusion at the 2005 Ottawa Animation Film Festival Anne locals:

- Oak Bay’s Gilbert Taggart’s (formerly animation history instructor at Concordia University and animator for Alexander Films, Colorado) most current animation The Little Forest
- Rick Raxlen (formerly of the NFB) Rude Roll and Geometry of Beware
- Gail Noonan (Mayne Island) More Sensitive (Reid, 2005).
- Ralph Stanbridge, film and animation instructor/chair Visual Arts program at Camosun College
- Paul Moldovanos, also known as ‘The Clayman’ commercially produces animation products between Victoria and Vancouver.

#### 4.0 Creating Animation

A classroom teacher can use animation as an efficient conduit to get information to and from students. Walt Disney produced several animated films in the 1950s and '60s that support academic subjects such as Donald Duck trying out different arithmetic formulas. Chuck Jones did so, as well, through his cartoon characters' references musings about everything from opera to geography...hey, this doesn't look like Albuquerque! (Bugs Bunny....). Even though commercially made animation is often put into the pop-art bag; it has quickly risen to share pedestal or podium with other modern art forms. It is not difficult to explain to anyone that Bugs Bunny belongs in the same category as Andy Warhol's series on Marilyn Monroe screen-printed images. In fact, because animation is a distinctive hybrid of film and traditional art forms such as painting, it has become its own entity. Creating it in the classroom and keeping it low-tech however requires much more background information than many educators might possess or are able to gain for classroom or studio projects.

The following sections will focus on my methods of creating simple, hands-on animated projects. Adaptations from several sources such as film maker/educator Nikos Theodosakis' [Director in the Classroom](#) (2001), *Apple.com/dv* and *Apple.com/education/dv*, Yvonne Andersen's [Make Your Own Animated Movies and Videotapes](#) (1991), and so many other resources gathered over the years. This, mixed in with my own animation experiences from my two year Visual Foundations animation course work, undergraduate projects and animation workshops designed for children as well as educators and interested adults, are all contributions to my own approach to teaching animation.

Although making and teaching about animation are my main passions, I have also been fortunate enough to be employed as well as freelancing my artistic and technical

capabilities to earn my income. Many of my own art projects are produced for the commercial realm as well as self driven and inspired; my exhibition is diverse, ranging from photography to graphic design to video/animation production. The threads that unify my work include a set of values — my work is characterized by flexibility and challenges; this has created seams connecting the pieces. Some of my images as well as *this* body of work, are produced on ‘Silver,’ my Macintosh G4 (pumped up with lots of memory and an extra hard drive) and several types of software including Adobe’s Creative Suite (Photoshop, In-Design, Illustrator, Acrobat Distiller and Reader), iMovie, Premiere, Final Cut Pro and a few more. My own current animation projects are being prepared for funding requests through the Canada Council, the British Columbia Arts Council, Bravo!, the National Film Board, and various other sources. Because of the expense and time requirements, it is almost impossible to proceed without sources of revenue to cover them. Some of the images illustrated here are part of my exhibit as well as a brief explanation about the work. It should be understood that selected stills cannot do justice to the medium of animation; nevertheless the images included in this writing serve as hints or indications of a body of work.

#### **4.1 Explorations in Time and Space:**

Teaching students about animating is like becoming a magician when approached from a fun and educational perspective. As humans, we are attentive to movement around us; the basics for animation exploration can proceed from this simple fact. Getting to work and making things move, seemingly on their own, is like manipulating time (the speed at which the frames change) and space (the place occupied by the object or image). In the following lesson plans, there are several examples of animated objects to make and suggested grade groups to use them with. These are derived from my own experiences teaching and creating curricula for educators to use and they are reproduced from a handbook of animation ideas I created for a workshop for the British Columbia Art Teachers Association.

## Introduction:

Animation! Oooooohhhh....it's a scary word to teachers...even just ordinary mortals cringe when the "a" word is used especially any where near a computer! Well, I just decided that it was time to put together some fun projects for teachers to use in art class or integrating it with other subjects.

Animation has a great history in the world of art and how we humans perceive our world. The earliest forms of animated drawings were done on cave walls by humans (just like us!) to show motion. Storytelling by sequential images has been a method of human communication in all of recorded history, Orientals have had shadow puppet shows for many centuries. We can still see stories in bas-relief on Greek temples, Egyptian funereal paintings, medieval stained glass, and, of course, the Sunday comics (Locke, 9).



Fig. 7 This horse, running to escape a boomerang-like weapon, was painted on a cave wall at Les Trois Frères, France, sometime before 10,000 B.C. The pre-historic "animator" used duplicate images to show motion.

illustration courtesy Lafe Locke, Film Animation Techniques

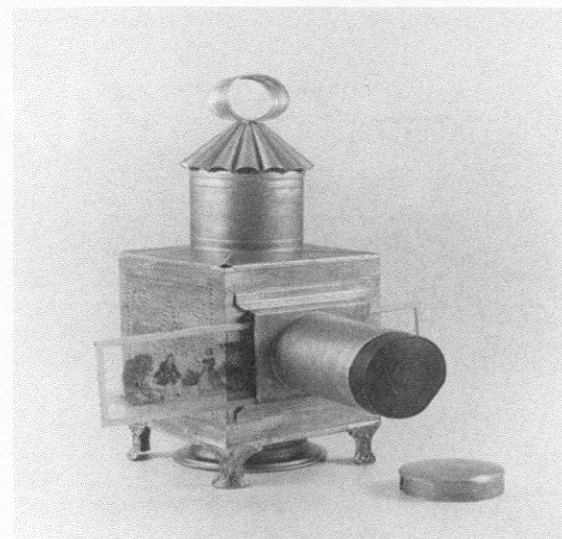
In the 19<sup>th</sup> century a phenomenon known as *persistence of vision* was discovered. Our eyes hold on to images for a split second longer than they are actually projected, so that a series of quick flashes is perceived as one continuous picture (Laybourne, 19).

Photography comes along and viola!—we have the birth of the motion picture...yet animation in many traditional forms is still a modern art form created every day!

**PROJECT = Idea + Presentation**

**IDEA = images  
story/narrative  
sound**

**PRESENTATION = method/type of  
animation used**



Cat. n° 318 Europe, début du XIX<sup>e</sup> siècle, Lanterne magique cuivrée Europe, early 19th Century, Copper Magic Lantern

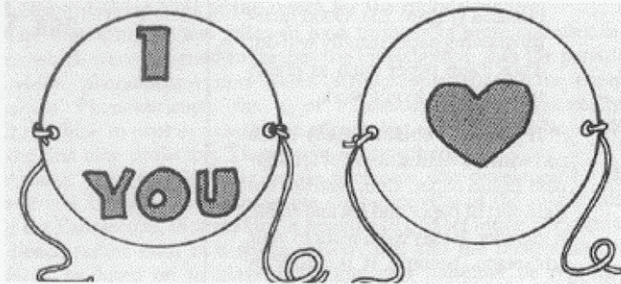
### take note...

"...the term animation refers to the creation of movement frame-by-frame and applies to "The Lion King" as aptly as it does to flying logos and wire removals. Animation has found its way into every corner of entertainment, from Nintendo...to special effects in virtually all feature films. The sciences (astronomy, oceanography, medicine) and practical arts like architecture and law use animation for the purposes of visualization. Even the United Nations Children's Fund, UNICEF has discovered the power of animation and is beginning to use cartoons to communicate human rights issues around the world."

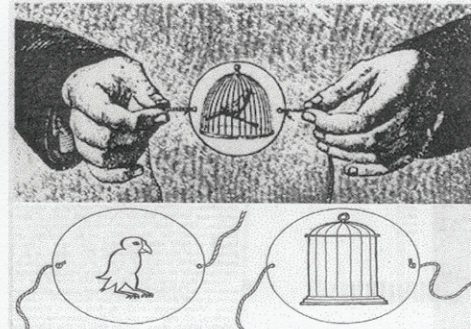
(Excerpt from The Best New Animation Design Introduction by Rita Street, 1995, Rockport Pub.)

## K - 3/4 Animation Art Lesson Plans - "the animated classroom!"

### □ Thaumatrope



Courtesy of Film Animation Techniques/Lafe Locke



#### Materials/resources:

- ✂ cardboard (scraps work fine!)
- ✂ scissors
- ✂ glue stick
- ✂ drawing tools
- ✂ **2 illustration resources** (old magazines, comics, photos of self, pets, parents, friends, etc. drawing, etc.)
- ✂ circle template (size ? to trace)
- ✂ 2 pieces of string - 4" long OR 2 elastic bands
- ✂ hole punch

**2.1 A thaumatrope:** This 1826 French engraving shows how to spin a thaumatrope and it also suggests the device's effect. In this case, one side of the disc bears the image of a bird and the other side carries that of an empty cage. The superimposed image is created, of course, only when the device is being spun between fingertips.  
 Courtesy Stanford University Art Museum.

#### Vocabulary:

- ❖ afterimage
- ❖ balance
- ❖ design
- ❖ persistence of vision

#### Anticipatory/Response/Extension Set:

Thaumatrope is a simple device that was invented by an English doctor, John Paris, in the 1820's. It was considered a "toy" illustrating *persistence of vision* and was considered a significant development in the search for the motion picture. Ask students to find examples of animated objects that would use this idea. Older students can discuss vocabulary matching terms and definitions. Younger students can bring their own drawn images to "life." Use pre-made samples to illustrate the process & discuss how the eye & brain are "tricked" into seeing one image.

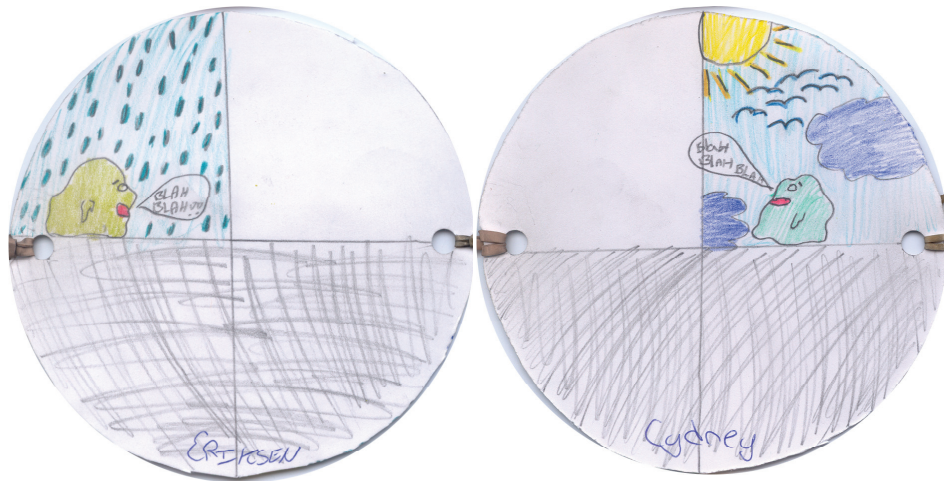
#### Instructions:

1. Trace the circle template on the cardboard & cutout.
2. Punch small holes at the left & right sides of the disc near the edges.
3. Apply illustration resource #1 (i.e., bird) on side 1.
4. Turn over towards you & apply illustration resource #2 (i.e., cage) on side 2
5. Insert & tie the strings/elastic bands on each side.
6. Hold the strings/elastic (shown above) & roll them between thumbs & forefingers. The disc will whirl & your *persistence of vision* will blend the 2 images into a single frame!

#### Integration opportunities:

- ❖ Thaumatropes can be made as holiday decorations, part of science experiments, math & picture/word flash-cards, greeting cards, art image/text exercises ...Go Wild!!!

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Thaumotrope created by Cydney Eriksen, Dunsmuir Middle School, Victoria, BC, 2004

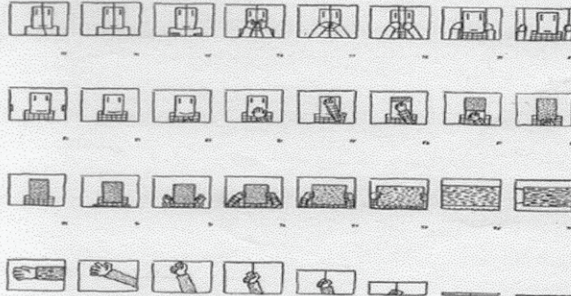


Thaumotropes created by Greater Victoria Public Library summer literacy program, animation workshop participants, Victoria, BC, 2004

## K - 3/4 Animation Art Lesson Plans - "the animated classroom!"

### □ Flip or Flicker Book

**2.5 Flip-book as film and publication:**  
 These drawings represent part of the actual layout prepared by independent animator George Griffin for formal publication of one of his flip-books.



GEORGE GRIFFIN  
 © 1976

Courtesy of The Animation Book

#### Materials/resources:

- ✂ blank paper for storyboarding narrative & sequential images (idea generating!)
- ✂ small pads of stiff paper (3" x 5") amount will depend on amount & variety of images
- ✂ scissors
- ✂ glue stick
- ✂ drawing tools
- ✂ **illustration resources** (old magazines, comics, photos of self, pets, parents, friends, etc. drawing, etc.)
- ✂ bulldog clips or heavy tape to bind flipbook pages together (don't forget to number!)
- ✂ samples of flipbooks (library, etc.)

#### Instructions:

1. Demonstrate flipbook samples & discuss ideas!
2. Hand out paper for storyboarding ideas.
3. Discuss image strategies (drawing vs. paste-in images? \*Keep it simple...images should be similar size as flipbook pages...but be flexible...let the kids imagine and ponder...talking is GOOD!
5. Layout pages & number for sequence action. See samples above & left...note the numbers...)
6. One image could be repeated for first & last pages. Similar images can be repeated on pages where movement is repetitive.
7. Images in the middle of the flipbook are called *in-between* because they are motions used before & after the final images on first & last pages.

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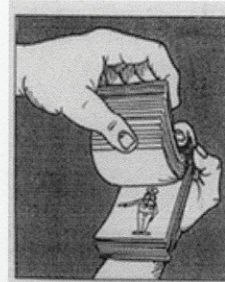


Fig. 23 One way to hold a flip book.

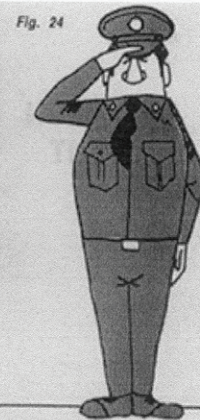
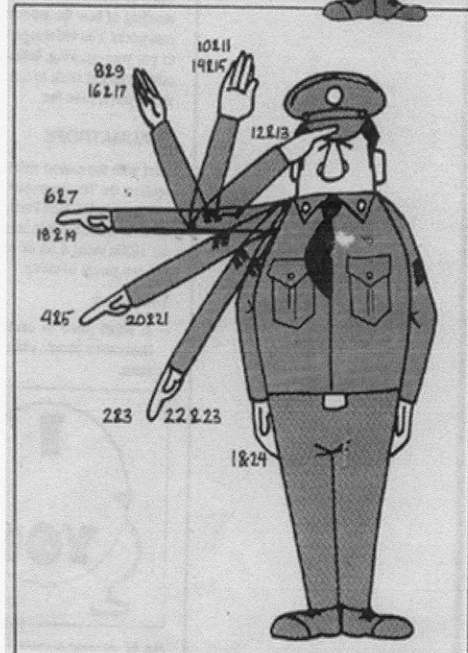


Fig. 24

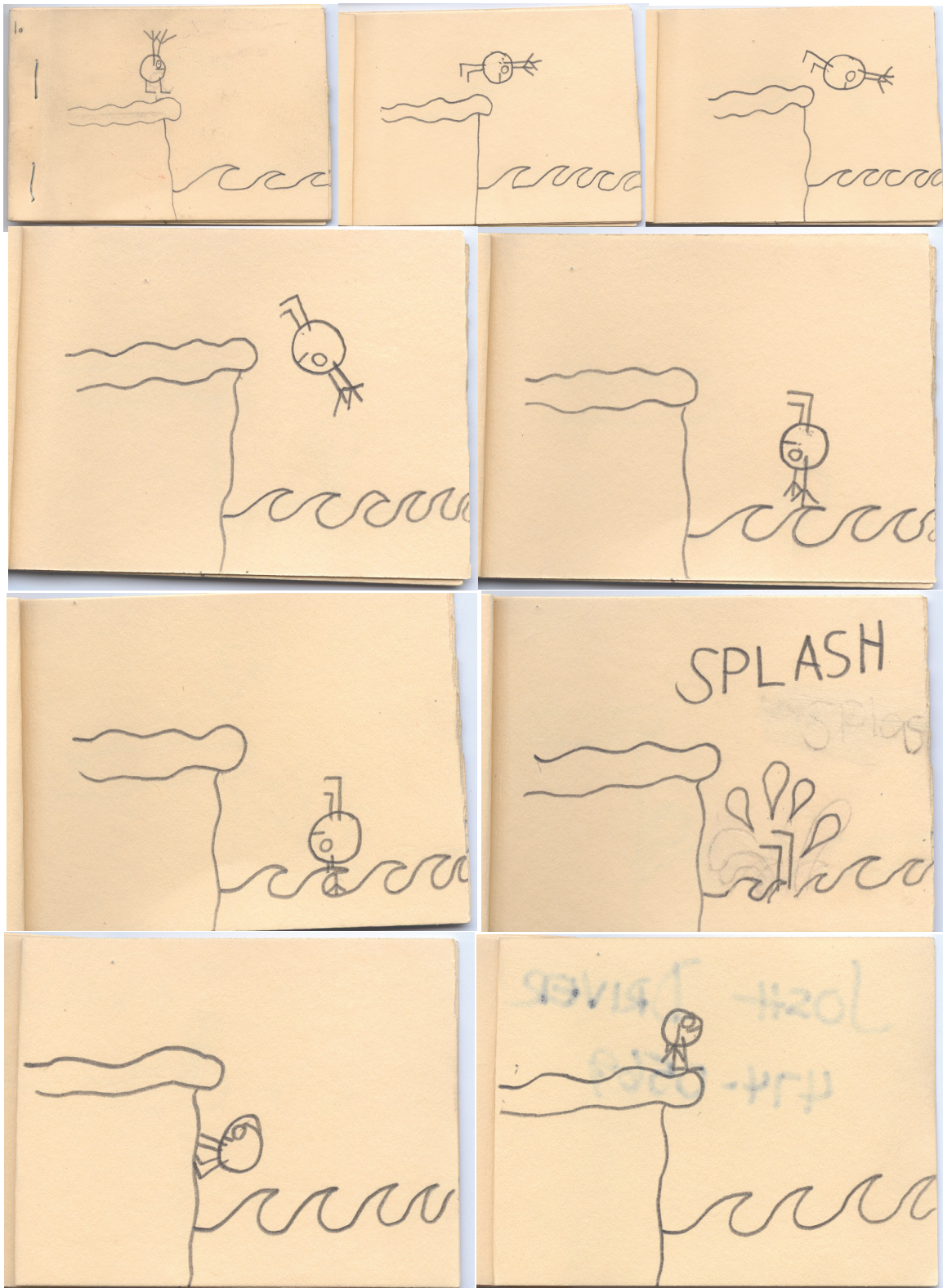
Fig. 25 A diagram of the soldier's arm movements.



Courtesy of Film Animation Techniques/Lafe Locke

#### Vocabulary:

- ❖ afterimage
- ❖ balance
- ❖ design
- ❖ persistence of vision
- ❖ 2-D & 3-D
- ❖ repetition
- ❖ rhythm
- ❖ subject matter

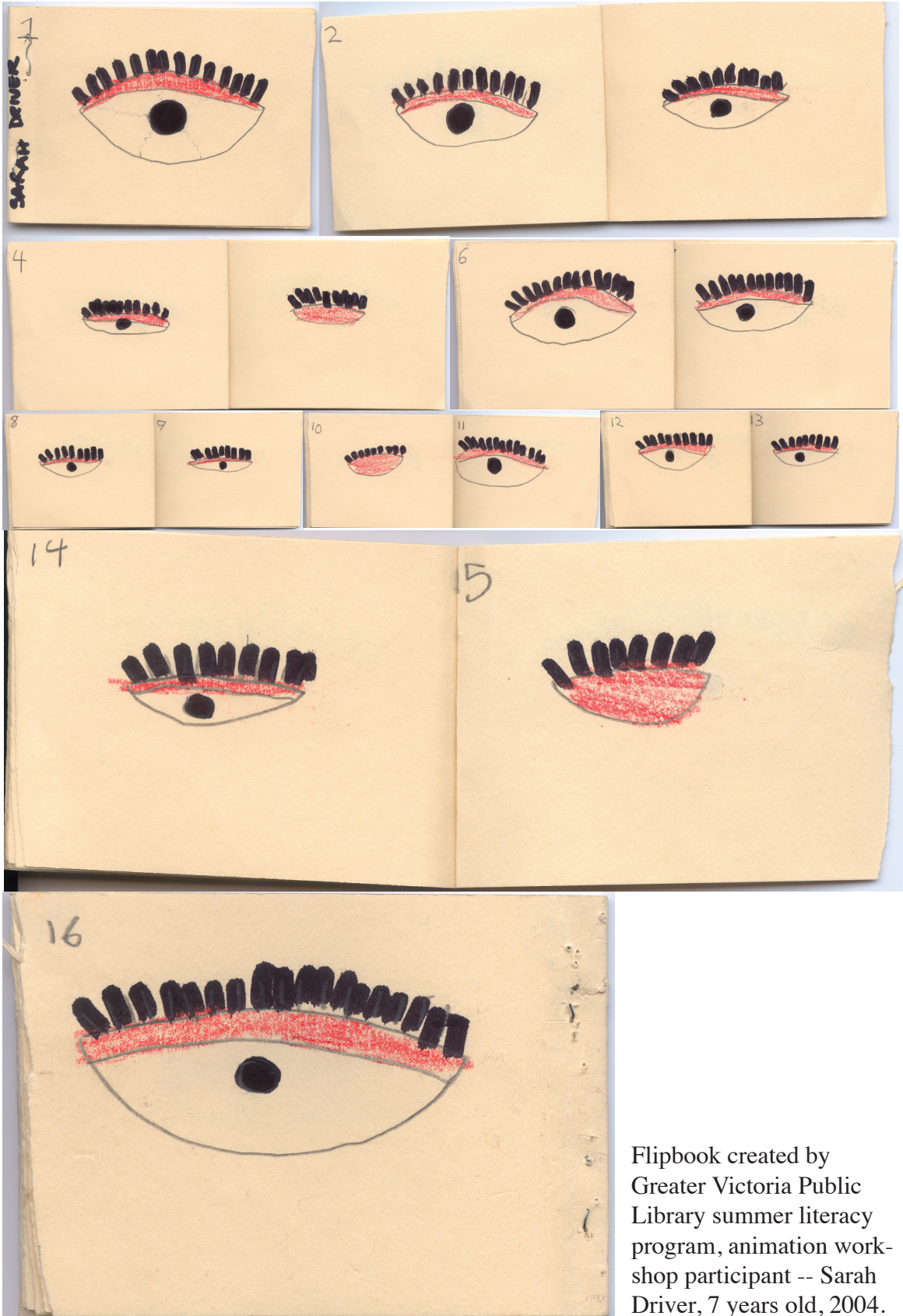


Flipbook created by Greater Victoria Public Library summer literacy program, animation workshop participant -- Josh Driver, 11 years old, 2004



Flipbook created by Greater Victoria Public Library summer literacy program, animation workshop participant -- Leesha Driver, 2004. What's particularly exciting is that this youngster was 4 years old at the time and she wanted to stay to help her older siblings with their projects. Leesha ended up creating her own flipbook with found images from discarded magazines provided after deciding that her drawing wasn't quick enough to make the images she wanted to. It was suggested that she find an image that she liked and try to find more, then cut them out and paste on to the sequential pages.

Leesha also wanted to donate her book to be captured by the author demonstrating her ability to recognize an opportunity to show her work!



Flipbook created by Greater Victoria Public Library summer literacy program, animation workshop participant -- Sarah Driver, 7 years old, 2004.

**K - 3/4 Animation Art Lesson Plans - "the animated classroom!"****□ Flip or Flicker Book (page 2)****Instructions (cont.):**

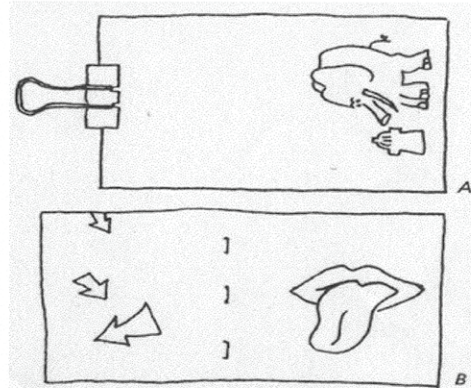
8. Illustrations of ideas can be sketched on chalkboard/whiteboard (keep it simple).
9. Seven basic images should be adequate as these can be re-drawn or illustrated as the *in-between* & beginning/ending images...24 frames is good!
10. Don't forget to make a cover for the front with the student's...oops...the animator's name on the front. Covers can be decorated with the images appearing inside...Go Wild!
11. Bind the pages together (check sequencing by flipping pages...and making adaptations for south-paws!) using clip or tape. Viola!

**Anticipatory/Extension Set:**

Flipbooks are familiar as one of the "toys" illustrating *persistence of vision* and are considered a primitive precursor to animated films. Ask students to find examples of animated images that use this idea. Older students can discuss vocabulary matching terms and definitions. Younger students can bring their own drawn images to "life." Use pre-made samples to illustrate the process & discuss how the eye & brain are "tricked" into seeing one image.

**Integration opportunities:**

- ❖ Flipbooks can be used as a preliminary device for a video-captured animation project for the next level animation instruction.
- ❖ Images can be enlarged via photocopy for large scale projects or reduced for flipbook construction.
- ❖ Almost any subject can be illustrated by combining text and images. Fish jumping up water falls returning to their spawning stream?!
- ❖ Consider using as craft sale objects!
- ❖ Students could make flipbooks for friends or family members at gifts.



**2.7 Two flip-book formats:** The scale and dimensions here are highly arbitrary. Flip-book (A) uses a #20 (small) binder clip to hold its pages firmly. One's hand can perform the same function. Flip-book (B) is stapled in the center. This arrangement creates two drawable, flippable surfaces on the same set of stapled pages. Select a paper stock and a size of drawing that will suit your preferences and resources.

Courtesy of The Animation Book

**Responding:**

- Have students pass their flipbooks to classmates for critique.
- Have a flipbook art show for other classes.

**Assessment/evaluation:**

- Ask students how they could improve their flipbooks.
- Have students list different types of stories that could be told with flipbooks & how they could transform into different types of animation.

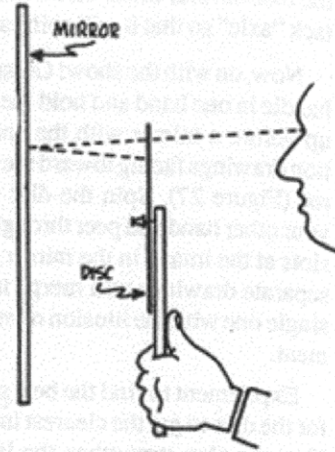
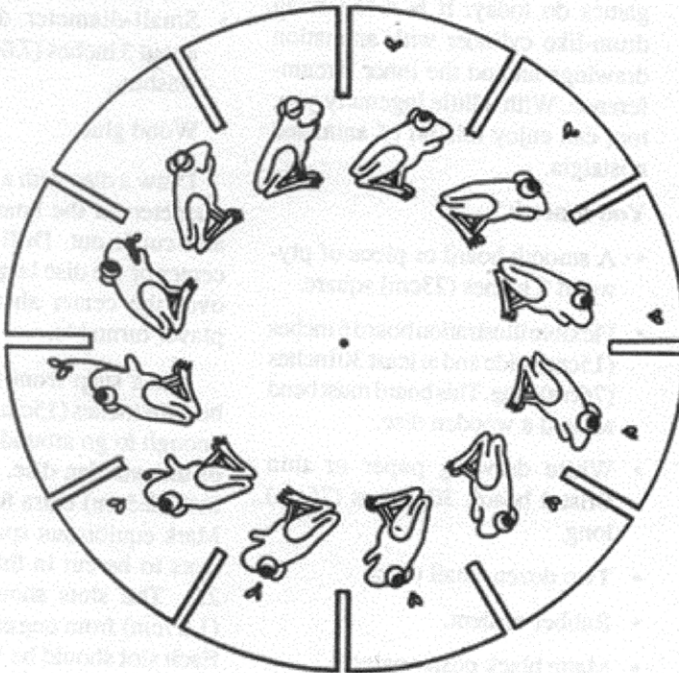
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**4.2 Movement, Metamorphosis, and Narrative**

The next few lesson plans bring the student up to speed on the mechanics of movement, and creating visual changes with more sophisticated imagery to start creating stories.

**K - 8/9 Animation Art Lesson Plans - "the animated classroom!"**

**☐ Phenakistiscope or Stroboscope (take your pick!)**



Courtesy of Film Animation Techniques/Lafe Locke

**Materials/resources:**

- ✂ blank paper for storyboarding narrative & sequential images (idea generating!)
- ✂ heavy illustration paper (10" x 10") for each student
- ✂ 10" circle template (to trace)
- ✂ new, unsharpened pencil or milkshake straw
- ✂ thumbtacks or pushpins
- ✂ glue stick
- ✂ drawing tools (ruler, etc.)
- ✂ **illustration resources** (old magazines, comics, photos of self, pets, parents, friends, etc. drawing, etc.)
- ✂ hole punch & scissors
- ✂ pre-made sample to show your class
- ✂ mirror

**Vocabulary:**

- ❖ afterimage
- ❖ balance
- ❖ design
- ❖ persistence of vision
- ❖ repetition
- ❖ rhythm
- ❖ subject matter
- ❖ 2-D & 3-D

A photographic sequence by Eadweard Muybridge, whose 19<sup>th</sup>-century experiments have been of priceless help to later generations of animators.

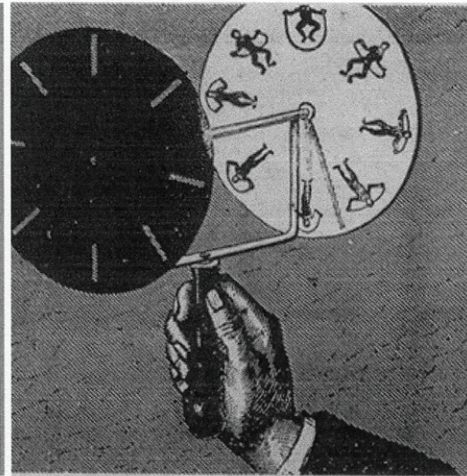


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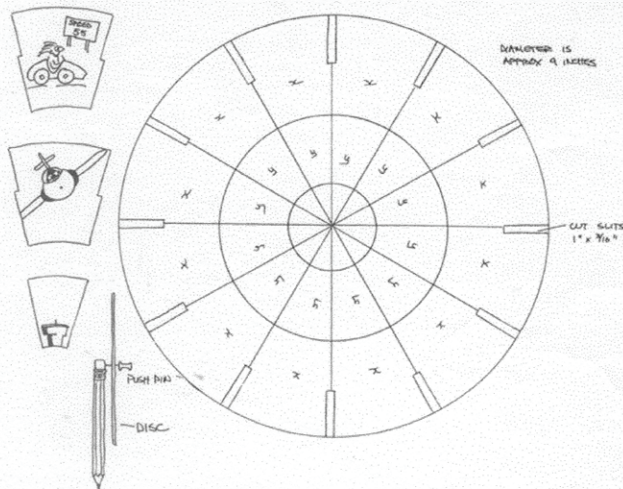
Courtesy of Photography, Bruce Warren

**K - 8/9 Animation Art Lesson Plans - "the animated classroom!"****☐ Phenakistiscope or Stroboscope (page 2)****Instructions:** (see illustrations)

1. Illustrations of ideas can be sketched on chalkboard/whiteboard, then storyboard for ideas...keep numbers to 12. (Keep it simple)
2. Trace & cut-out circle. Divide into equal wedge shapes for image placement.
3. Measure slots (1/4" wide x 1" depth) & cut-out slots.
4. Draw or paste images around inside edges of circle
5. Insert pushpin into center of circle and pin to eraser of pencil. Make sure images face forward.
6. Hold up facing front of mirror & spin. Look through slots to see images blending together...Viola!



The Phenakistiscope or Stroboscope, invented in 1832 by Joseph Plateau. When the picture disc is spun, a viewer looking through the slots see continuous movement. In other versions the slots & pictures are combined on a single disc, & viewed in conjunction with a mirror.



Courtesy of The Animation Book

**Anticipatory/Response/Integration:**

- ☐ Images can be enlarged via photocopy for large scale projects or reduced for flipbook construction.
- ☐ Consider using as craft sale objects!
- ☐ Stroboscopes can be used as a preliminary device for a video-captured animation project for the next level animation instruction - subjects are infinite!

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**Responding:**

- ☐ Host an art show of projects for other classes.
- ☐ Have students exchange their stroboscopes for critique.
- ☐ Ask students what other types of machines use the same technology.

**Assessment/evaluation:**

- ☐ Ask students how they could improve their flipbooks.
- ☐ Have students list different types of stories that could told with stroboscopes & how they could transform into different types of animation.

4/5 - 8/9 Animation Art Lesson Plans - "the animated classroom!"

□ Photocopy Narrative

**PROBLEM:**

Tell a simple animated story in ten or more steps by making copies of objects placed on the glass of a Xerox machine.

A Xerox machine can be thought of as a big, crude camera. Objects can be photographed by placing them on the copy glass, and a feeling of animation can be achieved by moving the objects slightly from copy to copy.

A *narrative* is a story, either fictitious or true. A story can be told visually as well as verbally. In this problem, the plot will unfold in a series of Xerox copies that function like individual frames of a movie. Movement is implied by the placement of objects in differing positions from the copy before. As in any narrative, it is necessary to plan a simple plot and an ending. One student bought several different kinds of cookies and took them to the copy center. She began her narrative with dense, ordered patterns of cookies. Gradually, they began to shift and disintegrate. Occasionally, a grasping, greedy hand, or a chewing mouth, would appear. At the end of the series, only small scattered piles of cookie crumbs were left.

Begin by looking at small common objects in your living space, or while shopping or walking about, and try to picture the object doing something, or moving. Think of the inherent visual characteristics of objects as well as their functions and relationships to each other. Because the machine focuses on the glass plate, stick to relatively shallow objects. Remember that everything will have to be placed upside down for the machine to copy things as they are to be seen.

Once an object is chosen and the narrative is planned, start copying and look at each sheet in relation to the one before to make sure that the visual leap from copy to copy is not too wide for the viewer to follow. Use a smooth, even motion

with changes in visual rhythm for plot changes, climaxes, and other elements of the story.

The finished copies can be displayed as books, or as animated flip books, on the wall in a long connected line, or they may be mounted in a grid system reading left to right like a comic book. The copies could be filmed and actually made into an animation or photographed as slides and shown with a dissolve-unit projector.

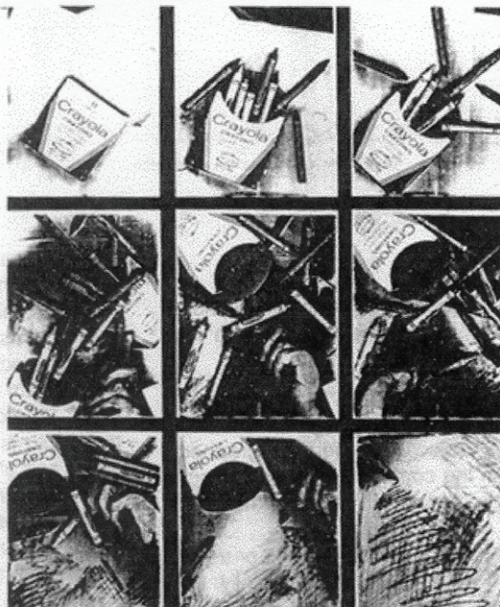
The narrative aspect of this problem is of supreme concern; be a good storyteller and don't bore your audience. Try to understand motion as it applies to the gradual and smooth changes in an animated sequence. Make sure that the narrative makes sense from frame to frame. The glass of the Xerox machine must be thought of as the picture plane; consideration must be paid to the relationship of the objects to each other and to the edges of the glass. Plan the narrative ahead so that the images will function well compositionally in relation to the story and the movement desired. Think about all formal elements such as contrast, value, color, texture, and the size and shape of the finished copy.

**References**

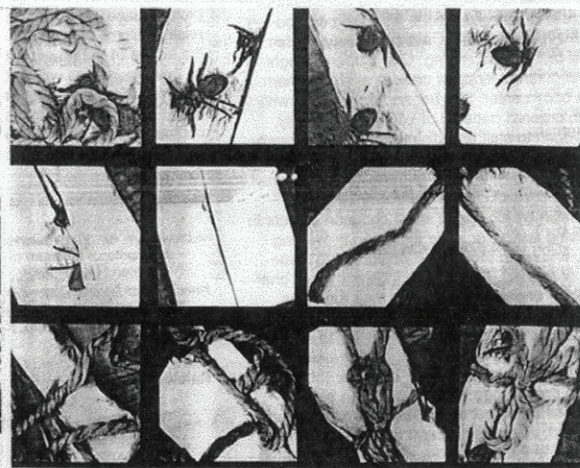
MCCRAY, MARILYN. *Electroworks*. Rochester, N.Y.: International Museum of Photography at George Eastman House, 1979.  
 FIRPO, PATRICK, LESTER ALEXANDER, AND CLAUDIA KATAYANAGI. *Copyart*. New York: Horseguard Lane Productions, Ltd. for Richard Marek Publishers, 1978.

**Related Artists**

- |                 |                |
|-----------------|----------------|
| Terry Allen     | Duane Michaels |
| Eleanor Antin   | Sonia Sheridan |
| Dottie Attie    | Alexis Smith   |
| Les Crims       | Eve Sonneman   |
| Robert Heineken |                |



Sally Fox. Xerox copies and crayon.



Anita K. Fleet. Xerox copies.

### **4.3 Planning and Producing Animations**

The following steps will briefly explain a basic structure for planning and producing an animated art project beyond simple double-side thaumotropes, zoetropes, or flipbooks, although these can be a ‘spring board’ for ideas. The collaborative nature of this process demands that clear, concise roles are defined by the teacher and the participants. Students can be told about the many different jobs there are, thus greatly assist in their process of involvement. Mixing in a bit of animation history before actually starting a project that explains the nature of partitioning different aspects of the project, greatly increases awareness that animating is a multi-disciplinary effort and every job is important, from idea generators to camera operators to illustrators to clean-up! Once an idea or concept is discussed, proceeding to a sketching ideas on a chalkboard, whiteboard, or flip charts helps everyone share their views. Keeping it simple should be a priority and a mantra!

#### ***4.3.1 Storyboarding***

One of the most significant and conceptual parts of animation is the storyboard. This is where the story containing the creator’s ideas becomes narrative, then gets combined with visuals and instructions about how the production will generally flow. Figure 37 is an example of how involved kids can become when making storyboards. Often storyboards are compared to comics and can be as simple or detailed as necessary. This all important planning device integrates production, narrative and sound; it is the ‘script’ that can be referred to and adapted as necessary. Students also consider how long the scenes or ‘takes’ will be during this process and the approximate length of time of the production and finished work. If it is too complex, it will take too much time. Evaluating the attention span of the age groups and grade will benefit, as well as the amount of class or studio time available. Thinking of time as a principal element of animation and an extremely important consideration in production is necessary to achieving a successful school project. Simplicity greatly improves the chances of a successful outcome. Once



Figure 37, Children in one of my workshops done in class, photograph courtesy Karen Medalsy (2003)

the storyboard develops, the art of animating really gains momentum!

Its imperative that this portion of the animation process be done, even if illustrations are naive and simple because the students need to be able to communicate their ideas visually and verbally.

Storyboards can begin as simply as dividing a page of unmarked paper into several sections by drawing horizontal and intersecting vertical lines to form

blocks. The format can then be used to develop sequenced drawings and text.

### ***4.3.2 Image and Capture***

Deciding what medium to use is usually the next step but often experienced creators know during the conception or idea stage what form of media they want to use. Beginners may even want to experiment with 2-D or 3-D (images or objects) but for starting out, I recommend paper cut-out (whether appropriated images from magazine or student creations) or objects such as toys (Figure 38), kitchen utensils, grooming items, clothing, or whatever works with the concept! I've used several types of media but my favorites are cut-outs and sand. Its imperative that students and teacher work with simple ideas

and technologies in the beginning so as not to feel overwhelmed and frustrated. Several methods of image capturing are useful such as using film or digital cameras to photograph the images/objects to be animated. Then



Figure 38, Author demonstrating stop-motion capture on video/monitor at Vancouver Island Film Festival workshop 2004

photo/image prints can be made into flipbooks, phenakistiscopes (images placed on a revolving wheel, *see lesson plan example at the end of this section*), or whatever project is chosen. However, if the animation is to be viewed on a monitor or projected, it requires a little more help.

One of my favorite low-tech methods of capturing images for kids and teachers is a VHS camcorder connected to a television monitor. If there are adequate RCA connector cords (they have 2 or 3 red, yellow or white 1-prong plugs at each end) for other types of camcorders (Hi-8, etc.) or digital video cameras (DV) to connect to the monitor and a VCR, then this works as well. Many schools might also have an Audio/visual specialist that would be of great assistance.

The camcorder should be secured to a sturdy tripod; children should be able to operate the camcorder without the teacher being overly concerned about the unit toppling over. If



Figure 38, Author capturing cut-out animation project with VHS camcorder using “record on- pause off” video image capture, with Victor Brodeur grades 1/2 students—photo courtesy of their teacher, Karen Medalsy.

3-D objects are being used, a table works for a 'stage' and the camcorder can be set up to point horizontally at the 'set' reducing the likelihood of the unit being difficult to operate for younger or smaller students. If 2-D animation is preferred, the 'set' can be created on the floor on trays, fabric, pieces of solid color construction paper, or backgrounds painted or drawn on white paper (Figure 38). Closely following the storyboard sequence will greatly reduce the amount of editing, and keep the project story from straying. A grade one and two class cut-out figures representing themselves and their teacher; the background consisted of various settings within their school and playground. This simple project done with scissors, glue and colored construction paper was so engaging that several grade twelve students stopping by the classroom while we were working commented that they should be doing workshops in animation too!

With the 'play-record' feature turned on, the recording of frames can be done by depressing the 'pause-on' and 'pause-off' button to record individual sequences. I recommend keeping the movements of the objects or drawings small and experiment by using different amounts of movement to see what works by playing back recorded frames. Large changes leads to jerky movement. Experimentation is the best way to learn about pacing. Advice to teachers includes the following points: •Don't forget to use an unrecorded or blank cassette inserted into the camcorder before starting. •Keep an eye on the recording light or eye-piece indicator to acknowledge when recording is on or off. •Doing a test run *before* beginning the actual scene capture reduces the stress of accidentally capturing the wrong sequence of the students' hands moving the objects rather than the objects and the set. •Finally, once all of the sequences are captured on the camcorder, eject the tape and make the sure the cassette's sliding 'lock' tab is in locked position to avoid accidental tape erasing.

### ***4.3.3 Sound/voice/music***

The decision to use audio — voice, music, sound effects — can get very complicated. Again, the simplicity ‘rule’ should be maintained. Keeping in mind the age of the students, the availability of equipment, and the needs of the project — wise decisions can be made. I suggest, if there is originally created audio (voice, music, sound effects) keep the sound track separate by recording it on a tape recorder. If this complicates the project, playing pre-recorded music on a CD or tape cassette player, accompanying the playback of the video at the same time is a good way to add a sound track. A word about copyright: if the music is created and performed by professional artists (not the students themselves), showing the production in a non-professional situation to friends, family or school class does not require permission from the musician, however, public and/or for-profit showings would require written permission.

In one class, several students wrote poetry and recited it while a CD of instrument music played in the background. The teacher set up a tape recorder with a microphone (a nice touch) to record them while they played the video tape. After several practice runs and timing adjustments, the soundtrack was synchronized with the beginning of the animation played on a VCR/monitor. It was so successful the principal invited the class to participate in the year end talent show where we projected it on a large screen in the auditorium! The children’s efforts received a standing ovation.

### ***4.3.4 Editing***

As frightening as it sounds, editing can be done fairly simply by keeping the recording sequences chronological or in the order they are presented on the storyboard. This creates anticipation which in turn brings excitement to the project. Editing the production is perhaps one of the most difficult and time consuming jobs but it can and should be kept to a minimum by keeping all elements of the storyboard in mind including the beginning,

middle sequences and ending before beginning to record.

By using a VCR for VHS video tape recording (use a second blank tape), the camcorder can be connected to the IN plug receptor on the VCR. The tape in the camcorder with the original footage can be played and the VCR on RECORD will re-record the sequences with segments removed as required on the VCR tape. By starting the tape on PLAY in the camcorder and using the RECORD features on the VCR with alternating PAUSE ON or OFF, this can be a fairly simple process though it requires some experimenting and practise but effective for first time editors.

If it all seems too complicated, stick to the sequenced chronological recording which utilizes the organization of the storyboard. One of the major benefits of computer video editing features found in programs such as iMovie for Macintosh computers, is that the process becomes even more simplified. Several software companies have developed simple editing and animation programs such as Blender for educational purposes. The low tech approach is simply a means to developing basic foundations for animating. If a school classroom or studio has access to digital equipment, 2-D and 3-D animation can become quite exciting for students as long as the basic premise for animating is understood thus avoiding frustrating mistakes and increasing the problem solving challenges that are required to use multi-media.

#### ***4.3.5 Titles/credits***

As noted in the previous discussion about editing, its important to decide what the titles and credits will look like but more importantly, what they will say. No matter how small or large the budget and crew of the production, everyone deserves credit for their contribution to the finished animation. Asking students to notice and read the credits on videos of complex productions such as Nick Park's Wallace and Gromit claymation

or Pixar's Toy Story can tell them that even the names of the floor sweeping personnel



Figure 39, Title design for the television show Comedy Central shows that even professional studios use simple elements as part of the editing and titling production, (Interspectacular, 2005)

are listed. If a parent contributes cookies for the animation crew or students have borrowed materials from the school library, thanking them by listing their names teaches valuable lessons about community support and collaboration.

#### 4.4 Presentation and Distribution of the Project

There is nothing like a movie premiere to celebrate a job well done. Animation can be difficult and fun, frustrating and enervating, and sharing a project with family, friends, school community and of course, the paparazzi, is a great part of the process. By preparing artwork for posters or tickets based on the animation, scheduling a showing with adequate seating and of course, making popcorn--the animators and their teacher as well as the school give and receive recognition for the mutual support necessary to make a group art project.

Taking projects to the world can be even more exciting. Creating copies of the animation for everyone involved as well as a copy for the school library or website is one way to

show how film or video media becomes part of the phenomenon of cinema. Students at the Key Learning Community school mentioned in Chapter 2, have posted their projects on the school's website. A tape of the project is usually given to the webmaster where the technology is more readily available for reformatting the production for website viewing.

Submitting copies to other schools, local cable television stations and student film festivals are all ways that students can show their work to different audiences and receive valuable feedback. Sending a copy to the Ministry of Education and the school board office shows administrators and others in positions of influence in educational policy that animation is a positive way to integrate topics and subject matter in an academic environment. Distribution can reach beyond the boundaries of education — copies may be offered to a local video store and the community library; donating a video or if possible, a DVD of the production ensures that it finds its way onto a shelf, as long as it meets the criteria of the store or library's policy. Art galleries with programs for the public such as the Greater Victoria Art Gallery might be pleased to have a copy for their archives. They may even include it in an exhibition.

Once completed, students and their teacher should engage themselves in assessing the merits of the production. Questions such as: Did the animation convey the initial concept? What was learned and what could be improved on? How could the topic or message be delivered in an alternate media? Would creating an animation guidebook for other classes to share the process be a whole new project using writing skills? Was there enough support? Could an animation club be a fun addition to extra-curricular activities? Examining all the roles involved in animation production develops a wide set of skills that students can use in many different situations.

I have included a few illustrations of my work to be used my exhibit. One of the similarities to animation creation and production in the print, electronic and illustrative commercial realms is the collaborative nature of the work, which may be a major reason I am attracted to animating in arts education.



Figure 40, Logo design for Seamless Health Plus Software (2004). Organic colors predominant on Vancouver Island were used to reference the location as well as creating an upbeat flavor. The plus sign as negative space really excited my clients because it ‘ties’ the elements together.

The logo’s design works with black ink only as well, an important feature to remember for print advertising that the business will require such as telephone directory or newspaper exposure.

Art director:  
Lorraine. Y. Pawlivsky-Love  
Client: Seamless Health Plus Software, Victoria, BC

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The average price for single family homes in Greater Victoria in June was \$469,588 - eclipsing the last record high of \$457,185 set in April; the six month average was \$444,473; and the median was \$415,000.

- There were a total of 862 sales of homes and other properties through the Victoria Real Estate Board's Multiple Listing System (MLS®) last month, down from the 901 sales in May but up over 10 percent from the 781 sales in June of last year.
- Victoria Real Estate Board President, Gary McInnis notes "...over 30 percent of single family homes sold last month for under \$350,000."



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Fall 2004

**Market  
HIGHLIGHTS**

There were 650 sales of homes and other properties through the Victoria Real Estate Board's Multiple Listing Service® (MLS®) in September, down from 667 in August and 712 in September 2003. Go on-line at <http://www.vreb.org> and take a peek!

- In September the number of sales of homes and other properties through MLS totaled 650 — down from 667 in August and 712 in September of last year.
- The average price of single family homes in Greater Victoria last month was \$377,545; the average for the last six months was \$385,863.
- The average price of all townhomes sold last month was \$325,258; the average for the last six months was \$296,202.

**Victoria  
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**Did you know...** Victoria Real Estate Board President Carol Geurts says there were 2,416 properties available for sale in September - up from the 2,330 in August and up 14 percent from the 2,122 in September of last year. "It's still a sellers' market but the steady increase in the number of properties available for sale means greater choice for buyers and a greater need for realistic pricing for sellers."

September saw a further increase in the number of homes and other properties available for sale in the Victoria area but the market remains strong and healthy.

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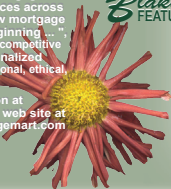
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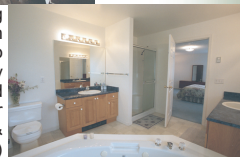
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## **5.0 Implications and Recommendations**

There isn't enough paper for me to delve into all the possibilities and suggestions for ideas about teaching animation in classrooms and studios. Animation is giving life to art and this art form has indeed a life of its own. I believe that the more a person creates animated communication, the more creative they and those they touch with their creations, will be. I've endeavored to provide some information based on my experience and education thus far, however, it will be the collaborative efforts of students and teachers that will attest to the success for their projects.

### **5.1 Implications for Teaching Animation**

Applications in the classroom range from creating simple animated 'toys' such as thaumotropes, zoetrope, phenakistoscopes and flip-books to more complex forms of animation such as recording cut-out figures moving frame-by-frame and computer assisted 3-D figure creation. How sophisticated the project gets, can and should be determined by the level of the students' abilities and knowledge. Their level of enthusiasm should certainly determine how involved the project becomes. A multi-media form of communication usually gets peoples' attention because it appeals to different learning styles such as auditory, tactile, or visual. By incorporating a variety of communication vehicles like audio, text, and images, animated projects can work for teachers as well as students.

When I hear adult complaints and negative comments about television, movie, and computer watching, I wonder if we, as educators, should become more interested with the question of *why* these media are so attractive to youth. Although I don't watch television as much as I did as a child and young adult, I still participate by monitoring my children's activity of watching televised programs by questioning and discussing the merits of certain programs. I have to trust that they can and will make healthy choices if they

know what questions to ask themselves, and make responsible decisions based on their answers. It seems likely that as computers become more interactive and widely used as part of the daily lives of people, we will eventually see the mediums merge—television and computers/internet. Integration is occurring now with cable coming into televisions and access to internet via that monitor as opposed to the one on the desk. Every one in my circle of friends and family, sans a couple of ‘ludites’, owns a computer. As arts educators, we owe it to our children to give them the best start we can. If animation can be taught in the beginning grades, perhaps students can become media literate sooner and with a better foundation for their viewing. Perhaps students can be helped to grow into progressive adults, informed and competent, rather than adults who either despise and denigrate the medium *or* indiscriminately and passively swallow everything they see and hear.

I am reminded of a quote by an author from a film studies text book,

[T]he artist now shares control with the observer, who, in turn, is presented with a far richer range of possibilities from which to choose. The spectator makes the great leap from experiencing to experimenting. Film — the singular 20<sup>th</sup>-century art — synthesized all the 19<sup>th</sup>-century arts: theater, music, painting, narrative. Its 21<sup>st</sup>-century descendant admits the viewer as a full participant in that community.

(Monaco, 1991, p. v)

Teaching animation as part of our cultural history—how it works and why it works—should be a requirement in every school, whether public or private. It is also a valid reason why students need to participate in their education and be able to look at the arts being as necessary as mathematics, physical education, and language arts.

### ***5.1.1 Applying Constructivist Education theory***

Knowledge is available to us at unprecedented levels today. How knowledge is delivered has radically changed with the advancement of technology. Schools, however, are not always first in line to receive the financial or social support required to keep curricula current and in step with these changes. Visual arts and its cousins in literary and performing arts can express the positive and negative effects of a society's cultural boundaries and sanctions. During the onset of the multi-media explosion in the 1950s, especially with the emergence of television, mass media critic and guru, Marshall McLuhan, studied and theorized about the social impact this would have. His son, Eric has carried on his father's work and continues to analyze and reflect upon new forms of media. I found this particular quote regarding the intersection of technology, media and art:

Interactive multimedia, while serving to provide *synthesia* for the disembodied, holds the promise of a new convergence of the arts. Every new technology brings with it new intensity of awareness and new *impercipience*. Each new technology means, therefore, a new mode of culture and also a new mode of art.

(McLuhan, 1998, p. 185)

Teaching animation in the classroom is an involving, active process that gets most students' attention. The student is *participating* by creating, thereby learning the subject matter of the animated project, whatever that subject might be. However, *a failure to* understand the medium and how it influences the audience may result in a confusing and even frustrating experience for all involved. New tools not only require new techniques and ways of thinking but also a consideration of the character and meaning of the message conveyed. This makes a strong argument for project-based education.

This concept, although not necessarily new, is catching on in many areas of education. Animated computer programs such as Adobe Acrobat, Power Point, and Impress can easily be used by primary and elementary students and, in many schools, *are* being utilized for different types of projects.

### ***5.1.2 Animation History and Artist Mentors***

Investigating the historical significance of animation artists as well as those artists at the local level would give students and teachers the opportunity to learn about the importance of animation education especially as it pertains to society. Local animation artists seem to surface every once in awhile in the local media but there is a huge gap between what is happening locally and at the national as well as the international levels. Teachers could arrange for studio tours, have animation artists visit the classroom and formulate projects focusing on the history and mystery of animation by producing their own animated art. By connected the historical influences to modern day communication, students could find out how close animated visuals are to everyday lives.

## **5.2 Recommendations for Further Research**

Several projects come to mind that would be quite significant for animation and education as well as increasing knowledge in the arts and how we communicate:

### ***5.2.1 Active Learning***

Data could be gathered to determine the effectiveness of visual communication through animation. Using animation as a teaching tool, are students more attentive and receptive learners than those taught by more traditional methods of text based instruction?

Experimenting with a control group and a test group, we could measure how much more effective active—hands-on—engagement could make a concept not only clever but also

determine if it helps retention of the knowledge being learned. This was exemplified with a project my son's middle school did as a science project last year. The children did it for a math fair to find out if making math 'more fun' with animation helped kids in their math class get higher marks on their tests. Remarkably, it did and the students also won first place for their category.

### ***5.2.2 Integrated curricula***

How can animation instruction change teaching and learning methods in all subjects taught? A study of this question might involve a school-wide initiative using an animation production as a central 'hub' with all of the subjects 'unified' by the project and a theme. Imagine a mathematics, a language arts and a social studies project being used in one type of animated production.

### ***5.2.3 Learning styles***

Can we test to see what students' individual learning styles might be and see if *all* benefit from an animation project? Would they all benefit equally? Is gender a factor in response to animation experiences? Are cultural factors such as ethnicity or socio-economic level significant as the Key (should this be *Champion of Change?*) study implies? These are questions that warrant further investigation.

### ***5.2.4 Technological Complexity***

Could challenging technologies foster commitment or would it more likely discourage or distract students? Where should the balance point be placed between mastering a new medium and ease of use to explore content?

### ***5.2.5 Special Needs***

Earlier the claim, based on personal experience, was made that animation education can empower students with special needs or disabilities. This could be tested to determine the extent to which other ADD(H) youth benefit from animation education. The scope could also be widened to see if all or many other needs are effectively addressed as well.

### ***5.2.6 Investigating the Nature of the Medium***

What would be involved in the study of a particular medium of animation, i.e. the unique character and 'message' of a medium? Could we devise a survey to poll students on awareness of such things? Could they tell us how various media affect them?

### ***5.2.7 Media Literacy***

What about the moral/ethical issues imbedded in content and medium? Do we empower students by engaging them in discourse/debate/critique? At what age are they ready and receptive to critical analysis?

## References

- Acme Filmworks website. Retrieved March 09, 2005, from [http://www.acmefilmworks.com/dir\\_folders/dirTilby/tilby.html](http://www.acmefilmworks.com/dir_folders/dirTilby/tilby.html)
- A.D.A.M., Inc. website. Retrieved September 8th, 2005. [http://www.adam.com/Our\\_Products/School\\_and\\_Instruction/Educators/Higher\\_Education/aoa.html](http://www.adam.com/Our_Products/School_and_Instruction/Educators/Higher_Education/aoa.html)
- Anderson, J. & B. (1993). The myth of persistence of vision revisited. *Journal of Film and Video*, 45, (1) (Spring 1993): 3-12. Retrieved August 9th, 2005. <http://www.uca.edu/org/ccsmi/ccsmi/classicwork/Myth%20Revisited.htm>
- Andersen, Y. (1991). *Make Your Own Animated Movie and Videotapes*. Boston: Little, Brown & Co.
- Anima website (Charles Lucassen, webmaster). Retrieved August 11th, 2005. <http://web.inter.nl.net/users/anima/index.htm>
- Animated Divots (diversions on various topics), Richard Llewellyn, webmaster. Retrieved March 07, 2005, from <http://www.public.iastate.edu/~rllew/andivots.html>
- Arnheim, R. (1957). *Film as art*. Berkely: University of California Press.
- Arnheim, R. (1992). *To the rescue of art: Twenty-six essays*. Berkley: University of California Press.
- Arthurs, L. (1992). The use of technology based images in the art classroom. In *BCATA Journal for Art Teachers*, 32, (2) (Fall 1992): 28-32.
- Arts Education Partnership. (1999). *Champions of change: the impact of the arts on learning*. Fiske, E. (ed.). Retrieved on August 28, 2004, <http://aep-arts.org/Publications.htm>
- Barone, T. & Eisner, E. (in press). Arts-based educational research. In *Complementary Methods for Research in Education*, (3rd ed.), Judith Green, G. Camilli, and Patricia Elmore, editors. Washington, DC: American Educational Research Association.
- Beaudet, L. (1982). *The art of animated films*. The Montreal Museum of Fine Arts. Montreal: The Montreal Museum of Fine Art.
- Berger, J. (1980). *About looking*. New York: Pantheon Books.

- Bergland, D. (1997). The Digital Image: On the frontiers of a new art education. In R. L. Irwin & K. Grauer (Eds.), Readings in Canadian art teacher education. (pp. 141-153). Boucherville, Que: Canadian Society for Education through Art.
- Betty Boop Graphics Archive website. Retrieved August 30th, 2005, <http://members.tripod.com/.../holiday/bb-holiday.htm>
- Bishko, L. (2000). It's raining pegbars! A profile of animation in Vancouver. Animation World Magazine, 5 (1). Retrieved August 30th, 2005 from <http://www.awn.com/mag/issue5.01/5.01pages/bishkovancouver.php3>
- Bowes Productions & Associates website. Retrieved August 30th, 2005, <http://www.bowesproductions.com/index.html>
- British Columbia Ministry of Education. (1998). Integrated Resource Package for K to 7, Retrieved January 25, 2005, <http://www.bced.gov.bc.ca/irp/fak7/intro.htm>
- British Columbia Ministry of Education. (1998). The Visual Arts K to 7, Introduction, Retrieved January 25, 2005, <http://www.bced.gov.bc.ca/irp/fak7/vaintro1.htm>
- British Columbia Ministry of Education. (1998). The Visual Arts K to 7, Appendix C, Retrieved April 10th, 2005, <http://www.bced.gov.bc.ca/irp/fak7/apcapp.htm>
- British Educational Communications & Technology Agency., Retrieved April 12, 2005, <http://www.becta.org.uk/>
- Burns, P. (2001). website. The complete history of the discovery cinematography website. <http://www.precinemahistory.net/index.html>
- Crandol, M. (2001). The history of animation: Advantages and disadvantages of the studio system in the production of an art form. Digital Media FX, 2001. Retrieved August 17th, 2005, <http://www.digitalmediafx.com>
- Culhane, S. (1998). Animation from script to screen. New York: St. Martin's Press.
- Curious Pictures website. Chel White images, Interspectacular, et al. Retrieved August 7th, 2005, <http://www.curiouspictures.com/commercials/directors.html>
- Danto, A. C. (1996). Hegel, Biedermeier, and the Intractably Avant-Garde. In L. Weintraub (Ed.), Art on the Edge and Over (pp. 13-17). Litchfield, CT: Art Insights.

- Degge, R. (1985). A model for visual aesthetic inquiry in television. Journal of Aesthetic Education 19 (4), 85-102.
- Early Visual Media website. Phantasmagoria Introduction - The Moisee Fantoscope discovery or death in the projected images before the inventions of film (ThomasWeynants-webmaster) . Retrieved August 7th, 2005.  
<http://www.visual-media.be/phantasmagorie.html>
- Evans, N. (2001). The technical innovation of Max Fleischer. Digital Media FX, 2001. Retrieved August 17th, 2005, <http://www.digitalmediafx.com>
- Evans, N. (2001). Ward Kimball: All consuming curiosity. Digital Media FX, 2001. Retrieved August 17th, 2005, <http://www.digitalmediafx.com>
- Feldman, E. B. (1992). Varieties of visual experience (4<sup>th</sup> edition). New York: Harry N. Abrams, Inc.
- Felix the Cat website. Retrieved August 30th, 2005, <http://felixthecat.com/history.htm>
- Fleisher Zucker, B. (1998). Competition for audience: museum storytellers and “the movies” (1910-1920). Animation Journal, Fall, 1998.
- Gardner, H. & Pace, J. (1997). Building a bridge to knowledge for every child. Edutopia website, retrieved August 31st, 2005. [http://www.edutopia.org/php/article.php?id=Art\\_288](http://www.edutopia.org/php/article.php?id=Art_288)
- Giannetti, L. D. (1996). Understanding Movies (7th edition). Upper Saddle River, NJ: Prentice-Hall.
- Gizycki, M. (1996, May). Splendid artists: Central and east European women animators. Animation World Magazine, 1 (3). Retrieved August 16th, 2005 from <http://www.awn.com/mag/issue1.2/articles1.2/gizycki.html>
- Govett-Brewster Art Gallery website for Len Lye. Retrieved August 30th, 2005, <http://www.govettbrewster.com/NR/lenlye/>
- Green, G. (2000). Imagery as ethical inquiry. Art Education, 53 (6), 19-24.
- Harvard Project Zero. (2000). The arts and academic improvement: what the evidence shows. Executive Summary, Harvard Project Zero, The Journal of Aesthetic Education, 2000.
- Interspectacular website. Comedy Central animation. Retrieved August 7th, 2005.  
<http://www.interspectacular.com/>

- Johnson, M. F. (1983). Visual workouts. Englewood Cliffs, NJ: Prentice-Hall.
- Judson, J. (1994). Magic Lantern Castle Museum website. Images & information, Retrieved August 8th. <http://www.magiclanterns.org>
- Key Learning Community. (2005). Retrieved August 31st, 2005, <http://www.616.ips.k12.in.us/default.aspx>
- Kinsey, A. (1970). How to make animated movies. New York: Viking Press.
- Laybourne, K. (1998). The animation book. New York: Three Rivers Press.
- Levitan, E. L. (1979). Levitan, E. L. (1979). Handbook of animation techniques. New York: VanNostrand Reinhold.
- Llewellyn, R. (1998 - 2005). Chronology of Animation: Introduction website. Retrieved March 07, 2005, from <http://www.public.iastate.edu/~rllew/andivots.html>
- Locke, L. (1992). Film animation techniques: A beginner's guide and handbook. Crozet, VA: Betterway Publications.
- Lord, P.; & Sibley, B. with forward by Park, N. (1998). Creating 3-D animation: the Aardman book of filmmaking. New York: Harry N. Abrams.
- Lowndes, D. (1968). Film making in schools. London: Batsford & Watson-Guptill.
- Merriam-Webster On-Line dictionary. Definition of technique. Retrieved January 23, 2005, from <http://www.m-w.com/>
- Monaco, J. (1991). Introduction. In J. Pallot, et al (Eds.), The encyclopedia of film. (pp. iv-vi). New York: Pedigree Books.
- MacDonnell, K. (1972). Eadward Muybridge: the man who invented the moving picture. Boston: Little, Brown & Co.
- McLuhan, E.(1998). Electric Language. Toronto: Stoddart Publications.
- Mikulak, B. (1996). Disney and the art world: the early years. Animation Journal, Spring, 1996.
- MOMI (Museum of the Moving Image, c/o The Projection Box website. Retrieved August 11th, 2005 from <http://easyweb.easynet.co.uk/%7Es-herbert/explan.htm>

Moritz, W. (1996, June). Lotte Reiniger. *Animation World Magazine*, 1 (3). Retrieved August 16th, 2005 from <http://www.awn.com/mag/issue1.3/articles/moritz1.3.html>

Moritz, W. (1996, May). Mary Ellen Bute: Seeing sound. *Animation World Magazine*, 1 (2). Retrieved August 16th, 2005 from <http://www.awn.com/mag/issue1.2/articles1.2/moritz1.2.html>

Moritz, W. (1998, September). The film strip tells all. *Animation World Magazine*, 3 (6). Retrieved August 30th, 2005 from <http://www.awn.com/mag/issue3.6/3.6pages/3.6moritzfilms.html>

National Film Board

<http://www.nfb.ca/animation/html/en/index.html>

<http://nfbkids.ca/kids/index.html>

[http://www.nfb.ca/animation/html/en/06\\_museum/nfbaa\\_06\\_museum\\_e.html](http://www.nfb.ca/animation/html/en/06_museum/nfbaa_06_museum_e.html)

[http://www.nfb.ca/animation/html/en/04\\_studios/english\\_animation\\_proposal\\_e.html](http://www.nfb.ca/animation/html/en/04_studios/english_animation_proposal_e.html)

National Museum of Photography, Film & Television website, Cinematography.

Retrieved August 10th, 2005. [http://www.nmpft.org.uk/insight/onexhib\\_cin.asp](http://www.nmpft.org.uk/insight/onexhib_cin.asp)

PBS website (Researcher / Writer: Amy Durgan, ITVS) . Independent spirits: the Faith and John Hubley Story (2002), Retrieved August 21th, 2005. <http://www.pbs.org/itvs/independentspirits/women.html>

Pixar Animation website., Retrieved August 7th, 2005. <http://www.pixar.com/>

Pearse, H. (1992). Beyond paradigms: Art education theory and practice in a postparadigmatic world. *Studies in Art Education*, 33(4), 244-252.

Perception on-line supplement to journal. Retrieved March 07, 2005.,

<http://www.perceptionweb.com/perc0904/editorial.pdf>

PreCinema History website. The complete history of the discovery cinematography, retrieved August 13th, 2005. <http://www.precinemahistory.net/>

Questacon – The National Science and Technology Centre website, (July 2005).

Retrieved August 10th, 2005, [http://www.questacon.edu.au/html/sideshow\\_glossary\\_1-z.html](http://www.questacon.edu.au/html/sideshow_glossary_1-z.html)

Rand, A. (1969). *The romantic manifesto*. New York: The New American Library.

- Reid, Michael D. (2005, June 6). Animation sensation! Times-Colonist, p. C3.
- Rimmer, I. (1989). The great book of movies F/X. Vero Beach, FL : Rourke Enterprises.
- Rockport Publishers. (1995). The best new animation design. Rockport, MA: Author.
- Schroeder, Charles C., Retrieved March 09, 2005,  
[www.virtualschool.edu/mon/Academia/KierseyLearningStyles.html](http://www.virtualschool.edu/mon/Academia/KierseyLearningStyles.html)
- Sherman, L. (1980). Three-dimensional media for communication, expression, and socialization (pre-school) (original printed from Image, 1980, 6, 8 – 12.) Readings in Canadian Art Education, 1984.
- Sifianos, G. (1995). The definition of animation: a letter from Norman McLaren.  
Animation Journal, Spring,1995.
- Taylor, Melba. (1997) Learning styles. Inquiry, 1 (1), 45-48. Retrieved March 9, 2005,  
<http://www.vccaedu.org/inquiry/inquiry-spring97/i111tayl.html>
- The Animating Apothecary website. Retrieved August 17th, 2005. <http://www.animatingapothecary.com/geranim.html>
- The Magic Lantern Society website. Retrieved August 8th, 2005.  
<http://www.magiclantern.org.uk/index.htm>
- The Missing Link website. Retrieved August 15th, 2005. <http://www.mshepley.btinternet.co.uk/melies3.htm>
- The Bill Douglas Centre for the History of Cinema and Popular Culture website (Etienne Jules Marey), Retrieved August 11th, 2005, <http://www.centres.ex.ac.uk/bill.douglas/Schools/movingpics/movingpics6.htm#>
- The North Carolina School of Science and Mathematics Gallery. Retrieved August 8th, 2005. <http://courses.ncssm.edu/gallery/collections/toys/animations/cyclist/cyclist400.htm>
- ThinkQuest website. Animation Quiz - Appendix C., Retrieved August 7th, 2005.  
<http://library.thinkquest.org/11039/trivia.html#anchor542910>
- Virtual Thesaurus, definition of technique, retrieved January 23rd, 2005,  
<http://visualthesaurus.com/>
- Wade, N. J. (2004). Toying with science. Perception, 33, 1025-1032. Retrieved March 7th, 2005, <http://perceptionweb.com/perc0904/editorial.pdf>

- Walling, Donovan R. (2000). Rethinking how art is taught: A critical convergence. Thousand Oaks, CA: Corwin Press.
- Walz, G. (1988). Looksmart. Retrieved August 17th, 2005, [http://www.findarticles.com/p/articles/mi\\_m0JSF/is\\_22\\_7/ai\\_30156044](http://www.findarticles.com/p/articles/mi_m0JSF/is_22_7/ai_30156044)
- Weitz, M. (1956). The role of theory in aesthetics. The Journal Aesthetics and Art Criticism, 15, (1), 27 – 35.
- Wikipedia website. Retrieved August 30th, 2005, [http://en.wikipedia.org/wiki/Ub\\_Iwerks](http://en.wikipedia.org/wiki/Ub_Iwerks)  
[http://en.wikipedia.org/wiki/Oswald\\_the\\_Lucky\\_Rabbit](http://en.wikipedia.org/wiki/Oswald_the_Lucky_Rabbit)  
[http://en.wikipedia.org/wiki/Mickey\\_Mouse#The\\_icon](http://en.wikipedia.org/wiki/Mickey_Mouse#The_icon)  
[http://en.wikipedia.org/wiki/Walt\\_Disney](http://en.wikipedia.org/wiki/Walt_Disney)
- Who's Who of Victoria Cinema website. Retrieved August 11th, 2005, <http://www.victorian-cinema.net/index.htm>

## Appendix A

\*Note: this is a list from a website listed in the References. The resources this librarian has accumulated would be helpful for future research...L.Y.Love

### ***Bibliography of Animation***

compiled by Richard Llewellyn, Illinois State University  
Animated Divots (diversions on various topics), Richard Llewellyn, webmaster.  
Retrieved March 07, 2005, from <http://www.public.iastate.edu/~rllew/andivots.html>

### ***Animation History Books***

#### ***World History***

- Jerry Beck, general editor, *Animation Art: From Pencil to Pixel, the History of Cartoon, Anime & CGI* . New York: Harper Design International, 2004.
- Jerry Beck, *Outlaw Animation: Cutting-Edge Cartoons from the Spike & Mike Festivals* . New York: Harry N. Abrams, 2003.
- Giannalberto Bendazzi, *Cartoons: One Hundred Years of Cinema Animation (Cartoons: Il Cinema d'Animazione, 1888-1988)* , Anna Taraboletti-Segre, trans. Bloomington, Indiana: Indiana University Press, 1994.
- Donald Crafton, *Before Mickey: The Animated Film, 1898-1928* , rev.ed. Chicago: University of Chicago Press, 1993.
- Bruno Edera, *Full Length Animated Feature Films* . London: Focal Press, 1977.
- Liz Faber and Helen Walters, *Animation Unlimited : Innovative Short Films Since 1940* . New York, Harper Design International, 2004.
- John Grant, *Masters of Animation* . New York: Watson-Guption Publications, 2001.
- John Halas, *Masters of Animation* . London: BBC Books, 1987.
- L. Bruce Holman, *Puppet Animation in the Cinema: History and Technique* . South Brunswick and New York: A. S. Barnes and Company, 1975.
- Ralph Stephenson, *The Animated Film* . New York: A. S. Barnes, 1973.
- Julius Wiedemann, editor, *Animation Now!* . Los Angeles: Taschen, 2004.

#### ***North America***

##### ***Canada***

- Karen Mazurkewich, *Cartoon Capers: The History of Canadian Animators* . Toronto: McArthur & Company, 1999.
- Gene Walz, *Cartoon Charlie: The Life and Art of Animation Pioneer Charles Thorson*. Winnipeg, Canada: Great Plains Publications, 1998.

*United States*

- Michael Barrier, *Hollywood Cartoons: American Animation in Its Golden Age* . New York: Oxford University Press, 1999.
- Leslie Cabarga, *The Fleischer Story* , rev. ed. New York: DaCapo Press, 1988.
- John Canemaker, *Before the Animation Begins: The Art and Lives of Disney Inspirational Sketch Artists* . New York: Hyperion, 1996.
- John Canemaker, *Felix: The Twisted Tale of the World's Most Famous Cat* . New York: Da Capo Press, 1996.
- John Canemaker, *Paper Dreams: The Art & Artists of Disney Storyboards* . New York: Hyperion, 1999.
- John Canemaker, *Tex Avery : The MGM Years, 1942-1955* . Atlanta, Georgia: Turner Publications, 1996.
- John Canemaker, *Walt Disney's Nine Old Men & The Art of Animation* . New York: Disney Editions, 2001.
- John Canemaker, *Winsor McCay: His Life and Art* . New York: Abbeville Press, 1987.
- Hal Erickson, *Television Cartoon Shows: An Illustrated Encyclopedia, 1949-1993* . Jefferson City, North Carolina: McFarland, 1995.
- Michael Frierson, *Clay Animation: American Highlights 1908 to the Present* . New York: Twayne Publishers, 1994.
- Rick Goldschmidt, *The Enchanted World of Rankin/Bass: A Portfolio* . Washington: Tiger Mountain Press, 1997.
- Leslie Iwerks and John D. Kenworthy, *The Hand Behind the Mouse : An Intimate Biography of Ub Iwerks* . New York: Disney Edition, 2001.
- Tim Lawson and Alisa Persons, *The Magic Behind the Voices: A Who's Who of Cartoon Voice Actors* . Jackson, Mississippi: University Press of Mississippi, 2004.
- Jeff Lenberg, *The Encyclopedia of Animated Cartoon Series* . New York: Da Capo 1981.
- Jeff Lenberg, *The Encyclopedia of Animated Cartoons* . New York: Facts on File, 1991.
- Jeff Lenberg, *The Encyclopedia of Animated Cartoons* , second edition. New York: Checkmark Books, 1999.
- Leonard Maltin, *Of Mice and Magic : A History of American Animated Cartoons* , rev. ed.. New York : New American Library, 1987.
- Allan Neuwirth, *Makin' Toons: Inside the Most Popular Animated TV Shows and Features* . New York, Allworth Press, 2003.
- Steve Schneider, *That's All Folks! The Art of Warner Bros. Animation* . New York: Henry Holt and Company, 1988.

Charles Solomon, *Enchanted Drawings: The History of Animation*, rev.ed. New York: Wings Books, 1994.

Bob Thomas, *Walt Disney: An American Original*. New York: Simon and Schuster, 1976.

Frank Thompson, *Tim Burton's Nightmare Before Christmas: The Film, the Art, the Vision*. New York: Hyperion, 1993.

Graham Webb, *The Animated Film Encyclopedia: A Complete Guide to American Shorts, Features and Sequences, 1900-1979*. Jefferson, North Carolina: McFarland, 2000.

George W. Woolery, *Animated TV Specials: The Complete Directory to the First Twenty-Five Years, 1962-1987*. Metuchen, New Jersey: Scarecrow Press, 1989.

## ***Asia***

### ***General***

John A. Lent, ed. *Animation in Asia and the Pacific*, Bloomington, Indiana: Indiana University Press, 2001.

### ***Japan***

Andrea Baricordi, Massimiliano de Giovanni, Andrea Pietroni, Barbara Rossi, and Sabrina Tunesi, *Anime: A Guide to Japanese Animation (1958-1988) (Anime, Guida Al Cinema D'Animazione Giapponese)*, Adeline D'Opera, trans., Claude J. Pelletier, ed. Montreal, Canada: Protoculture, 2000.

*Anime Poster Book*. Tokyo, Japan: cocoro, 2003.

Jonathan Clements and Helen McCarthy, *The Anime Encyclopedia: A Guide to Japanese Animation Since 1917*, Berkeley, California: Stone Bridge Press, 2001.

Fred Patten, *Watching Anime, Reading Manga: 25 Years of Essays and Reviews*. Berkeley, California: Stone Bridge Press, 2004.

Trish Ledoux and Doug Ranney, *The Complete Anime Guide: Japanese Animation Film Directory and Resource Guide*, 2nd edition. Issaquah, Washington: Tiger Mountain Press, 1997.

Helen McCarthy, *Anime! A Beginner's Guide to Japanese Animation*. London: Titan Books, 1993.

Helen McCarthy, *The Anime! Movie Guide*. London: Titan Books, 1996.

Helen McCarthy and Jonathan Clements, *The Erotic Anime Movie Guide*. Woodstock, New York: Overlook Press, 1999.

Helen McCarthy, *Hayao Miyazaki, Master of Japanese Animation: Films, Themes, Artistry*. Berkeley, California: Stone Bridge Press, 1999.

Brian Ruh, *Stray Dog of Anime: The Films of Mamoru Oshii*. New York: Palgrave

Macmillan, 2004.

Katsunori Yamaguchi and Yasushi Watanabe, *Nihon Animeshon Eigasha (The History of Japanese Animation)*. Osaka, Japan: Yubunsha, 1977.

(also Supplement (1977-1987))

Viet Nam

Hoang Thanh, ed., *Danh muc Phim Hoat Hinh Viet Nam 1960-1990 (Catalogue of Vietnamese Animated Cartoon Films 1960-1990)*. Vietnam Film Institute, 1993.

### ***Europe***

Jose Maria Candel, *Historia del Dibujo Animado Espanol*. Filmoteca Regional de Murcia, 1993.

Donald Crafton, *Emile Cohl, Caricature, and Film*. Princeton, New Jersey: Princeton University Press, 1990.

Denis Gifford, *British Animated Films, 1895-1985: a Filmography*. Jefferson, North Carolina: McFarland, 1987.

Marcin Gizycki, *Polish Animated Film*. Telewizja Polska, 2003.

Roger Manvell, *Art & Animation: The Story of Halas & Batchelor Animation Studio 1940/1980*. New York: Hasting's House, 1980.

### ***Animation Theory***

Alan Cholodenko, editor, *The Illusion of Life: Essays on Animation*, Sydney: Power Publications, 1991.

Maureen Furniss, *Art in Motion: Animation Aesthetics*. London: John Libbey & Company, 1998.

Esther Leslie, *Hollywood Flatlands: Animation, Critical Theory and the Avant-Garde*, London: Verso, 2002.

Paul Wells, *Understanding Animation*. New York: Routledge, 1998.

### ***Magazines***

*Animation Magazine*. Agoura Hills, California: Animation Magazine.

*Animato! The Animation Fan's Magazine*. Monson, Massachusetts: Animato.

*Anime FX*. London: Ashdown Publishing, 1995-1996.

*Animerica*. San Francisco: Viz Communications, 1992-.

*Manga Max*. London: Titan Magazines,

*Newtype*. Tokyo: Kodakowa Shoten.

Newtype USA . Houston, Texas: A.D. Vision.  
Protoculture Addicts . Montreal: Protoculture Enr.  
Toon . Simi Valley, California: Black Bear Press.

Note: Unfortunately I lack the time or resources to help people find copies of the books and magazines on this list. I have put together a web List of Online Video and Book Stores that will be useful to find copies in the United States. There are other similar stores on the Internet around the world that might be able to supply books and magazines that are desired. Check my Animation on the World Wide Web pages for links to animation studios and other Internet resources that may have further information. I am not involved in trading materials from my own collection. I am still trying to find books to add to my own reference collection.

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## **Appendix B**

### **ART IN MOTION: ANIMATION AESTHETICS**

*(sample from Maureen Furness' up-coming book on animation)*

#### **CHAPTER 3: Alternatives in Animation Production**

Modes of production

Two-dimensional animation as an extension of other arts

drawing and painting

cameraless animation

cutouts

sand

stratacut and wax forms

pinboard

The following excerpt includes the first part of the chapter, through section ii, cameraless animation. Endnotes are not included. Photo credits appear at the end.

#### A. Modes of production

A previous chapter demonstrated how live-action and animation can be discussed as a continuum within the general category of ‘motion picture production techniques.’ This chapter demonstrates that ‘industrial animation’ (also known as commercial animation) and ‘independent animation’ also form a kind of continuum, under the general heading of ‘modes of animation production.’ It shows that industrial and independently-produced animation are not completely separate modes of production, but in fact are interrelated in complex ways.

Film scholar David James discusses the nature of marginalized forms in relation to dominant modes of production, finding that any alternative practice “speaks not only of what it is, it speaks of what it is not, it speaks of its other.” That is, any mode that exists as an alternative--as avant-garde or experimental--does so only in contrast to the dominant, conventional form. Therefore, the two cannot be seen as separate entities; they can be characterized only in relation to each other. James explains that some influential historians, such as P. Adams Sitney, erroneously have viewed the independent and commercial modes of production as two separate entities. He contends that such readings result from an “inability to accommodate the diversity of the alternative cinemas and their ongoing negotiations with Hollywood.”

Although James's observations focus primarily on live-action films, they are relevant to a discussion of animation. It is impossible to understand independent animation as a cultural product without acknowledging its relationship to hegemonic forms, whether they be studio animation or live-action Hollywood films. Likewise, other industrial products, such as made-for-television animation and animated advertising, influence the independent 'fine art' animator and his or her work. To realize this, one need only consider that most of the celebrated practitioners of independent animation at some point have worked on a large studio production or created advertising.

A more complex variation on the continuum model used previously in this book demonstrates the characteristics of commercial and independent production. The two columns represent extremes to which few cultural products could adhere completely, but by evaluating a particular text in terms of the various paradigms it is possible to see a given work as generally being related to one mode of production or the other.

TRADITIONAL/INDUSTRIAL/ HEGEMONIC FORMS	EXPERIMENTAL/INDEPENDENT/ SUBVERSIVE FORMS
TEND TO	TEND TO
have big budgets	have small budgets
be made by a group	be made by an individual
utilize traditional techniques (including cels, for animation)	utilize other techniques and alter the media
be intended for mainstream audience	be limited to personal or small scale exhibition
be dominated by marketing concerns	be dominated by aesthetic concerns
be narrative	be non-narrative
be mimetic (representational)	be abstract

be linear	be non-linear
reflect Western, traditional societal norms	reflect alternative lifestyles
support dominant beliefs	challenge dominant beliefs
be made by artists from dominant social groups and reflect their concerns	be made by artists from marginalized social groups and reflect their concerns

Fig. 2. Tendencies of industrial and independent forms.

The model depicted in Figure 2 alleviates the need to make exacting distinctions between independent animation and commercial production. Virtually every independent animator--even one who works exclusively in a one-person-one-film mode of production--has some degree of commercial affiliation. If nothing else, an artist generally depends on the commercial world for equipment and materials. If an animated work is going to be publicly exhibited, he or she will be influenced by systems of distribution and exhibition.

This model helps overcome some discriminatory beliefs that have been held by animation scholars. For example, take the case of what collectively may be called 'Saturday Morning Cartoons'; until the late 1980s, it was not uncommon to see animation historians such as Charles Solomon and Leonard Maltin deny the association of most television series with so-called 'real' animation because it had lower budgets and aesthetic standards that were quite different from theatrical features. The model shown in this chapter is non-judgmental because it allows us to discuss made-for-television series, or any other kind of animated production, for what it is: one form of animation among many.

The model provided here also addresses an assumption held by some new-comers to the field, that most artists who begin working in a relatively independent mode are trying

to expand into a more industrial model (that is, the desire is to achieve widespread ‘commercial success’). This assumption is sometimes based on stories of how first-time directors working with limited means, such as the live-action filmmakers Jim Jarmusch and Spike Lee, have ‘graduated’ to higher budgets and more complex productions after gaining initial acceptance. It is important to understand that a sizable number of individuals do not see independent production as a step toward greater fame and more complex production methods. Rather, they operate within the independent realm in order to achieve goals not generally associated with the commercial sector. These concerns are suggested in the right-hand column of the model.

This figure suggests that independent artists are not as concerned with exhibition, which is in some respects misleading. Perhaps it is more accurate to say that these artists tend to not cater to expectations about what the commercial marketplace finds useful and, therefore, their work generally finds limited exhibition opportunities. However, in recent years, there has been a growing number of venues for the exhibition and distribution of motion pictures made by independent animators. One of the primary ways in which this kind of work is shown today is in the context of animation festivals, which occur in many places throughout the world. Major competitions take place every two years in Annecy, France; Hiroshima, Japan; Ottawa, Canada; Zagreb, Croatia; and many other places throughout the world. These festivals tend to focus on independently-produced animated shorts, but often have categories for commercial features, advertising, made-for-television series, and other kinds of productions.

After the festival circuit has been completed, some independent animators find distribution possibilities in touring festival packages of animation and the home entertainment mediums of video cassettes and laserdiscs. Today, the internet also provides substantial opportunities for the exhibition of independent work; for example, the world

wide web site “Absolut Panushka,” produced by American animator Christine Panushka for Absolut Vodka, contains information about many experimental artists as well as clips of their works (its address is <http://www.absolutvodka.com>). The dissemination of animation through such media as laserdiscs, video cassettes and the internet provide many professional advantages for independent artists, even beyond possible royalties. Works that students and scholars can view easily tend to remain in the public awareness because they are incorporated into teaching programs and books. The availability of materials greatly affects the writing of history and possibly the prestige obtained by any given artist. Historical merit and prestige can, in turn, affect one’s ability to sell work, get commissioned for projects, and be supported by grants.

The model employed here also suggests that independent artists tend to employ production techniques that differ from mainstream commercial processes. The remainder of this chapter will focus on some of the techniques that offer an alternative to industrial cel animation practices. It focuses on two-dimensional animation (2D - created using media that have height and width, but no depth); three dimensional animation (3D - created using media that have all three dimensions, such as clay and puppets) are discussed in chapter eight.

#### B. Two-dimensional animation as an extension of other arts

Many independent animators have worked as fine artists in various media, often using the time-based medium of animation as a way to expand their explorations of movement and temporality in still paintings and drawings. During the 1920s, a number of animated films were created by artists who had gained renown within the realm of the avant-garde: examples include Marcel Duchamp’s *Anémic cinéma* (*Anemic Cinema*, 1927), Fernand

Léger's *Ballet mécanique* (Mechanical Ballet, 1924), Walter Ruttmann's "Opus" series (ca. early 1920s), Hans Richter's *Rhythmus 21* (1921), and Viking Eggeling's *Diagonal Symphonie* (1924). Throughout the twentieth century, many other examples of 'fine art' animation have been produced with various 2D techniques.

This chapter overviews some of these techniques and their aesthetics. To begin, there is a discussion of the wide range of animation made with drawing and painting, but not employing cels in the dominant studio style. Other techniques discussed here are cameraless animation, as well as animation made with drawings and paintings on paper, silhouettes, underlit sand, collages, stratacut clay and wax, or a pinboard. In each of these categories, certain practitioners have gained prominence by developing the technique and exploring its unique aesthetic potential. The following discussion focuses on these exemplary uses, and does not attempt to fully explicate the history of the use of each technique.

#### i. drawing and painting

From the beginning of animation history, one of the most common alternatives to drawing and painting on clear cels has been drawing or painting on various other surfaces: most notably on paper, but also on frosted (or opaque, as opposed to clear) cels and other materials.

In the early years of animation history, drawing and inking on paper was an alternative used by industrial studios in large measure because the cost of the cels or the license to use the patented technique was too high; however, drawing and painting as techniques of animation always have appealed to independent animators for aesthetic reasons. As

suggested previously, the temporal element of animation has been attractive to artists who wish to explore elements of time or movement. A great many animators who began as artists working in the realms of still drawing or painting have become interested in animation because it offers an opportunity to set their images in motion.

Drawn animation can be created with the use of regular pencils, colored pencils, pens, pastels, conté crayons, aquarelles or any other materials available to still artists. These items can be used in combination with various bases, including paper and frosted cels, each with different results. The advantage of using frosted cels is that it is possible to draw on their surface using any of the above materials; only acetate-adhering inks and paints can be used on clear cels. The main problem with frosted cels is that, because you cannot see through them very well, they cannot be used in multiple layers. However, an opaque cel can be varnished, so that its surface turns clear, in which case multiple levels and backgrounds can be used.

Paper presents its own challenges. Sheets of paper are generally too dense to be used in multiple layers, unless they are underlit (allowing the lines on lower sheets of paper to show through). Even if they are underlit, sheets of paper are opaque and textured (both in terms of the surface, which may range from smooth to rough, and the fibers that show through when paper is underlit). It is often the case that animated productions created with images composed on paper are rendered so that all images appear on one sheet (moving images, still images, backgrounds, etc.). For that reason, everything must be entirely redrawn for every new frame. In the early days of animation history, artists such as Winsor McCay worked in that way.

The possibilities of drawn or painted animation are virtually endless. In *Sisyphus*

(1974), Hungarian Marcell Jankovics employs bold black lines and deceptively-simple character design on a white background. British animator Joanna Quinn uses kinetic, sketchy caricatures in her film *Britannia* (1994). British artist Candy Guard uses cleaner lines and cartoony style in films such as *Wishful Thinking* (1988) and *What about Me?* (1990). In *Preludes in Magical Time* (originally entitled *Picture Window*, 1987), American Sara Petty lets the texture of the paper show through her abstract forms rendered with prismacolor pencils and a bit of charcoal. In *Furies* (1977), Petty achieves a soft texture by using pastels and newsprint, which has a very smooth surface. In some of his work, American David Ehrlich creates hazy, dreamlike images with soft lines by using a combination of prismacolor pencils and tracing paper, sometimes layered and lit from below; examples include *Vermont Etude* (1977), *Vermont Etude, No. 2* (1979) and *A Child's Dream* (1990). American Paul Glabicki's hard-edged figures in *Object Conversation* (1985) seem more like computer-generated renderings than the hand-drawn illustrations that they are. The relatively hard, contrasty look of photocopied images is employed in *Deadsy* (1990), a collaboration between British animator David Anderson and writer Russell Hoban on the subject of the arms race between nations of the world. Each of these artists' techniques creates a certain ambiance in his or her work, affecting the way in which the viewer experiences it.

In *L'homme qui plantait des arbres* (*The Man Who Planted Trees*, 1987), which won an Academy Award as well as thirty other international awards, German artist Frédéric Back used colored pencils with turpentine on frosted cels. This process causes his sketchy lines to blur together, so that they almost appear to be painted. Back used a similar style in his next film, *Le Fleuve aux grandes eaux* (*The Mighty River*, 1993). He describes his drawing style as “very realistic, especially in [these two] films, because I want to create dreamlike images that are close to reality.” It took Back more than five years to complete

The Man Who Planted Trees, a thirty-minute film, because he tends to create most of his drawings himself. He explains that he used a similar production process in *The Mighty River*: “About 80 percent of the drawings I did myself. I had one assistant who did the in-betweens in some places, but most of the work I had to do myself. There are so many different scenes in the film, so I had to do the animation, the calculations for the camera work, the backgrounds and the colouring.”

As in my previous films, I used colour pencils on frosted cels. When the drawing is finished, I sometimes varnish off the frosting around the drawing to get the transparency of a normal cel. When I did all the animation in one drawing, I only used one level of cels. But when I had landscapes, water and ships, I had to use three or four levels, sometimes even five or six. So I had to have good transparency.

Back complains that he has trouble with the type of frosted acetate that is currently being manufactured, because it is made primarily for the use of engineers and architects. He says it is “too smooth and does not keep the colour of the pencils as did the older material, which was more granulated, but also more fragile. One can still get acetate similar to the old stuff, but I had great difficulties when making *Le Fleuve aux grandes eaux* with this less interesting acetate--the colours do not come out so well and the lines are not as strong.”

In most cases, animators who choose to draw their images, whether on acetate cels or paper, must create many different drawings. However, it is sometimes the case that an artist will use a ‘modified base’ technique, in which a single base image is created and recorded as it is constantly modified. Although many drawing tools (such as pencils and pens) remain relatively fixed on a drawing surface, pastel chalks and charcoals are

soft enough that they can be erased or smudged for use in a modified base technique.

One artist who is known for his use of a modified base technique is Polish animator Piotr Dumala, who paints and etches images into a plaster base and photographs each modification frame by frame. This method was used to create his film *Franz Kafka* (1992), which was modified into a ten-second commercial for MTV in 1995.

Norman McLaren applied the modified base technique in *La Poulette Grise* (*The Grey Hen*, 1947). In his film notes, he explains, “The visuals were shot in 16mm by a continuous chain of abutting 40-frame camera mixes or dissolves, with the camera trained on a single colour-pastel drawing, which was modified between each mix.” The modified base technique works well with painted images, particularly if the animator uses oils, which are relatively malleable. Oil paints remain wet for long periods of time, allowing the artist to modify his or her work with relative ease; animators who have used oil paints often work on glass or another hard surface, to facilitate the movement of the paint.

Two very different effects of using oil paints were achieved by the German-born Oskar Fischinger in *Motion Painting No. 1* (1947), which is mostly composed of oil paint on Plexiglas, and Russian animator Alexander Petrov in *Korova* (*The Cow*, 1989), which is made with black paint on glass. Fischinger’s film uses well-defined, brightly colored geometric images and was painted as an experimental work, in order to reveal the process by which a painting develops. On the other hand, Petrov’s work is a narrative film using representational figures and soft, dreamlike imagery in neutral tones. Through a combination of top lighting and underlighting he has created a luminous quality that compliments the film’s story, a boy’s fond recollections of his family’s cow.

Using paint on glass, Welsh painter Clive Walley has made a series of six animated films

collectively entitled “Divertimenti 1991-1994.” In these films, Walley combines his still and motion picture work through a type of motion painting, achieving a multiplane effect by shooting through several sheets of glass placed some distance from each other. His films are derived “from the paintings by virtue of a special but simple, multi-plane rig, which conceptually extends the techniques of painting directly to the cinema/TV screen.” His Divertimento no. 3 - Brushwork, which opens and closes with views of an artist’s easel, has been described as a “contemplative, strangely dimensioned world which opens up to a painter when the work is in progress.” As the action progresses, in what appears to be a zoom out through planes of space located within a painting, various images appear before the viewer: we track through a door, see a vase compose itself, watch a woman appear on a chair. Walley explains that, in the films, he was exploring “the axis of depth in a painting which archives its history . . . And more than that, I was interested in imaging the process of painting rather than the results, because in much analysis of modern painting process is a key idea. The problem is that people who are not painters have no feeling for what ‘process’ might contribute to the meaning of a painting, so Brushwork was an attempt to use the extra dimension of time in a moving image to emphasise it.” Each of Walley’s “Divertimenti” are different in character, ranging from total abstraction to relative representation, and sometimes hinting at character--for example, in Divertimento no. 5 - Slapstick, globs of paint run through various containers and channels, seeming to overcome hurdles and blockages.

Because it has body, or plasticity, paint offers the possibility of actual surface texture and a certain amount of dimensionality (oils can be applied thickly, as can acrylic paints). One example can be found in Walley’s Divertimento no. 2 - Love Song, which includes both smooth and dimensional surfaces. Similarly, the texture of paints can be seen to varying degrees in the films of Swiss animator Georges Schwizgebel; for example, in *La Course à l’abîme* (The Ride to the Abyss, 1992) and *L’année du daim* (The Year of the Deer, 1995).

Paints such as watercolors, tempera and India inks lack body and do not offer the same malleability and texture as oils; however, a bit of oil can be mixed with these water-based paints to prevent them from drying so quickly.

However, some artists prefer the more translucent quality of waterbased paints. An excellent example can be found in *Le moine et le poisson* (The Monk and the Fish, 1995), an Academy-Award nominated film by Dutch animator Michael Dudok de Wit. The animator used a brush and india ink to render the lines of his cel figures and felt that watercolors on paper provided an aesthetically pleasing background for these images, though both choices increased the time and work involved in the production. He explains, “I did hundreds of watercolor [backgrounds] and only selected sixty. This is something you cannot touch up. . . I chose watercolor because the ink line of the characters is liquid and watercolor is liquid and I wanted the two to be harmonious. . . . you can really tell it has been done by hand.”

American Caroline Leaf used a combination of paints in her ten-minute film, *The Street* (1974), which took a year and a half to complete. She explains that she “did a lot of experimenting and ended up using waterbase tempera colours on milk glass with some oil added, to keep the paint from drying. It was like finger painting. . . . I wanted something that would be waterbased, so that it would be easy to wipe up with a cloth.”

While some animators prefer the unique qualities that oil-based paints offer, others--such as American Faith Hubley--prefer to use watercolors. In *Women of the World* (1975) and most of the other films by Hubley, watercolors are used to create muted tones and soft edges that compliment her themes of compassion for all things and non-violent living. Watercolors, like drawings, require that separate images be created for each frame.

With so many media to use, perhaps the most important aesthetic consideration is how a given technique will help to create meaning in a work. In order to create a desired affect, it may be necessary to employ not one, but many different animation techniques. In *Slike iz Sjecanja* (Pictures from Memory, 1989), Zagreb animator Nedeljko Drajić used various types of painting, along with different drawing styles, to depict memories of what occurred in his life between 1940 and 1960. The artist's multi-media approach seems well-suited to the depiction of different types of memories, from the child-like caricatures of youth to the splattered abstractions of war and the 'perfect' icons of American culture that invaded his country as well.

Drawing and painting on paper or frosted acetate are techniques that have tended to remain in the realm of independent animation. In a purely technical sense, they are not well suited to a commercial studio mode of production because they do not lend themselves to an assembly-line method to the degree that cel animation does. This is particularly true of the modified base technique, in which most of the work occurs under the camera and not in pre-production.

Caroline Leaf explains why her method of making films is not well suited to commercial production. She says that "the way I work, under the camera, I don't think I can work as a team"; she adds that her techniques are not commercially viable because, without explicit storyboards, a client "couldn't see beforehand what I was going to do." When John Canemaker asked Leaf, "If it were possible to direct other people in your technique, would you be interested in doing a feature?," she responded, "No, I wouldn't. I can't imagine directing other people, and also I have a lot of fun when my fingers are doing it and I discover for myself little things. That's what keeps me going." Leaf's comments reflect some of the motivations for the creation of independent animation, as well as the

difficulties of incorporating alternate techniques into the commercial studio system.

ii. cameraless animation

It is not necessary to record images with a camera in order to create animation.

Cameraless animation, also called direct-on-film animation, is made by working directly on the surface of clear, white, or black film leader, or on pieces of exposed and developed film containing other images. Some artists choose to work in a relatively conventional way, treating each frame of film as a separate image, while others think of the entire strip of film as a 'canvas' and so create images up and down the acetate without consideration of where each frame lies. In any case, a variety of visual effects can be achieved. Linear images created along the length of the film move fluidly in a vertical motion when projected. Horizontal images seem to float in space. Random images pop on and off the screen in a split-second's time.

This technique, which represents a variation on the drawn and painted animation discussed previously, may seem to be a very simple way to create animation, but actually it can be one of the most challenging. There are three primary reasons for possible difficulty: the relatively small size of the drawing, the near impossibility of maintaining the registration of images (as a result, the images of cameraless animation tend to be fairly shaky), and the necessity for the artist to work on the project with little or no assistance from a crew (because of the size of the working area and due to the fact that every image created becomes a permanent fixture in the flow of the animation, the artist him or herself usually takes total control of the project).

However, there are ways to minimize the difficulties inherent in cameraless animation.

For example, to combat the problem of image size, artists often work on larger film stocks--though any size of film is relatively small in comparison to most other drawing surfaces. When she made *Two Sisters* (1990), Caroline Leaf used 70mm color film stock. It took Leaf a year and a half to scratch the drawings necessary to create thirteen minutes of film. She explains that she worked on two pieces of film, "so that frame 1, 3, 5, 7 would be on one strip, then frame 2, 4, 6, 8 on the other one. I had a little metal plate with two pegs the same size as the sprocket holes in the film that I laid on a light-table. I laid my first strip down and did the first drawing, put the second strip on top of that so I could see through, and did the next frame." To achieve color in the film, she removed various amounts of emulsion. She explains, "if I scratch a strip of colour film and scratch just a little bit, the red emulsion comes off and you get the green, and if I scratch more I get to the yellow and when I scratch all the way down, it is white. As for the blue, I used blue film."

Most artists who create cameraless animation tend to capitalize on rather than fight against the technique's kinetic qualities. In fact, animators working in cameraless animation tend to be artists who are interested in exploring qualities of movement in a general sense. Such was the nature of the Scotsman Norman McLaren, who was a master of virtually every animation technique, including cameraless animation. Works such as *Fiddle Dee Dee* (1947) and *Begone Dull Care* (1949), both created during McLaren's long employment with the National Film Board of Canada, exemplify the kineticism that is characteristic of the form. These films were made by first recording a soundtrack and then cutting lengths of film to match various parts of the music. The strips of film were then painted with inks and dyes that were given texture by various means.

However, in contrast to these exuberantly kinetic films, McLaren also created cameraless

animation with imagery that is greatly controlled in its movement: *Lines Vertical* (1960), *Lines Horizontal* (1962), and *Mosaic* (1965). McLaren made these films as a personal challenge, to see if he could create direct-on-film animation that had the smoothness of movement generally found in more conventionally-created animation. He made *Lines Vertical* by etching on 35mm black leader. The lines were made by knives sharpened to various thicknesses and run along a straight-edge draftsman's rule that was six feet in length (which was the length of the film strips being used). After the film was completed, its score was composed by Maurice Blackburn. It should be noted that McLaren worked with an assistant in creating his cameraless animations and other projects. In many cases it was Evelyn Lambart, an artist who McLaren felt closely shared his aesthetic sensibilities.

Actually, McLaren's two "Lines" films and *Mosaic* are all the same film, in a manner of speaking. Two years after he completed *Lines Vertical*, he made *Lines Horizontal* by flipping each frame of the previously-made film on its side. With a new soundtrack (composed by Pete Seeger), the film became an entirely new viewing experience. In 1965, the third film in the series, *Mosaic*, was created by running the other two films through an optical printer at the same time. In the new film, white dots appeared wherever the lines of the other works intersected. In this case, a live-action introduction and closing was added: a man walking on and off camera provides a frame for the abstract animations.

Throughout history, other artists have become known for their use of cameraless animation. New Zealander Len Lye was one of the masters of this technique. In fact, it is said that he influenced McLaren's work. Lye's film, *Colour Box* (1936), was created as an advertisement for the British General Post Office, and is thought to be the first cameraless

animation to be publicly screened. Another of Lye's British-government-sponsored films, *Trade Tattoo* (1937), was created by working directly onto pieces of documentary film footage that show various workers at their jobs. Harry Smith is another artist who worked directly on film in several of his earliest abstract works (which are titled as numbers in a series, from 1 to 7, and are presumed to have been created during the late 1940s and 1950s). Although Smith was secretive about his production techniques, it is apparent that he employed such methods as drawing, scraping, spray painting and bleaching.

Another distinctive artist to work directly on live-action film footage is American Stan Brakhage, who manipulates the celluloid surface in all manner of ways: from scratching and drawing on it, to altering its appearance with chemicals and burning. *Dog Star Man* (1961-1964) and many of his other films were created using these and other means. Brakhage's film, *Mothlight* (1963), represents another type of cameraless animation. To make this film, Brakhage adhered bits of moth bodies, leaves and other natural materials to mylar splicing tape. When projected on the screen, these objects appear to be randomly placed semi-abstractions.

In recent years, German filmmaker Bärbel Neubauer also has established a reputation for the creation of award winning cameraless animation, including *Algorithmen* (*Algorithms*, 1994) and *Roots* (1996). Images from one of her most recent films, *Mondlicht* (*Moonlight*, 1997), which was created by scratching on black leader, suggest the kind of energy that is characteristic of direct on film animation.

Image credits: *Pond Life*, Candy Guard, England, 1996; *L'homme qui plantait des arbres* (*The Man Who Planted Trees*), Frederic Back, Canada, 1987; *The Cow*, Alexander Petrov, Russia, 1989; *La Course à l'abîme* (*The Ride to the Abyss*), Georges Schwizgebel, Switzerland, 1994; *A Colour Box* and *Colour Flight*, Len Lye, England,

1935, 1937; Two Sisters, Caroline Leaf, Canada; Algorithmen (Algorithms), Bärbel Neubauer, Germany, 1994.

### **Appendix C/A Bit of Animation History**

#### Question #1

One of the most popular optical toys of the early 1900's, the Zoetrope was invented by

- A. Walt Disney
- B.) William Horner
- C. Althanasius Kircher

#### Question #2

This is a small disc with one image on one side and another image on the other side. Strings were attached to the sides of the disc. When the disc was spun by twirling the strings between the fingers, the two images would appear to combine on the disc. It is called a

- A. Zoetrope
- B. Praxinoscope
- C.) Thaumatrope

#### Question #3

Somewhat like a slide projector, the magic lantern could project enlarged drawings on a wall. A straight strip of pictures would be moved through the magic lantern to tell a story. It is estimated to be invented by

- A.) Althanasius Kircher
- B. Thomas Edison
- C. Peter Mark Roget

#### Question #4

Thomas Edison introduces the motion-picture projector in

- A.) 1896
- B. 1877
- C. 1906

Question #5

The first film to use character animation, debuts in 1914. It was

- A. Steamboat Willie
- B.) Gertie the Dinosaur
- C. Snow White and the Seven Dwarfs

Question #6

He invented the animation cel in 1915.

- A.Walt Disney
- B. James S. Blackton
- C.) Winsor McCay

Question #7

The first cartoon show made for TV was

- A.The Flinestones
- B.) Crusader Rabbit
- C. The Jetsons

Question #8

The first film to utilize computer animation extensively was

- A.) Star Trek II: The Wrath of Khan
- B. Willow

C. Terminator 2: Judgement Day

Question #9

Toy Story was created by

- A.) Pixar
- B. Industrial Light & Magic
- C. Magic Lantern Studios

Question #10

Mickey Mouse started out with a different name, what was it?

- A. Oswald
- B.) Steamboat Willie
- C. Mortimer Mouse

Question #11

He made the first animated film

- A. Walt Disney
- B.) James S. Blackton
- C. Winsor McCay

Question #12

How many artists worked on Snow White and The Seven Dwarfs?

- A. Just Walt Disney
- B. 75
- C.) 750

\*Bracketed letter indicates the right answer! Courtesy to [Animation Sensation](#)

**Appendix D/  
A Rather Incomplete but Still Fascinating History of Animation**

*By Dan McLaughlin (copyright 2001)*

*This history is part of a forthcoming book on animation by Dan McLaughlin. The book will be published by Focal Press. Its tentative title is: Animation Rules. This web history is by no means complete. Updated versions will be posted here as often as possible. Any comments would be appreciated. Please feel free to email Dan at danm@tft.ucla.edu - There is no search function as yet for this information - it is more for your reading pleasure and information. This first posting will only be to 2002. I would like to thank Andy Blaiklock for his help with this research and Amy Winfrey for the wonderful web design.*

**A BRIEF PREHISTORY**

1887

- *H.W. Goodwin invents nitrate celluloid film, which is a chemical combination of gun cotton and gum camphor.*

1892

- *Emil Reynaud (1844-1918) ,France, opened his Theatre Optique in Paris with an archetype of animation created by his invention the Praxinoscope. The Praxinoscope was a theatrical Zoetrope with mirrors placed on an inside column that reflected out the sequential drawings that were on the inside of the drum. He was able to project 80 frames without changing reels and could project 10 to 15 minute “films”. But the advent of film drove him out of business and in 1910 he threw all his equipment into a river and died destitute in a sanatorium in 1918.*

1893

- *Thomas Edison invents the Kinetoscope. He had already projected quite useful films onto a wall in his factory, but rather than producing a viewing system for the general public he came up with a machine in which reels of celluloid were not unrolled but stretched over a set of wheels that passed in front of a viewing window. Only one viewer*

at a time could watch. The Kinetoscope did not have an intermittent movement.

1894

- *Lois Lumiere invents the cinematograph, a combination camera -projector - printer, it was the first machine to show movies successfully on a screen. This system used a claw movement and perforated film that was synced to an intermittent shutter movement.*
- *Thomas Edison copyrights the first motion picture, THE RECORD OF A SNEEZE.*
- *Thomas Edison opens his Kinetoscope Parlor in New York,*

1895

- *Auguste and Louis Lumiere project their film, “Workers Leaving the Lumiere Factory in Lyon-Montplaisir”, at the Hotel Scribe in Paris, on December 28th. This, the first public screening of a motion picture, is regarded as the “birth of film.”*
- *Max Skaldanowsky presented films in Berlin using a two projector system called a Bioscope*
- *The first American comic strip, Hogan’s Alley, is published.*

1899

- *First magnetic recording of sound is achieved.*

1900

- *James Stuart Blackton (1875 -1941) England/US makes THE ENCHANTED DRAWING. The smile and frown of his drawn characters is achieved by the replacement technique used by Melies in his live action films. It is not considered animation but a prototype of animation, as it is not continuous frame by frame filming.*

1906

- *James Stuart Blackton makes the HUMOROUS PHASES OF FUNNY FACES. This film is usually considered the first known example of animation as some of the drawn sequences are shot frame by frame. Blackton used a combination of blackboard and chalk drawing and cutouts to achieve animation. The film's motif was based on the lightning or quick sketch routine from vaudeville where a drawing is done in front of an audience.*

1907

- *THE HAUNTED HOTEL is another animated film by James Stuart Blackton. In this film the animation was created by stop motion and effects animation of 3D objects - wine poured into a glass, bread cut, and a table set without a human present. The film was a success and introduced 3D animation to the world.*

- *Later that year, Segundo de Chomons (1871-1929), Spain, releases his film HOTEL ELECTRICO. It used a technique reminiscent of The Haunted Hotel.*

- *Walter Booth, in England makes and releases a film similar to Humorous Phases of Funny Faces.*

#### THE START OF ANIMATION

1908

- *Emile Cohl, (1857-1938) France, makes his first film, FANTASMAGORIE. This film is considered by many to be the first animated film. Cohl was well-known for his comic strips before he went into animation. He made 250 animated films from 1908 -1921. Cohl was strongly influenced by the philosophy of the Incoherents, whom he joined in 1884. The Incoherents were an aggressively anti-rational group who believed insanity, hallucinations, dreams, and nightmares were sources of aesthetic inspiration. Cohl died in 1938 in poverty. He had been living in a flat in Paris with no electricity and died of the*

complications resulting from burns suffered when a candle set fire to his long beard while he was getting ready to see the Paris premiere of SNOW WHITE. Georges Melies died the day after; he had been making a living by selling chocolates at a stand in a Paris subway.

- Matisse coins the term “Cubism”.

1909

- Emil Cohl combines live action and drawn animation together in his film, *CLAIR DE LUNE ESPAGNOL (SPANISH MOONLIGHT)*.

1911

- Winsor McCay (1867- Spring Lake, Ohio -1934) makes his first film, *LITTLE NEMO*. McCay, who was already famous for his comic strips, used this film in his vaudeville act. His advice on animation was:” Any idiot that wants to make a couple of thousand drawings for a hundred feet of film is welcome to join the club.”
- Chinese revolution.

1912

- McCay’s second film *THE STORY OF A MOSQUITO (“HOW A MOSQUITO OPERATES”)* is released.
- Wladyslaw Starewicz (1882 -1965) Russia/France a 3D animator makes *THE CAMERAMAN’S REVENGE*. The 3D characters he animated for this stop motion film were embalmed beetles. He continued to make 3D animated films after he moved to France in 1920. In France he changed his name to Ladislas Starevitch.
- Chuck Jones is born in Spokane Wash.
- Approximately 5 million people daily attend the cinema in the US.

1913

- *John Bray's (1879-1978) US, first film, THE ARTISTS DREAM is released.*
- *Otto Messmer (1892-1985) the future creator and animator of FELIX THE CAT series begins his animation career.*

1914

- *Winsor McCay's GERTIE THE DINOSAUR was the first major triumph in character animation (it is still a marvelous film). It was shown as a film in the theaters and also as a multi media event on stage with McCay interacting with the animated Gertie.*
- *John Bray opens his studio and patented a great deal of the animation process but not the use of cels. Earl Hurd (1880-1940) born in Kansas City, Missouri had patented the cel technique. Bray convinced Earl to combine their patents and he formed the Bray-Hurd Process Company.*
- *Bray started producing the COLONEL HEEZA LIAR series that was a take off on Teddy Roosevelt. In his studio Bray introduced the management principles of the assembly line to the production of the animated films. The use of these management principles has continued in most United States studios to this day.*
- *Raoul Barre (1874-1932) Canadian), starts his own animation studio. He developed a slash and tear technique for doing levels in animation and he also devised the peg system for registration.*
- *Bill Littlejohn, who is still animating today, was born in New Jersey USA*
- *The US animation industry was centered in New York until the late 1920's and early 1930's.*
- *WW I begins.*

1915

- *Bray hired Paul Terry (1887-1971).*
- *Max Fleischer (1883-1972) Austria/USA, Dave Fleischer (1894-1979) USA patented the rotoscope process. For the source of the rotoscoped live action footage to be traced, Dave was filmed in a clown costume on top of a building in New York.*
- *International Film Service (IFS) was backed by the Hearst newspaper and used their comics, Katzenjammer Kids, etc., as the basis of their animated films. The studio closed in 1918.*
- *Pat Sullivan, (1887- 1933) Australia/USA hires Otto Messmer to work in his studio.*
- *WW I reduced European animation production to a trickle, but animation production continued unabated in the United States so when the war ended the United States had the strongest animation industry and a large inventory of animated films ready for international distribution. This same scenario was repeated at the end of WW II. These might be two excellent reasons why United States animation was able to dominate globally for so long*

1916

- *Bray acquires more patents and establishes a patent monopoly for the animation process. He tried to enforce the patent by requiring all animation studios using his patented animation process to buy a license and pay a fee. Some studios paid it, some ignored it, some found a way around it, and some took it to court. This issue caused concern in the animation business until the early 1930's. Bray began to produce Army training films, which became very profitable. His interest shifted from entertainment films to educational films. Bray adds the Fleischer brothers to the staff in his studio.*
- *Earl Hurd does the BOBBY BUMPS series.*
- *Paul Terry leaves Bray and sets up his own studio.*
- *Charles Bowers (1889-1945) USA starts the MUTT AND JEFF series based on the*

*Fisher comic strip. Around 500 will be produced by the time the series ended in 1928.*

- *Barre joined with Bowers to form a new studio.*
- *Walter Lantz (1900-1995) starts his long career in animation at IFS*
- *Victor Bergdahl (1887-1939) Sweden started the KAPTEN GROGG series.*
- *KRAZY KAT, an extremely popular comic strip by George Herriman, was released as animation.*
- *Dadaism founded*

1917

- *Willis O'Brien (1886-1962) who would later do the big ape in KING KONG released 6 puppet animated films*
- *US enters WW I.*

1918

- *Winsor McCay finishes THE SINKING OF THE LUSITANIA; AN AMAZING MOVING PEN PICTURE. It is animated with cels, washes, and paintings in a very striking and realistic style. This was the first propaganda film done in animation. Unfortunately the Lusitania sank in 1915 and WWI ended in 1918 so its use as a propaganda tool was doubtful and points up the problem of doing topical events in animation.*

1919

- *Max Fleischer produced the first OUT OF THE INKWELL shorts featuring a clown based on the rotoscoped footage of Dave Fleischer in a clown costume interacting with Max. The clown character was named Koko the Clown in 1923. His name was changed to Ko-Ko in 1928 for copyright reasons. The interaction of a live action animator with the animation was a commonly used technique during this period.*

- *Lantz starts work at the Bray Studio.*
- *Lotte Reiniger (1899-1981) Germany makes the first of her many 2D shadow puppet animated films THE ORNAMENT OF THE ENAMoured HEART.*

### 1920

- *19 year old Walter Elias Disney (1901-1966) started working in animation at the Kansas City Slide Company, with his friend Ubbe Iwerks (1901-1971) who later changed his first name to Ub. They both used the book Animated Cartoons: How they are Made, their origin and Development by Edwin G. Lutz, New York, Scribner, 1920 to help them learn animation.*
- *Goldwyn-Bray first color animation THE DEBUT OF THOMAS CAT, Done in Brewster Color, a 2 emulsion color process, it was judged too expensive for commercial use.*
- *FELIX THE CAT, the most popular character and series of this period, started as the Feline Follies from Sullivan's studio. Otto Messmer not only created Felix, but also he did the stories and directing on a schedule that produced one film every two weeks. The merchandising of Felix's image for dolls, watches, etc was very successful and paved the way for the later merchandising of animated characters.*

### 1921

- *McCay, assisted by his son Robert makes and releases three films in a series called DREAM OF THE RAREBIT FIEND. The films are: THE PET, THE FLYING HOUSE, and BUG VAUDEVILLE. This ends his major involvement with animation.*
- *Paul Terry engages in six years of litigation with Bray over patent infringement*
- *Walter Ruttmann (1887-1941) Germany, did OPUS I, an abstract animation film.*

- *Hans Richter (1888-1976) Germany did RHYTHM 21, an abstract animation film.*
- *Max Fleischer set up own studio. KoKo was the star character.*
- *Bob Godfrey is born in Horse Shoe Bend, West Maitland, Australia, but moves to London as a baby.*

1922

- *Disney's first animation studio is located in Kansas City and is called Laugh-O-Gram Films.*
- *Oskar Fischinger (1900-1067)(wife Elfriede) Germany resigns his engineering job, and moves to Munich to become full time filmmaker. He becomes a master in abstract animation, which he calls "absolute animation",*

1923

- *Walter Lantz heads Bray studio*
- *Disney Laugh-O-Grams Films studio in Kansas goes bankrupt. Disney moves to Los Angeles, California and opens a new studio in his uncle's garage in Silverlake. Margaret Winkler who was distributing KoKo and Felix puts Disney under contract for a series, which he had proposed, that combined live action and animation. The series was called "Alice Comedies" and featured a live action girl with animated characters.*
- *Starevitch makes FROGLAND, a 3D stop motion film in France.*

1924

- *Overview. The Felix and KoKo series were the most popular and well made shorts of this period. Aesop's Fables and Colonel Heeza Liar were not well received and reflected the lack of quality common in most animation of the period. In fact, some people had written animation off, claiming audience booed when the animation came on the screen.*
- *Lantz started the Dinky Doodles series.*

- Disney's Alice series goes into distribution. The animators who did this series were originally from Kansas City. They included, Ub Iwerks, Hugh Harman (1903-1982) USA, Rudolf Ising (1904-1992) USA, and Friz Freleng (1906-1995) USA.
- The very popular English series *BONZO THE DOG* by Billy Ward was released.
- The First Song Car-Tune (the sing a-long format, sometimes with a bouncing ball) *MOTHER PIN A ROSE ON ME* is released
- The Birth of Surrealism.

1925

- THE LOST WORLD*, a live action film with Willis O'Brien's 3D stop motion animated prehistoric dinosaurs and other creatures was released.
- DIAGONAL SYMPHONIE*, Viking Eggeling (Swedish 1880-1925), perhaps the first public showing of an abstract film. Eggeling died six days after premier of depravation,
- Live action films released include "Battleship Potemkin by Eisenstein and "The Gold Rush" by Chaplin, which was the first feature comedy.

1926

- Lotte Reiniger, Germany, *ADVENTURES OF PRINCE ACHMED*, a one hour shadow puppet film is released. This film is claimed by some to be 1st animated feature, (but a feature is usually considered 75 minutes or longer).
- Kodak produces the first 16mm film

1927

- Disney started the popular *OSWALD THE RABBIT* series. Margaret Winkler was his distributor. o Fleischer studio begins distribution through Paramount that continued until

1942.

- Trotsky is expelled from the Communist Party.

1928

•Disney was making each of the *OSWALD THE RABBIT* for \$2500 and when the series was up for renewal he wanted a raise to \$2,750. Charles Mintz, Margaret Winkler's husband, meeting with Disney in New York, offered him \$1800. Mintz owned the character and when Disney said no, Mintz set up his own studio by raiding Disney and hiring away some staff. But Disney in the interim had created Mickey Mouse while returning to California on a train. Disney did two Mickey's *PLANE CRAZY* and *GALLOPING GAUCHO* without a distributor. He was working on the third Mickey, *STEAMBOAT WILLY*, when motion picture sound arrived. Recognizing the breakthrough he added sound to the third Mickey and it opened in New York on Nov. 18, 1928, with the Powers sound system. It was not the first sound film: Terry O's *DINNER TIME* was released on Sept. 1st (Disney saw it and said it was terrible). But *STEAMBOAT WILLIE* was the first successful sound animated film; it made Mickey an international star, and launched the Disney studio of today. It also ushered in the new age of sound for animation. o Carl Stalling (1888-1972) leaves his job as a movie music accompanist in Kansas City and joins Disney (he knew Disney in Kansas City and was an original investor in the studio). He would compose the music for nineteen of Disney's first twenty sound cartoons.

•Lantz signed with Universal and later took over Disney's *OSWALD THE LUCKY RABBIT* series.

•Amadee Van Beuren (-1937) bought 90% of Aesop's Fables Studio (Paul Terry's studio); it became the Van Beuren Studio. Its distributor was RKO. The studio closed in 1936. Paul Terry left in 1929 and started own studio, Terrytoons. Georgia O'Keefe paints

*“Nightwave “ an abstract painting. And so the “Silent Era” ended and the “Sound Era” began. How did this effect animation? Did Live Action and Animation take different directions when sound came in? How did sound affect the nature of comedy? How did the great depression, which started a year later, effect animation?*

1929

- Disney, *SKELETON DANCE*, first Silly Symphony, Carl Stalling music, Ub Iwerks animator, where the use of prerecorded music in animation leads to a very tight synchronization of sound and picture which sets the standard in animation for the use of prerecorded sound. Columbia becomes Disney distributor until 1932.
- Lantz studio opened. Distributor Universal.
- For Columbia/Screen Gems Charles Mintz starts a studio with *Krazy Kat* as a main series. Columbia distributor.
- Great Depression begins with “Black Friday”

1930

- Warner Bros. Cartoons was born. The First Warner Bros. short was *SINKING IN THE BATHTUB* with the character *BOSKO* who was a take off on Mickey Mouse. Harman, Ising, and Friz Freleng, who were old Disney people, started the studio with Leon Schlesinger as the producer. He was a cousin of the Warner Brother’s and had helped back the “Jazz Singer”. As a condition for the studio each short must contain a Warners song. So *Looney Tunes* series, a take off on the Silly Symphonies, began. “Our policy has always been laughs, the more the better”, was the Warner’s philosophy (Schlesinger).
- Disney: Ub Iwerks and Carl Stalling left the studio. Roy signed contract-starting Disney merchandising. David Hand joins as Disney’s fourth animator. Norm Ferguson’s *Pluto*

character born in *THE PICNIC*.

- *Fleischer*: introduced the character of in *Betty Boop DIZZY DISHES*. *Grim Natwick* developed and animated Betty, he also animated *Snow White*. Betty started as part human part dog character that later changed to completely human. *Bimbo*, her boyfriend remained a dog. *Mae Questel* did Betty's first voice.

- *First Terrytoons, CAVIAR*. is released. Distributed by 20th Century Fox.

- he planet *Pluto* is discovered.

- *Dashiell Hammett* writes the "Maltese Falcon".

1931

- *FLIP THE FROG Ube Iwerks* opened a studio with this character. His studio closed in 1936.

- *Warner Bros.* introduced *Merrie Melodies* as one shot shorts. *Webb Smith*, at *Disney*, started the use of storyboards (some claimed that the storyboard was developed at the *Fleischer* studio in 1930).

- *Disney* starts studio school under direction of *Don Graham* o *Jack Kinney* joins *Disney* for 27 years.

- *Hamilton Luske* begins 37 year tenure with *Disney*. He became a co-director on many features until his death in 1968.

- *Al Capone* is jailed for tax evasion.

1932

- *FLOWERS AND TREES*, won the first Academy Award (from now on I will use the two letters, AA, to designate the Academy Award Winner in animation), *Disney*. This film was the first to use 3 strip Technicolor (color) in animation.

- *Disney's MICKEY'S REVUE*, *Goofy* is born. *Disney* changed distributor to *United*

*Artist, which lasts until 1937.*

- *Oskar Fischinger completed his studies #5-12, done in an abstract style. He called his style “absolute animation”*
- *Berthold Bartosch, THE IDEA, a 30 minute film using woodcuts, Czech. Worked he also worked on PRINCE ACHMED.*
- *Chuck Jones lands his first job in animation industry, as a cel washer for Ub Iwerks.*
- *Norman McLaren as a 16 yr.-old art student in England turns to animation after seeing an Oskar Fischinger film.*
- *Dan McLaughlin born. Hollywood CA*
- *Raoul Barre dies, (1874-1932) Canada*
- *Amelia Earhart is the first woman to fly solo across the Atlantic.*

1933

- *THE THREE LITTLE PIGS, AA, Disney,*
- *Warners: Harman and Ising left over money issues took Books with them to MGM. Meanwhile back at Warner’s Friz Freleng became a head director, Bob Clampett and Chuck Jones (\$18.50 for a six-day week) started working there, and Ben Haraway arrived from Kansas City. Friz Freleng, BOSKO IN DUTCH. Cartoon Hitler chases Jimmy Durant with an ax in BOSKO’S PICTURE SHOW*
- *Alexander Alexeieff and Claire Parker released, NIGHT ON BALD MOUNTAIN, made with pinscreen animation. In Paris.*
- *Fleischer, introduced Popeye from Elzie Segar’s comic strip, POPEYE THE SAILOR: with Betty. Jack Mercer’s muttering voice was used later.*
- *All books by non-Nazi and Jewish authors are burned in Germany.*
- *“Ulysses” by James Joyce is allowed into the US after a court ruling.*

1934

- Disney, *THE TORTOISE AND THE HARE*, AA o MGM studio started with Happy Harmonies with Ising and Harmon.
- Donald Duck voice debuts on Mickey Mouse's NBC radio program, first appeared in *THE WISE LITTLE HEN*. Prototype in *MAD DOG* 1932.
- Warners, first Merrie Melody in color, the Looney Tunes were in B&W until 1943, colored in 70's in Japan. In the 1950s Warners burnt all their cels from these series to make storage space available.
- Walt Disney in four hour staff meeting lays out vision for *SNOW WHITE*.
- Stalin begins purge of the Communist Party.
- Robert Graves writes "I, Claudius"

1935

- THREE ORPHAN KITTENS*, AA, Disney ??Don Graham teaching at Disney studios.
- Hollywood Production Code came into effect. o Len Lye, (1901 - 1980) *COLOR BOX*, first film painted directly on film and shown to audience, British GPO unit
- Norman McLaren joined GPO unit. He strips away everything but action, feels the most important thing is what happens between frames, not what is on the frame. Avery said doesn't matter what the character looks like, but what the character does, that matters.
- First Porky Pig *I HAVEN'T GOT A HAT*. Joe Dougherty, a bit part actor with a pronounced speech impediment, plays the original Porky in this short, which gave Schlesinger Studio's its first success.
- Ub Iwerks adapts Hans Christian Anderson's tale for one of the first of his Comicolor Cartoon releases *THE BRAVE TIN SOLDIER*
- Marc Davis, one of the Nine Old Men begins working at Disney, spending 42 years

*there.*

- *The rumba becomes the fashionable dance.*
- *Mussolini invades Abyssinia.*

1936

- *COUNTRY COUSIN, AA, Disney*
- *Warner's, GOLD DIGGERS OF '49, Tex Avery's first film at Warner's (had been an animator at Lantz's 1930-1935. Jones, Clampett, and Bo Cannon were also in the unit, which they called Termite Terrace. Frank Tashlin (1913-1972) first, PORKY IN THE NORTH WOODS. Carl Stalling joined studio, set style of "cartoon music" and went on to compose music for over six hundred film. Mel Blanc joined studio (maybe in 1937).*
- *Fleischer, makes POPEYE THE SAILOR MEETS SINBAD THE SAILOR, a 20 minute film. It is shot on a horizontal rig with the backgrounds are 3D models with the characters animated on glass in front.*
- *Oskar Fischinger moves to Hollywood. His color film's MURATTI MARCHES ON and COMPOSITION IN BLUE gained so much critical and popular acclaim that Paramount offered him a contract.*
- *Spanish Civil War begins.*
- *Mondriaan paints Composition in Blue.*

1937

- *THE OLD MILL, AA, Disney*
- *Disney, SNOW WHITE AND THE SEVEN DWARFS (general release 1938). Disney's new distributor is RKO that lasts until 1956.*
- *Warners, Robert Clampett first, PORKYS BADTIME STORY Avery, PORKYS DUCK HUNT, introduced the proto type character of Daffy Duck. Avery based the character on*

*a duck that lived on a pond across from his high school. Avery was now developing the Looniest of Looney Tunes that set the tone for entire studio.*

- *Animators go on strike at Fleischer Studios in New York.*
- *The Japanese seize Peking, Nankin, and Shanghi.*
- *Whistle While We Work is one of the most popular songs of the day.*

1938

- *FERDINAND THE BULL, AA, Disney, Disney's mother died.*
- *Warners: first Chuck (Charles) Jones, THE NIGHT WATCHMAN.*
- *Emile Cohl died.*
- *40 hour work week established in the USA.*

1939

- *THE UGLY DUCKLING, AA, Disney (It was also the last Silly Symphony) Disney, '39-'40 moved their studio to Burbank from Hyperion Ave in Los Angeles.*
- *PEACE ON EARTH, MGM, a strong pacifist film was nominated for an AA.*
- *Mary Ellen Bute and McLaren, SPOOK SPORT, abstract US*
- *Fleischer, GULLIVERS TRAVELS, first feature, (Florida strike)*
- *The Film Act in Canada passed by Parliament, creates The National Film Board of Canada to "interpret Canada to Canadians through the medium of film."*
- *Victor Bergdahl dies (1887-1939) Sweden*
- *WW II begins in Europe with the German invasion of Poland.*

1940

- *MILKY WAY, AA, MGM*
- *Disney: PINOCCHIO and FANTASIA o Harry Smith, NO.1, alchemist*

- *Warners: Avery's, A WILD HARE, where he defines the character of Bugs Bunny. There were three previous Bugs, but this was the film where the real Bugs was born. Start of Warners' supremacy in humor, except for Avery and Bill Hanna (1911 - 2001) & Joe Barbera(1911-) USA at MGM.*
- *MGM: PUSS GETS THE BOOT: first Tom and Jerry. It was also the first co-effort of Bill Hanna and Joe Barbera*
- *Lantz: Woody Woodpecker introduced: KNOCK: KNOCK 1941*
- *Trotsky is assassinated in Mexico on Stalin's orders.*
- *Duke Ellington becomes known as a composer and a jazz pianist.*

1941

- *LEND A PAW, Disney, AA.*
- *Disney releases DUMBO (feature) o Disney, Strike o McLaren joins National Film Board (NFB)*
- *Fleischer: SUPERMAN series. Second feature MR. BUG is retitled: HOPPITY GOES TO TOWN and released.*
- *Walter Ruttmann dies, (1887-1941) Germany*
- *James Stuart Blackton (1875- 1941) England/USA is, hit by a bus on Pico Blvd in Los Angeles. He dies in poverty.*
- *US entered WW II.*
- *Manhattan Project begins the intensive research into atomic bombs and power.*

1942

- *DER FUEHRERS FACE: AA, Disney*
- *Disney releases BAMBI (feature) o Fleischer studio closed.*

- *Paramount/Famous studio opens with the old Fleischer people.*
- *Fort Roach, the old Hal Roach studios, became the military animation/film studio in Hollywood, 18th Air Force Base Unit. Lt. Ronald Regan was stationed there.*
- *In the WWII propaganda films, Japanese soldiers were often shown wearing rimless glasses. The reason young Japanese men wore these glasses were because Harold Lloyd wore them, and they thought him cool.*
- *Avery: had left Warners and did the pilot SPEAKING OF ANIMALS (with its Hoary Toad sequence) for Paramount. The series was taken from him. He then went to MGM where he stayed until 1955.*
- *THE BLITZ WOLF (MGM) Fred Quimby upon seeing Avery's caricature of Hitler as the wolf, advised Avery to tone it down because, after all, no one knew who was going to win the war.*
- *COMING SNAFU, in the style of a coming attraction the Private Snafu series is introduced (named for the acronym situation normal: (All fouled/f\_cked up)). Snafu is described as "licentious, lazy, envious of every duty but his own, a shirker and the Warner animation department's idea of the American fighting man in his larval form, or a positive genius at doing things the wrong way."*
- *Terrytoons: Prototype of Mighty Mouse (1945) introduced.*
- *Norman McLaren joins the NFB of Canada as the head of its animation.*
- *By this year many important European filmmakers, artists (Surrealist painters, Bauhaus designers, etc.) had come to America.*
- *The first electronic brain or automatic computer is developed in the US.*
- *Magnetic recording tape is invented.*
- *Handy demands independence for India and is arrested.*
- *Germans reach Stalingrad.*

- *YANKEE DOODLE MOUSE*, AA, MGM
- *Disney: SALUDOS AMIGOS: a collection of shorts, the studio did several of these. Bill Tytla resigns, Bill Shull was his assistant.*
- *John and James Whitney's first film.*
- *MGM, Tex Avery's DUMB HOUNDED, first Droopy.*
- *Penicillin successfully used in the treatment of chronic diseases.*
- *Germans surrender at Stalingrad.*
- *Japanese driven from Guadalcanal.*
- *Jackson Pollock's first one man show.*

1944

- *MOUSE TROUBLE*, AA, MGM
- *HELL BENT FOR ELECTION - a independent short done for the Democrats for the 1944 presidential election. It was so successful that the story goes that both political parties made a gentleman's agreement not to use animation for election films.*
- *Leon Schlesinger studio sold to Warners o Warners, Yosemite Sam introduced in HARE TRIGGER o Mitsuyo Seo's Japanese wartime animated feature film MOMOTARO'S GOD BLESSED SEA WARRIORS. "Momotaro and his cute little bunny, monkey and elephant friends. happily clear an airstrip, oil machine guns, and fly their Zeroes to victory while singing happy songs."*
- *REYNARD THE FOX completed by Dutch Nazi's.*
- *D-Day landing in France.*
- *Vietnam, under Ho Chi Minh, declares herself independent of France.*

1945

- *QUIET PLEASE*, AA, MGM
- *WW II over.*

- UPA (*United Productions of America*) formed.
- Warners, *Pepe Le Pew* introduced, *ODOR-KITTY*, *Chuck Jones*.
- Phil Denslow* born
- *War ends in Europe*
- Atomic bombs dropped on Hiroshima and Nagasaki*
- Japan surrenders*

1946

- THE CAT CONCERTO*, AA, MGM
- Warners: *Foghorn Leghorn: WALKY TALKY HAWK*, *Bob McKimson (1911-1977)*.
- Disney: *SONG OF THE SOUTH*, *combined live action and animation*.
- Terrytoons: *HECKLE AND JECKLE* series is introduced.
- UPA: *BROTHERHOOD OF MAN*, *Bobe Cannon Director*.
- Xerography process invented*.
- Truce declared in the Chinese Civil War*.

1947

- *TWEETIE PIE*, AA, Warners: *Tweetie and Sylvester together, first Tweetie, first AA for Warners, Friz Freleng*.
- *Bob Clampett leaves Warners*.
- Around this time new contracts were made for animators almost doubling their wages but a big mistake was made by not including residuals*.
- *Bill Shull, a former Disney animator founded the UCLA Animation Workshop*.
- *Flying Saucers sightings reported in US*.
- *India is proclaimed independent and partitioned into India and Pakistan*.
- Jackie Robinson becomes the first Afro American to sign a contract with a major league*

*baseball club.*

1948

- *THE LITTLE ORPHAN*, AA, MGM
- *UPA first theatrical release (they did educational films before) ROBIN HOODLUM*, Fox and Crow, John Hubley.
- *Supreme Court ruling on Sherman anti trust declaring motion picture companies monopolies and they must break up. End of block booking.*
- *Jiri Trnka, THE EMPERORS NIGHTENGALE*, feature length puppet film, Czech.
- *Columbia/Screen Gems ended production o A special department of cartoon and puppet films came into being as part of the Bulgarian State Film Industry.*
- *Gandhi assassinated. o Berlin Airlift begins. o Jewish state comes into existence.*

1949

- *FOR SCENT-IMENTAL REASONS*, AA, Warner Bros,
- *CRUSADER RABBIT*, first cartoon series made for TV, NBC, done by Alex Anderson, nephew of Paul Terry. They were paid \$250.00 per five minute episode. Looking like an illustrated radio show they were the TV's first limited animation. Frostbit Follies genesis for Rocky and his Friends 1959 (storyboard only).
- *MGM: BAD LUCK BLACKIE*, Tex Avery, Director o Warners, *The Road Runner* introduced, *FAST AND FURRY-OUS*, Chuck Jones Director o UPA: *Mr. Magoo*, *THE RAGTIME BEAR*, John Hubley director.
- *Bob Godfrey enters the film world. Later to be called "Master of the Absurd". "I try in my own lousy, noisy way to make an audience laugh" Bob Godfrey.*
- *Communist People's Republic proclaimed under Mao Tse-tung.*

- *The Samba comes into fashion.*
- *USSR tests first atomic bomb.*

1950

- *GERALD MCBOING MCBOING, AA, UPA, USA*
- *First Magoo, RAGTIME BEAR o First computer animation (that we know of) it was an animated "Bouncing Ball", done at MIT, by Saxenian.*
- *Disney: CINDERELLA (return to feature animation), first live action feature: TREASURE ISLAND and first TV special.*
- *TV Arts Productions, they did the original CRUSADER RABBIT, went out of business.*
- *Animation for TV commercials becoming an important segment of the animation industry.*
- *Korea conflict starts o McCarthy era begins.*
- *Ralph Bunche wins Nobel prize for Peace*
- *1.5 million TV sets in US.*
- *North Korean forces invade South Korea.*
- *China's forces occupy Tibet.*
- *Antihistamines become popular remedy for colds and allergies.*
- *Cool Jazz developed from bebop.*

1951

- *TWO MOUSEKETEERS, AA, MGM*
- *15 million TV sets in US, color TV first introduced,*
- *Bretislav Pojar (Czechoslovakia), THE GINGERBREAD COTTAGE*
- *Ion Popesco-Gopo (Rumania), THE NAUGHTY DUCK, THE BEE AND THE DOVE*
- *Raoul Servais (Belgium), GHOST STORY, THE SAND MAN.*

- *Peron reelected President of Argentina.*
- *J.D. Salinger's Catcher in the Rye published.*
- *Color television is first introduced in the US.*

1952

- *MGM: JOHANN MOUSE, AA,*
- *MASTER MANOL Bulgaria's first color film, Dimo Lingurski*
- *NEIGHBORS Norman McLaren's pixillation film, labeled by some a "one of the most controversial films the NFB ever made", because there was too much violence, wins an Oscar for best documentary (or was it 1953?).*
- *First Hydrogen bomb exploded*

1953

- *Disney: TOOT, WHISTLE, PLUNK AND BOOM, AA. It is a return to Silly Symphonies done in a UPA style.*
- *Disney: Last MICKEY MOUSE made, THE SIMPLE THINGS, PETER PAN released.*
- *Paul Grimault (France: 1905-1994): La Bergere et le ramoneur (MR. WONDERBIRD): first French feature (?)*
- *Most US movie theaters adapted for Cinemascope projection.*
- *Warners, DUCK AMUCK, Chuck Jones Director.*
- *GUMBY first appears in GUMBASIS by Art Clokey*
- *Korean armistice signed in Panmunjon*
- *Stalin dies*
- *Lung cancer reported attributable to cigarette smoking*
- *Tenzing and Hillary become the first to reach the summit of Mount Everest. 1954*

1954

- *WHEN MAGOO FLEW*, AA, UPA
- *In this year and 'in 55 and Ô56 the major studios started selling their animated shorts to TV for syndication.*
- *Warners, Tasmanian Devil, DEVIL MAY HARE, Bob McKimson*
- *Independent TV Authority established in Britain, 29 million homes have TV's in US*
- *Herblock (1910-2001) wins second Pulitzer Prize for editorial cartoons.*
- *There is a terrible desert locus plague in Morocco.*

1955

- *SPEEDY GONZALES*, AA, Warners, Friz Freleng, first major Speedy.
- *Disney started phasing out shorts as cost had risen to \$75,000 each. Disneyland opened.*
- *Paul Terry sold Terrytoons to CBS for \$3,500,000 and retired.*
- *Peter Foldes (Hungry 1924-1977), A SHORT VISION, British (shown on US TV).*
- *Todor Dinov, (Bulgaria), THE MIGHTY MARKO*
- *Tex Avery to the Walter Lantz Studio.*
- *Warners, ONE FROGGY EVENING, Chuck Jones*
- *Afro-Americans in Montgomery, Ala. Boycott segregated city bus lines.*
- *Bernard Buffet paints Circus. His painting style influenced the UPA style.*
- *Prokofiev's opera Fiery Angel opens in Venice.*

1956

- *MR. MAGOO'S PUDDLE JUMPER*, AA, UPA, USA
- *CBS Terrytoons, Gene Deitch hired as supervisor.*

- John Hubley and Faith Elliot started Storyboard Productions*
- UPA, GERALD MCBOING BOING SHOW, TV*
- Zagreb Studio started.*
- Disney, release their last shorts on a regular basis.*
- Annecy, the first major international animation festival begins within the framework of the Cannes Festival. In 1960 became an independent festival at Annecy under the auspices of the Association Francaise pour la Diffusion du Cinema.*
- Tom Sito is born. Currently he is a Director, animator, and the Union President.*
- Martin Luther King Jr. emerges as leader of the desegregation movement.*
- Pakistan becomes Islamic republic.*

1957

- BIRDS ANONYMOUS, AA, Warners*
- Hanna and Barbera were asked to leave MGM, they along with George Sidney, started Hanna Barbera studios. RUFF AND REDDY SHOW was their first TV series.*
- Shanghai Studio opened*
- Warners: WHAT'S OPERA DOC? Chuck Jones*
- GUMBY TV series premieres on NBC*
- Association Internationale de Film D' Animation (ASIFA) founded in France*
- Jack Kinney leaves Disney and goes on to produce and direct over a hundred POPEYE cartoons*
- USSR launches Sputnik I and II. These are the first Earth satellites.*
- Jack Kerouac wrote On the Road.*
- Dr. Seuss wrote Cat in the Hat*

1958

- *KNIGHTY KNIGHTY BUGS*, A.A. Winner, Warners
- *Richard Williams (Canada), THE LITTLE ISLAND*, British (Stan Hayward, writer)
- *Jay Ward Productions opened (TV). o Hanna-Barbera, HUCKLEBERRY HOUND*, introduced the half-hour TV all cartoon program.
- *First studio in Australia opened.*
- *CBS Terrytoons first TV was, TOM TERRIFIC*, directed by Gene Deitch and written Jules Feiffer. o *European Common Market comes into being.*
- *The Beatnik movement spreads throughout America and Europe. One of the consequences of this was a musical group called the Beatles*
- *The Cha Cha Cha is the new dance vogue.*

1959

- *MOONBIRD*, AA, Storyboard Inc. (Hubley Studio)
- *Karel Zeman (Czechoslovakia) BARON MUNCHHAUSEN*
- *Jiri Trnka, (Czechoslovakia 1912-1970), MIDSUMMER NIGHTS DREAM*, feature puppet
- *UPA closed its doors*
- *Jay Ward's ROCKY AND HIS FRIENDS on TV.*
- *Hawaii becomes the 50th state*
- *Fidel Castro becomes the Premier of Cuba.*
- *USSR launches a rocket with two monkeys aboard.*

1960

- *MUNRO*, AA, Rembrandt Films
- *Bruno Bozzetto (Italy), AN AWARD FOR MR. ROSSI*

- Giulio Gianin and Emmanuele Luzzati, (Italy), *PALADIN*
- Yoji Kuri (Japan), *HUMAN ZOO*
- Hanna-Barbera, *THE FLINTSTONES* (was a homage to the *Honeymooners*) first prime time TV series, next one was the *SIMPSONS*.
- UNESCO charters ASIFA.
- Belgian Congo granted full independence
- Antonioni's film *La Notte* is released.

1961

- ERSATZ, AA, Zagreb Film (Dusan Vukotic 1927- )
- Bob Godfrey (Australia/England), *DO IT YOURSELF CARTOON KIT*, British
- TETSUWAN ATOMU (*ASTRO BOY*) Japan's first television animation series begins. Created by Osamu Tezuka.
- Start of the "Nine Old Men" era at Disney
- H/B's *YOGI BEAR* on TV.
- Disney: *ONE HUNDRED AND ONE DALMATIANS*, the first use of Xerox cels.
- UN General Assembly condemns apartheid.
- Berlin Wall constructed.
- Yuri Gagarin (USSR) orbits the earth in a six ton satellite.

1962

- THE HOLE, AA, Storyboard Films (Hubley Studio).
- First general assembly of ASIFA (at Annecy France).
- Warner Bros. Animation closes. o Willis O'Brien dies (1886 - 1962) USA.
- Cuban missile crisis o Uganda and Tanganyika become independent.
- Alexander Solzhenitayn writes: "One Day in the Life of Ivan Denisovich"

- *Charles Shultz writes: "Happiness is a Warm Puppy"*

1963

- *THE CRITIC, AA, Pintoff-Crossbow Productions*
- *In computer animation Ivan Sutherland doctoral dissertation at MIT opened the way to interactive computer animation*
- *THE STORY OF A CRIME Feodor Khitrouk, (Russia),*
- *THE INSECTS Jimmy Murakami,*
- *DePatie-Freleng studio formed.*
- *LABYRINTH Jan Lenica, (Poland 1928- ), (absurdist) ?? check this year for ASTRO boy start???*
- *Warners animation closed its doors for the first time. Reopened in the 90's.*
- *President Kennedy assassinated*

1964

- *THE PINK PHINK, AA, DePatie-Freleng*
- *Halas and Batchelor, first British feature, ANIMAL FARM*
- *Walerian Borowczyk (Poland 1925- ), LES JEUX DE ANGES (The Game of the Angels).*
- *Ralph Bakshi, first directing for CBS Terrytoons, GADMOUSE THE APPRENTICE GOOD FAIRY*
- *THE ADVENTURES OF JOHNNY QUEST airs on prime time TV ?*
- *Jan Svankmajer's, (1934-) Czechoslovak, first film THE LAST TRICK OF MR. SCHWARZWALD AND MR. EDGAR*
- *Arafat takes over leadership of Arab guerrilla force Al Fatah*
- *The Watusi, Frug, Monkey, Funky Chicken, and other varieties of the Twist drive many people to discotheques.*

- The Beatles film HARD DAYS NIGHT is released.*

1965

- THE DOT AND THE LINE, AA, MGM (Chuck Jones)*
- Rene Laloux, (French), Les Escargots 1966 o Gerry Anderson's THUNDERBIRDS premiere on British TV*
- “Op” art becomes the rage: non objective art directed at optical illusions based on the use of color, form, and perspective.*
- Severe race riots in the Watts district of Los Angeles. “Op” art becomes the rage: nonobjective art directed at optical illusions based on the use of color and form and perspective.*

1966

- HERB ALPERT AND THE TIJUANA BRASS DOUBLE FEATURE, AA, Hubley Studio o James Whitney did LAPIS, in motion control animation.*
- Walter Elias Disney dies, (1901-1966) USA*
- Superhero vogue started on Saturday Morn TV by Fred Silverman.*
- KIMBA THE WHITE LION arrives in US from Japan.*
- IT'S THE GREAT PUMPKIN, CHARLIE BROWN, was the first Peanuts TV special.*
- DR. SEUSS HOW THE GRINCH STOLE CHRISTMAS, Chuck Jones*
- Mrs. Indira Gandhi becomes Prime Minister of India.*
- Two male dogs sent into orbit aboard Soviet Cosmos 110*
- Miniskirts come into fashion*

1967

- THE BOX AA, Murakami & Wolf Films (Fred Wolf)*
- John Whitney PERMUTATIONS, computer animation*

- John Stehura, *CIBERNETIC 5.3*, first computer-animated film at the UCLA Animation Workshop

- Nedeljko Dragic {Yugoslavia, Zagreb), *TAMER OF WILD HORSES*.

- Vietnam War - demonstrations against,

- SPEED RACER*.

- Oscar Fischinger dies (1900-1967) Germany/USA. Survived by his widow, Elfriede.

- Shah of Iran crowns himself.

- Six day war between Israel and Arab nations.

1968

- WINNIE THE POOH AND THE BLUSTERY DAY, AA, Disney.

- George Dunning (Canada 1920-1977), *THE YELLOW SUBMARINE*, British, TVC Bob Coates was the producer.

- 2001: A SPACE ODYSSEY, by Stanley Kubrick is released. This film contained the first major use of motion control animation (which John Whitney invented and first used it commercially in Hitchcock's *VERTIGO*)

- CBS Terrytoons closed theatrical production.

- Czechoslovakia invaded at night by Soviet and Warsaw Pact troops.

- Rev. Martin Luther King Jr. assassinated.

1969

- IT'S TOUGH TO BE A BIRD, AA, Disney

- Internet is born at UCLA

- Debut on TV of *SCOOBY DOO, WHERE ARE YOU*

- Red Cross flies relief airlifts into Biafra.

- Apollo 11 lands lunar module on moon .

1970

- *IS IT ALWAYS RIGHT TO BE RIGHT*, AA, Stephen Bosustow
- *THE FURTHER ADVENTURES OF UNCLE SAM*, Bob Mitchell, (1933 -1985)  
US, Annecy Grand Prize Winner.
- *First Freak Bros*. Comic book published
- *Jiri Trnka dies*, (1912-1970). Czechoslovakia
- *Arab commandos hijack three jets bound for New York*
- *Student protests against Vietnam War results in the killing of four by National Guard soldiers at Kent State University in Ohio*,

1971

- *THE CRUNCH BIRD*: AA, Maxwell-Petok-Petrovich Productions
- *FRITZ THE CAT*, Steve Krantz producer, Ralph Bakshi director, the first X-rated feature in the USA.
- *Robert Abel (1937-2001) and Assoc. studio began*. First by doing motion control and in a few years began doing high quality computer animation commercials.
- *Ub Iwerks dies*, (1901-1971) USA. He was considered one of the greatest animators ever.
- *Paul Terry dies*, (1887-1971) USA .
- *First computer animation used in a feature film THE ANDROMEDA STRAIN as a special effect*. Special effect animation during this period played a major role in the amount of animation produced.
- *THE POINT*, TV special, first hour animation film on US TV by Fred Wolf.
- *Canadian based Nelvana Ltd. Founded*
- *India and Pakistan go to war*.

- *“Conceptual Art” becomes a new art form in the US.*

1972

- *THE CHRISTMAS CAROL: AA, Richard Williams*
- *ASIFA - Hollywood established.*
- *Jerzy Kucia’s debut film POWROT. “I am interested in man’s mental states. I endeavor to observe him through his emotional experiences - his joy and stresses. I treat the cinema as a psychic fact” - J. Kucia*
- *Jan Svankmajer is forced to begin seven year Czech government impose “silencing” during which he is not permitted to make films of any kind.*
- *MARCO POLO JR. VS THE RED DRAGON, Australia’s first feature animated film is released.*
- *Carl Stalling (1888-1972) dies, a music director and composer who set the standards for animation music in the “Golden Age of Animation”. Disney and Warners were two of the studios where he set the standards.*
- *Frank Tashlin (Tish-Tash) dies (1913-1972) - director at Warners- went on to direct live action hits starring Jerry Lewis and Bob Hope.*
- *Max Fleischer dies (1883-1972) born in Vienna, Austria.*
- *Police arrest five men in Democratic national Headquarters in the Watergate.*
- *Ceylon becomes a republic, changes it name to Sri Lanka.*

1973

- *FRANK FILM, A.A., Frank Morris USA*
- *HEAVY TRAFFIC, Krantz/Bakshi*
- *Cease-fire signed in South Vietnam*
- *Arab oil producing nations impose an embargo, which causes an energy crisis.*

1974

- *CLOSED MONDAYS.*, AA: Bob Gardiner - Will Vinton, USA
- *HUNGER*, an Academy Award nomination by Peter Foldes (1924-1977) *Hungry* (done at the NFB) was the first animated computer generated film nominated.
- Worldwide inflation helps create sharp price increases in food and fuel costs.
- Nixon resigns
- *Streaking* becomes a short lived fad in the US.

1975

- *GREAT*, AA, Bob Godfrey. England
- US evacuates last remaining personnel from South Vietnam.
- Leo Salkin's TV special of Mel Brooks's *2,000 YEAR OLD MAN* premieres.
- *Industrial Light and Magic* Founded by George Lucas.
- *CAROSELLO*, a ten-minute daily Italian advertising program on the state-owned television station after the evening newscast begins a twenty year run that gave life to many hand drawn, stop-motion characters and ingenious experimental techniques.
- Six thousand life size pottery figures from the 3rd century BC are found in China.

1976

- *LEISURE*, A.A., NFB, Canada
- North and South Vietnam reunited as one country after 22 years.

1977

- *SAND CASTLE*, A.A., NFB: Canada, Co Hoedeman
- Single frame video tape animation systems were introduced. Used for pencil testing they

were a major development in the production of animation.

- First Anime fan club started in Los Angeles
- Peter Foldes dies (1924-1977) Hungry.
- John Hubley dies.
- US tests neutron bomb that kills with massive radiation.
- Egyptian president Anwar Sadat makes the first visit by an Arab leader to the Jewish State since it was founded in 1948.

1978

- SPECIAL DELIVERY: A.A., NFB, Canada
- Frank Thomas and Ollie Johnston retired from Disney.
- Peter Lord, Davis Sproxton establish Aardman Animation in England.
- John Bray dies, (1879-1978) US
- Violence sweeps Nicaragua as leftist Sandinistas guerrillas try to overthrow president Anastasio Somoza
- A military junta seizes power in Afghanistan
- “Test tube baby” born in England
- National Lampoon’s Animal House starring John Belushi is released.

1979

- EVERY CHILD, A.A., NFB, Canada
- Turnkey systems are first introduced in computer animation.
- Dave Fleischer dies (1894-1979)
- Idi Amin overthrown by Tanzanian backed rebels.
- Camp David Peace Treaty signed.

1980

- THE FLY*, A.A., Pannonia Studios, Hungary, Ferenc Rofusz
- Pacific Data Images (PDI) founded.
- Fred “Tex” Avery dies (1908 - 1980) USA. Fred Bean Avery was related to Judge Roy Bean (who was known as the “law west of the Pecos, gives you a fair trail and hangs you”. Roy Bean’s real name was Roy Boone and he was descended from Daniel Boone). There is a story that Disney did not want his animators to see Tex Avery films as they were too extreme in their humor and animation.
- John Lennon shot dead in New York.
- Border conflict between Iran and Iraq erupts into war.

1981

- CRAC: A.A., Frederic Back, Canadian
- Lotte Reiniger dies (1899-1981) Germany, developed silhouette and did many films in that form.
- Steve Bosustow dies (1912-1981) US, became head of UPA in the 1950’s.
- Clair Parker dies (1906 -1981) USA/ France o Solidarity’s first national conference is held in Gdansk, Poland.
- Scientists identify Acquired Immune Deficiency Syndrome (AIDS).

1982

- TANGO*, A.A., Zingier Rybczynski, Poland. He was arrested after winning the Oscar when he went outside for a smoke and spent his Academy Award night in a Los Angeles jail - so much for animation.
- TRON*, Disney feature had 15 minutes of computer animation (most all computer animation by now is digital except effects done on tape using the analog system) for 235

*scenes at a cost of \$1,200 per second.*

- STAR TREK II, THE WRATH OF KHAN had the “Genesis effect” scene.*
- Disney starts selling home videos.*
- Tim Burton’s VINCENT.*
- Alexandre Alexieff dies (1901-1982) Russia/France*
- 28 million US households have cable TV*
- UK’s fourth TV channel (Channel 4) begins broadcasting*

*1983*

- SUNDAY IN NEW YORK, A.A, Jimmy Picket USA.*
- Syndication, as a new form of distribution for children’s TV starts. Filmation’s HE-MAN AND THE MASTERS OF THE UNIVERSE 85 1/2 hour shows that play every weekday.*
- Disney Channel Starts*
- The compact disc is launched*
- De Kooning’s “Two Women” is sold for 1.2 million, a record for a living artist.*

*1984*

- CHARADE, A.A., John Minnis, Canada*
- LAST STAR FIGHTER, a feature had 30 minutes of animation at a cost of 4.5 million.*
- Bob Clampett dies (1913-1984) USA*
- NAUSICAA, Hayao Miyazake, Japan*
- Upper Volta renamed Burkina Faso (the republic of honest men)*
- The space shuttle “Discovery” makes its maiden flight.*

*1985*

- ANNA AND BELLA, A.A., Borge Ring, Holland*

- The first live action feature, *YOUNG SHERLOCK HOLMES*, to have a complete computer animated character was released.
- Otto Messmer dies (1892-1985) USA
- Daniel Ortega is inaugurated president of Nicaragua.
- Mikhail Gorbachev unilaterally halts deployment of medium range missiles in Europe.

1986

- A *GREEK TRAGEDY*, A.A., Nicole Van Goethem, Belgium
- Iwerks Entertainment founded.
- AMERICAN TALE* released. Steven Spielberg Production, Don Bluth director.
- Marcos flees the Philippines, Corazon Aquino becomes new president.
- World's worst nuclear accident, Chernobyl Power Station, Kiev, USSR

1987

- THE MAN WHO PLANTED TREES*, A.A., Frederic Back, Canada
- THE SIMPSONS* started as spots on the Tracey Ullman Show. David Silverman, who had just graduated from UCLA, was one of the 2-3 original animators.
- ALICE* Jan Svankmajer's first feature film
- Norman McLaren dies (1914-1987), Scotland.
- In Japan 24 anime features are produced as well as 72 anime features for video release.
- The last California Condor is trapped and sent to a zoo for breeding.
- Van Gogh's "Irises" sold for 49 million.

1989

- TIN TOY*, A.A., John Lasseter, William Reeves, Pixar, first computer animated film to win, US.

- *WHO FRAMED ROGER RABBIT* released. Grossed over \$300 million and proved that animation, at least when combined with animation, was not limited to a children's audience.

- *LAND BEFORE TIME* released.

- Internet computer virus designed by US students jams over 6,000 military computers across the US

1990

- *BALANCE, A.A.*, Wolfgang and Christopher Lauenstein, Germany

- *Osamu Tezuka dies (1926-1989)*. He was born in Osaka, Japan and is often called the Walt Disney of Japan. In his last years he turned the control of his studio over to others and began making his own personal short films. *JUMPING* was one of these films. Before he became a cartoonist and animator he was a certified medical doctor and had a Ph.D. in entomology.

- *Mel Blanc "the man of a thousand voices" dies (1908 -1989)*. His gravestone in the Hollywood Memorial Cemetery reads "That's All Folks". He was the first voice talent to receive screen credit.

- *Richard Williams presented with a Special Achievement Oscar for directing the animation in WHO FRAMED ROGER RABBIT*. The only time this award had been previously given for animation was to Walt Disney for *SNOW WHITE AND THE SEVEN DWARFS*.

- *The last Soviet troops leave Afghanistan*.

- *Tiananment Square massacre*

- *Mysterious "crop circles" appear in UK cornfields*

1991

- MANIPULATION, A.A., Daniel Greaves*
- Disney's BEAUTY AND THE BEAST becomes the first animated feature to be nominated for the Academy Award as Best Picture.*
- REN & STIMPY premiere.*
- Hanna-Barbera Productions bought by Turner Broadcasting.*
- USSR dissolves.*
- Hostilities between newly independent Croatia and Serbia begin.*
- Operation Desert Storm by the US in Kuwait and Iraq.*

1992

- MONA LISA DESCENDING A STAIRCASE, A.A., Joan Grantz, USA*
- Art Babbit dies*
- FERN GULLY and animated feature by Bill and Sue Kroyer is released.*
- Cartoon Network starts in 2 million homes, by 1995 in 22 million.*
- FROG BASEBALL, by Mike Judge, screened to an MTV focus group.*
- Bill Plympton completes first feature film THE TUNE.*
- Sammy Timberg dies (1903- 1992) USA. Composed for Fleischer Studios (later Famous Studios) Betty Boop, Superman, Little Lulu, Casper as well as features MR. BUGS GOES TO TOWN and GULLIVER'S TRAVELS. Best known for "It's a Hap-Hap-Happy Day".*
- Acquittals in Rodney King trial sparks riots in Los Angeles, 51 killed.*
- UN expels Yugoslavia.*

1993

- THE WRONG TROUSERS, A.A., Nick Park, England*
- BEAVIS AND BUTTHEAD, by Mike Judge, released on cable.*

- ANIMANIACS* debuts
- NIGHTMARE BEFORE CHRISTMAS*, by Tim Burton, is released.
- Czechoslovakia divides into Czech and Slovak republics.
- NY trade center bombed.

1994

- BOB'S BIRTHDAY*, A.A., Alison Snowden and David Fine, Canada.
- LION KING*, Disney, made a huge amount of money.
- DreamWorks studio formed.
- Walter Lantz dies (1900-1994). A pioneer in animation he was head of the Walter Lantz Studio and creator of Woody Woodpecker.
- Mexican peasants revolt in Chiapas.
- Russian Army invades Chechnya
- Morphing of digital images comes into vogue.

1995

- A CLOSE SHAVE*, A.A., Nick Park, England.
- TOY STORY*, first computer animated feature released and it takes in more money at the box office than any other film in 1995.
- BABE*, combination of live and computer animated effects nominated for an Academy Award (?)
- DreamWorks Feature Animation begins.
- John Whitney dies (1917-1995), experimental animator and pioneer computer animator
- Friz Freleng (1906-1995) dies.
- Preston Blair dies, an animator who wrote the book "Animation" which is the classic book on how to animate.

- Paul Julian, background artist and director at UPA and other studios*
- Jerry Garcia dies at 53.*
- Aung San Suu Kyi , winner of the Nobel Peace Prize freed after 6 years house arrest.*

1996

- QUEST, Tyron Montgomery, Thomas Stellmach, A.A., German.*
- BEAVIS AND BUTTHEAD, now a feature is released and makes over 60 million.*
- MARS ATTACKS, Tim Burton. During its production the Manchester studio Bare Bones spends 9 months animating stop-motion aliens for the film, only to be told that computer generated images (CGI) would be used instead.*
- Shamus Culhane dies at 88, Max Fleischer once told him, “You know what your problem is Culhane? You’re an artist!” Read his book “Talking Animals and other People” for a good view of early animation.*
- Virgil Ross dies at 88, a master animator at Warners and other studios.*
- The merger of Time Warner and Turner brings Warner Bros. Feature, TV, and Classic Animation, Hanna-Barbera, Cartoon Network, plus a couple of others under one roof.*
- Taliban captures Kabul.*
- Legal battle over freedom of speech on the Internet 1997.*

1997

- GERI’S GAME, Jan Pinkava, US, AA*
- KING OF THE HILL, the series, begins on Fox.*
- Hayao Miyazaki’s PRINCESS MONONOKE released in Japan to become its biggest motion picture hit of all time, animated or live action.*
- Pol Pot captured and sentenced to life in jail.*
- Seven cows, the first in Germany with “mad cow” disease, are destroyed.*

- The film *“The Full Monty”* is released.

1998

- BUNNY, Chris Wedge, US, AA
- THE PRINCE OF EGYPT, DreamWorks first animated feature is released.
- CELEBRITY DEATH MATCH began as a special, expanded into a series five months later.
- QUEST FOR CAMELOT (Warner)
- Mae Questel, 89, dies, an actress and voice talent, best known for doing the voice of Betty Boop and Olive Oyl.
- Global recession spreads, deepest since WWII in parts of the world.
- The first TV stations in US begin broadcasting in high definition (HDTV).

1999

- THE OLD MAN AND THE SEA, Alexander Petrov, Various Countries, AA
- IRON GIANT, Directed by Brad Bird, based on the 1968 work by Poet Laureate Ted Hughes.
- SOUTH PARK: BIGGER, LONGER AND UNCUT is released.
- THE PRINCESS MONONOKE released, Hayao Miyazaki, Director.
- TOY STORY 2 released, Disney/Pixar
- STUART LITTLE released, Columbia/Sony
- Falun Gong outlawed in China
- Latin pop explosion with performers like Jennifer Lopez and R. Martin.

2000

- FATHER AND DAUGHTER, Michael Dudok de Wit. AA
- Marc Davis dies (1913-2000), born in Bakersfield, CA., he was one of the Nine Old Men

*from Disney. He was well known for doing female characters.*

- *Bill Hertz dies at the age of 81. At a Screen Cartoonists Guild meeting in 1941, Bill made the motion to strike the Disney studio, his motion was unanimously approved. Received an A.A. nomination for UPA's Unicorn in the Garden, in 1953. He directed at the Jay Ward Studios 1959 to 1984.*

2001

- *William (Bill) Hanna (1911-2001) dies.*
- *Bob Abel (1937-2001) dies. Bob was a pioneer in computer animation, especially in the 1970's commercials, through his company, Robert Abel and Associates.*
- *Faith Hubley dies at 77, she made 25 personal films, and won the academy award 3 times with husband John Hubley, she was a great friend of the UCLA workshop. Faith was a person who lived her life fully according to her belief, that the expression of art is the most ennobling experience of the human spirit. She expressed her art and her belief through her animation.*
- *Ray Patterson dies (1911-2001). Began as an inker in Mintz's studio in 1929. Worked at Disney, MGM, Hanna-Barbera.*
- *Sam Weiss dies, animator at UPA, Jay Ward and others.*
- *Lee Mishkin dies, animator, director.*
- *Jan Lenica dies at 73. Famed Polish animator.*
- *Attack on New York and the Pentagon on Sept. 11th.*

2002

- *Nine feature animated films were rules eligible for the three nominations in the Academy of Motion Picture Arts and Science first ever Feature Length Animation category. They*

are: “Final Fantasy: The Spirits Within”, “Jimmy Neutron: Boy Genius”, “Marco Polo, Return to Xanadu”, “Monsters, Inc.”, “Osmosis Jones”, “Shrek”, “The Trumpet of the Swan”, “The Prince of Light”, “Waking Life”.

- Shrek from Dreamwork Feature animation won the first ever Oscar for animated feature they beat out Pixar/Disney’s “Monsters, Inc.”

- Chuck Jones passes away in the spring of 2002.

2003...

2004...

*Copyright by Dan McLaughlin 2001. For further information on animation history these are some of the books that you could read.*

*Solomon, Charles. The History of Animation: Enchanted Drawings. New York: Wings Books, 1994.*

*Crafton, Donald Before Mickey, The Animated Film 1898-1928. University of Chicago Press 1993*

*Bendazzi, Giannalberto. Cartoons, One Hundred Years of Cinema Animation.*

*Indiana University Press, 1994 Any of these biographies by John Canemaker: The Animated Raggedy Ann and Andy. (Bobbs Merrill, 1977) Winsor McCay - His Life and Art.*

*(Abbeville Press, 1987) Treasures of Disney Animation Art*

*(Abbeville Press, 1982) Felix: The Twisted Tale of the World’s Most Famous Cat*

*(De Capo Press, 1991, 1996) Tex Avery: The MGM Years,*

*(Turner, 1996) Before the Animation Begins: The Art and Lives of Disney*

*Inspirational Sketch Artists (Hyperion, 1996) Paper Dreams: The Art and Artists of Disney Storyboards.*

*(Hyperion, 1999) And his latest book will be out next month from Disney Editions: Walt Disney's Nine Old Men and the Art of Animation And speaking of the Nine Old Men you should read: Disney Animation - The Illusion of Life by Frank Thomas and Ollie Johnston (Abbeville Press 1981)*

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