

ANIMATION

WORLD

August 1997

• MAGAZINE •

Vol. 2 No. 5

Computer Animation

SIGGRAPH Issue

NASA's JPL on Animation From Space
SIGGRAPH's Early Years
John Whitney's Legacy



Plus: Computer Animation for Beginners

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Cover: A computer generated image of the Galileo spacecraft as it approaches Jupiter created by the California Institute of Technology Jet Propulsion Laboratory. © JPL.

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<http://www.awn.com/mag/index.phtml>



EDITOR'S NOTEBOOK

by Heather Kenyon, Editor-in-Chief

When I mention that I am involved in animation to people outside of the industry, I often immediately get asked the following question, 'Isn't that all done with computers these days?' Its very depressing. Even Disney animator, Nancy Beiman described receiving a similar reaction before attending CalArts in the 1970s. "People used to tell me, 'Animation? What a stupid profession!' I was told, 'You're in a dying profession, there will be no work for you, everything'll be done on a computer by 1980!'" Don't they know the effort, the work that goes into making an animated character act and in turn, endear themselves to the viewer? I found this issue to be very heartening. Every article I read and every person I spoke to described the computer as a powerful tool but one that would be useless in the hands of someone lacking fundamental animation skills. Well, while there is no denying that computer animation is here to stay, there is also no denying that highly trained and skilled animators are just as needed. There is something warm and comforting in knowing that no matter how fancy our technology becomes, people still want



Heather Kenyon, Editor-in-Chief

to create and watch meaningful stories. In fact, I am more excited now about the technological future because time after time creators said they believed the implementation of new devices would give them greater storytelling freedom.

This issue also looks back on the origin of computer animation with articles describing John Whitney, Sr.'s amazing achievements and Joan Collins' article on "SIGGRAPH: Past and Present." Both articles offer insight into computer animation's academic, government and military beginnings. Joan Collins is correct when she says that everyone remembers historical milestone events differently. SIGGRAPH has several pro-

jects in the works to document the history of computer animation. Just my limited research for this issue has proven to me that nothing is more needed, vital (would we lose or not document the history of steam powered machines?) and fascinating. I think it is the biggest irony that John Whitney, Sr. was able to take objects of destruction and turn them into a mechanism for art. Facts, stories, anecdotes...as the role of computer animation continues to grow we will only become more curious about its origins.

In film schools across the globe, students study the effects of technological advancements like the introduction of sound and color film. We all remember giggling at some point or another, at a man speaking into a vase of flowers or three young ladies wearing dresses of different shocking hues, standing side by side. One day the introduction of computer generated imagery will probably be presented in much the same way. What will the reactions be? Will students laugh at films built around amazing twistlers and roaring dinosaurs, thinking we were silly to be so impressed? At that point, will they be taught by an actual human professor



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ANIMATION WORLD

· MAGAZINE ·

ANIMATION WORLD MAGAZINE

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or a photo-real digital human that can interact in real-time?

We have been watching the results of those more academic computer animation beginnings for several weeks now - the Mars Pathfinder. William B. Green, who was recently interviewed on CNN regarding the Mars mission, and Eric M. DeJong have included in the midst of their very busy schedule (how often do you have to keep track of something on Mars?) an article describing the benefits of using animation in space exploration. One of Green's points is that animation captures the audience's imagination. Well, we can all attest to that.

While in traditional circles the recruiting rush has lost some of its frantic pace, the search for computer animation talent remains on everyone's lips. Georges Lacroix said one of his biggest challenges in running a digital studio is, "the constant training so that we can maintain a high level of quality." Jo Jürgens has contributed a crash course in digital animation so that more experienced traditional animators can get started. Don't count out those students, though. In our second installment of The Student Corner we are profiling three schools that are expanding in order to meet the industry's needs. These days, studios are employing small herds of recruiters in order to scour the

schools and festival circuit for that talented "diamond in the rough." Why even the Ottawa International Animation Festival is branching out with the upcoming SAFO, a film festival designed to showcase only student animated works.

On a more serious note, I found Olivier Cottes article quite interesting in that it outlines the growing schisms between the top five CGI producers and the rest of the world. Developing nations are being left behind in this visual revolution, perhaps, so far behind that they will not be able to catch up. While this won't impact a typical Saturday night at the movies in suburbia, it may impact the rare screening of a developing nation's work. Perhaps, Olivier is right and the images will appear so old to us that we will not pay attention because their stories will not have been told in such a vibrant way. Then an even larger cultural gap will appear between those that have and those that do not. In an interview with me, Bikic Studios Milan Zivkovic attests to the difficulties facing studios in struggling nations like the former Yugoslavia.

Until next time. Keep in touch.
Heather

editor@awn.com

August 1997

Phyllis Craig's Tribute Continues

I am writing this letter to you, and the Animation World Network, in order to express my feelings of joy at having known Phyllis Craig and my feelings of loss resulting from her recent passing.

I have recently returned from a business trip to the Pacific Rim and came to the realization that I missed your feature, and my opportunity, to express my thoughts about Phyllis. I felt compelled to write to you and take this opportunity to express those thoughts at this time.

To say that Phyllis Craig was one of the most genuine and caring persons I have ever known would surely overstate the obvious and understate the truth. And if I were to say that Phyllis loved everyone who touched her life as if they were her own family, I would be speaking from my own experience. To have had the privilege to call Phyllis 'Mom' was one I am sure I share with many others who had this special relationship with her. For myself, this was particularly true as Phyllis and John Craig opened their home to me whenever I traveled to Los Angeles. Coming to L.A. was, in many ways, like coming home and seeing 'Phyl' was always the highlight of 'coming home.'

In the four years I shared with Phyl, I saw her through both happy and sad times. But regardless of whether times were good or bad, Phyllis' outlook was always bolstered by her beaming smile, optimistic attitude and a 'typically Phyllis' limerick or cliché emphasizing the silver lining of any gray cloud on the horizon.

I have had difficulty coming to terms with the knowledge that I will not pick up my phone at Chromacolour and hear, "Hey kiddo." I will not see her face, share a piece of strawberry-rhubarb pie or catch a late movie with her and Craig.

Phyllis, I will miss our long talks, your wisdom and your guidance. I owe you so much, a debt of gratitude.

You honored me by traveling to Calgary to attend my wedding and add that indelible shine as only you could. I cry a tear of joy.

Well, 'P. Craig,' life is a journey, not a destination, and now you have embarked on the next part of your journey. I will cherish the time we shared and look forward to the day when we meet once again.

"Get off the table Mabel, that dollar is for the beer."

Stephen Hagel
Chromacolour North America Limited
Manager, Operations and Marketing

Phyllis' passion for the animation industry was paralleled only by her deep rooted desire to create opportunities for young talent to find employment in this exciting business. On September 12, 1994, the first day of the Bridges training program, Phyllis generously supported our efforts by contributing of her time and wisdom as the inaugural guest speaker. Phyllis instantly became a friend and support system to many of our trainees.

During our Animation 500 twelve hour marathons, Phyllis always rolled up her sleeves and participated. The following video interview excerpt from the first 500 reveals Phyllis' love for the animation business: "It [animation] kept me young. We've been working with interns and kids in our studio for several years. Its fun to be around neat people. I love what I do. Anything thats new and exciting I'm willing to go along with, which makes it more fun all the time".

Phyllis, thanks for your countless contributions. Your efforts serve as a model for us all.

The trainees, alumni and staff at the Bridges Institute of Visual Arts.

When I think of Phyllis Craig, I am reminded of a radiant light. Her example served as a beacon of illumination showing us all how to: love unconditionally, serve without hesitation, help all who come your way and advocate for youth and their abilities.

Phyllis lived richly and fully. But most of all, she inspired us all. Everyone of us who had the pleasure of knowing her, has been blessed beyond measure. I count myself so very, very fortunate to have known and loved her.

Linda R. Crain, Ph.D.
CrainRoyer Studios

Thank you all for continuing to honor Phyllis. It just goes to show there is no forgetting such a remarkable person.

*Thank you again for sharing.
The Editors*

The Illusion of Life

About a year or two ago I was hanging around CalArts an awful lot. I spent about a year in the life drawing and other classrooms and a lot of time in the cubicles talking to friends and seeing what was going on in the character animation department. I was introduced to *The Illusion of Life* by, as most refer to them, "the two old men," obviously Frank Thomas and Ollie Johnston. I purchased the book and had them sign it at a presentation on the "old style" of Disney art. They revealed the keys to their success and what made Disney tick. This was not too long ago. Now, my real question is...in the suggested reading you listed the book as out of print. I know that the first edition is; but is it completely out of print now?

FYI - I now have classes with Glenn Vilppu at the American Animation Institute and he is publicizing your site. Without his voice I would never heard about your publication. GOOD JOB!

Thank you,
Raymond Gonzalez

Dear Raymond:

Well, we were just out of the loop on that one. Yep. You are right. The first edition is out of print but there has been a subsequent one that is on sale now at any of your favorite book stores. Thank you for bringing this to our attention. I have always heard (and known) that this book is one of the end all, be all, animation books to have. I have also always been told that it is impossible to obtain. It is great to see that The Illusion of Life will be on book shelves again so that everyone can own and enjoy it.

*Sincerely,
The Editors*

Miyazaki

The July 1st issue was forwarded to me, and I was particularly interested in the news regarding Hayao Miyazaki's quitting the film directing game. This is surely not the end of his animation life, but it is certainly an end of an era. Just a few corrections to this news: *Castle of Cagliostro* was directed by Hayao Miyazaki, but it *isn't* a property of Tokuma Shoten, and as such isn't going to be distributed by Buena Vista Home Entertainment. It is currently released through Streamline/Orion Home Video. The film was released originally in 1979, some five years before Hayao Miyazaki directed his first Tokuma-backed film, *Nausicaa of the Valley of the Wind* (1984). Also, *Only Yesterday* (Omoide Poroporo), and *Pom Poko* were directed by Isao Takahata, but from your notice, it could be presumed that they were also directed by Miyazaki. They are products of Studio Ghibli, and I believe Hayao Miyazaki was probably the executive producer for at least one of these films. However, Isao Takahata deserves some recognition, for he is a great director in his own right (**Pom Poko* was an Academy Award nominee). I look forward to getting your newsletter in the near-future. Thank you for your time.

Talk to you later.
John Beam

Dear John:

Thanks for the information! You definitely are an expert. As a result of your email, we corrected our News Flash as you will see in this issue's News section. We too hope that this is not the end of Miyazaki's animation career and that you will keep in touch and keep us in line.

*Sincerely,
The Editors*

Animation and Visualization of Space Mission Data

by William B. Green and Eric M. DeJong
California Institute of Technology, Jet Propulsion Laboratory

Editor's Note: In recent weeks we have all been captivated by the images returning to earth from Mars. Here William B. Green and Eric M. DeJong describe how images are created from thousands of miles away. To learn more about JPL and NASA's space missions you can visit <http://www.jpl.nasa.gov>.

Caltech's Jet Propulsion Laboratory (JPL) has been processing digital image data returned from remote sensing instruments on spacecraft since the Mariner 4 spacecraft flew by Mars in 1964. Many of the digital image processing techniques now routinely used in desktop publishing and computer graphics systems were designed originally to process and enhance images returned from space. JPL, other NASA centers, universities, and the Department of Defense made significant contributions to the development of this technology. In the past fifteen years, sophisticated processing capabilities have been developed to support scientific analysis of remotely sensed

imagery. The use of three-dimensional perspective rendering achieved by merging elevation data with two-dimensional sampled imagery has become a valuable tool for image interpretation and geological analysis. Animated sequences of rendered imagery provide dramatic, scientifically precise "fly-over" simulations that capture the public's attention while providing a visual aid to scientists attempting to understand the nature and evolution of the earth and other objects in the solar system. More recently, capabilities have been developed to support mission planning by integrating spacecraft models from Computer Aided Design (CAD) systems with remotely sensed imagery to enable visualization of mission scenarios for current and future deep space exploration missions. This article describes the basic methods used at JPL's Multimission Image Processing Laboratory (MIPL) and Digital Image Animation Laboratory (DIAL) to produce a variety of animation and visualization products from imagery returned by NASA spacecraft.

processing paths for NASA earth observation missions are similar. For imaging instruments, image data records are created that contain the basic pixel data (decompressed if necessary) plus additional information including engineering data (camera temperature, voltages, etc.), navigation data (spacecraft location and orientation when the image was acquired), ephemeris data (information regarding the positions of planets, the sun, and other objects such as the moons orbiting other planets when the image was acquired), and camera geometry (where was the camera pointing, what was the view angle, etc.).

Visualization and animation are becoming increasingly important tools in planetary exploration.

The engineering data is utilized to remove the camera signature from the returned imagery and convert the data to physical units (e.g.,

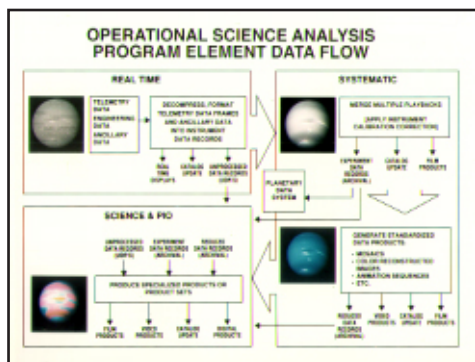


Figure 1.

Acquiring Image Data From Space

Figure 1 shows the flow of data for a typical planetary exploration mission. Remote sensing data from instruments on the spacecraft are returned to earth receiving stations in digital form, and transferred to data processing facilities that acquire the data and convert individual telemetry segments into scientific data records. The data pro-

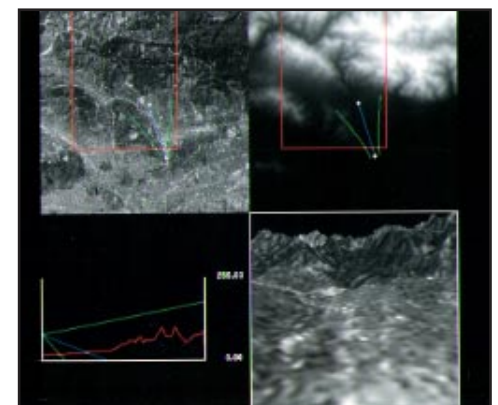


Figure 2.

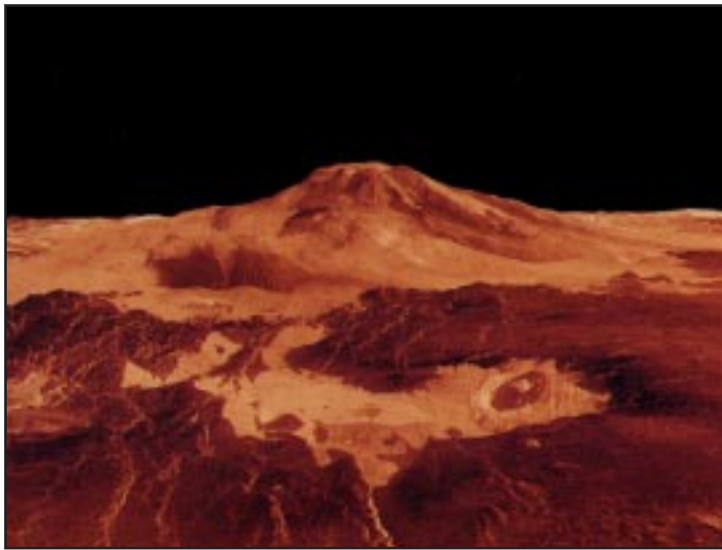


Figure 5.

brightness). The geometry data is used in constructing various views of the surface later in the animation process. The formation of these data records is shown in the boxes labeled "real time" and "systematic". Note that it is often necessary to construct image data records from telemetry data acquired at different times or at different ground receiving stations. Archival digital data products are produced at various stages of the processing stream and preserved for long term scientific study. Specialized enhanced products are also generated to support detailed scientific analysis, and public information office (PIO) products are also generated for dissemination to the press and made available via the Internet.

Remote sensing data from instruments on the spacecraft are returned to earth receiving stations in digital form...

Basic Image Rendering

Once the image data has been converted to physical units, and the geometry is understood, it is possible to generate perspective view and animation products. This was first done at JPL in the early 1980's by a team led by Kevin Hussey. Hussey's team produced *L.A. - the Movie*, an animated sequence that simulated a fly-over of Southern California utilizing multispectral image data acquired by

the Landsat earth orbiting spacecraft. The remotely sensed imagery was rendered into perspective projections using digital elevation data sets available for the area within a Landsat image. Figure 2 illustrates the basic process. The upper left image shows one band extracted from the Landsat image. A segment from the image has

been selected for rendering, and the perspective viewpoint has been defined as shown by the green and blue graphics overlay. The upper right image is a gray scale representation of the elevation data available for the image segment, with the same perspective viewpoint indicated. The elevation along the blue path in these images is shown graphically in the lower left image. Once the animation producer is satisfied with the viewpoint and perspective, the scene is rendered in 3D perspective as shown in the lower right hand image.

The scientist or animation director sketches out a desired flight path, as shown in Figure 3. The flight path is defined by a set of "key frames." Each key frame is characterized by a specific viewing geometry and viewpoint, and software interpolates between key frames defined along the flight path to render intermediate frames to produce the final animation. The animator controls the simulated speed of the flyover by specifying the number of frames to be interpolated between each key frame. Figure

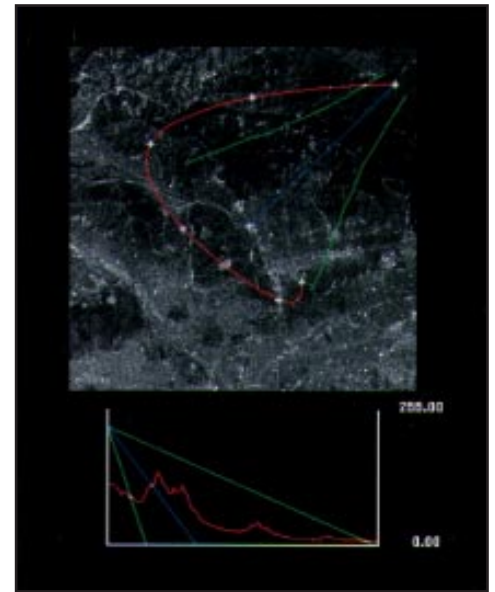


Figure 3.

4 shows one frame from the film *L.A. - the Movie*, showing the Rose Bowl with JPL in the background against the San Gabriel mountains. The vertical scale is exaggerated by a factor of 2.5 to show small scale features.

Planetary And Earth Applications

Rendering and interpolation algorithms have been improved since the era of *L.A. - the Movie*. In recent years, MIPL and DIAL have collaborated to produce a variety of fly-over sequences of planetary and earth imagery. Project scientists have found it invaluable to obtain three dimensional perspective views of remote planets and their satellites. The use of stereo imagery generally acquired by air-

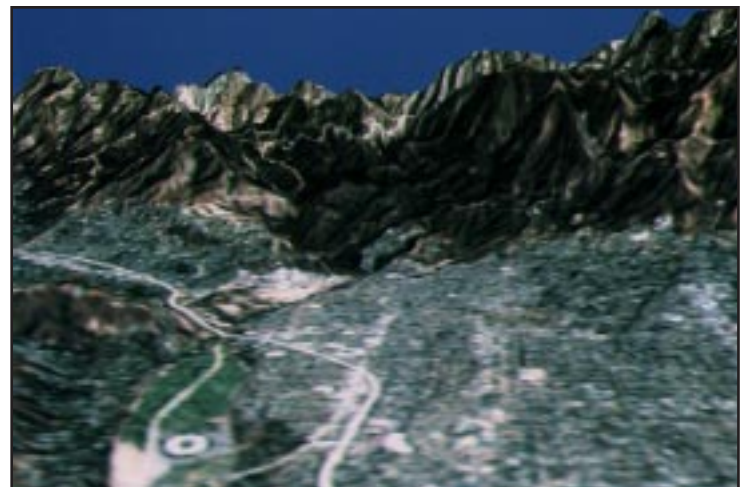


Figure 4.

craft has been widespread in the geology community for many years. A three dimensional view of the surface provides analysis of surface features, the evolution of the surface, and the nature of surface

disturbances that are volcanic or seismic in origin. Three-dimensional rendered animated imagery has become useful in planetary exploration for the same reasons.

Figure 5 shows a perspective view of Maat Mons, a large volcano on Venus. The Magellan mission mapped the surface of Venus using Synthetic Aperture Radar (SAR) in the early 1990s. Elevation information was provided by radar on board the spacecraft, from analysis of stereo image coverage of the surface, and from data acquired by earlier missions to Venus. Surface color has been incorporated into this image, based on limited radiometric measurements obtained by a Russian lander spacecraft on Venus in the 1970s. The Russian spacecraft was ultimately crushed by the atmospheric pressure, but survived long enough to provide a limited sampling of surface color. In the mid 1970s, two Viking landers and two Viking orbiter spacecraft provided thousands of images of Mars from orbit and from two separate landing sites. The orbital imagery provided stereo coverage of significant portions of the Martian surface. Elevation computed from stereo imagery enabled perspective rendering and anima-

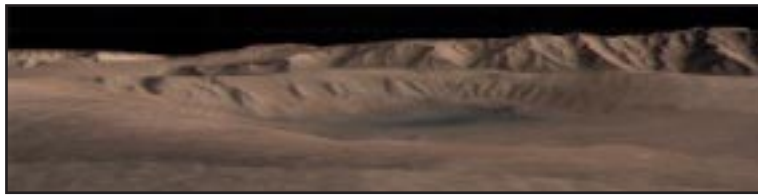


Figure 6.

tion of portions of the Martian surface. Figure 6 shows a single three-dimensional image produced in this manner.

The Space Shuttle has carried synthetic aperture radar systems on three separate occasions, obtaining high resolution radar imagery of the earth's surface. The third mission, referred to as SIR-C (Shuttle Imaging Radar mission C) provided coverage of the Mammoth Mountain area of California in 1995. Figure 7 shows a three-dimensional perspective view created from SIR-C SAR images acquired by the radar system. SAR imagery requires different interpretation than imagery acquired by a more conventional imaging system. Brightness differences in SAR imagery represent differences in surface texture and the orientation of surface features on the surface, rather than the color or reflectance of the surface. Bright features are oriented normal to the direction in which the radar signal travels, since the radar will be reflected strongly from surfaces normal to the radar beam. Dark features are generally more aligned with the direction of radar signal travel. Differing textures will also reflect the radar beam differently.

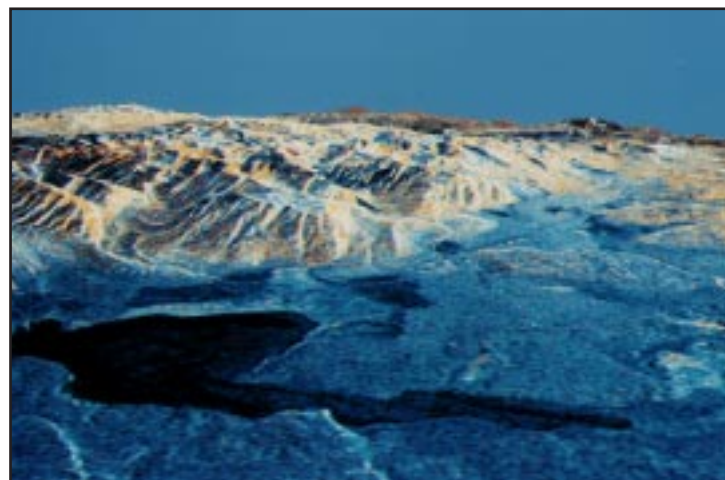


Figure 7.

This is illustrated in Figure 8 which shows a false color perspective projection of the same area. Here, false color is used as an interpretive aid to highlight differences in surface feature orientation and surface texture. This false color rendered representation provides an extremely useful tool for scientific

interpretation.

Mission Planning

Visualization and animation are also useful for mission planning and mission operations. It is possible to incorporate

CAD models of spacecraft with remotely sensed imagery in animations to illustrate spacecraft trajectories and data acquisition strategies. Animation displays are also provided to explain planned mission events during flight operations to members of the press and the public via the news media. Figure 9 shows one frame extracted from an animation of the Galileo spacecraft approach to Jupiter in December 1995. The spacecraft model was rendered from a CAD model of the spacecraft obtained from the spacecraft design team. The star background is produced from a standard reference star catalog, and the Jupiter image was acquired by the Hubble space telescope. The spacecraft trajectory and planet motion models were derived for the animation from mission navigation files and command sequence files.

The flight path is defined by a set of "key frames."

A Growing Roll

Visualization and animation are becoming increasingly important tools in planetary exploration. High speed computing equipment and increasingly sophisticated software systems are making it possible to produce the types of products shown in this article on rapid time scales. These products are extremely useful in science analysis during flight operations, and are beginning to play an increasingly important role in supporting future mission planning and data acquisition strategies.

Acknowledgements

The authors wish to acknowledge the contributions of the following individuals for their contribution to the figures: Raymond J. Bambery,



Figure 8.

Jeffrey R. Hall, Shigeru Suzuki, Randy Kirk, Alfred McEwen, Myche McAuley, Paul Andres. In addition, the work of many other individuals within JPL's Science Data Processing Systems Section, and many individuals supporting JPL's flight projects, makes it possible to acquire the data sets used to produce the types of products shown here, and their effort is hereby acknowledged. The work described in this paper was carried out at the Jet Propulsion Laboratory/ California Institute of Technology under a contract with the National Aeronautics and Space Administration.

The Russian spacecraft was ultimately crushed by the atmospheric pressure...

Dr. Eric M. DeJong is a Planetary Scientist with the Earth and Space Sciences Division of the NASA Jet Propulsion Laboratory and a Visiting Associate at Caltech. His major research is the creation of image and animation products for NASA Space & Earth Science missions. He led the visualization efforts for the Voyager Neptune, Magellan Venus, Galileo Earth mis-

sions and Hubble Space Telescope Saturn & SL9 observations. He has participated in the scientific analysis of observations from these missions. He is the principal investigator for the Solar System

Visualization (SSV) Project, which was selected by NASA as one of three NASA science projects featured at the World Space Congress for the International Space Year. He, and his team created planetary image sequences for the IMAX films Journey to the Planets, Destiny in Space and L5: First City in Space.

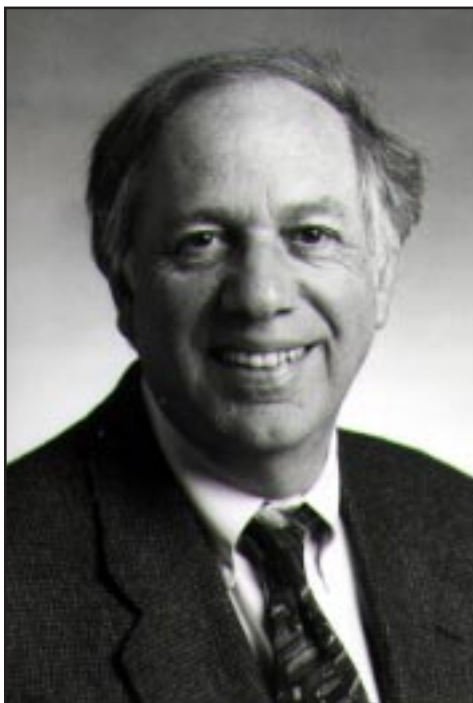
William B. Green is Manager of the Science Data Processing Systems Section at CalTech's Jet Propulsion Laboratory. He has responsibility for design, development, implementation and operation of ground based systems used to process science instrument data returned by NASA's planetary and earth observation spacecraft.



Figure 9.

Current activities include processing imaging and multispectral data returned by the Galileo spacecraft now in orbit around Jupiter, preparations for processing images of Saturn and its moons from the Cassini mission to be launched in late 1997, and for processing of stereoscopic images of the surface of Mars to be acquired by the Mars Pathfinder lander in July 1997. The Section is also involved in supporting flight and ground software development and development of data reduction systems for a variety of earth remote sensing instruments to be flown as part of NASA's Mission to Planet Earth. The Section produces a variety of digital, film and video products; these include CD-ROM and photoproduct archival databases, and animations and "fly-over" sequences of planets and other solar system objects. The Section also develops and maintains a variety of Internet image data base browsers, providing public access to large planetary image data bases resident at JPL.

He is the author of two textbooks, Digital Image Processing—A Systems Approach and Introduction to Electronic Document Management Systems, and numerous technical papers. He has taught image processing at Harvard University, California State University at Northridge, and George Washington University. Mr. Green is a Senior Member of IEEE



William B. Green.

SIGGRAPH: Past and Present

by Joan Collins

Even before ACM (Association for Computing Machinery)/SIGGRAPH started, there was computer animation. Despite popular belief, computer animation was not created to do visual effects. The new-comer animators go to the SIGGRAPH conference to see the latest and greatest animations. However, there was a time when going to SIGGRAPH's Film Show meant you waited with anticipation until the end of the show to see the one computer generated movie piece: like the Death Star from *Star Wars* done in 1977 by Larry Cuba or, the magnificent breakthrough piece, *TRON* done in 1982 by Magi Synthavision, Triple III, and Robert Abel & Associates.

One would go to SIGGRAPH to see work that one had never seen before, with people that were colleagues and collaborators. It was cool. You had to be there. In 1985, the short film *Luxo Jr.* by John Lasseter and William Reeves premiered at SIGGRAPH. The Academy followed the next year by nominating it for best Short Animated Film. One went to see Loren Carpenters *Vol Libre*

premiere at SIGGRAPH in 1980, because it couldn't be seen anywhere else. There was just no other market for showing a camera move around a snow-covered fractal mountain, except in academia.

**Despite popular belief,
computer animation was not
created to do visual effects.**

A Beginning

SIGGRAPH has changed since its beginning. Imagine attending when the papers were primarily from academia. In its infancy, computer animation was not economically feasible. Hence, the government was the only group that could afford to create CG hardware. The types of people that came to SIGGRAPH were heavily involved in the hardware and display industries. This lack of an industrial application defined the kind of attendees: military, aerospace, and government. The government worked in conjunction with the display industry and computer automation. Today, the first SIGGRAPH convention probably seems nerdy and sterile, but those pioneers are responsible for stimulating the birth of the photo-real visual effects industry that we take for granted.

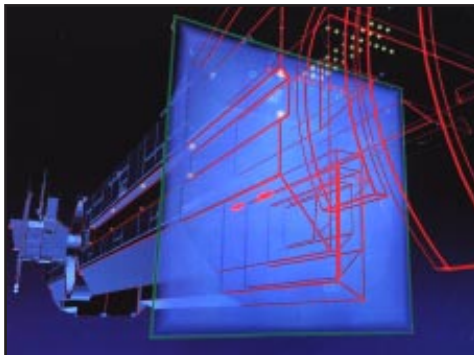
SIGGRAPH has expanded from 30 signatures on a petition to start a computer graphics group in 1967, to 40,000 attendees expected at this summer's conference. Andries van Dam and Sam Matsu got ACM to endorse the formation of a special

interest committee on computer graphics. The growing interest was evidenced by the standing room only crowds that attended the computer graphics professional development seminars given by van Dam and Matsu throughout the U.S. and Europe in the '60s. This provided the impetus for the development of an international SIGGRAPH community.

In 1969, the special interest committee became the Association for Computing Machinery's Special Interest Group on Computer Graphics (ACM/SIGGRAPH). Over the years SIGGRAPH has grown to 7,000 plus members.

Early Conference Firsts

This Summer's 1997 SIGGRAPH conference will reunite some of the biggest early players in the visual effects industry such as Digital Productions, Omnibus, and Robert Abel and Associates. These risk-takers embody the pioneering spirit of early SIGGRAPH. One example of the extraordinary team-work that occurred was the film *High Fidelity*. Randy Roberts



TRON, released by Buena Vista in 1982.



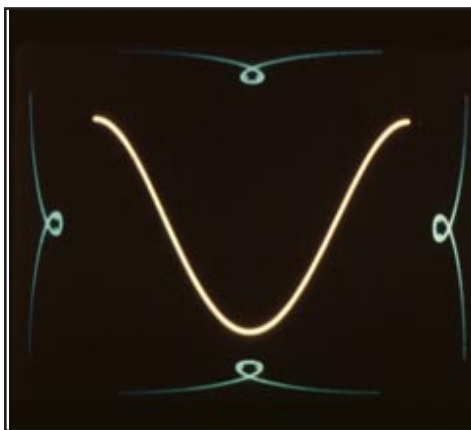
John Lasseter's milestone 1985 short film, *Luxo Jr.*

designed this test film to prove the concept of raster graphics, the next step beyond animation based solely on vectors. It was started in 1983, and shown at the 1985 SIGGRAPH in San Francisco. No "off-the-shelf" software here! Abels created a distributed render, digital compositing system for visual effects. Their focus was to create elements that would be digitally composited. Michael Wahrman, systems architect on the raster graphics system at Abels, was also director of a laboratory at the Rand Corporation. He purchased one of the first commercial UNIX licenses for use with Nick England's hardware, and wrote an Ikonas device driver (a software layer that allows an application to talk to the hardware). But there was no "packaged" solution. They even had to compute on a VAX 750 which by today's terms is less powerful than the average laptop.

The first SIGGRAPH Film Shows were predominately 16mm film.

Jim Clark, who was formerly with Bell Labs and now with SGI, previewed the first Silicon Graphics IRIS graphics system in a hotel suite at 1983's SIGGRAPH. Jim issued the very first purchase order for a SGI to be used in entertainment to Robert Abel and Associates. Doc Bailey did some modeling work but when Joe Bell's film recorder didn't work, Tom Baron brought over a Mitchell camera and shot the images off of the screen. There was no whining about "the software not being able to handle keyframes." If they needed it, they wrote it. My heroes.

When Abel was purchased by Omnibus, it converged with Digital Productions and their approach to "Scene Simulation." Gary Demos, of Digital Productions, spent more time on the math. "Scene Simulation" was



John Whitney created *Arabesque* in 1975, during an artist residency at IBM Labs.

better, but not necessarily easier. The "Scene Simulation" concept, copyrighted at Digital Productions in 1984, won a Scientific and Engineering Academy Award for the practical simulation of motion picture photography by means of computer-generated images.

However, the SIGGRAPH conferences weren't just this DOA (Digital Productions, Omnibus, and Robert Abel and Associates) triad representing the "leading edge of technology." The Lucas Sprocket Systems Group had also received one of the first three SGIs and Doug Smythe, Lincoln Hu, Doug Kay and ILM received a techni-

cal Academy Award for their efforts in the creation of the ILM digital film compositing system.

Life Before TRON

There were computer animators prior to *TRON*, including many pioneers in the early 1970s. In 1974, The National Film Board of Canada produced a short film called *The Hunger*, directed by Hungarian animator Peter Földes. *The Hunger* received an Academy Award nomination for its trailblazing progress in the development of software and techniques for computer assisted key framing for character animation, a system developed by Nestor Burtnyk and Marcelli Wein at the National Research Council of Canada. Carl Machover, one of SIGGRAPH's most fondly revered pioneers, recalls selling Marcelli Wein equipment through the company that he founded, Information Display Systems (IDI), in 1960. There was also a computer animation User Group called UAIDE that published proceedings on the Stromberg Carlson Film Recorder, i.e. the SC 4020, in 1969. Character animation was created with a cathode-ray tube that put an electron beam through a stencil mask held in the recorder's neck. It was a conventional monochromatic vector display, but the point is that the technology existed.

According to Machover, the first SIGGRAPHs were not practical for the animation industry. Animation was still in the "stop-frame" phase. Animation was created by a plotter storage tube that made a picture, photographed it, then erased it in order to make another picture. This was 2D-based, and few were for entertainment purposes.

Jon Meads worked on such a plotter to create the "Carol Burnett - Whats in the Stars" sequence for her variety show. The 35 mm frame-by-frame film was completed by Hiram French using a "Whirlwind." Bill Albertson came up

with ideas, and Meads figured out how to do the programming. In 1974, Jon "Troll" Meads and Bob Shiffman decided that SIGGRAPH members needed a place to gather to exchange ideas about the latest computer graphics developments. The first SIGGRAPH conference was organized that year at the University of Colorado in Boulder. Over 600 attendees arrived when only 300 people were expected. Meads was the Program Chair.

The First Films

At the first SIGGRAPH conference, there was an interest in interactive devices, and in being able to work directly on screen. Animation was limited, but the proceedings were published in the journal *Computers and Graphics*. A young grad student came up to Meads and asked if it "would be inappropriate to submit a paper on the use of computers to do video animation." This young student was Tom Defanti, currently the Director of Electronic Visualization, and Associate Director, Virtual Environment NCSA. In Dallas, at SIGGRAPH 1986, a Local Groups party reminded Tom Defanti of the way the Film Show used to be. Attendees would bring the 3/4" video of their latest work, we'd cue it up and play it. No judging and everything got shown.

Frank Foster, who organized the first International Film Festival in 1974, had 200 entries from all of the world, including *The Hunger* from Canada. The majority of the work at the time was technical research, which was the most advanced computer generated work. Even the most artistic pieces were simplistic. They showed all entrees over the course of three nights. They divided the entries into two categories: Art and Science. There were two nights of science and one night of art. In the Art category, Gary Demos had two films which contained mostly analog animation, with hardly any



Toy Story, the first fully computer-animated feature film. © Disney Enterprises, Inc.

digital at all.

Generally speaking, if you were turning out computer generated "art" pieces in the early '70s, you were on a grant program that teamed an artist with a techie. Through the power of a grant, artist in residence, Lillian Schwartz teamed up with Ken Knowlton, who was in the computer techniques research department, for a collaboration at Bell Labs. Knowlton and other technical innovators were able to participate in "art" films by working for companies that pursued growth in the computing field. Stan VanDerBeek was also an artist in residence at Bell Labs with Knowlton. They collaborated on many computer generated films including the *Poem Fields (Series 1 - 8)*. It was programmed in a CG language that Knowlton developed, called Beflix which was short for Bell Flicks. Another such example is John Whitney, Sr. who did *Arabesque* at IBM.

SIGGRAPH Begins to Put On A Show

The first SIGGRAPH Film Shows were predominately 16mm film. Since so much content was academic, there wasn't a film theater audience. The contributors were distributing to edu-

cational outlets that couldn't afford 35mm film playback. So, the producers would output on 35mm and down-rez for distributions on 16mm film. In fact, the first SIGGRAPH Film Show contained no video at all (or 35mm, for that matter). There were only 16mm entries. The only video available was only black and white, reel-to-reel. Color video existed on 2" quad tape and only television stations could afford such hardware. One-inch video was not in color at SIGGRAPH until the '80s.

The artists' ease-of-use only started when computers became cheaper and more user-friendly. Today's user interfaces allow the "newbies" to fly through, mastering the art of computer graphics. Character animation is also technically easier now, but talent is in ever-increasing demand to drive the quality.

The pioneers would take risks and fail.

But Can It Make Money?

Computer generated imagery was hardly being used for entertainment in the '70s. There were a few toothpaste commercials and some corporate broadcast graphics shown at the SIGGRAPH conferences. However, the CG community would look at the pieces, and, with work stations costing hundreds of thousands of dollars, say, "There's no money in it."

No one was convinced that CG had a commercial value, until James Cameron and ILM built a system to make it reliable. They took computer graphics into the commercial realm. It became apparent, after more Academy Awards started popping up, that visual effects could be financially feasible. ILM took awards for: *The Abyss* in 1989, *Terminator 2* in 1991, and *Jurassic Park* in 1993. *Total Recall* captured an award for Metrolight and

Tim McGovern in 1990. The topper was a Special Achievement Award to John Lasseter for the development and inspired application of techniques that made possible the first feature-length computer-animated film, *Toy Story*. Now, we see clips from movie after movie that use photo-real computer animation. You no longer have to wait for SIGGRAPH to see computer animation. Now, what movie doesn't use CGI?

There was no whining about "the software not being able to handle key-frames."

The Biz Grows Up

According to CG pioneer Michael Wahrman, "Once upon a time, a group of pioneers proved that a hundred things that people said couldn't work, worked. Of those hundred, five are used every day in every film, and maybe another five are used occasionally. The other 90 are completely ignored. Computer generated character animation for films was once a wild idea, as was digital compositing, graphical user interfaces, behavioral animation [such as flocking and herding] and performance animation [real-time digital puppeteering]. But all of them worked, even though in each

case they are limited and don't do everything." Wahrman was part of the Symbolics' team that presented "flocking and herding" in *Stanley and Stella* in 1987. "We presumed people would use behavioral animation, and we were delighted to see that *Independence Day* had used behavioral animation to do a lot of the dog fights. They called it 'smart particles' deliberately avoiding the term behavioral, but I thought it looked great."

Michael continues by saying, "SIGGRAPH used to be the place you had to be to see the best work the first time ever. It used to be where the people that said, 'I did that film,' were not your competitors. They were your co-conspirators. They had done the animation not for competition, but because they were making it work. But, it turns out the people in the audience were not your collaborators, but your competitors."

It is not so much that the SIGGRAPH culture has changed; it has expanded to include today's breed of computer animators and their recruiters. If one looks at the forerunners of computer animation, one can see that they didn't fit into a category with which corporate America was comfortable. No one foresaw the future. The pioneers would take risks and fail. Talking

with some of these old-timers is an experience that I highly recommend. They will tell you, "if it isn't off the shelf, figure it out yourself."

There are so many more stories of how we got here that couldn't all be included in this article, and often, each story is countered by someone else who remembers it slightly differently.

Joan Collins is chair emeritus of the Los Angeles local group of ACM/SIGGRAPH, and a visual effects producer at Sony Pictures Imageworks.

Carl Machover is the SIGGRAPH 1998 History Chair if you feel the need to clarify history. Or come to the Los Angeles Convention Center August 3 - 8 to see SIGGRAPH '97: the 24th International Conference on Computer Graphics and Interactive Techniques.

For information visit <http://www.siggraph.org>

Special thanks to: Betsy Johnsmiller, Carl Machover, Frank Foster, Jon Meads, Michael Wahrman, and Steve Cunningham.

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Don't Believe Your Eyes: It is Real or is it Animation?

by Bill Hilf

Good storytelling is magic. And good magic, often, is good storytelling. Since the start, storytelling in film has been a craft of illusion. Today, that craft has reached astounding heights with the assistance of digital animation and visual effects. What was once smoke, mirrors, and sleight of hand, is now pixel manipulation, transposed motion capture, and digital mattes. However, the goal is still the same: the perfect effect that drops the jaw, boggles the eyes, and tingles the spine.

The digital entertainment industry develops at breakneck speed, making it impossible to pinpoint a definitive latest and greatest technology (and the latest/greatest has probably lost its position as you're reading this!). But when you survey the past ten years of filmmaking, it is undeniable that computer generated imagery (CGI) has become a major part of the craft. Digital animation has grown from a momentary glimpse (*Star Trek II: The Wrath of Khan*, 1982, *Return of the Jedi*, 1983) to the driving force behind such films as *Toy Story* (1995) and *The Lost World* (1997).

This transition was initiated from many sources: technological advances, the position of the entertainment market, emergence of new talents, and so on. On a higher level, the move can be viewed as a fundamental shift in the "reality" of film imagery. In essence, a change in both the way film-stories are created and what types of content the audience views. If we look at the change from "computer graphics" to "computer generated imagery" we can see how the dig-

ital effect moved from being an isolated, "special" effect to a full-featured method of film production.



The Lost World: Jurassic Park features photo-real computer animation dinosaurs, created by visual effects masters, Industrial Light & Magic (ILM).

A Major Shift

The shift between computer reality and photo-reality marked the evolution from the "local" to the "global." As you may know, in animation, local pertains to the level of detailed description within a particular frame. Global, on the other hand, is often used when referring to the work on a larger scope, such as discussing the keyframes within the overall movement of the scene. * "Local" and "global" are part of the animation and computer lexicon, yet they can also serve as metaphors of the growth and change of computer art from the level of graphics (local) to computer-generated realities (global). This aesthetic transition is a key developmental step in the history of CGI. The move from the traditional animation proportions (2D) to real-world proportions (3D) appears less an encroachment on the art of animation (as purists advocate), and more of a new magnitude of pos-

sibility. The difference between two-dimensional and three-dimensional animation is often (wrongly) described as an evolution, yet the difference is actually an important aesthetic distinction, rather than a development.

However, the principles of manufacturing photo-realistic 3D CGI stem from the world of classical 2D animation. The metamorphosis from traditional, or *cel* animation, into CGI is an extension of an art form. What is produced is a technological artistry, much like the scientific and artistic fusion that gave birth to the motion picture medium. Leslie Bishko, author and computer animator, discusses the use of technology for creative expression: "Some would say that creativity is possible, just as early photography and cinema had to defend the artistry of mechanized representation."*

The move from cel to byte has thus expanded the animator's toolset – both theoretically and economically.

A New Story Tool

The metamorphosis from cel to byte was induced by the artists and filmmakers who desired photo-realistic, 3D images to use in their storytelling. The groundwork had been started by pioneers in the computer graphics world, such as John Whitney and Ivan Sutherland. As the technology developed, the artistic possibilities began to open up, as seen in *Star Wars* and *TRON*. Richard Taylor, a commercial art



Buena Vista's 1982 live-action feature film, *TRON*, was a milestone in the development of computer animation visual effects.

director, explains, "It [computer animation] started as a technical process first, and not as an aesthetic process, and then it evolved as a result of artistic people trying to make things happen with it."**

Therefore, the transformation of animation from cel to byte at once perpetuates and deconstructs the craft of animation, generating a native landscape, on which a new method of storytelling may grow. The art form remains animation, but the medium is now the computer. If this is the case, where is the modern animator left at the end of this transition? Are traditional skills coupled with new technology enough? Or, do technological skills with a lesson or two in life-drawing constitute a digital artist? I asked Steve Williams from Industrial Light & Magic (ILM) some of these questions. Williams is a master at creating, bending, hiding, and tweaking reality - his CG animation credits include films such as *Eraser* (1996), *Jumanji* (1995), *The Mask* (1994) and *Jurassic Park* (1993). Presently, he's directing the animation for the live-action feature film version of the popular comic, *Spawn*, due to be released this August.

"The entire flat, 2D [film] medium will change," Williams predicts. "Its levels of reality... in the future, a film with visual effects won't be termed an 'f/x' movie." Williams likens it to a transition from a manufactured reality to an art form, much like the transition from black and white to color film. Along these lines, today's digital effects and animation will be viewed in the future as a distin-

guished art form, similar to the "artsy" quality often assigned to black and white films today.

Williams is also quick to point out the importance of true and fundamental animation skills.

"Moving an image on the screen is one thing, putting a soul in that image is quite another." Computers cannot serve as a substitute for talent. As Williams points out, "Anyone can move a keyframe around a screen."

Therefore, the transformation of animation from cel to byte at once perpetuates and deconstructs the craft of animation...

Visual Effects or Reality?

Today, digital effects and animation are used for many different purposes; from high-profile stars, such as T-Rex, Woody, and Babe, to virtually indistinguishable illusions, such as virtual stunt doubles, removing celluloid blemishes, and animating a wind-blown cape on a live actor. All of these elements (and many more) compose the digital effect. The rapidly growing use and application of digital effects in film has made it very difficult for the audience to determine what is "real." No longer do we see the "computer graphics" scene, such as the stained-glass knight scene in *Young Sherlock Holmes* (1985) or the body-

alteration scenes in *Death Becomes Her* (1992). Today, films such as *The Fifth Element* (1997), James Cameron's *Titanic* (tba), and *Spawn* (due August, 1997) utilize digital shots - both evident and hidden - throughout the narrative. But, because of the increase of skilled artisans and advances in technology, the digital shot is used to *support and enhance the narrative* rather than a quick whiz-bang gadget.

Furthermore, digital animation is pushing the envelope to the extreme by attempting explicit duplication of organic tissue. In the past, digital character animation was primarily surface-based, mimicking the skin and the exterior of surfaces (à la the tremendous overuse of morphing scenes). Today, digital artisans, such as Steve Williams, are digging deeper, using digital animation in "layers" to recreate the internal anatomies of creatures and the complex interrelationships between skeletal and muscular systems. This is accomplished by utilizing commercial applications such as Softimage along with custom code modules that call for specific functionality for specific tasks. As a programmer, trends such as these show tell-tale signs of similar moves in the software industry, most importantly the migration from endless lines of code (read: Assembly, Cobol) into an object model where chunks of code (modules) can be used and reused on different projects. With customized animation software, 3D model libraries, and the emergence



New Line Cinema's live-action feature film *Spawn* (not to be confused with the comic book, animated series, or CD-ROM game), hits U.S. theaters this month with terrifying CGI effects by ILM.



In this scene from New Line's *Spawn*, the caped character, who is a live actor throughout most of the film, is entirely computer generated.

of the next generation of digital animation software (most likely object-based), it appears both inevitable and greatly beneficial that the digital animation industry is venturing in this direction.

(Steve) Williams is also quick to point out the importance of true and fundamental animation skills.

The move from cel to byte has thus expanded the animators' toolset – both theoretically and economically. Most importantly, this evolution is not driven solely by technology. There will be increases in processor power, RAM, and software capabilities for as long as the computer



Blue Sky Studios created cartoony, fantasy-like visual effects for Bubble Factory/Universal's current release, *A Simple Wish*.

exists. What has propelled the influx, popularity, and success of the digital craft is the marriage of exceptional technology with exceptional talent. This convergence of skill and tool is the foundation for an entirely new mode of digital story-

telling – the future of film and television production.

The Effect Becomes Art

Where does the future lie? According to Steve Williams, the camera will become more like the radio. Puzzling? At first glance yes, but what Williams is alluding to is the increase of input, data gathering, and modifiability. He sees the camera evolving into a tool that allows the filmmaker to "sample" an entire environment in 3D. Once that environment is sampled in a spatialized format, the digital artisan then has the ability to choose from endless angles and positions – as well as the ability to introduce new items into that environment with ultimate control and precision.

Along these lines, Williams foresees a greater synergy between motion capture and digital animation, with digital libraries stocked with models and character motions to be molded, concatenated and spun like virtual clay.

The future belongs to the artist who can

bring an understanding and skill of the wonders and dynamics of animation into the digital arena. It's not as simple as swapping pencil for mouse (or stylus), or animation stand for hi-res monitor. What it takes is a strong understanding for *both* the cel and byte – how they work, where the boundaries exist, and most importantly, how to break them. Steve Williams hits it on the head, stating, "It's all about the challenge — the challenge of doing the impossible and to pursue blind curiosity."

Telling stories and creating illusions is magic and today's digital magic has made the word "reality" infinitely pliable. As history has proven, what is often initially viewed as simulation, be it the art of the 16th century Flemish and Dutch Masters or black and white films, is often later revered as art. So too will the digital hyper-realities that we've seen over the last fifteen years be revered, making today's "effect" tomorrow's work of art.

* Leslie Bishko, "Expressive Technology: The Tool As Metaphor of Aesthetic Sensibility," *Animation Journal*, Fall 1994: 74-91.

** Valliere Richard Auzenne, *The Visualization Quest* (London: Associated University Press, 1994), 127.

Bill Hilf lives in San Francisco where he works for C/NET: The Computer Network as Technical Producer for NEWS.COM (<http://www.news.com>). He has studied and worked in animation and wrote his master's thesis on the new forms of storytelling in the digital age (available online at <http://www.sirius.com/~web-wonk/thesis.html>).

Going Digital And Loving It

by Guionne Leroy

I was born in Belgium in 1967, and studied animation at La Cambre in Brussels from 1987 until 1992. I've made several personal animated short films in clay but only one using computer technology. From 1993 until 1996 I worked in the States on the animated features *Toy Story* and *James and the Giant Peach*. However, I came back to Belgium a year ago, due to the chance to pursue some more personal work through a commissioned piece illustrating opera music for the French company Pasavision. This clay animation piece titled *Arthur* is still in production. We hope it will be finished in September. What is special about the project, however, is that we're using a digital camera.

A Unique Idea

This commissioned work has a tight

budget, which means I must work with a short shooting schedule, a small team, and no ambitious sets. It was a challenge to come up with rich visuals that were interesting enough to fulfill the task of illustrating such vibrant opera music. Then Stéphane Simal, who offered to co-produce the film, started to talk about an idea he had, about using a digital camera.

This was new to me, as so far I have done all of my works in a traditional manner using 16mm and 35mm film. Since the images we shot would be directly entered into the computer, it has opened the doors to infinite possibilities throughout post-production. Also, I



Arthur, the main character of the film, is a clay figure.

have been able to utilize far more ambitious visuals than such a budget would normally allow. These are the aspects that seduced me. For example, my idea required stylish landscapes that the character could travel in and interact with, but we didn't have the studio space or the equipment for such large sets. So I shot solely the foreground against a blue screen and was able to add a 2D painted background later.

I have been able to utilize far more ambitious visuals than such a budget would normally allow.

Endless Possibilities

Once the images were stored on CD-ROMs, we used a Macintosh computer and Adobe's After Effects and Photoshop software to contin-



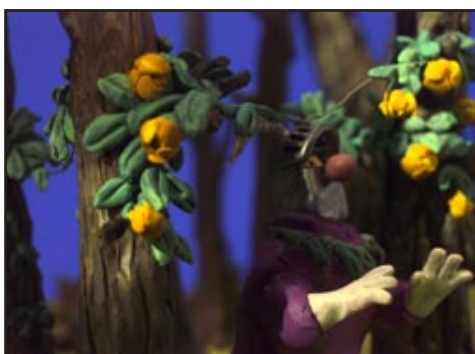
A digital shot from the work-in-progress.



Shooting in front of special green and blue screens enables compositing of backgrounds in the computer.

ue to build the film. These tools allowed me to create a background, which was a painted sky with moving clouds, or mountains with additional atmospheric touches like fog and lighting changes. I would never have been able to accomplish this through traditional animation methods. I was also able to add finishing touches like motion blur, sparks, shock effects, and more. Another added bonus was that I could correct mistakes like camera bumps or displaced props which can otherwise ruin a shot. I also digitally removed set supports for a sequence with flying butterflies. All of these kinds of tricks are usually reserved for big budget productions.

I appreciated the fact that when shooting, I could see the days



Thousands of digital images like these are stored on CD-ROM for the creation of individual frames in the film.

results in the form of quick-time movies. I found it a stress-free (almost) and faster way to work. This, for me, compensates for not being able to look through a traditional camera lens to view the image. Referring to a monitor creates a kind of distance that I used to consider inconvenient.

Most of all, it really opened the door for me to have more creative freedom and a lot of fun!

Basically, I found this way of working very exciting because it is so flexible and allows so many possibilities. I found the digital camera to be a great tool to use in conjunction with traditional 3D animation like puppets and clay. In fact, it brought the piece to a quality level hard to achieve without a large budget. Most of all, it really opened the door for me to have more creative freedom and a lot of fun!

Guionne Leroy is a Belgian animator who, since completing her education at La Cambre in 1992, has worked on animation productions around the world, including feature films, commercials and commissioned short films.

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Computer Animation 101: A Guide for the Computer Illiterate Hand-Animator

By Jo Jürgens

So, you're a traditional animator. You have years of experience in hand drawn, classical animation, but your knowledge of computers is limited to typing the odd letter in Apple's SimpleText, only to forget saving the file before you turn off the computer. Would any computer animation studio be interested in hiring you? Absolutely!

As any animator is very well aware, the success of films like *Jurassic Park* and *Toy Story* have led to an explosive growth in computer animation. If the need for qualified classical animators is huge these days, the need for good computer animators is even greater. This is ironic, given the fact that literally thousands of graduates from computer animation courses, as well as computer animation enthusiasts working at home, are applying for jobs. However, very few of these people have the talent required to do feature film quality work. "We receive about 2000 reels a year," says Pixar recruiting manager Rachel Hannah. "About 4 percent of those are interesting to us. There has

been such a growth in animation that the supply of talent cannot keep up with the demand. Most skilled animators are already under contract for an average of 3 years, so most studios are faced with hiring inexperienced students with great potential. We've done so with great success."

The reason for this is simple: it doesn't take more than a basic home computer and \$200

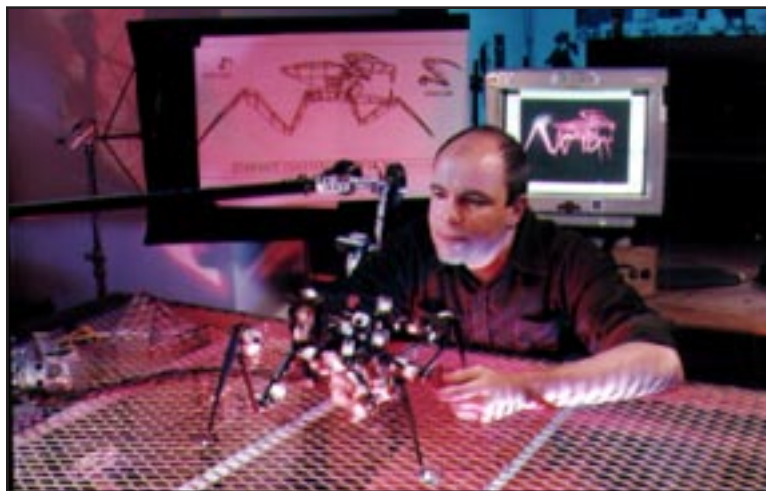
just by pulling down some menus and punching a few buttons.

"Software today is so powerful that virtually anyone with the patience can do some tutorials and copy a walk cycle pose-by-pose from a book using built in shortcuts and effects to end up with a decent looking demo reel," says Jeremy Cantor, the animation supervisor at Tippett Studio. "But that doesn't make them an ani-

imator. Walk cycles rarely demonstrate animation skill these days because there are so many available sources from which one can simply be copied frame by frame."

"A lot of the people who want to become animators only know how to run a computer," says Industrial Light & Magic animator Steve Williams, who supervised the animation on *Terminator 2*, *Jurassic Park* and *The Mask*. "That's a real problem. I hired every animator at ILM while I was there,

and to this day I have never seen one single good animator who couldn't draw, model in clay, animate or all three. Period. That's it. Most people who say that they can animate that have only



Many traditionally-trained stop-motion animators have moved into careers in the special effects industry. At Tippett Studio in Berkeley, California, animator Craig Hayes animates a puppet attached to a Digital Input Device (DID), which sends a digital record of the movements to a wireframe model in the computer. Tippett Studio is contributing all of the creature effects to the upcoming TriStar production *Starship Troopers*.

worth of software to start doing some sort of 3D animation. Many programs come with "out of the box effects," whereby anyone with the dedication to read the manual can achieve fancy looking effects



Mary Lynn Machado, a technical director at Rhythm & Hues studio in Los Angeles, works on a Silicon Graphics Octane computer workstation to create models for animation.

worked on computers have no idea what they're talking about."

Cantor is a little more diplomatic. "A few years ago I would have said that a good character animator definitively must have traditional (cel or stop motion) experience. Now I believe that computer animation has been around long enough that people can become very good character animators even though their only training tool has been computer software. We do however absolutely prefer to hire 'artists.' Traditional artists tend to have a creative sensibility that strict computer people lack. Those skills really do make a difference."

However, there is not always a lot of communication between traditional animators and computer animators. Many old-school animators still live under the misunderstanding that computer animation is far too technically complex to be any fun to do. They envision bleary-eyed computer programmers typing "move arm 45.93 degrees to the left, 19.17 degrees up." Or they think it is far too simple, anticipating college kids with no idea about the principles of animation, hitting a button that says, "Happy walk, 16

frames."

Of course, neither of these horrifying visions is true. Today's character animation programs are all designed with traditionally trained artists in mind and try to make the jump from 2D to 3D as pain-

less as possible. At the same time, although these programs are extremely powerful and offer enormous control over animation, modeling, lighting and so on, they still require that an educated artist sits in front of the computer and makes the decisions on every little nuance of movement.

Okay, so how do you actually animate on a computer?

The Technical Stuff

Okay, so how do you actually animate on a computer? Although the techniques and terms described here vary a little from program to program, the principles and the process are basically the same. Digital character animation can be described as a hybrid mix between puppet animation and cel animation. It is similar to puppet animation in that you are dealing with a three dimensional character that can be looked at from every possible angle, and that you are posing it in three dimensional space. The similarity with hand drawn animation lies in the fact that you work according to the pose to

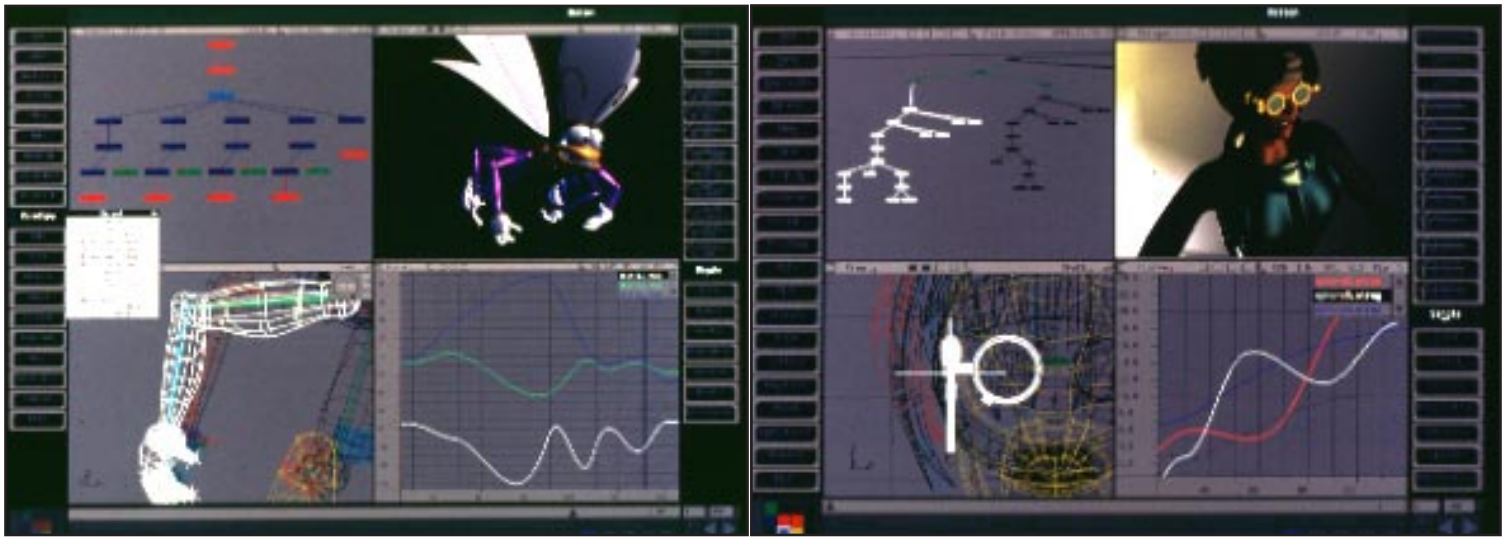
pose principle, creating key frames that resemble key poses in drawn animation. You control the way the computer creates the inbetweens, just like an animator will write instructions to his inbetweener in the corner of each drawing.

Modeling

Before any animation can be done, a model has to be created. At larger studios, this is usually done by modeling technical directors (TDs), who do not do any animation. A computer model can be constructed from geometric primitives, like spheres boxes and cylinders, but that's not much help when it comes to creating organic looking characters. Usually the modeler will use splines, which are lines whose curvature is adjusted with little handles on the control vertices which are located at the start and end points of the spline. By connecting numerous splines and dragging them around in three dimensions, a computer model is created. The model may be entirely created in the computer, or based on a three dimensional scan of a clay model.

Bones

A problem in many computer animation programs is that they don't allow you to have continuous skin between separate body parts. Therefore, the hand, the forearm, the upper arm, etc. have to exist as separate objects that are not connected. A limited number of programs, however, allow you to create the character in one piece. This is known as a mesh. This mesh only provides the "skin" of the character and is hollow inside. To move the different parts of the body separately, you then have to construct a virtual skeleton inside the mesh



Two examples of the computer animator's "palette." The wireframe model can be seen on the lower left, with the fully rendered character on the upper right. The charts on the upper left and lower right enable the animator to control motion and sequencing. This screenshot was created with Softimage for Windows 95/NT.

and connect parts of the mesh to each individual bone. Thus, when you move the forearm bone, the control vertices associated with that bone will move the body accordingly.

Key Frames

The first principle that a computer animator has to learn is key framing. A key frame in computer animation is a frame on which the animator has specified the start or end of a movement, or a change of direction. As an example, to move the arm of a character, the animator will set a key on frame 10 (A), indicating that this is where the movement begins. Then he jumps forward to frame 20 (B) and creates a new key, on which he puts the arm into its end position. Thus, from frames 11 to 19 the arm will be moving from position A to position B.

But as any animator knows, the different body parts of a character don't start and stop moving all at the same time. Therefore, the animator will generally set keys for the different body parts on different frames, so that the shoulder moves from frame 10 to 20, whereas the elbows starts moving

on frame 12 and stops on frame 23. Of course, he can then go on and refine the timing by shifting the position of key frames. A good program will also allow him to copy and paste key frames between shots and even between characters. The exact position of a character's hand in one shot may prove useful as a starting point for posing the hand of another character in a completely different shot.

"Traditional artists tend to have a creative sensibility that strict computer people lack." - Jeremy Cantor, Tippett Studio

Function Curves

Function curves are one of the most important tools a computer animator has. The term varies from program to program. Motion graph, velocity and channels are just some of the names used. Using function curves you can edit the slow in and slow out between key frames. By default the inbetweens created by animation software give you smooth, mechanical inbetweens that do not change speed. This is why so much com-

puter animation looks weightless and slick, as if the characters are floating in outer space where there is no gravity. To avoid this problem, the animator needs to spend a large amount of time adjusting the exact shape of the function curve between each key frame. This determines the exact amount of movement per inbetween.

Function curves also allow you to edit the motion and location of every object in every frame of a shot. Lets say that you have animated a walk but you want to make the arms swing a little more quickly. Of course you could adjust every key frame by eye-balling the movement, but since the body is also moving, it can be difficult to see the exact differences as you make your changes. Therefore, it is easier to edit the shoulder's function curves instead. Each object or bone has curves associated with it that control the movement, rotation and scaling of it along the x, y and z axes. To increase the shoulder's rotation on certain frames, you simply adjust the position of the curve that represents the shoulder's rotation from front to back. Unfortunately, most programs don't allow you to use the

function curves to edit the motion of an object, only the speed. This considerably increases the time required to animate a scene.

Hierarchies

The skeleton of a computer character is constructed as a hierarchy, where the first bone is known as a parent, and the bone connected to it is called the child. The upper arm is the child of the torso, but at the same time it is the parent to the lower arm, which is the parent to the hand and so on. The bone on the top of the hierarchy will in most cases be the pelvis, with the feet, hands and head at the bottom.

“A lot of the people who want to become animators only know how to run a computer,” says Steve Williams... “That’s a real problem.”

Inverse Kinematics

The problem with hierarchies is that movements can only translate down the hierarchy, not up. If you move the upper arm, the shoulder and hand will follow, since they are the children. However, if you move the hand, the rest of the arm will stay still because it doesn't react to the movements of its child. With inverse kinematics however, you can move the bone at the end of the hierarchy and make the rest of the body follow. This eliminates the computer animators biggest problem, keeping a character's feet on the ground still as the pelvis moves. Without inverse kinematics the feet would be sliding around every time you move the pelvis or legs. With inverse kinematics you can lock the feet down in space and let the software keep them there.



Animator/director Phil Tippett works directly on the Silicon Graphics screen to adjust the scale of a computer generated character for TriStar's *Starship Troopers*.

Lights, Camera, Render!

Once the animation is completed, it has to be rendered. The computer analyses each frame and creates the final image, based on the information it has regarding the location of the models in the scene, the surface of the model and the lighting. At large production houses, technical directors take care of all of these aspects. Some create texture maps that are laid on the model, providing detail such as skin texture or fabric. They also decide how shiny or reflective each object should be. Others position all of the objects in the scene and compose shots using a virtual camera with real world parameters such as depth of field and focal length. Yet another technical director lights the scene, setting the position, direction, color and intensity of each light source. As with the camera functions, lighting in most 3D applications is designed to recreate lighting techniques in the real world. Needless to say, experience from related fields such as painting, cine-

matography, photography or stage lighting is an enormous advantage for a technical director, just as the ability to draw or sculpt is important for a modeler.

So, What Do I Use?

Unfortunately, only a very limited number of 3D applications offer the tools described in this article, as most programs are geared toward special effects, web design, flying logos or spaceships. Popular programs like Infini-D, ElectricImage, Strata StudioPro, Ray Dream Studio, or Truespace Caligari will not be of much help if character animation is all you care about.

By far the best programs available are Softimage 3D and Alias Power Animator, but these cost about \$7000 and only run on very expensive Silicon Graphics and Windows NT workstations. In the medium price range, the big sellers are Lightwave 3D (for Macintosh, Silicon Graphics and Windows 95/NT) and 3D Studio/3D Studio MAX (Windows 95/NT), which cost \$1500 and

\$3000 respectively.

If you want to concentrate solely on character animation, however, you're much better off financially with Martin Hash 3D Animation (available for Macintosh and Windows 95/NT), which offers all of the above tools for just \$200! Its more expensive big brother is called Animation:Master, which offers more rendering and compositing features, but includes the same modeling and animation tools. To run version 4 of the program, the minimum requirement is a 100 MHz Power Mac or Pentium with at least 16 megabyte RAM, whereas version 5 requires 160 MHz and 32MB RAM. For 3D Studio and Lightwave 3D, you will need an even more powerful computer. Whereas you will probably have to sell your house, car, stereo and grandmother to afford to run Softimage or Alias.

Getting a Job

If animating characters in the digital world is all you want to do, then don't try to learn anything else. Knowledge of specific software is generally not important, unless the company is on a tight production schedule and has no time for training new employees. For smaller shops with smaller budgets, or if you want to go out on your own, you will usually be required to know more than just animating and have experience with the software that the company is using.

Your showreels should *only* contain your best work. If you have 90 seconds of good character animation and 4 minutes of not so good material, make the showreel 90 seconds long. *Always* put your best work at the beginning. Believe it or not, if you don't capture the recruiter's attention

within 15-30 seconds, the tape will often be ejected! To make sure you won't lose the recruiter's interest, avoid using those old clichés that everyone has seen a thousand times before, such as space ships, robots, camera fly-throughs, lens flares, flying logos, or reflective spheres on checkerboards all accompanied by loud techno music. These may seem impressive and professional looking to you, but will make the poor souls on the hiring committee, who usually have to endure hundreds of showreels each week, reach for the air sickness bag.

**As long as you make 'em
move, make 'em act, make 'em
live, you have a chance.**

Pixar recruiting manager Rachel Hannah elaborates, "Animators should include the work that they are most proud of; particularly work that shows their storytelling and acting abilities. We like to see pencil tests, stills, sketches, and so on. If someone has computer experience then, of course, we'd like to see that as well. If someone's worked on a long piece of animation with others, it's best to supply a credit list explaining what their individual role was. Music is not important and [the reel] should only be 2-3 minutes in length."

"If someone is applying for a character animation position, they simply need to show character motion," adds Tippet Studios Cantor. "Resolution, modeling, lighting and so on doesn't really matter as long as the motion looks good. If you are applying to a company with the following attitude, 'I can do a lot of things, where do you think I'd fit in?' then

by all means show all your best stuff like lighting, modeling, texture mapping, and so on."

In short, if you're one of the lucky ones who can animate a character with good acting and great movements, finding a job at any computer animation company should not be too hard. Whether there is any computer animation on your showreel really doesn't matter that much, nor is it of much importance if the animation you're showing is from your latest gig as a supervising animator on *Hercules*, or just pencil tests shot on Super-8 at your college in Vladivostok, Russia. As long as you make 'em move, make 'em act, make 'em live, you have a chance.

Jo Jürgens is a writer and animator based in Norway. He is currently working on Animated Conversations - Interviews with the World's Greatest Animators, which is slated for publication in 1998.

2D and 3D: Together For The Better

by Sean MacLennan Murch

While 3D animation has proved itself as a master of realism, it has often been accused of failing to capture the feeling and characterization that classical animation has offered audiences for the past century. The animation industry has begun to respond to this feedback, and has adjusted its priorities accordingly. More and more we are seeing a hybrid of classical and 3D animation; each technique being utilized for what it does best. Bringing inanimate objects, or those with simple geometry, to life is well within the digital realm. However, organic figures such as humanoids and animals have continually been proven more convincing when created with pencil and paper. For instance, we all loved *Toy Story*, but many of us were disappointed with the way the human figures were designed and animated. They seemed to be out of synch with all the great looking, more geometrical, toys.

One creative and economical use of 3D animation can be evidenced in many of the recently released classically animated features. Backgrounds, camera moves, crowd scenes, and machines of all descriptions have been modeled and animated digitally. In many cases this approach can save both time and money. More importantly, it also enhances the look of the film. Duncan Marjoribanks is one of the top character animators at DreamWorks Feature Animation with experience as a lead animator spanning over two decades. He was responsible for bringing to life such timeless characters as Abu from Disney's

Aladdin, and Sebastian the crab from Disney's *The Little Mermaid*. On the topic of 3D animation and digital effects, Marjoribanks' advice is clear. "Wherever it works, by all means, use it!" Marjoribanks notes that "in traditional features, what computer animation does best is to improve the quality of a production, rather than saving money over hand drawn methods." DreamWorks' soon to be released, *The Prince of Egypt* uses extensive digital animation and effects in their rendition of the Parting of the Red Sea and in the vast multitudes of "extras" necessary for a biblical epic. When asked about the use of 3D modeling and animation for crowd scenes, Marjoribanks declares, "They (the 3D animators) are welcome to them." There are limitations however, to modeling in three dimensions. While it is relatively easy to redraw a 2D character model, it can sometimes be more difficult to radically change a digital model. As Duncan points out, "It's hard to tweak a 3D model too far, without something breaking."

The dialogue has begun between the once very separate mediums of 3D and traditional animation.

Classically Effective

Just as classical studios such as DreamWorks and Warner Bros. are striving to make the most of new technology, 3D producers are looking to classical animation to augment their craft. Whether in the form of separate 2D levels, or in the use of classical tim-



Toy Story demonstrated that while computer animation is great for animating geometrical forms, organic materials, such as fabric or fur, are still a challenge for 3D computer animators. © Disney.

ing and characterizations, 3D companies are "getting back to basics" in order to improve the entertainment value of their products. In one case, Vancouver based Radical Entertainment, one of the leading video game developers in North America, is using 2D reference animation as a guide to aid their 3D animators in achieving the best timing and motion possible. Jack Rebbetoy, one of Radicals senior producers notes, "We have explored the use of motion capture for our games and in many instances, this approach seems to capture the essence of the motion that we're looking for, in other, more complex situations, however, we have to rely on a traditional 2D animator to capture that same essence. In addition, we often want to exaggerate these motions for effect. With motion capture, you are limited to the physical abilities of your actor." Exaggeration, of course, plays an integral role in classical animation and is one of the prime reasons to use animation rather than live-action to tell a story.

Using laws of physics and motion, the



The Lost World: Jurassic Park, featuring CG animation by Industrial Light & Magic (ILM). © Universal/Amblin.

goal of the digital realm has historically been to re-create reality. 3D animators and animation software developers try to emulate the real world as closely as possible and it is disappointing when this new reality falls short of convincing its audience. Perhaps this boils down to the difference between reality and perception. While software developers strive to create an environment that replicates the real world, classical animators tend to focus more on people's perception of the world, on what they actually want to see. In many cases the entertainment value comes from when the animation diverges from reality. As any good actor that is acting for the theater's back row will say, you must exaggerate your motions and reactions just in order to have them read to the audience. Furthermore, we don't go to mainstream animated films to be given a dose of reality. We have documentaries for that. We go to animated shows for the fantasy element, and to be entertained. We don't want to have to guess if a character was surprised by some on-screen event, we want his or her eyes to bulge a good three feet out from their sockets. We expect it.

Three Dimensional Benefits

The truth is that 3D animation does have a lot to offer in the way of both production value and entertainment. For starters, 3D generated backgrounds exist as an important asset, once created. The same environment can be re-lit, re-shot from a different

angle and re-used time and time again. Much like a live action set, these digital assets can amortize the cost of a production without compromising its quality. Characters can be tweaked and re-rendered to perform a different role in a later scene, or cloned for large crowd scenes. In the classical, hand drawn world this could mean countless new drawings and a quickly disappearing budget. In terms of principle characters and character animation, new developments in hardware continue to increase the quality level of available textures, effects, and motions at an ever reducing cost.

3D companies are "getting back to basics" in order to improve the entertainment value of their products.

One of the world's most prolific producers of 3D animation is Mainframe Entertainment, producers of the widely successful television series *Reboot* and *Beast Wars*. Chris Brough, one of the principles of this publicly traded company describes their approach to 3D animation: "What we really did was look at technology and figure out how to empower that technology from a creative tool aspect, thereby allowing our animators to do just that – animate." In order to accomplish this task, Mainframe employs a team of twelve software developers whose sole task is to make the software interface more intuitive for the animators. This allows the artists to concentrate more on the creative aspects, rather than the technology of 3D animation. As Brough states, "...therein lies our creative and our competitive edge." On the business side of the equation, Mainframe has also capitalized on the aforementioned "digital asset" aspect of the 3D environment. Brough explains that "there are so many other business and revenue opportunities. It's the same digital database that we explore with the

Reboot ride films (for IMAX), the first of which gets delivered next month. It's the same database that we create toys from. With our own proprietary software we translate our database into 3D models that we can create physical molds and models from. We've recently done that successfully with Irwin toys. We can make interactive properties. We could feasibly create, based on the size of our database, a fantasy world that would take you hours, if not days, to navigate. All this is digital, so whatever the future delivery systems are from a technological aspect, we can prepare ourselves for it. I think that communication companies, in time, will understand the significance of this."

With the recent exposure of high quality 3D animation in feature films like *Toy Story* and *The Lost World*, it looks as though the market for 3D animation is strong. As Marjoribanks points out, "The talent base of 3D animators is still very young. There is no telling what 3D character animation can become. It is still too early in its development to know its unique capabilities. There is also still lots of room for collaboration between 3D and 2D animators." At DreamWorks, 3D and 2D artists are now working side by side in every department, from layout through animation. As software developers and animators continue to work towards a more classical approach to digital animation, the future also looks bright for hybrid 2D/3D productions. The dialogue has begun between the once very separate mediums of 3D and traditional animation. It is this dialogue between animators that will drive the art and the craft of animation forward into the next century.

Sean MacLennan Murch spent four years in London working as both a producer and executive producer. For the last two years he has been based in Vancouver, where he is currently employed as the Director of Development at Natterjack Animation Co. Ltd.

Digital Harmony: The Life of John Whitney, Computer Animation Pioneer

by William Moritz

Computers were originally developed as part of the British and American World War II defense efforts. They were first known as "Turing Machines" after Alan Turing who invented them to break Nazi codes — the film of Andrew Hodges' biography was recently broadcast as *Breaking the Code* with Derek Jacobi portraying the inventor. The young John Whitney worked in the Lockheed Aircraft Factory during the war and while he was working with high-speed missile photography, he was technically adept enough to realize that the targeting elements in such weapons as bomb sites and anti-aircraft guns calculated trajectories and produced finely-controlled linear numerical equivalents, which could potentially be used for plotting graphics or guiding movements in peacetime artistic endeavors. A decade would

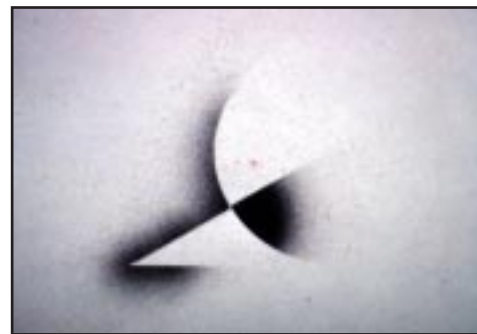
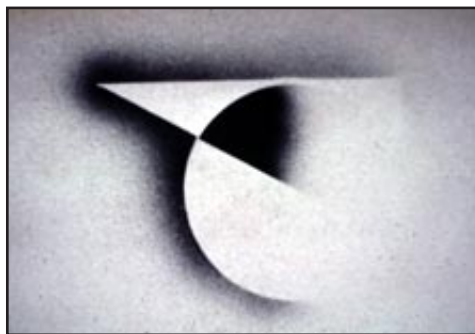
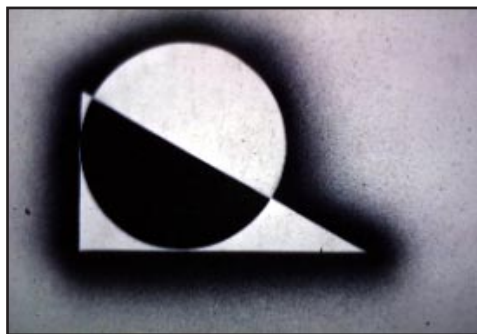


Pioneer computer animator John Whitney Sr. in 1959, operating one of the first computer-graphics engines, a mechanical analog computer built largely from surplus World War II anti-aircraft guidance hardware. The camera is in the upper left, aiming down through the apparatus that "paints" the film with light. Photo by Charles Eames.

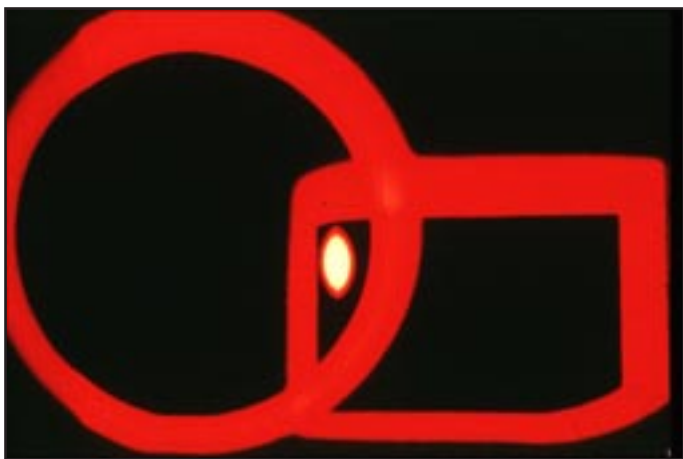
pass before he was able to buy some of these analog computer mechanisms as "war-surplus" and construct with them his own "cam machine," which pioneered the concept of "motion control."

John Whitney's active film making career endured over 55 years, and 40 of those years were devoted to computer work.

In the meantime, Whitney had made about two dozen films in more or less traditional animation. Among these were: in 8mm, a time-lapse of an eclipse and several drawn *Variations*, in 16mm two *Film Exercises* accompanied by electronic music composed by Whitney with a system of pendulums he had invented, and about 10 abstract musical visualizations using an oil-wipe instrument he



Animated sequence from *Variations*.

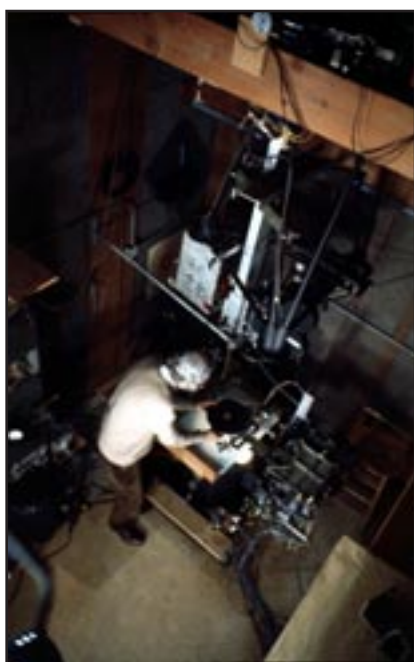


Film Exercise # 4.

had also invented as well as three 35mm cartoons for the UPA studios. He also did various commercial assignments including the title design for Hitchcock's feature *Vertigo* (in association with Saul Bass), and the preparation (in association with Charles Eames) of a seven-screen presentation for the Buckminster Fuller Dome in Moscow.

Motion Graphics

With his computerized motion-control set-up, Whitney could produce a variety of innovative designs and metamorphoses of text and still



John Whitney with his cam machine, used to create special effects and films such as *Lapis* and *Catalog*.

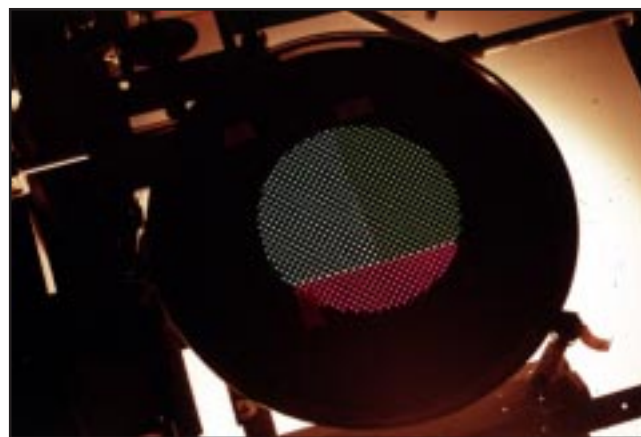
images, which proved very successful in advertising and titling of commercial projects. By 1960 Whitney prepared a sample reel of these and other effects he could produce, and solicited work for his Motion Graphics, Inc. company. This company kept him so busy he did not have time to make personal films using the computerized motion-control set-up. His sample reel was artfully edited and ended with a lovely final image of a lissajous curve multiplied dozens of times, to appear twisting in waves, suggesting the time-lapse of a blossoming flower. The reel was released as *Catalog* and became a popular classic of 1960s psychedelia. John Whitney's younger brother James, who had collaborated with him on the early *Variations* and *Film Exercises*, used John's cam machine to shoot his fabulous film *Lapis*. By multiplying the hundreds of dots in his hand-drawn original artwork into thousands of dots he described the most complex mandalas writhing with life.

With his computerized motion-control set-up, Whitney could produce a variety of innovative designs and metamorphoses of text and still images...

Not all of the motion-control effects business for Whitney's "cam machine" ventures went in his favor,

however. One of the possibilities demonstrated in *Catalog* is the slit-scan effect. Someone else duplicated the effect for the feature *2001*. Ironically, Whitney had submitted to them a proposal for a monolith as a computer-generated effect that would have looked different from anything else in the film. He was turned down.

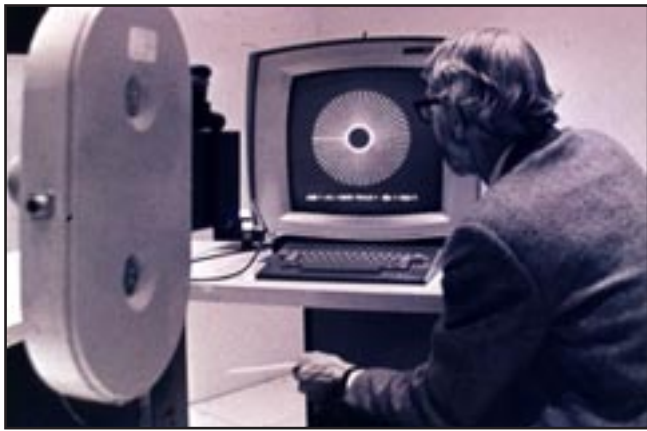
Whitney had an opportunity to work on the new high-powered digital computers between 1966 and 1969, when he was awarded a fellowship as artist-in-residence at IBM. Jack Citron programmed the IBM 360 Digital computers for him. His first computer generated film is rarely seen, but delightful. Whitney



John Whitney's cam machine

titled the film *Homage to Rameau* not only because Rameau wrote the baroque music heard on the soundtrack, but also to reference Rameau's book *Treatise on Harmony*. This text focused the direction of Whitney's aesthetic strivings, culminating in his 1980 book *Digital Harmony*.

At approximately the same time that Whitney worked at IBM in California, other artist-in-residence programs in the East allowed Stan Vanderbeek and Lilian Schwartz to work with Ken Knowlton at Bell Labs. Vanderbeek's *Poem Fields* mainly uses his clever texts as subject matter, and Schwartz's abstract music films, though colorful and



Whitney's set-up for filming computer animation from a monitor screen, during an artist residency at IBM Labs.

well-paced, seem too similar, hampered by the limitations of the Beflix program. By contrast, John Whitney's computer films grew continually more intricate in their exploration of a genuine aesthetic goal: the establishment of a secure basis for harmonic events in audio-visual presentation.

Whitney's computer films grew continually more intricate in their exploration of a genuine aesthetic goal...

Harmonic Progression

In each of John's next five films [*Permutations* (1968), *Osaka 1-2-3* (1971), *Matrix I* (1971), *Matrix II* (1971), *Matrix III* (1972), *Arabesque*

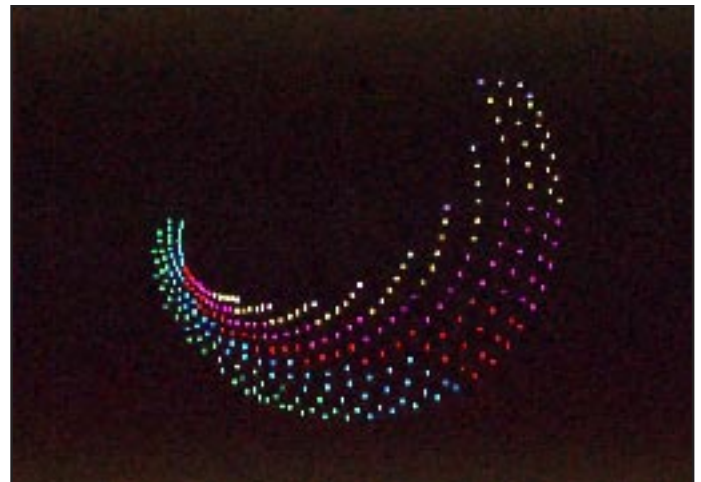
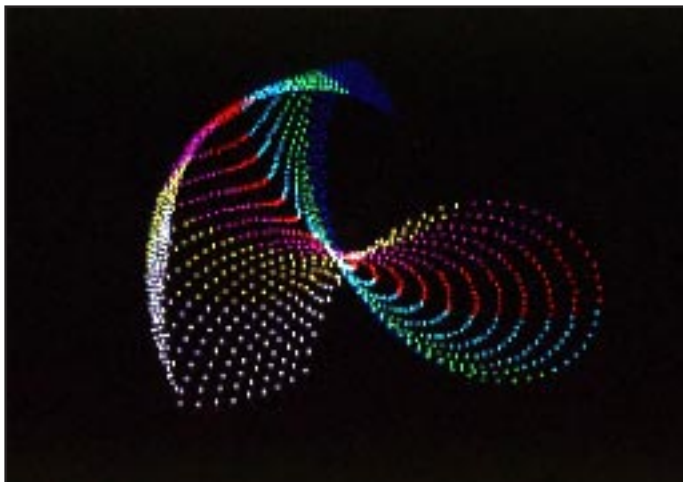
(1975)], he demonstrated the principle of "harmonic progression." For example, in *Arabesque* (programmed by Larry Cuba), Whitney experimented with the eccentricities of Islamic architecture, which, though ultimately harmonic, contain many characteristic reverse curves in its embellishments.

Whitney also made three documentary films on the subject of digital harmony. In 1979 he completed *Experiments in Motion Graphics*. His 1973 *Hex Demo* for a lecture at Cranbrook was included on a laserdisc of his works issued by Pioneer in 1984. He also completed in 1993 *A Personal Search for the Complementarity of Music and Visual Art* which is available through Pyramid Film and Video.

In the later 1980s, Whitney concentrated on developing a computerized instrument on which one could compose visual and musical output simultaneously in real time. His first piece on this new instrumentation, which was improved and updated constantly, appeared as *Spirals* in 1987. Although the

compositions were linked to the particular computer set-up, and defied many attempts to copy them onto film and video, Whitney continued to compose new visual-music pieces until his death in 1995. The *Moon Drum* series in 12 sections based on Native American ceremonial art was most notable. Although less brilliant than the original computer monitor display, a satisfactory video version of *Moon Drum* was released. John Whitney's active filmmaking career endured over 55 years, and 40 of those years were devoted to computer work. This is a remarkable record for any independent filmmaker, but particularly astonishing for the continued quality and vision of Whitney's films.

William Moritz teaches film and animation history at the California Institute of the Arts.



From sequences of *Spirals*, a piece of "visual music" created by Whitney on a computer program he designed in the late 1980s.

CGI: A Rich Country's Toy

by Olivier Cotte

We often hear about computer generated imagery (CGI) from the U.S., U.K., Canada, France and Japan. Advertising, special effects for feature films, musical clips and TV jingles give us proof of this reality and festivals exhibit the best of the best new creations. However, outside of these five countries, we don't know, or have little idea, what is being produced. Why do we know so little about computer generated imagery from the largest part of the planet? There are several possible answers:

1. Computer generated imagery really doesn't exist in some countries.

2. There is an industry of computer animation but these can just be broadcast in their own country of origin (for cultural, legislative or quality reasons).

I have in previous articles insisted that computer animation is very expensive. This represents the major problem for the creation of an industry. It's obvious that CGI is a rich country's toy. If you want to do a quick survey, just consider how many average individuals own a personal computer around the world. It's important in the U.S., Canada, Western Europe, Japan, and some Asiatic countries, but just try to estimate what proportion of the population in Gabon owns a personal computer. We also have to understand that working with sophisticated software requires specific training that can be learned at school or in studios. But if there are no schools or not too many stu-

dios, the face of the industry is difficult to change or even create. The last problem, can be faced everywhere regardless of a nation's economic status. When no one wants to make something different or unusual, visual evolution ceases. However, if interesting films are produced or inventive companies try something new, the others in the industry have to follow and change is inevitable. In a country where few films are produced, the images will generally look more old-fashioned to viewers from a more media saturated country.

Now, let's ride across the globe's



surface to see what is there...

Western Europe

Europe houses hubs of activity in countries like France and the U.K., but other European countries are also engaged in interesting productions.

While most of Germany's advertising is made in the U.K. or France, Germany still has several studios that specialize in computer animation. However, the most important

point about Germany is the universities. They are gems. For instance, the University of Karlsruhe is one of the most important and one of the first to be interested in teaching CGI. In 1986 they produced *Clip8* by W. Leister, which was synthesized by Vera-Raytracing. The school focuses on giving a future-oriented education. The ZKM, Institute for Visual Media, is linked with the University of Karlsruhe. Ninety-two people from all over the world create CGI in a multimedia laboratory, where a spirit of cooperation between artists and programming experts exist.

The German culture has generated interesting creators, such as Monika Fleischmann and Stösser Achim. Monika Fleischmann was awarded at Ars Electronica in 1992 for *Home of the Brain*. She believes that, "If we don't support digital art and media culture the quality of life will be lost through the dominance of the machines." She works with Wolfgang Strauss, (media Architect), Christian Bohn and Dirk Luesebrink (computer scientists).

CGI is important in Belgium because the country has a long tradition of comics and animated films. Early on they began to produce CGI films like, *Fourmis* by Luc Petitot in 1988. Several schools even have specific CGI training courses and for a little country it certainly contains many studios. Some of the more prominent ones are: Little Big One which is well known for its rides like *Devil's Mine*; Imagique who have a Silicon



Graphics station and several Macintoshes; NewWave International; Movida; and Bertvan Brande Compagni BVBA. These companies produce a large range of images and film sequences as well.

Things are different in Scandinavia however. Due to a small population, the countries have a small market. Therefore, while the countries have high economic standings, and plenty of schools and engineers there are few studios with equipment. Finland has just 5 million people and a lot of their advertising on television comes from the U.K. Their film industry basically does not use special effects or musical clips. Production is largely made solely for television. In Norway and Sweden the situation is basically the same but the market is bigger. The quality of their advertising is well-known, but generally shot in live action. Even if many classical animation studios exist, CGI is not used.

The Netherlands has a strong industry and several interesting creators like Irit Rosen, Robin Noorda, Peter Lemmen, creator of Electrogig's *Adam & Eve* (1990), and Kees Van Prooijen, creator of Electrogig's *Crossfire* (1989). Of course, Susan Amkraut, creator of 1989's classic computer animation *Eurhythm* with Michael Girard, is

also Dutch. They now work on more virtual reality projects with a system named 'Menagerie.' The Dutch have several elements working for them. They have a number of excellent fine art schools and we cannot forget that there are a number of television channels in the country as well. This brings a market to the people and important advertising activity. Plus, their specific culture always pushes them toward finding something new and better.

Switzerland is a small country with three languages but no economic problems! Schools have an important part to play, especially the School of Art in Lausanne (École Cantonale d'Art de Lausanne), and the Genève University where Nadia and Daniel Thalmann both work. Daniel Thalmann began in 1977 in Montreal where he directed a CGI and animation department. Now he has directed several films and he's the creator of the famous Marilyn Monroe in 3D. Nadia Thalmann directed *Dream Flight* and *Flashback*. She was nominated Woman of the Year in 1987 by the Montreal community.

With more than 900 television channels in Italy we would imagine that we would find a lot of computer animation studios and in fact, that is the case. Unfortunately, the productions have low budgets and as a result it is difficult to create important studios. Very often, post-production companies will have a CGI department rather than real, big time CGI studio.

A country in Europe that has changed very quickly in the last ten years is Spain, but the situation is quite the same as in Italy. There are a number of small companies like Animatica, VideoCamino, Telson S.A., Producciones Triplefactor and ONIS. Something that may change

the face of the Spanish industry is the creation of a unique university. Silicon Graphics has created, with the University of Balearic Island, a training studio named StudioBIT. Classes include 2D and 3D modeling and animation, digital editing, compositing and virtual set production techniques for the real-time market.

CGI is less vital than other industries like producing electricity for the population.

Eastern Europe

CGI became interesting, both technically and artistically in the world, exactly at the same time as all the countries of Eastern Europe turned into an economic nightmare. Industrialization is still weak and of course, the production of CGI is not the first preference of the presidents of these countries. Despite this, we can make note of a new generation of studios that have arrived. For instance, in Minsk, Belarus, a television company named Validia, was created in 1994. They perform work for other countries in their own well-stocked animation studio. In February 1996, they created their first film, *Home Sweet Home*, that was widely awarded. Now they produce 10-15 minutes of material per month. They are, at this time, finishing an animated film, *Sharman* (5 min.) and an animated serial for a German television company.

We can always find individual pioneers in Eastern Europe. For instance, we have to know the work of Hungarian Tamas Waliczky. Born in 1959, this painter, traditional and computer animator and member of the ZKM Institute for Visual Media has had his works



selected at Ars Electronica, Centre Georges Pompidou, Paris and SIGGRAPH. For a time, he even used to work with an Atari!!!

Africa

When discussing Africa, we have to separate the northern part from the rest of the continent. The North has an Arabic civilization and language. Several studios exist in conjunction with small television stations as CGI is predominately used for this medium. A large part of the television that is broadcast to the North African countries comes from Egypt where the television industry is very important.

Below the Sahara there really isn't a CGI industry. Due to the small specific market and weak economic powers CGI is not used in this part of the continent. Producers do not have enough money to use this technique and many advertisements are live-action. Feature films are rare and also use only live action. South Africa is the exception to this rule. A lot of international productions come to shoot in this country, as a result a range of post-production and CGI facilities have been present for years.

South America

For the same reasons, the economical situation in South America

does not allow an important CGI industry to thrive. In advertising and on television, post-production effects replace computer generated images. Brazil is one exception. We all remember TV Globo. In fact, the multimedia division of this television channel, ruled by José Dias, is the biggest in Brazil. Ten years ago, we waited with interest to see the imagination and the beauty of their productions. Now, this department continues to give us a fresh look of what good quality pictures can be. Some other companies also do great work. For instance, Mario Barretos Intervallo produced an advertisement for Mastercard which became a Finalist in the Computer Animation category at the London Festival '96. They also produced a television series that included CGI. In their studio they have 18 micros and 3 Silicon Graphics machines. Also deserving a mention is Argentina's Profilms, run by Pablo & Florencia Faivre.

Just try to estimate what proportion of the population in Gabon owns a personal computer...

Middle-East

In Israel there is important production. Television is popular and advertising is a huge industry. They have the economic power, a market and trained people when they need them. All conditions are go! The Israel Institute of Technology is a university that produces interesting work as well. Unfortunately, the rest of the Middle-East is not as active. Thank goodness, Egypt continues to give programs away via satellite.

Asia

India is the largest film producer in

the world. In fact, India has a very big film industry, but specialized in live-action. Even classical animation is rare. CGI is, one more time, replaced by post-production effects. Their post-production equipment is modern because of the U.S. having economical interests in it. I remember I saw *The Mahabharata* on television and it contained a lot of electronic thunder lights, live characters on blue screens and other phenomenal effects. Furthermore, this was when I visited the country in 1989!!! But things change. Several companies are interested in building studios in India. For instance, Gribouille, a French company has a studio in Madras where a television series *Excalibur*, which is based upon the drawings of Philippe Druillet, is produced.

From the sub-continent, we visit Asia proper. It's necessary to know that in these countries, the situation changes very quickly. For instance, let's look at Vietnam. After the war and a hard political situation, this country has just reached freedom. Now, new industries can be developed. Today, two studios are already being created, sometimes through an international collaboration. For instance, *Sparx*, a



French company has a studio in Saigon for television series production. Sometimes French animators will go to Vietnam and teach the people how to use software. The other company is Sang Tao Corporation who work with PC computers.

Hong-Kong and China have a CGI industry. China has several studios with 10 to 15 individual SGI stations each. This is possible because CGI companies are financed by large Chinese companies. For these big companies, a CGI studio represents a tiny percentage of their overall activity. Of course, a lot of Occidental groups have begun to be trading partners. In Hong-Kong, the most famous company is AeroGraphix.

Europeans and North Americans wonder why they know so little about Asian production, but in several countries, like Indonesia, a law requires production companies to make advertisements solely in their own country. Thailand has excellent studios and schools like Kingmongkut Institute of Technology, however, they only work for national distribution and for other countries such as China. This kind of product will never reach the Occidental community. The rest of Asia is sprinkled with activity, the heaviest being in Korea where there are a number of companies. The most famous is Seoul-



based Bisontek, due to their work with France's ExMachina for *The World of the Material* directed by Jerzy Kular. The National University of Singapore produces exciting works, like those of Dr. Tat-Seng Chua. In Bangkok, a company named Iloura, a subsidiary of an Australian studio, produces mostly advertising. They use SGI stations and Explore software. Usually, they finish their film with post-production stations like the Harry from Quantel.

There is an important difference between Japan and the Occidental countries and the rest of the world - not a cultural difference, but an economic one.

Australia and New Zealand

Australia and New Zealand are two countries that are becoming more and more interesting and powerful. As part of the Pacific culture (understand U.S. + Japan + Korea + South East Asia), they are destined to have a huge importance in the years to come. Australia already has many studios and several very good schools for studying animation. The School of Design at Curtin University of Technology (Perth, Western Australia) and the Royal

Melbourne Institute of Technology (Media Arts, Department of Visual Communication) where M. A. Gigante works are just two.

New Zealand is particularly involved in film production. The landscapes are so beautiful and various that many American production companies shoot there and, like South Africa, utilize the post-production facilities. Furthermore, The University of Otago, with Dr. Geoff Wyvill, is a very attractive place, especially for research.

Finally...

There is an important difference between Japan and the Occidental countries and the rest of the world - not a cultural difference, but an economic one. CGI is less vital than other industries like producing electricity for the population. CGI is a toy not necessary for a large part of the world. For instance, there is nothing in Cambodia or Laos. North Americans and Western Europeans are beginning to create studios all around the world for economic reasons, i.e. cheaper animators. As a result, it will bring knowledge to developing countries that they can then use as a tool. The next years will be interesting to follow.

Olivier Cotte is a Paris-based director and computer animation artist, whose credits include Terra Igconita.



Interview With Milan Zivkovic: Belgrade's Bikic Studio Attempts A Comeback

by Heather Kenyon

While in Annecy, I had an opportunity to speak with Milan Zivkovic, C.E.O of Belgrade's Bikic Studio. Founded in 1989 as a private, independent company by Veljko Bikic, the studio currently employs ten animators and roughly ten to fifteen technicians. Like most studios, they hire more people when work appears on the horizon. Mr. Bikic has been in the animation industry for over 25 years and has won many prizes at international film festivals like Leipzig, Annecy, Zagreb and Tampere. The studio is his heart-felt creation that he sometimes funds by selling his own possessions like his car and apartment. With this money he would be able to pay his staff so that they could stay in the studio and draw and practice. The studio specializes in the combination of live-action and animation. They were actually one of the first studios in Europe to combine the two when they completed the German produced *Hatchi-Puh* in 1986. This Serbian studio is currently trying to revitalize their business after six years of sanctions and war. In Annecy their short *Big* was in the short fiction films competition. *Paradise*, which was also presented at the last Hiroshima Festival, and over 20 other short animated films which have been produced over the past few years were screened at the MIFA. At their MIFA booth,



Milan Zivkovic, writer, director and CEO of Bikic Studio.

Bikic Studio was promoting two projects which they have in the final stages of development: *Captain John Pipplefox*, a feature animated film for a general audience, and *Pinkuluses*, a television series for children. Besides, rebuilding from a war, this studio faces another problem, a problem that plagues studios throughout the world - the lack of a market.

The War's Impact

HK: How did the war affect your business?

MZ: We suffered a lot like the rest of the country. We didn't have any contact with the rest of the world for about six years, which impacted our business tremendously, which affected our talent and that

affected our lives. So many people from our business left the company, and are working around the world, including the States, Canada, Australia, etc. For the first time, this year we are out of the country and trying to rebuild, re-establish what we were six or seven years ago. This festival [Annecy] actually helped us back in the Seventies, because our films were shown here and awarded here. Then we got several co-productions with the Canadians and Germans. But everything stopped after the war started. So this is our first outing after the sanctions, and our first try to make new contacts and explain to people that we are still able to do business.

HK: Did last year's Zagreb festival help you?

MZ: Yes, we were there. We were very surprised that they invited us, but we sent our films. We got the message from our friends that it would be better for us if we didn't come, because they couldn't guarantee our safety. Still, it was the first gesture of a good relationship on their side, and our films were well received there.

HK: How did the war affect the ties within the animation community within the former Yugoslavia?

MZ: Now we are separate countries (Serbia, Croatia, Slovenia, Bosnia, Macedonia), but we try to



The Paradise (1994), a short film directed by Nedeljko Ubovic for Bikic Studio.

keep close professional ties with them. When we meet here or somewhere else in the world, we are good friends still. We don't talk politics and we just talk about what we are doing and how we can help each other. Unofficially, we talk to each other over the phone and we meet somewhere else and we try to rebuild the professional relationships we had. But politicians are still avoiding to come to a solution which will help us all rebuild the country. We hope that through the art of animation, or any other form of art, that we will be able to do that. Because we weren't in the war. We were not shooting at each other. Some other people did. And we all suffered the consequences of that.

“We didn't have any contact with the rest of the world for about six years...”

Living Under Sanctions

HK: The sanctions are now lifted. Do you have a fine supply of materials or is it still a problem?

MZ: Very much so. We have to go abroad for each and every item we need. Since the country is in such an economical state, its very, very hard and expensive for us to get any materials. So what we are trying to do is to make partnerships, collaborations, providing services for Western European countries, and

through those deals, to get some materials for our own productions. Yugoslavia never even actually produced, even before the war, most of the materials which are needed for the production of animated films. Normally, we have been able to buy but now because of lack of money, it is impossible. During the sanctions, we smuggled it in or friends brought it in suitcases, and things like that. Even pencils and paper, cels. Not to mention sophisticated stuff like software for computers. We constantly lack film stock to shoot the films. Our laboratory is closed, so we have to go either to Bulgaria or to Budapest or somewhere else for post production services.

HK: During the sanctions you couldn't produce a thing?

MZ: Well, we survived. First of all, this company in particular, managed to survive by making commercials for Yugoslav companies. And we developed other lines of product, like design, like making documentaries and industrial films, things like that. Whoever would pay something, we would go for it. We managed to survive, thanks primarily to some good friends from abroad, who helped us, who knew us from before.

HK: They gave you work?

MZ: Right, unofficially. We can talk about this now, since its over, but then they were at a big risk. There is a very interesting story about a Swiss ambassador, who was an art collector and who loved animation very much. He, on his own risk, through diplomatic channels, brought some technical materials into Yugoslavia. He was called back by the Swiss government, and was charged. I

think that he is not in the diplomatic service anymore, because of the sanctions. He was not doing it for his own interest, but to help us out. But because of that he suffered a professional loss. There are a few other people who were lucky and were not caught in doing this, and thats how we survived.

HK: Its amazing that in the midst of a war, you were still being asked to do commercials for products. These commercials were commissioned from inside and outside of the country? In secrecy?

MZ: Yeah. We did quite a few commercials ... primarily due to the name of Mr. Bikic, who is a very well-established animator and designer. Everybody knew him. Thanks to that, people didn't care about the sanctions or anything, they just went for the right product and the right person. It always went through a middle man. Now officially the sanctions are off, and nobody can touch them for what they've been doing. I think they are actually proud to help us out in this situation, and we appreciate that very much.



Artists at work in the studio.



Bread, a ten second commercial.

Talent Flight

HK: Is it hard to find trained people?

MZ: Very hard. We have a pool but we also have a training ground for young people who are finishing up schools, or designers who like animation. We bring them into the studio, and one or two of our animators work with them and introduce them to the art of animation. So we have constantly a flow of young people coming in. Unfortunately, not many of them stay in animation, because there is not enough work for all of them, so they have to find something else to do. On the other hand, the salaries we can offer are not big enough to be so appealing to them, so they move to something else.

HK: To another country?

MZ: To another country or another job.

HK: Do you think as time goes on, though, people will come back? I should think that if you'd left your home country, you would always want to come back as soon as it was possible again.

MZ: Well, that is my case. I left before the war started, three years before. I left because I did not feel comfortable there. Once I found out that there was a chance for political change, I went back. But I never

cut the ties with personal and professional friends. I was there two or three times during the year, they would come and visit. We always have been working on something together.

Starting Again

HK: How much work were you doing prior to the war and with which companies and countries?

MZ: Altogether, we produced, prior to the war, around 1,000 minutes of animation for our own productions. Then we worked on a long series for a Canadian group, and provided services for them. We worked with a German company on a feature film, a combination of live action and animation. We did all of the animation for them. Right after



Sisyphus (1992), a short film directed by Vladimir Stanec.

that job, the war broke out. Once we established a position in the animation community, we were cut off.

HK: How is it going now?

MZ: Its building up. Its a very slow and painful process, but...

HK: Do you find that people are reluctant to talk to you once they know that you represent a Serbian company?

MZ: Not for political reasons or anything to do with the war, but because people are very conscious of the risk involved in putting their money in a country which is eco-

nomically and politically unstable. That's why people are reluctant. But we invite everyone to come to see for themselves, our studio, our facilities, watch how we function, and to show them through complete products, that it is possible to do business with us. More and more people are coming, mostly those who knew Beograd before the war. They understand better the situation now. Its much easier to explain to someone who was familiar with the situation before, what's going on, than to someone who is totally unaware of the whole history. We use this opportunity to re-establish contacts and make some new contacts and to try to persuade people that we are as good as we were before, that we are as capable of doing the things that we did before. Now there is a great advantage for them because our prices, for our services, for the quality we are giving, are very competitive, even compared to Southeast Asia. That's the main advantage people see in being with us.

"During the sanctions, we smuggled (supplies) in or friends brought it in suitcases, and things like that."

HK: Do you feel that now your studio is completely able to do a large production?

MZ: I think so definitely. We lack some technical facilities. We cannot do post production. But in terms of classical animation, we can do anything which can be done anywhere in the world. I say that not only to promote ourselves, but based on the fact that whomever saw our materials here (in Annecy) were very appreciative of the quality of animation. In terms of technique and



My World (1996), a short film directed by Snezana Trstenjak.

art, I think it's as good as any.

Smuggling Software

HK: What other sort of technical aspects do you think you lack?

MZ: Computers, software, the right software. We have been dreaming about buying Silicon Graphics for a year now. We are saving money for that. We have some software. We use 3D Studio Max, Digital Fusion and ADOBE Premiere, but [Softimage] Toonz we still don't have. We were just negotiating with Microsoft to give us a discount for Toonz.

HK: Can you talk about that for a bit? How many systems, or what do you have?

MZ: We are working on PCs, Pentiums.

HK: For ink and paint?

MZ: Right. We have only four computers. Some of the software we developed ourselves. Some of it was stolen. There were sanctions, so nobody cared about the copyrights at that time. But now that the sanctions are over, we have contacted those companies to say, 'Okay, we have the hacker's copy of your program, now we want to buy the real one.'

HK: What is their reaction?

MZ: They laugh! Because

Yugoslavia is still uncharted territory for most of the Western countries. They don't even consider us, like they do with the copyrights in China or other countries in Southeast Asia. It's such a small market that nobody really cares...yet. But once it opens and once we start to build it, of course, they will put their hand on it and get tighter control. So we were treated like smugglers, like rebels, and we became like that, in certain ways. If we couldn't get the right software, we would break through it and get it. As you know, there is a market for that. You can buy it anywhere in the world. For ten dollars you can get software which costs thousands and thousands of dollars. We are neither proud nor ashamed of that, it was just necessity. Now that we are dealing with serious companies, we have become more serious in our business plans. So, we are putting aside those years and this practice, and are building the studio from the ground up.

"We would like to sell our talents and brains, not only the labor."

Tomorrow's Outlook

HK: Are you hopeful for the future? Do you think that soon it will be how it was before the war, or do you think that you still have economic hurdles, supply hurdles?

MZ: I think it's going to be very difficult. This year is going to be very tough for us and the next one too. But we wouldn't be here [Annecy] if we didn't believe that the change is possible for the better. That we are capable of persuading people that we can do a quality job. Even though the circumstances, political and economical, are working against us, we hope and believe

that we can manage to survive, to build a company, to purposely take one or two steps back, to where we were ten years ago, in order to gain the ground and start moving forward again.

HK: Is there anything else you want to add?

MZ: I wish that American animation companies would let us Europeans show the American public...that there is stuff which is produced here which is as, or almost as, good as what's produced in the States. And I wish that the monopoly of the huge American corporations in the media industry, is softened a bit. Let us show that we can do something which has an interest for the American public, and not only ask our animators to come over and work. They are not asking for product. They are not asking for anything but just for the plain labor. And I think we can offer more than that. Not just our studio, but Europeans in general. We would like to sell our talents and brains, not only the labor.

HK: Would you be interested, for instance, in doing contract television product, like South Asia? Is that a market that you would look to be interested in?

MZ: Of course we would. We would be very much interested in collaborating, very much interested in providing services. We would appreciate very much to learn from the Americans, because we believe that they are the leaders. They are the best in animation, like in any other media industry. What we wouldn't allow to be done to us is to become a colony of some big corporation. Do you know how long it takes to create an animator? Seven to eight years of hard work. Lots of money and lots of work goes

into it. And they, Disney and Warner, they want to get the final product for nothing. That's not fair. But we cannot stop people from living in Paris, or London or even Los Angeles. I cannot blame people for going for their well-being, but it's the system I don't approve of. Our industry is going down the drain because we don't have animators. Big studios took them. We don't have funds to produce anything decent. And of course, you cannot see in European theaters, a European feature film. From your wildest dreams you will never see an animated feature film from Europe playing in theaters in the United States. I guess it's the market law of the strongest, made by the strongest for the strongest.

HK: Is the animated product on television in Yugoslavia predominantly American programming?

"We were not shooting at each other. Some other people did. And we all suffered the consequences of that."

MZ: Yes, most, and we can't even fight them in our own country. That's how it is. What I was trying to do, because I lived in the States, I wanted to learn so much. I wanted to bring their expertise to our part of the world. I always thought that competition was a good thing. The NBA (National Basketball Association) can play in Europe if you allow it to happen. But if you take the cream of the crop over there, and you leave the rest to us, then we really cannot compete with you. The public doesn't care where it (programming) comes from. But I don't think it's good for the industry. They're becoming self-sufficient and too self-indulgent in what

they're doing. Unless they see some strong forthcoming around the corner, they'll just feel content at what they do. It just might happen that American media industry gets hit very hard, as it happened to American car industry some twenty or so years ago. I think it's much cheaper to build a studio in Budapest or Beograd or Prague, and have development and production there, than it is to run the studio in Burbank. Then it would be a collaboration, and not exploitation. All of us have our little pride, and if you try to put us down we get angry at that.

Heather Kenyon is Editor in Chief of Animation World Magazine.

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Beiman's Progress

How hard work and *The Fates* helped Nancy Beiman to her rightful place in the Pantheon of Disney animators

by Janet Benn

She has animated Bugs and Donald, Snoopy and Goofy, friends of Fievel Mouse and Mickey Mouse, Don Martins humans and Chuck Jones' Martians. Nancy Beiman has worked for Jack Zander, Rick Reinert, the Disney Channel, Disney television movies, Warner Bros., Bill Melendez, Gerhard Hahn and Steven Spielberg.



Nancy Beiman in her studio at Walt Disney Feature Animation. Photo by Gary Krueger. © Disney.

Now, as Supervising Animator for *The Fates* and the *Thebans* in Disney Feature Animation's current release, *Hercules*, she has reached a place she has been working toward for 20 years. It seems fitting that she should be acting in the *Underworld*: well suited to her talents as a caricaturist and her strong New Yorker's individualism and cynicism.

A CalArts First

Beiman was fated to be taught by the colleagues of the Nine Old Men at the California Institute of the Arts from 1975-1979. As Tom Sito has described in his remembrance of the 1976-77 production of *Raggedy Ann and Andy* (*Animation Magazine*, April/May, 1997) those years saw the last productions of the old generation, and the first efforts of the new.

Through a string of coincidences worthy of her weird sisters' invention, Beiman was chosen to receive a scholarship to the inaugural class of the Character Animation

Program at CalArts. She had already been accepted at New York University, but instead she went to California.

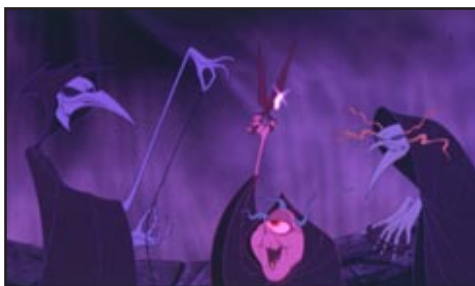
"I went to the right school," Beiman told me recently. "That was an incredible course. You had Jack Hannah teaching Animation, Elmer Plummer with Life Drawing, T. Hee teaching Caricature, Ken O'Connor doing Layout. These are legendary people. One non-Disney person, Bill Moore, was a design instructor at Chouinard Art Institute for 40 years. This turned out to be the most important course of all, since everything else works out of good design. I was very lucky to be there when they were all there. There were two other girls in that first class but by the end of '76 I was the only one left. I was the first to graduate in 1979. Since Jack Zander had already hired me, I graduated three months ahead of the guys."

Nancy explains how this happened, "I was heading back to

New York [on a school break], and Jim Logan (who was at Dick Williams' studio in Hollywood) told me to look up his old friend Jack Zander when I was in New York." At Zander's Animation Parlour, the Art Director reluctantly agreed to take a look at Beiman's student film. "He's looking at the cat film and he goes, 'Who did this?' 'I did.' 'You did this?' 'Yes, sir.' 'Excuse me, I think Jack better have a look!'

So different from the time nearly twenty years ago when Beiman stood alone as the first woman to graduate from the CalArts Character Animation Program

"Zander looked at it for a minute and said, 'I've seen enough! Get over here! Sit down, draw me something!' Jack said later, 'You were 21 years old, you looked 14, and no one had ever heard of CalArts!' She continues, "No one had ever seen a student film with Disney style animation in it. Jack wanted to be sure I wasn't faking it! I think I drew some little sheep for him. And he said, 'Get in my office, sit down! You wanna go back to school? To Hell with school! Sit down, we'll pay you! Start working!' But I said, 'Mr. Zander, my parents will scream at me if I don't have that diploma.' 'Allright. Why don't you work for me this one week, and then you come back in



The Fates, characters of destiny, animated by Nancy Beiman for the film *Hercules*. © Disney.

January, after you get it?' he suggested." There were some phone calls to California, and "that's how all this foofraw started. So I started working for Zanders in December of '78 and went full time in March of '79."

Beiman is a traditionalist who has nevertheless broken ground for women in unprecedented areas. As a result of her first job, she was the youngest person and one of the few women ever to be initiated into the New York Union (Motion Picture Screen Cartoonists Local 841) as an animator. Later, she was to become a director in New York for Warner Bros. on their first attempt to revive six minute theatrical shorts production after the demise of Paramount's Famous Studios in the '60s. Even though this was 1991, there were still few female animation directors in New York.

Taking up residence among the cliff dwellers of Manhattan, her preferred habitat, she did well, becoming one of the principal animators for Zanders commercial spots and *The Gnomes* television special. In 1982, she left to pursue freelance opportunities which included her first Disney assignment.

Dogs And Ducks

"I've been working for Disney for a long time, but not necessarily in

[the] Animation [Division]. I started in '82. I was freelancing for Rick Reinert Productions, which was subcontracting for Disney. I worked on *Winnie the Pooh and a Day for Eeyore*, the original Disney Channel station breaks, and a lot of educational stuff for Florida with Donald Duck. In 1986, work started getting rather thin on the ground, and Dean Yeagle and I formed Caged Beagle in an attempt to get commercial production going again. It was the wrong time to start a studio in New York City, though we did subcontract work from Warner Bros. on their *Quackbusters* feature.

"I then went out to California and picked up work from Bill Melendez, who was a wonderful, wonderful boss. I worked on a show called *It's the Girl in the Red Truck, Charlie Brown*. It was a really elaborate animation with live-action combination, with Snoopy's brother Spike. What I loved about it was, Spike had never been animated before, and the directors said, 'Do what you like with him.' Spike doesn't talk, just like Snoopy. So this was the first fully pantomimed character I had done. Boy, was he fun! I mean, I had more fun on him than just about anything.

"In '88 everything died. So I saw a magazine article that said, 'Don Martin cartoons to be done in Germany.'" Nancy sent her reel, not really expecting much, if any, response. "Then I get a long-distance call, [a voice] with a heavy accent, that goes, 'This is Gerhard Hahn, from HahnFilm. Can you get on ze next plane? How many years can you stay?' And I said, 'Whoa, whoa, there. Here's what we'll do: why don't I come over for thirty days to Berlin, and I'll work on your

Don Martin commercial, and we'll see if we like each other?'

"I made some very dear friends over there. The Don Martin job was a really wild commercial for the Swedish election of 1988, where I worked with some Danish animators and met Borge Ring. I found HahnFilm to be a pleasant place in which to work. The *Werner* project we did was a lot of fun. It was a feature, the most successful German film since 1945, and the sequel [*Werner, Eat My Dust*] has broken that record. I mainly did storyboard on *Werner* and also some animation. I went to Annecy [Animation Festival] in '89, and was approached by the Spielberg people [to work on *An American Tail: Fievel Goes West*]. I said to Gerhard [Hahn] as he was just about to start full production, that I always wanted to work in England, and this was about my only chance. So we parted on very amicable terms.

Beiman is a traditionalist who has nevertheless broken ground for women in unprecedented areas.

Cats And Mice

"[At Amblin in London] I was originally hired as an animator, but I was a supervisor within six months. I was doing a great deal of footage, and I'd asked for Miss Kitty, who was unassigned. I got the promotion. Kitty, I thought, is one of my best assignments: she was a great voice. Amy Irving did a sort of Mae West accent. Her dialogue was a little crazy, so I suggested to Simon Wells, one of the directors, that since she had scatterbrained dialogue maybe she should be

scatterbrained in her actions. This was enthusiastically accepted. So I had a lot of freedom in her choreography.

"Then, instead of going onto the next feature, I went back to New York to work for Greg Ford on a Bugs Bunny show that I would direct. So, I tell people I change countries the way some people change socks! I've always been a person who prefers to live where I want to live. You know, I could have made more money going out to L.A., let's face it, in 1982, when Rick Reinert offered to bring me out there. I hung on as long as I could in New York, and then went to Europe, because I like to live in a cosmopolitan city."

Beiman was piling up credits like trophy heads from jobs which were coming, Hydra-like, from all directions. Nancy started her move West, like Fievel, with her next job for Warner Bros.

Beiman was piling up credits like trophy heads from jobs which were coming, Hydra-like, from all directions.

Bugs in New York City

Warner Bros. opened a production studio in New York in 1989 in the historic Film Center Building on Eighth Avenue in the Hell's Kitchen district. Nancy's first directing assignment was to be a compilation program of 30 minutes' length titled *Lunar Tunes*.

About it, she says, "I tell people, saying you've done a compilation picture is like saying you've had an illegitimate child! We had to take the Martian cartoons of Chuck



Nancy animated on Disney's *A Goofy Movie* while working at their studio in Paris. © Disney.

Jones and incorporate them into this new stuff." Chuck Jones has always been one of Nancy's heroes. "I do feel like I'm doing him a terrible disservice, so we did not have direct hookups from old animation to the new. They are kept strictly separate. The old footage is presented as evidence in a trial. And I've literally put it on a motion picture screen, which is modeled on the old Art Deco fixings that were in our studio. Plus, no one said the 'old footage' had to be animation! There's a montage sequence of which I'm still rather proud, called 'Know Your Neighbor,' where you have Marvin say, 'Here's how Earth creatures portray us!' And it's all these clips from Grade Z live-action horror movies."

A feature of the recent (June 1997) Cartoon Network weekend of Bugs Bunny cartoons was one which had never been seen before, called *Blooper Bunny*. This was the second film made at the New York studio. Nancy recalls, "*Blooper Bunny* was directed by Greg [Ford] and Terry [Lennon]. It had a very elaborate computer animated background at the beginning of the film that was done by the Kroyers [Bill and Sue]. [In New York] I animated Bugs and Daffy matching to these computer backgrounds. Elmer [Fudd] was done by Dean Yeagle; Yosemite Sam was done by Nelson

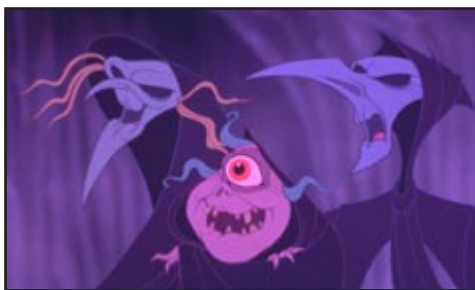
Rhodes in New Mexico. So, we actually had the scene worked on in three different cities. The film was extremely amusing, it just aired this week. I would love to hear what people thought of it. I would love to hear the reviews, because, of course, we were very proud of it, and we were very happy that it aired."

Nancy knew that her time at Warners was limited. "Warner Bros. closed the New York Studio in 1992. I was supposed to go back to Germany, but Gerhard [Hahn] did not get financing for another feature. I wound up working for the Phillips Sidewalk Company in L.A. with Gary Drucker and Rebecca Newman on a now-dead system called CDI. CDI went at 10 frames per second, but looked like full animation."

The Mouse in Burbank

However, the CD-ROM system was to win out in the marketplace and the divine hand of Disney plucked her from the shady Underworld of soon-to-be-obsolescent CDI technology, to act Goofy and eventually shoulder the labors of *Hercules*. *The Goofy Movie* was produced by Disney Television, and was first released theatrically to critical acclaim. "In 1993 I got a phone call from Disney Television [in Burbank]. They said, 'Would you like to work for us on *The Goofy Movie* in France?' I said, 'When do I leave?' They needed a Supervisor [Supervising Animator] with experience who was very mobile and could live in Paris for a year.

"I was Supervisor on Roxanne, the girl, and also did a lot of work on Goofy and Pete. They gave me the opening scenes in Goofy's house, since they wanted a 'Jack Kinney-



"They were completely surreal characters, more 'graphic' than 'character' animation," notes Beiman on animating *The Fates* for *Hercules*. © Disney.

style' Goofy. They said, 'He's a very sensitive character later in the film, so we want to lead in with something where the characters behaving like the Goofy the audience always knew.' So they wanted me to do something goofy with Goofy. I remember director Kevin Lima wanted him to dance the Mambo." When Nancy finished the animation, she showed it to him. "I wanted this to be the stupidest Mambo ever filmed! He said, 'You won! That's right!'" Nancy continues, "The choreography was like John Waters did it."

In 1994, Beiman continued working for Disney Television, this time in Burbank. She was getting closer to features, and at last the word came down. "In the beginning of '95, I was informed that John Musker and Ron Clements had asked that I contact them at [Disney] Features. They said, 'We would like to know if you'd do *The Fates* for us (on *Hercules*).' They showed me the Gerald Scarfe drawings, and some of designer Sue Nichols' work, and I thought, 'This is really exciting, very different.'

"You've got to realize, when you're brought up doing what you call the traditional Disney style, Scarfe's designs can look a little intimidating at first, but Gerald had worked in

animation before, so he would meet us halfway. If I said, 'Gerald, she won't turn. I need a back view,' he did it for me. And, I would combine the two designs, I would interpolate the two, making a happy medium. I did every scene on *The Fates*. They were completely surreal characters, more 'graphic' than 'character' animation. I figured that they were spirits, so they didn't need bodies. They were just heads and hands (and one portable eyeball) and the drapery suggested 'bodies' underneath. I designed *The Fates*, and *The Old Theban*, the *Fat and Thin Women*, and many other characters based on drawings by Gerald Scarfe.

"There were many women animating on *Hercules*."

"[Scarfe] is a gentleman and a professional. For example, as he was going to go back to England, [at the last minute] I said, 'Hey, Gerald, I forgot something! I need a bug!' I was doing this scene with these Thebans standing around the well, and a cricket has to hop in, and I didn't have a model for the cricket. He said, 'Big eyes or small eyes?' I said, 'I think big eyes.' He did this funny little jelly bean of a cricket, with giant eyes, that goes, 'Cheep!' and frightens all the Thebans. I also did the Painter in Herc's villa, who is, by the way, a caricature of Gerald Scarfe! Gerald had sent his drawing for the character and [Ron and John] said, 'You know, this looks a lot like him.' I said, 'Do you think he'll get mad at me?' And, I don't know if he knows it now, that he's in there."

Nancy Beiman continues today at Walt Disney Feature Animation in

Burbank, but she wanted you all to know she's not the only girl anymore. "There were many women animating on *Hercules*. Ellen Woodbury was the other Lead Animator. She did Pegasus. Caroline Cruikshank, Teresa Wiseman, and Terri Martin were all in the Phil[octetes] Unit. Catherine 'Catpou' Poulain worked on Meg[ara] in Paris. Gilda Kouros in the *Hercules* unit was our only Greek animator [as well]. [There were three] female animators in the Effects Department, and a number of Department Heads and Key assistants were also women."

So different from the time nearly twenty years ago when Beiman stood alone as the first woman to graduate from the CalArts Character Animation Program. Luck (or *The Fates*) had an influence, but raw talent and hard work, combined with a deep appreciation of a great tradition, tenacity and courage in the face of adversity were there and needed as well.

Janet Benn was Scene Planner, Layout Checker and Retake Supervisor on MTV Animation's Beavis and Butt-head Do America at MTV Animation in New York. She has worked in animation production for 20 years, and was an inker and final checker at Zander's Animation Parlour when Nancy Beiman was animating there. She was also the first vice-president of Women in Animation/New York, and has also officiated at ASIFA-East and Women Make Movies, Inc.

Digital Animation Programs: Three School Profiles

Sheridan College, California Institute of the Arts, The University of Southern California

Everyone knows the digital animator is currently a hot commodity. Here is how these three established schools are meeting the challenge of the new media age. Whether through the acquisition of grants, software and hardware or key faculty appointments, Universities and Art Schools are aggressively preparing students for the ever-changing future.

Sheridan College: School Of Animation And Design

by Robin King
Directors: Robin G. King and Scott Turner



Students at Sheridan College learning to use Silicon Graphics equipment.

Next year, Sheridan College will celebrate thirty years of classical and computer animation training and education. Known internationally for the quality and contribution of its graduates to the professional field, Sheridan has concentrated on educating animators in the fundamental skills which ensure high quality film and television productions.

A Long Tradition

The Classical Animation Program was started at Sheridan in 1967. During the 1970s, the curriculum was developed by a number of internationally-acclaimed faculty including Bill Mathews, a Disney animator. He helped to develop the classical style at Sheridan in the 1970s and has just retired from Disney. Many faculty return from the "real world" on a regular basis, as do graduates. Their experience and skill enriches the programs.

In 1980, Robin King started the Computer Animation Program which is a graduate level, eight month program and the first of its kind in Canada. This program has pioneered the development of teaching methods for artists, designers and animators using computer technology for animation and graphics production. Because of the programs early start and the high quality of the graduates, many now have senior positions in animation companies around the world. In addition to reinforcing the critical skills of traditional animation, students are well grounded in character design, motion and animation dynamics, and creative concept development.

Sheridan has graduated several students who have either won or been nominated for Academy Awards. In 1984, classical animation graduate John Minnis made a graduating film called *Charade* for which he later won the Academy Award for Best Animated Short. Another graduate, Steve

Williams, who developed computer animation techniques for *Jurassic Park* and *Terminator 2*, was nominated for his work on *The Mask* in the Special Effects category in June 1995. Steves first co-production, *Spawn*, is about to be released this month.

Another senior character animation supervisor, James Strauss, was nominated this year for *Dragonheart* in which he and eleven other Sheridan grads breathed magic into the voice of Sean Connery as Draco, the Dragon. ILM employs over thirty Sheridan graduates who have worked on films such as *Casper*, *Jumanji*, *Coo*, *Contact*, *Disclosure*, *Hook*, *Hunt for Red October*, *Forrest Gump*, *Star Trek (First Contact)*, *Star Wars*, *Twister* and the recent hit *Men in Black*. ILM has Sheridan grads among its animation staff in both film, television commercials and Lucas Interactive divisions.

Next year, Sheridan College will celebrate thirty years of classical and computer animation training and education.

Many other graduates can be found at other animation companies such as Disney Feature Animation, Disney Television, Pixar, Warner Bros., Fox, Pacific Data Images, Dreamworks, Sony Imageworks, Mainframe and other companies as far afield as Hawaii, Hong Kong and Singapore. This year they have commanded starting salaries

averaging over \$75,000 US with the top graduates being offered six figures!

A New Centre

This spring, The Ontario Government announced a funds-matching grant of \$12 million to Sheridan for a new Centre for Animation, Design and Emerging Technologies. The College is now in the process of designing and developing a \$24 million centre which will advance animation, design and media technologies and production. It will have both educational and research and development capability, and will be equipped for broad band, interactive communications and production. Private sector support and partnerships will form a significant support environment for this new venture.

Sheridan offers its three year classical program in two forms, three seven month "years," or over three summers in its International program. The Computer program consists of either one eight month period starting in September or a full-fee International program (\$16,000) which starts in January and runs until August.

Currently, Sheridan has over 2,400 applicants each year for 110 places in its Classical Animation Program and about 600 applicants for the 30 places in its Computer Animation Program (applicants to the program must have at least three years post secondary experience to apply, although no computer experience is required). This year a new major, Technical Direction, will be offered to exceptionally experienced students within the Computer Animation Program and will deal with motion analysis, advanced production,

Robin G. King, Director of the School of Animation and Design has been designing and developing creative educational programs in the arts and technology for over 25 years. He has

lectured extensively around the world in aspects of creativity, computer graphics and emerging technologies. He will also be a Panelist at SIGGRAPH in August discussing the relationship between education and business. special effects and high-end production techniques.



A computer generated image by CalArts' student, Albert Agazarian.

The California Institute of the Arts

by Michael Scroggins

The California Institute of the Arts (CalArts) is a four-year, fully accredited institution. The school includes all of the visual and performing arts within six schools: Art, Critical Studies, Dance, Film/Video, Music, and Theater.

The CalArts Computer Animation Lab was founded in 1983 by the Dean of the School of Film/Video, the late Ed Emshwiller. The Lab began with a single Cubicomp system but soon grew to include an SGI IRIS 3130 with Wavefront Technologies software. Today the department is comprised of a full suite of tools including 15 SGI Indigo² IMPACT workstations running Softimage/3D Extreme, Pixar Renderman, and Alias/Wavefront Power Animator and Composer.

A Mixing of Schools

The Lab is a major resource for educating students from throughout CalArts in the art of computer graphic

animation. It functions as both a teaching and production facility. The majority of students working in the Lab come from the School of Film/Videos Experimental Animation and Character Animation Programs and the curriculum reflects the specific needs of those disciplines; yet it is general enough to serve students working within the wide range of theory and practice found in other CalArts programs. The primary mission of the lab is not simply technical training, but the application of that training to art making. Students are expected to initiate, develop, and produce independent projects as a major aspect of their education.

A separate Computer Animation Program has not been established at CalArts since students are able to apply the extensive knowledge gained in their core programs to the particular concepts, tools, and techniques learned through the Computer Animation Lab curriculum.

The Lab is a major resource for educating students from throughout CalArts in the art of computer graphic animation.

Faculty and Alumni

Faculty teaching advanced courses in the Lab are drawn from working professionals and include artists such as Kevin Geiger, John Goodman, and Greg Griffith.

Kevin Geiger received his BFA degree in Painting and Sculpture from the Cleveland Institute of Art in 1989 and pursued graduate studies in Computer Graphics and Animation at the Ohio State University's Advanced Computing Center for the Arts and Design. His work in electronic media has appeared in the following settings: The VIPER '94 International Film and Video Festival, the Muestral International de Video de

Cadiz, Prix ars Electronica '94 & '95, Videonale, and SIGGRAPH '94 & '95. Kevin worked as a CGI Technical Director for Boss Film Studios where he created computer-generated creature effects for the movie *Species*. He is currently employed as a CGI Animator for Walt Disney Feature Animation where he is working on *Dino*.

John Goodman received a BFA from the School of the Art Institute of Chicago and has been working in the field of computer animation and design for over seven years. He is currently working at Rhythm & Hues Studios where his projects have included commercial work for Samsung Intl., Nippon Telephone/Telegraph, and Fox Entertainment, as well as game development for the Sony/Playstation.

Greg Griffith received a BFA from CalArts in 1990 and has been a member of the Computer Generated Imagery group at Walt Disney Feature Animation for over six years. He has contributed to such Disney moments as the ballroom sequence in *Beauty and the Beast* and the wildebeest stampede in *The Lion King*. In addition, his credits include *The Rescuers Down Under*, *Aladdin* and *The Hunchback of Notre Dame*.

There are more successful CalArts animation program graduates working in a broad range of filmmaking than could ever be listed here. Among the well known Character Animation Program alumni are John Lasseter and Pete Docter, who collaborated in the making of *Toy Story*, and Tim Burton, director of *Mars Attacks*, *Batman*, and *Batman Returns*, all of which incorporated computer animation. The well known Experimental Animation Program alumni are: Henry Selick, who most recently directed *James And The Giant Peach*, which utilized computer

graphic imagery, Larry Cuba, who made the classic abstract computer animated film *Calculated Movements*; and Christine Panushka, who recently directed the creation of the internationally acclaimed website, *Absolut Panushka*, which provides a broad overview of experimental animation.

The CalArts Computer Animation Lab has been supported by generous donations from SGI, Softimage, Pixar, Rhythm & Hues, RFX, ILM, The Ahmanson Foundation, The Roy Disney Family Foundation, The Norton Family Foundation, The Jones

Michael Scroggins has been a CalArts faculty member since 1978 and Director of the Computer Animation Labs since 1995. His animation works have been widely exhibited internationally including screenings at the Centre George Pompidou (Paris), Union of Filmmakers (Moscow), Seibu Ginza (Tokyo), and the Los Angeles County Museum of Art (Los Angeles).

Foundation, and Twentieth Century Fox.

The University of Southern California

by Dr. Richard Weinberg

The USC School of Cinema-Television has created a new division to educate graduate students and conduct research in the expanding and broadly defined fields of animation and digital arts. The Division of Animation and Digital Arts is at the cutting edge of animation and new media, exploring what is still to be imagined and producing work that expands the frontiers of the art of animation.

The Division of Animation and Digital Arts offers an undergraduate Minor as well as a Master of Fine Arts Degree



The computer lab at USC.

(MFA) in Film, Video, and Computer Animation. The MFA program explores the history and theory of the artform while emphasizing hands-on production of original creative work using traditional and contemporary media. While embracing traditional forms, the program strongly encourages innovation and experimentation and emphasizes imagination, creativity, and critical thinking.

The recently revised curriculum offers a wide range of courses taught by internationally acclaimed artists. During the first two years of the program, courses include film, video and computer animation history, theory and production techniques, experimental, character and computer animation, critical studies, life drawing and creative writing. The MFA degree program culminates in the third year with Directed Research and a Thesis project, wherein the student demonstrates mastery of the art of animation through the creation of an ambitious, original project.

Extensive Facilities

The facilities of the Division are extensive, with approximately 1 computer per student. Hardware includes Silicon Graphics O2s, Macintosh, Sun and Intel workstations, a Solitaire Cine II film recorder, and video and film editing systems. Software includes Alias/Wavefront, Softimage, Pixibox and many other packages. The School recently became the first university in

the world to host a Quantel Domino workstation for 35mm film digital compositing and special effects. These facilities, when combined with the Schools extensive departments of film, television and sound production provide an extremely broad range of capabilities for professional quality artistic exploration.

The School of Cinema-Television, located in downtown Los Angeles, is in close proximity to many of the leading studios and the major art museums of Southern California. This provides students with a wide range of opportunities for exposure to the industry and contemporary fine arts, including internships and employment.

The School (at USC) recently became the first university in the world to host a Quantel Domino workstation...

The Faculty

Full-time faculty of the USC Division of Animation and Digital Arts include:

Mar Elepano - Basic Motion Picture Techniques for Animators, Animation Production II, Directed Studies

Mar Elepano has been teaching at the USC School of Cinema/Television in the MFA in Animation Program since 1993.

He also serves as the administrative assistant and production supervisor for the program. He has been involved with Visual Communications, Inc., a Los Angeles based Asian-American community media arts group, since 1986 doing media workshops. From 1988-94, he was an artist-in residence at different Los Angeles high schools creating media pieces with young people. He also did similar workshops at the California Institution for Men in Chino from 1992-94. His film, *Winter*, has been exhibited at the Hiroshima International Animation Festival.

Christine Panushka - Introduction to

Film, Video, and Computer Animation, History of Animation, Expanded Animation, and Animation Production III.

Christine Panushka is a filmmaker/ animator whose awards include Grand Prize, Aspen FilmFest 1986 for *Night-time Fears and Fantasies: A Bed-time Tale for a Young Girl* and a Golden GateAward (Best of Category, Non-narrative) at the San Francisco International Film Festival 1985 for *The Sum of Them*. Her works have been screened internationally at such festivals as Hiroshima '85; First Japanese International Film Festival; International Animated Film Festival, Stuttgart, Germany; Lucca 16, Milan; and Toronto '84, Canadian International Animation Festival. An accomplished printmaker and visual artist, she brings to her teaching and her art an innovative point of view cited by critics as "completely original and capable of affecting both cerebral and sensual complexities" and placing her "in the front rank of contemporary animation." Currently, Panushka is working as a freelance animator as well as producing three of her own films. She received her MFA from CalArts.

Vibeke Sorensen - Animation Department Seminar, Contemporary Topics in Animation, Directed Studies, Master Class, Masters Thesis

Vibeke Sorensen is Professor and Chair of the Division of Animation and Digital Arts. She is widely known as an innovative artist working with video, film, computer graphics and animation systems. Her work has received many honors and has been shown internationally on television, in galleries, museums, and live performance. In 1989, she received a National Science Foundation grant with Dr. Lynn Teneyck, SDSC/UCSD computational biologist, for research in Interactive Stereoscopic Animation. They created an interactive video animation system, and Sorensen produced *MAYA*, a

stereoscopic computer-animated work that has been exhibited internationally. *Panini Stickers*, a recent, neo-Dadaist work made in collaboration with Professors Ed Harkins and Phil Larson of UCSD's Dept. of Music, combines live action and computer backgrounds. It was exhibited at the ACM/SIGGRAPH '95 Electronic Theatre, on Television Espanola (Madrid), in the Kwenju Biennale in Seoul, S. Korea, and ISEA96 in Rotterdam, Holland. She is currently a Sr. Fellow at the San Diego Supercomputer Center as well as a Zumberge Fellow at USC. Her current research in new technologies in the arts is supported by the Annenberg Center at USC and the Intel Corporation.

Richard Weinberg, Ph.D. - Founder and Director, USC Computer Animation Laboratory, Directed Research, Directed Studies

Richard Weinberg founded the USC Computer Animation Laboratory in 1985, and is a Research Associate Professor in the School of Cinema-Television. His career has included working for Control Data, NASA, Lockheed, Cray Research and co-chairing SIGGRAPH '84 prior to joining the faculty at USC. His interests include scientific visualization, animation systems and Japan. He has published in varied disciplines such as neurosurgery visualization, graphics hardware design, space shuttle simulation and content production. Dr. Weinberg is involved extensively with corporate relations and technology acquisition at USC.

Contact Information: Division of Animation and Digital Arts School of Cinema-Television University of Southern California University Park, Los Angeles 90089-2211 (213) 740-3985 <http://felix.usc.edu/index.html>

The Ever-Expanding E3 (Does that make it E5?)

by Joseph Szadkowski

It's easy to blame the heat on meteorological twists, but I'm betting part of June's temperature soar was caused by the 1997 Electronic Entertainment Exposition (E3) where the best of the best CD-ROM and electronic platform developers spent three days sweltering in Southern hospitality.

The event packed over 37,000 individuals into the Georgia World Congress Center and Georgia Dome. The Interactive Digital Software Association (IDSA) claimed that 486 exhibiting companies filled a space equivalent to 35 football fields with over 1,500 new titles.

Extravagant Parties

An exciting industry, E3 extends beyond the convention center as gaming companies opened up their wallets to throw celebrity packed parties. Bruce Willis of the animated cartoon series *Bruno the Kid* invited a sea of humanity to his favorite restaurant, Planet Hollywood, to promote the release of Activision's new platform title, *Apocalypse*, star-



The showroom floor at the 1997 Electronic Entertainment Expo in Atlanta.

ring the great man himself with rock-diva turned villain Poe.

Not to be outdone, Sony PlayStation teased retailers and some of us fortunate press folks with giant character cutouts surrounding a party which took place under a full Georgia moon that even outshone the phenomenal fireworks display. Entertainment that evening was provided by Soul Asylum.

Over the last three years, the annual E3 convention has increased in size and the breadth of products that it represents...

Amazing Games

Party antics aside, we were there for the games and we did not leave disappointed. Here's a quick peek at some of the titles guaranteed to have animation fans taking out loans on their limited edition Looney Tunes chess sets.

Developer Titus avoids DC Comics current costume mishap, working instead with the Warner Bros. cartoon folks on *Superman* for Game Boy, Nintendo 64 and PlayStation. Players become the man of steel in order to stop Lex Luthor from using the LexoSkel 5000 to take over the world. Featuring stunning 3D environments, various fight levels and rescue operations this is a game to look for later this year.

Disney Interactive was all of a titter over the success of their latest char-

acter to hit the big money, Hercules. Joining the *Hercules Print Activity Center*, *The Hercules Animated Storybook* teaches children reading and vocabulary skills. Each of these titles is for Windows/Macintosh play and retails around \$20. If they haven't had enough of the big guy, young players can take on the role of Hercules while defeating monsters, defending Mount Olympus from the Titans and beating the heck out of Hades in the *Hercules* action game. Containing video game-style action with 10 levels of game play, three different worlds, hidden areas and secret power-ups, this program is for ages 8 and older at a retail of \$39.95.

Virgin Interactive is also capitalizing on the success of Disney's *Hercules*. Available for the Sony PlayStation, players can jump into 10 levels of action, sophisticated side-scrolling and 3D technologies. Now when Herc cuts off the Hydra's heads, you'll even get sprayed by the green blood!

In early October, a new breed of



The showroom floor at the 1997 Electronic Entertainment Expo in Atlanta.



Screenshot from Activision's *Apocalypse*.

super hero takes flight for PlayStation when Sony combines forces with the demented wit and voice of Phil Hartman in presenting *Blasto*. *Blasto* combines 3D game play, constantly streaming environments and plenty of wise cracks. Looks like Earthworm Jim has finally met his match.

Party antics aside, we were there for the games and we did not leave disappointed.

Everyone loves an anti-hero and this Christmas Sony and Todd McFarlane form an unholy alliance with the release of *Spawn: The Eternal*. This single player, third per-



Baby Felix Creativity Center is one of the first titles in Fox Interactive's FoxToons line of games.

son action fighting game takes our hero from hell to three different time periods. Along the way, players must fight familiar faces from the comic book, new animated series and film. Players will also be challenged with a series of puzzle situations that will lead to their meeting and defeating the mighty Malebolgia.

Popeye's our favorite sailor man and this fall Brilliant Digital Entertainment gives him and the gang a Multipath Movies line of 3D interactive cinema. For PC play, *Popeye and the Quest for the Woolly Mammoth* is the first in a series of three animated features targeted for viewers five to twelve years old. Multipath Movies are digitally animated stories, each containing hundreds of plot alternatives leading to multiple and distinct conclusions. Interactive decisions are requested every 30 to 45 seconds and because users can choose the mood of Popeye, Olive Oyl, Brutus, Swee' Pea or others the experience becomes more like watching a cartoon than playing a game.

Fox Interactive's previous first-person shooter games are the antithesis of *Anastasia: The Adventures of Pooka and Bartok*. Releasing in November to coincide with the movie release, it is for children 6 through 10. The program uses a variety of exploration, problem-solving and testing skills.

Fox Toons enters the market for the very young with value priced programs for children 3 to 8. *The Baby Felix Creativity Center* will help children with basic reading, math, art and music while the *Hello Kitty Creativity Center* focuses on reading, counting and math skills.

For the anime connoisseur, in early October, THQ is shipping *Ghost in the Shell* for the Sony PlayStation. Based on the super successful

Japanese sci-fi film, players must take-on evil high-tech forces by maneuvering one man tanks called Fukochimas. Featuring 12 missions and 10 minutes of original animation from the same team that did the film and a separate training mode, *Ghost in the Shell* could be the surprise hit much like the film was.

An exciting industry, E3 extends beyond the convention center as gaming companies opened up their wallets to throw celebrity packed parties.

A New Scope

This relatively new industry is now stretching its arms to encompass an ever-widening scope of interests. No longer the domain of adolescence alone, everyone can now find something on the shiny plastic discs that allow us to travel, play, learn, create and explore our world and our interests.

Opponents of computer CD-ROMs have been warily watching the industry. Over the last three years, the annual E3 convention has increased in size and the breadth of products that it represents, rebuking earlier prophecies of failure. As a vehicle for the promotion of art, graphics and animation, the CD-ROM has benefited greatly from technological advancements, opening new doors for program development to the benefit of creators and users alike.

Joseph Szadkowski writes on various aspects of popular culture and is a columnist for The Washington Times.

Israel's Third International Festival of Creative Filmmaking

Review by Karl Cohen

For the last three years the Tel-Aviv Cinematheque has presented an unusual approach to festivals. The Festival of Creative Filmmaking stresses creativity instead of holding a competition or a trade show. Most of what was shown was independent animation that had not been seen in Israel. This year's selection included outstanding recent works from Europe and North America plus programs of classics and a selection of work honoring animators from Israel. Creative Filmmaking '97 was for anyone who wanted to learn more about animation and/or live action filmmaking, and who finds pleasure in exploring a wide variety of approaches to filmmaking. The event was attended by professionals, students and the general public and while the programming was fascinating the historic city offers just as much.

The festival's guests of honor were picked for their ability to communicate and for their contributions to cinematic creativity. The guests included: Clare Kitson, who commissions animated work for Channel 4 TV in England, Thomas Meyer-Herman and Manuela Lumb from Studio Film Bilder in Stuttgart, Germany, Jonathan Amitay, who worked for almost 20 years as a designer for the CBC in Toronto and



myself, an animation scholar from San Francisco. I showed work in 16mm from my archive and new works from the Bay Area. John Coates and Norman D. Kauffman from TVC in London were also special guests to present a sampling of works from their company including *Where the Wind Blows*, *The Yellow Submarine*, *Father Xmas* and *The Snowman*.

Special Guests

The greatest treat at the festival for me was hearing John Coates and

Norm Kauffman discuss the making of *The Yellow Submarine*. They discussed the production's history, techniques used and what it was like working with the Beatles (the guys thought the feature was going to be Disneyesque!). When John Coates produced the feature he was so naive that he didn't ask for a percentage of the gross or profits. TVC, however, went over budget and lost money making the feature. *The Yellow Submarine* will be 30 years old next year but seeing it again was a fresh and exciting experience. Part of the excitement was seeing the "Hey Bulldog" sequence for the first time which was cut from prints shown in the USA.

TVC also presented several other programs from their past. One honored their late director Dianne Jackson and another honored the late director George Dunning. Coates and Kauffman presented a master class where they talked about the company's 40 years of productions. They showed sample reels of commercials and other work. Coates, a convivial gentleman, is about to retire and the future of the company will be left in the hands of Kauffman and his associates. The TVC productions were delightful. They showed *Famous Fred* directed by Joanna Quinn, 1997, 25 min; *The Tale of*

Mr. Todd: The Further Adventures of Peter Rabbit and Benjamin Bunny, 1996, 25 min; *The Willows in Winter*, 1996, 70 min; *The Wind in the Willows*, 1995, 70 min; *Father Xmas*, 1991, 26 min; *The Man Who Moved the Beatles*, 1991, 40 min; *Grandpa*, 1989, 26 min; *Snowman*, 1982, 26 min and *The Yellow Submarine*, 1967, 85 min. directed by George Dunning and designed by Heinz Edelmann. Other works were also screened.

A big surprise was seeing material made for German television that would surely be banned by American television stations. The programming was made by Studio Film Bilder in Stuttgart. When *10 Kleine Jagermeister*, a rock video with music by Die Totem Hosen, was shown on MTV they censored the showing of female breasts, a joint and a pistol. Several of the other Studio Film Bilder's music videos were so full of bare nipples, breasts and other sexual images that it was obvious these works could never be cut enough to please American censors. It is a shame as there would be an audience for *Help Me Mr. Dick* and *Fritz Loves My Tits*, by E-rotic, *Devil's Child* by Karl Anton and *Innocent Again* by Sex Angels. These well made videos are shown regularly on Germany's music television network.

Studio Film Bilder also made a series of sex education shorts for children that would shock American television censors. The studio was commissioned to do sixteen shorts that deal with topics such as the problems of growing up, first love, sexual harassment and menstruation, for the show *Dr. Mag Love*. *Dr. Mag Love* airs on Saturday



Karl Cohen.

mornings and they show these intelligent, humorous shorts to balance the serious discussions presented during the show. The animated shorts are highly creative using a variety of animation techniques. One used a small Swiss army knife as the body of person. Others used collage, plasticine, and drawn and painted images. The series would get into trouble in America as it shows bare breasts with nipples, pubic hair on females, male genitalia, condoms, breasts



Clare Kitson and John Coates visited Tel-Aviv from England.

being fondled and a lot of other images that are forbidden on television in the land of free speech...

The German company is 8 years old and has a staff of six directors,

one producer and an administrative person. They have up to thirty people working there however when they are busy. A show of personal films by the company's directors included the premiere of Gil Alkabetz's film *Rubicon*.

The Festival of Creative Filmmaking stresses creativity instead of holding a competition or a trade show.

Clare Kitson from Channel 4 in London is the commissioning editor who has funded some of the most outstanding animation by Brothers Quay, Jan Svankmajer, Nick Park, Barry Purves and other world famous animators. She presented a program of recently commissioned works that included *Stressed* by Karen Kelly, *Bob's Birthday* by David Fine and Alison Snowden, *Pond Life* by Candy Guard, *The Village* by Mark Baker, *Abductees* by Paul Vester and *Britannia* by Joanna Quin.

Other Programs

A program of recent animation from around the world featured several works from Israel's leading animators: Noam Meshulam, Alexander Geifman, Barak Shakin, Ayelet Sharon, and plasticine animator Roni Oren. Other works were by Paul Driessen from Holland, Stig Bergquist, Lars Ohlsen and Jonas Odell from Stockholm and Marv Newland from Vancouver. Newland sent a retrospective of work he has produced that included *Pink*

Komkommer, *Anijam*, *Lupo the Butcher* and *Bambi Meets Godzilla*. The United States was well represented in the festival with a program of work from New York honoring



Animator Jonathan Amitay giving a masterclass presentation.

John Dilworth's Stretch Films, J.J. Sedelmaier's studio, Ink Tank and Buzzco. I also presented a masters class on recent animation productions in the San Francisco Bay Area. The program featured independent shorts by Tim Hittle (his Oscar nominated *Canhead*), Richard C. Zimmerman, Tod Kurtzman and Tennessee Reed Norton, plus commercial work by Pixar, PDI, ILM, Danger Team, Midland, Xaos, Protozoa, Bio Vision, Colossal Pictures, Curious Pictures, Wild Brain and Kevin Coffey's Cartoonland.

I also presented three historical shows. My show on censorship included several pre-code cartoons, an uncensored Private Snafu and a selection of shorts too risqué to be shown on TV or in most theaters in the USA. I also exhibited WWII propaganda films that featured animated and live action shorts and my screening of film pioneers included works by Winsor McCay, Otto Messmer, Willis O'Brien, Charles Bowers, Robert Cannon, Jan Lenica and other directors.

All of the master classes were held in English except Jonathan Amitay's presentation. He was born in Israel and began working in animation in Canada in 1968. He was with CBC

as a graphic designer doing animation and titles for television from 1978 until recently when he moved back to Israel. In his presentation he demonstrated numerous techniques like: how

backlit graphics are done, how he animates with sand, and how he uses a chain with very small links as a flexible line.

Tsvika Oren, the festival's creative director, picked works that would stimulate people's imagination.

Staff and Facility

Tsvika Oren, the festival's creative director, picked works that would stimulate people's imagination. Oren is a remarkable festival director. He

is also quite popular with his animation students at the Cinematheque and at Camera Obscura. While most of what he selected to show was animated, he also included Rod Serling: Submitted For Your Approval, a program of classic documentaries from

Holland and several films that have won Golden Eagle Cine Awards in the USA. The festival's small staff also included producer Shoshy Frankel, a charming person who did a great job taking care of 1001 details.

The festival was held in a modern theater complex that has two large well equipped halls with excellent video, 35mm and 16mm projection systems. Tsvika Fiksel, the head projectionist, was a delightful gentleman who has worked in projection booths for over 50 years. Considering his love of film and the fondness of the medium by others who work there, it came as no surprise that the food service in the lobby is called Cafe Paradisio. The cafe was well run and provided an excellent assortment of salads, pasta dishes, smoked salmon sandwiches, beer, wine and other treats.

The Cinematheque building has a large room used for animation workshops. It has both 16mm cameras and single frame video/computer equipment. Most students in Israel are forced to use video and computers today as the last 16mm film lab in the country has closed. Film has to be sent to Italy or England for processing.



Zack Schwartz and festival director, Tsvika Oren.



The Cinematheque, home to the Creative Filmmaking Festival.

My Extra Activities!

Tel-Aviv has several schools teaching computer animation including Tel-Aviv University and Camera Obscura. I met with students at both schools and showed them the latest computer animation from San Francisco. They were enthusiastic about what they saw and many would love to work for ILM, Pixar or PDI someday.

Another highlight of the trip was a visit with Noam Meshulam who runs Pitchi Poy Animation Studio, a well equipped facility in historic Jaffa at the southern end of Tel-Aviv. The studio is in a one-hundred-year-old Turkish style house with 30 foot ceilings. Some of their work is animated on paper and then inked and painted in-house on computers, while other projects have been done using magic markers on paper or in other techniques. They have animated part of the *Sniz and Fondue* series on Nickelodeon, multimedia projects for Fisher Price and other producers as well as a lot of television commercials. Many of their artists have moved to Israel from Russia.

Life in Israel seems relaxed and friendly. I made several friends in the two weeks I was there. I also

visited Zack Schwartz and his family in their home. We talked about his career at Disney (backgrounds on *Snow White* and art direction on *Bambi* and *Fantasia*), his being a founder of UPA, and his new book on storytelling in animation that is published by Sheridan College Press in Canada.

The city of Tel-Aviv is wonderful.

The city of Tel-Aviv is wonderful. The Cinematheque is situated in a very pleasant area. There are numerous historic Bauhaus or International Style buildings from the 1920s and '30s in the area, and on one walk I went down a street full of students enjoying the sun and the trendy shops that cater to these shoppers. Swimming in the Mediterranean was a real treat, the seafood was exceptional, there is even a world class art museum and almost everybody speaks English.

Another special event was visiting historic sites. I wandered about a medieval walled town named Akko (aka Acre) on the coast that is still being lived in the way life was hundreds of years ago. I made several visits to the old areas of Jerusalem

and saw the Dead Sea Scrolls in a splendid museum of art and antiquities.

I rode buses to and from Jerusalem several times and felt completely safe. The military rides for free and soldiers are required to carry their automatic weapons with them. I was told the chances of getting into trouble in Israel are far less than the odds of getting into trouble in New York City.

I'd recommend attending the next festival to any animation fan who is interested in visiting Israel. There is plenty to do each day, but the schedule repeats most shows so you are not overwhelmed by there being too many events. This is a relaxed, comfortable festival with enough invited guest and unusual programs to make it exciting. It is for people who love animation and other forms of creative filmmaking. For details about the May 20-23, 1998, event contact Tsvika Oren, P.O. Box 20370, Tel-Aviv, Z.C. 61203, Israel.

Karl Cohen is President of ASIFA-San Francisco. His first book, Forbidden Animation: Censored Cartoons and Blacklisted Animators, will be published later this year. He also teaches animation history at San Francisco State University.

Licensing International 1997

Review: A Grand Success

By Deborah Reber

Keychains, bumper stickers, pins, ice cream, Polaroid shots, Chippendale Dancers, and even superheros. Some strange new variety store? No, just the 17th annual International Licensing Show. From June 10-12, more than 14,500 members of the international licensing and merchandising community braved the brutal humidity of Manhattan to promote, negotiate, buy and sell nearly 3,000 properties, including characters, trademarks, original designs, entertainment, sports, animation and personalities. Exhibitor attendance marked a 70% increase over last year, while general attendance recorded a 12% increase from 1996.

To accommodate the number of new and diverse companies exhibit-

ing this year, Licensing International premiered four new speciality pavilions, including the Interactive Entertainment Pavilion, a Sports Pavilion, Fashion Alley, and an Animation Pavilion. Cinar Films, DIC Entertainment, Gaumont Multimedia, InToons Entertainment Group, Jim Henson Productions, Matinee Entertainment and Nelvana, Ltd. were among the animation studios on site.

Exhibitor attendance marked a 70% increase over last year, while general attendance recorded a 12% increase from 1996.

Big Animation News

Making animation news was Los Angeles-based DIC Entertainment, which promoted three new animated series, "Wacky World of Tex Avery," "Extreme Dinosaurs," and the eagerly awaited "Mummies Alive!," a collaboration between DIC and "Ghostbusters" producer Ivan Reitman. Golden Books Family Entertainment and Goodtimes Entertainment announced they have joined forces to produce an animated feature based on the classic television special "Rudolph the Red-nosed Reindeer." The feature is set for a Christmas 1998 release. On the international front, French animation studio Gaumont Multimedia took the opportunity to debut three new childrens animated television properties, including "The Magician" and "Tune of the

Moon." The third series, "Home to Rent," marks the first European-produced, non-commissioned animated series to be sold to a U.S. network. Fox Kids Network will premiere "Home to Rent" in the fall. But perhaps the most unique animation news found at Licensing International was the introduction of "Ticker," an animated spokes-character for the American Heart Association (AHA). Created by award-winning animation producers David and Mary Corbett of Evening Sky Productions, Inc., Ticker is designed to promote good health to people of all ages, and will be the focus of HeartPower!, a new childrens educational campaign. Ticker will reach millions of children from kindergarten through 8th grade by a number of platforms,



The showroom floor at the '97 Licensing Show in New York.



Gaumont's animated series "Tune of the Moon."



Ticker, the new animated spokes-character for the American Heart Association.

including animation, toys, publishing, apparel, promotional tie-ins and other major avenues of character licensing.

Discussions and Awards

For those weary of exploring the convention center's endless aisles of exhibitors, attendees could find some respite, as well as valuable information, at one of the shows many concurrent sessions. Among the sessions available were: An



Exhibition at the annual Licensing Show is expected to continue to increase in coming years.

Introduction to Licensing Basics, The Legal Side of Licensing, Retail: The Toughest Nut to Crack, Strategic Branding, Licensing and the Children's Market, The Burgeoning Market in Art/Design Licensing and Licensing in Today's Global Markets. The highlight of the week's activities was the 1997 LIMA Beanie Awards for Excellence, which were held on June 11 at the Marriott Marquis in the heart of Times Square. Scholastic Productions' live-action kids program "Goosebumps" beat out "Dilbert" and "Toy Story" to win the License of the Year award, while Warner Bros. Looney Tunes topped Snoopy, Paddington Bear, Barney and Action Man to take home the International License of the Year award. Other winners included: Scholastic Agency - Licensing Agency of the Year; Tyco Preschool, creator of the popular Tickle Me Elmo doll - Licensee of the Year (Hard Goods); Crown Crafts and Winnie the Pooh bedding - Licensee of the Year (Soft Goods); Hamilton Projects - Licensed Brand Extension of the Year; Hasbro's Monopoly/McDonald's promotion - Promotion of the Year; and Target Stores for their involvement with *The Hunchback of Notre Dame* and the Looney Tunes - Retailer of the Year.

For the 5th consecutive year, a portion of the ticket sales for the gala event went to The Hole in the Wall Gang Camp, created by Paul Newman. More than \$24,000 was raised for the Camp which hosts children with cancer and serious blood disorders.

Licensing International '97 was hosted by LIMA, the Licensing Industry Merchandisers' Association, which aims to serve the licensing needs of its more than 600 company members.

Looking ahead, Expocon, the company who directs the show, is expecting the number of exhibitors to continue to increase.

The Future is Big

Looking ahead, Expocon, the company who directs the show, is expecting the number of exhibitors to continue to increase. Expocon was more aggressive in their promotion of the show this year, with more advertising in trade publications, especially internationally. In fact, there was a 74% increase in international exhibitor participation over last year. According to Murray Altchuler, executive director of LIMA, the overall increase in attendance is a direct tribute to the increasingly important role the Licensing Show plays within the industry. He also points out that retailers were much more involved this year (their attendance increased by 14%) because of their growing role in the process of licensing merchandise. A representative of Expocon, Elizabeth Farvata, confirmed that their companies are already signing up for next year, and upgrading their space to larger booths.

Deborah Reber has been an Animation Development Consultant with UNICEF for the past three years, and currently oversees the Cartoons for Children's Rights campaign, as well as other animation advocacy activities.

The Whitney Archive: A Fulfillment of a Dream

by Michael Whitney

A few months before his death, John Whitney helped Michael Friend, Director of the Academy Film Archive, to pack up boxes of film and personal papers for storage at the Archive vaults in Hollywood. Both had in mind the eventual restoration of old printing elements so that future viewers and researchers will have access to the rich history of early experimental filmmakers. In addition, in the early 1980s, John had established a non-profit foundation, Digital Harmony, to develop his ideas for the use of the computer for the artist. He had a life long passion for his work that he wanted to pass on to others.



John Whitney (1917-1995).

He had a life long passion for his work that he wanted to pass on to others.

The Structure of Motion

Two elements helped shape his career that eventually spanned nearly sixty years. One was a talent for building things that served his artistic purpose and the other was his fifty year marriage to painter Jackie Whitney. The two provided a balance to the exposition of ideas that he called "a personal search for the complementarity of music and visual art." The relationship with Jackie began a lifelong dialogue between creative playfulness and emotional expression in counter-balance to his theoretical insights into

the structure of movement. At the beginning they had planned to create animated films of her painted playful figures. They made rubber stamps as a start at animating the figures. Later on, working together at the kitchen table, they cut out the letters for the original Jack-in-the-Box logo. In the 1950s with children to feed he sought commercial work.

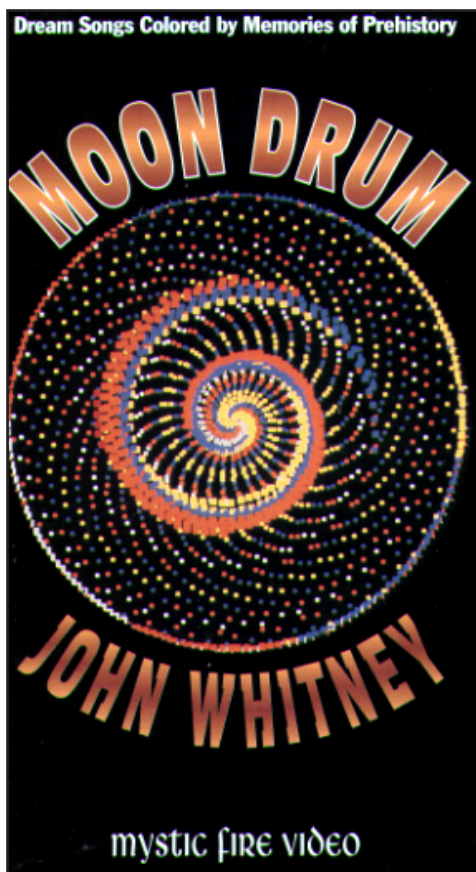
He built a twenty-five foot two-part Foucault pendulum in the back yard to create design elements for use in restaurant interior decoration. The designs were based on the lissajous figure. Tuning the pendulum by moving weights up and down began a hands-on tactile exploration into har-

monic motion. He used a mechanized pantograph to create the animation sequences for *Vertigo* (contracting with Hitchcock's production company) and *Bolshoi Ballet* (with Saul Bass). He replaced the pantograph with the cam systems of the M5 and M7 anti-aircraft gun guidance computers available on the military surplus market in the late 1950s.

These mechanical analog computers contained interior mechanisms, which he assembled into an animation device that he called the "cam machine." With the ball integrators and cams he achieved critical insight into the significance of differential change or "drift" to create motion from precise repetitive action. He had created animation that began to have a mathematical basis for its development in time. Eventually, he used the term "digital harmony" to indicate laws of harmony applied to images in motion as well as to sound. The cam machine was a long way from his Jazz films of the late 1940s which were an improvisation - motion as an emotional expression closely related to music. The cam machine offered an insight into structure in motion. Intrinsic structure offered a new underpinning to gesture in motion.

Seeking Perfection

His gift for building devices was a source of pleasure for him. He would often joyfully exclaim out loud when, as he made his way through the



Moon Drum was released on video in 1991, through Mystic Fire Video.

garage, he found just the right part to complete construction of a new or improved device. The building of tools meant that his palette of techniques for making images constantly changed. He seemed to be less concerned that these changes left him with tradeoffs. If he didn't have rich background color texture he had more control of foreground action. He was a realist, eager and able to move forward rapidly with whatever he had at hand. He devised a real-time projection direct to broadcast television that was perhaps the first proposal for what has now become MTV. He pitched the idea to friends at Capitol Records CBS in the early 1950s, but the project was never funded.

The difficulty of transferring high quality images from the computer back onto film or video was a frustration to him. He was used to having a print to loan out for viewing. That was,

after all, the only way his work was known, and he felt his most important work was therefore not known. Every attempt to distribute the computer pieces in his *Moon Drum* series failed to meet his need for fidelity to the original gem-like quality of the computer screen and its luminescent CRT colors.

The major periods of both John and his brother James Whitney's work fall naturally according to the technology and techniques they employed. James focused on an inner vision utilizing the methods available to him until he exhausted his technique and moved on to new techniques. At the end of his career, Jim was beginning to explore the image making potential of video but did not bring his work to completion. John continued into the final period of his career, 1985 - 1995, with a program *RDTD* evolved from the IBM research period of the late 1960s with the aid of programmer Jerry Reed. His final instrument gave him tremendous satisfaction. He really wasn't content unless he started his day early, making modifications to the *Moon Drum* pieces as he worked out ideas from the previous night's dreams. He recognized the limitations of his instrument, indeed, he suffered under the opaqueness of the DOS command language.

His gift at building devices was a source of pleasure for him.

He longed for the ability to improvise and then refine the vision he experienced each day. In *Moon Drum* his instrument had some of the fluidity of the Jazz film period oil-tray animation and at the same time had a structural underpinning that echoes back to the "fine tuning" needed to make the pendulum produce a lissajous fig-

ure. This had been a long path. He felt strongly that at some point others would understand the need to underpin plasticity of motion with harmonic structure.

He longed for the ability to improvise and then refine his vision as he experienced each day.

The Hope for an Archive
Michael Friend can be reached at the Academy of Motion Picture Arts and Sciences Center for Motion Picture Study. Funding is needed to catalogue John's extensive writings, to restore the stored film material and make the twelve pieces of the *Moon Drum* series available for viewing. Over the ten years when he used his *RDTD* composing program, he continuously reshaped each work. Only one version of *Moon Drum* is available commercially. In the few months that John lived after Jackie's death in May of 1995, the changes he made cut *Moon Drum* loose from his previous techniques; a vivid new spirit playfully emerges. Digital Harmony, Inc. hopes one day to have a version of *RDTD* available to artists, filmmakers and students interested in exploring John Whitney's astonishing range of ideas.

Editor's Note: AWM will continue to report on the progress of this valuable archive's creation.

Michael Whitney, MBA, CPA, is an independent filmmaker and producer, and is currently working for the State of Tennessee Department of Education. He assisted his father, John Whitney, with DOS, and has traveled extensively, lecturing and demonstrating RDTD and the Moon Drum pieces.

Animation World News

Compiled by Wendy Jackson

People

Hollywood Shuffle.

MGM Animation has restructured its executive lineup, naming Jay Fukuto Senior Vice President-Animation and retitling Paul Sabella and Jonathan Dern to Executive Producers. Fukuto joins MGM from Walt Disney Television Animation, where he was Vice President of Current Programming. Sabella and Dern were both Vice-Presidents-Animation, a now defunct title at MGM Animation. . . . **Margaret Loesch** has been upped to Vice Chairman of Fox Kids Worldwide, from her previous post as President of Fox Kids Worldwide and Chairman and CEO of its division, Fox Kids Networks Worldwide. . . . **Klasky Csupo Commercials** has signed Rachel Finn for West Coast representation, replacing former rep Darr Hawthorne. Finn runs Rachel Finn Representation, a Santa Monica based firm. . . . **David Fain** has moved from Philadelphia to Los Angeles to work for **Nickelodeon** on Action League Now, a recurring segment within the Kablam animated series. . . . **Castle Rock Entertainment** has signed Bill Oakley and Josh Weinstein, writers and co-executive producers on The Simpsons, to an exclusive, multi-year deal to create and produce new television series. . . . **Cuppa Coffee Animation** has expanded its staff,

hiring animator **Marek Colek**, director **Chris Mullington** and director/cameraman **Chris Romeike**. . . . **Nelvana** has shuffled their executive management around, naming former chairman Michael Hirsch and former president Patrick Loubert to the newly created positions of co-CEOs. . . . **Charles Self** has been appointed producer at the design/animation/computer graphics company **Atomic Pictures**. . . . **Nancy Bassett** has left Viacom Consumer Products (Canadian division) to take on a post as director of Licensing & Merchandising for **Alliance Multimedia** in Toronto. . . . **Digital Domain** has named **Nancy Berstein** to Executive Producer. . . . **Electronic Arts** has named **Peter Loeb** (formerly of SegaSoft) to the new position of vice president of Online Entertainment. . . . **Alias/Wavefront** has hired **Thomas Williams** as chief technical officer and vice president of its research and development division. Williams, winner of two Academy Awards has 14 years experience in computer graphics, including stints at ILM and Pixar. . . . **David Wasson** has joined the director roster at **Acme Filmworks**. Through Acme, Wasson most recently directed three commercials for Starbucks and worked on design for NBC's animated Johnny Chimes character. . . . **Hearst Entertainment** has named **Russell Brown** vice president of Licensing. Brown moves over from

a post as director of Corporate Sales and Promotion for Marvel Entertainment Group. . . . New York-based commercial production company, **N Ur Eye Films** has signed director Emanuel Block. . . . **Electronic Arts** has appointed **Neil Young** to vice president and general manager, and Chris Yates as vice president and chief technology officer of their Austin-based studio **Origin Systems**. Both Young and Yates join EA as they exit **Virgin Interactive**.

Miyazaki To Stop Directing Features.

Famed Japanese animation director Hayao Miyazaki recently held a press conference in Tokyo to announce that he will not be directing any more feature animated films. This announcement comes on the heels of several unfounded rumors that Miyazaki was planning to work with an American studio to create a feature film. Miyazaki's body of work includes the feature films *Nausicaa*, *Valley of the Wind* and *My Neighbor Totoro*, produced through his own Studio Ghibli. Most* of these films, which are distributed in Japan by Tokuma Shoten Publishing Co., will be released in the U.S. starting this year through a rights acquisition by Buena Vista Home Entertainment. A total of eight Miyazaki feature titles may be released by Buena Vista under the Miyazaki/Studio Ghibli banner, including the latter two of mentioned above and *Kiki's Delivery*

Service, Only Yesterday, The Scarlet Pig, Pom Poko, and Princess Mononoke.

**Castle of Cagliostro* is distributed in the U.S. by Streamline/Orion.

Business

Nevada Bans Anime To Minors.

Nevada, the U.S. state popular for its legal gambling (Las Vegas) and escort services, has passed a bill (#336) which will restrict sale or rental of pornographic cartoons to minors. The increasing popularity of "tentacle porn" anime videos has given rise to concern among activists, particularly because animated material is so often assumed to be suitable for children. Video stores, for instance, could inadvertently place the videos in the childrens section by an unwitting store clerk. The Nevada Assembly lawmakers who voted on the bill were shown a sequence from the Japanese animated film, *Ninja Scroll*, which portrays graphic scenes of sex and violence.

Finally, A Marvel-Ous Deal. Toy Biz, Inc. has reached an agreement to merge with Marvel Entertainment Group, Inc. in an "arranged marriage" through Carl Icahn, controller of High River Limited Partnership, who recently took control of the bankrupt Marvel from former financier Ron Perelman. Marvel has been the subject of months of legal battles and headline news since they declared Chapter 11 bankruptcy in December 1996. The deal will move stocks and holdings between Marvel, its bondholders, Toy Biz, and a group of banks led by Chase Manhattan. A statement issued by Carl Icahn said, "Conflicts and divisiveness between the toy company and the rest of Marvel have been a major problem over the last few years and have hurt

all of Marvels constituencies...This problem should now be rectified and all of Marvels properties and assets will be combined under one roof where they belong."

Cinar Acquires Carson-Dellosa.

Canadian entertainment company Cinar Films, Inc. has confirmed plans to acquire Carson-Dellosa Publishing Company, Inc. and its affiliates for approximately \$40.5 million (\$24.5 million in cash and \$16 million in Cinar voting shares), in a deal that is expected to be complete by the end of July. Carson-Dellosa, a privately held company which sells education products and classroom supplies to schools, has an existing product base of original characters which are already widely recognized by students in the U.S. and in selected other countries through distribution of print material and merchandise. Both companies were founded in 1976, and both produce product for the pre-school to sixth grade. In addition to developing print properties into animated ones, Cinar will now be in a position to create merchandise based on their original animation properties. "We believe that we will be able to leverage the educational appeal of Cinar's library of original television series which are based on popular childrens books, and produce them in brand new venues," said Cinar co-founder and president Ronald Weinberg. Cinar currently produces and/or distributes several animated series based on popular childrens books, including *Arthur*, *Paddington Bear*, *The Busy World of Richard Scarry*, and *The Country Mouse and the City Mouse Adventures*.

In July, Cinar released its second quarter earnings to the public. Overall, for the first half of 1997, the company's revenues increased 40% from last year, to \$37.4 million, while

net earnings rose 68% to \$5.5 million. "During the second quarter," said Cinar president Ronald Weinberg, "we delivered 51 new half-hours of animation and live-action programs. We are well on our way to meeting our production target for fiscal 1997."

Lacewood, Paragon Paradox.

Ottawa-based Lacewood Productions and Toronto-based Paragon Entertainment Corporation are in conflict regarding the arranged partnership between the two companies. The deal, which was set to close by the end of March, would have placed Lacewoods assets and Paragon's investments into a new joint venture called Lacewood Animation Productions, Inc. But Lacewood, who has received \$1.5 million in loans from Paragon, is now suing Paragon for breach of agreement, in a \$6.5 million lawsuit. Coming to Lacewoods aid is Canadian actor/comedian Leslie Nielsen (*Naked Gun*), who has allegedly advanced the company \$1.75 million to use towards payment of their loans from Paragon.

Harvey Entertainment Wins Lawsuit.

The Harvey Entertainment Company recently won a \$700,000 lawsuit against former agent/director/board member Jeffrey Franklin, his company ATI Equities and related company Franklin/Waterman Entertainment. The case involved claims concerning Harvey's animated television series, *Casper & Friends*. The jury found that Jeffrey Franklin and his company willfully breached their fiduciary duties to Harvey while serving as an agent and as a member of Harvey's Board of Directors from 1990 to 1993. Harvey chairman and CEO Jeffrey A. Montgomery said, "The protracted litigation process has been a distract-

tion for our company, and we are delighted to put this issue behind us and again focus our full efforts on exploiting our Harvey classic character portfolio."

Marina Docks With Dargaud.

French animation company Marina Productions has joined the Dargaud family, a major European publishing group. Dargaud has taken an 80% stake in Marina, as part of an effort to further move into childrens TV programming; They have already launched with *Lucky Luke*, *Corentin*, and *Blake and Mortimer*, three co-produced animated series based on the publishers comic properties. Marina recently produced the *Mr. Men* series, currently in syndication sales through U.S. distributor Summit Media. The investment from Dargaud should enable the company to increase production of additional animated series.

Electronic Arts And Maxis To Merge.

Two publishers of entertainment software, Electronic Arts and Maxis, Inc. (creators of "SimCity" games) have signed an agreement to merge in a transaction valued at approximately \$125 million. The merger is expected to be completed in August.

Activision Says Yes To Take Us!

Activision has acquired a small, seven-employee German marketing firm called Take Us! Marketing & Consulting. The acquisition is a key step in Activision's expansion into the German marketplace for games and entertainment software. "The ability to simultaneously release our titles in multiple languages is an important component of Activision's long term European growth strategy" explained Activision chairman and CEO Bobby Kotick. While the acquisition has been announced, it will not be

recorded as a purchase with Activision until the first quarter of 1998.

Films

Swan Princess Sequel. Rich Animations second "Swan Princess" feature film, *The Swan Princess: Escape From Castle Mountain* opened July 18 at theaters in Atlanta, Chicago, Dallas, Detroit, Los Angeles, through Legacy Releasing, will function as an assist to the film's home video release. The 75 minute, G-Rated film will be released on home video on September 2, by Warner Bros. Family Entertainment. The original *The Swan Princess* was released in 1994.

Mondo Plympton To Hit Theaters.

Bill Plympton's latest animated feature, an animated autobiography called *Mondo Plympton*, will open in select U.S. movie theaters starting in August, following its recent theatrical opening during Seattles Masters of Animation conference in July and festival premiere at the World Animation Celebration in March. *Mondo* is a compilation of Plympton's classic shorts and excerpts, packaged with new sequences depicting the artist as a cartoon character, highlighting his career as a syndicated cartoonist and independent animator. Included in the 80 minute program are the shorts *How to Kiss*, *Nosehair*, and *How to Make Love to a Woman*, as well as some commercials which never aired due to material that was "deemed offensive to sponsors." In keeping with his independent spirit, Plympton, who entirely finances and animates his films himself, is self-distributing *Mondo Plympton*, for its theatrical run and videotape sales. "I'm a firm believer in self-distribu-

tion," says Plympton, who learned a few hard lessons when he distributed his first animated feature, *The Tune*, through October Films and Orion Home Video in 1992. "Everybody got a piece of the action, and I didn't get a dime," he recalls. Plympton's next feature, *I Married A Strange Person*, is being completed now, and should be ready to start a theatrical run in the fall. Plympton is also completing a new short film called *Sex and Violence*, which will be distributed through Manga Entertainment Short Films Division in a package called *General Chaos: Uncensored Animation*, which is due to hit theaters in the late fall.

For *Mondo Plympton* showdates, visit the Plymptoons web site in Animation World Networks Animation Village.

<http://www.awn.com/plympton/index.html>

Eai Cutting Fx For Blade.

Engineering Animation, Inc. (EAI) has been selected by New Line Entertainment to develop CG visual effects for the upcoming (early 1998) live-action film *Blade*, starring Wesley Snipes. This is the first major motion picture assignment for EAI, a company which has built its expertise creating computer generated animation for scientific visualization and educational applications.

Blue Sky Makes A Simple Wish.

Blue Sky Studios created the magic visual effects for the live-action feature film, *A Simple Wish*, which opened in U.S. theaters on July 11. The film is a Bubble Factory and Universal Pictures production starring Mara Wilson (*Matilda*), Martin Short and Kathleen Turner.

Dark Town In Development. Henry Selick, the director of *The Nightmare Before Christmas* and *James and the*



MTV's new animated host, Cyber Cindy.

Giant Peach has entered into a development deal with 20th Century Fox, on a project he started when he optioned the *Dark Town* comic book back in April (Animation Flash 5/06/97). The deal, confirmed last week, will fund development of the property for a feature film concept, through Chris Columbus' company, 1492 Productions. Columbus, whose credits include directing *Mrs. Doubtfire* and the two *Home Alone* feature films, is attached to the project as producer. Selick is attached as both director and co-executive producer. Sam Hamm (*Batman*) is both penning the screenplay and script, and serving as co-executive producer with Selick. Kaja Blackley, the creator of the original comic published by Mad Monkey Press, is involved in the development of the initial outline for the project, a feature film combining live action with dimensional (stop-motion) animation. The story depicts a man who, while in a coma, becomes trapped in a fantasy world called Dark Town. "We're keeping the kernel of the main idea, but a lot will be added on top of the original story," Selick told AWM. "It has had to be re-imagined to sell to Hollywood. It will be dark, yet comedic."

Sofian On *Survivors*. Philadelphia-based independent animator Sheila Sofian recently received three grants to use towards the completion of her

animated film, *Survivors*, depicting the stories of abused women. She recently resigned from her faculty position at The Institute of the Arts in Philadelphia, in order to work on her filmmaking full time. Sofian is working towards completion of the film by the Fall, for which more than 10,000 drawings are currently being colored by a team of former students with the support of the grant monies. The funding consists of two \$5,000 grants from Women in Film and the Pennsylvania Council on the Arts, as well as a coveted \$50,000 Pew Fellowship. Sofian's is one of only twelve Pew Fellowships awarded to Pennsylvania artists; another of which went to independent animator Paul Fierlinger (*Drawn From Memory*).

Television

Cyber Cindy Premieres On MTV. MTV's first animated video jockey (VJ) made her debut performance in a 30 minute MTV U.S. special which aired in late June and early July. Cyber Cindy, named after Cindy Broksma, the *Beavis and Butt-head* staffer who voices her, is a motion capture character filmed in real time, like a live actor. One of the benefits of motion capture technology is the relatively short production time needed. This special, for instance, was only two months in production, whereas if it had been produced in 2D animation (as it was originally conceived,) production could have taken up to a year or more. The special, featuring Cindy interacting with music videos, is a pilot which is being considered for a possible series. This is first creation by MTV's DTV Lab, a division formed to experiment with new technologies to air on the network. The technicians at DTV Lab used Softimage and Alias software

to model the character on an SGI Onyx machine, and the Typhoon software package from DreamTeam with the Ascension wireless motion capture system to create the animation. The special is likely to air on MTV's International channels in the near future.

Fox Adds 2 Nelvana Shows To Lineup. Fox Kids Network has added Nelvana's *Stickin' Around* and *Newton* (working title, formerly known as *Ned's Newt*) animated series to their "Summer Blast" lineup, airing on weekdays and Saturday mornings.

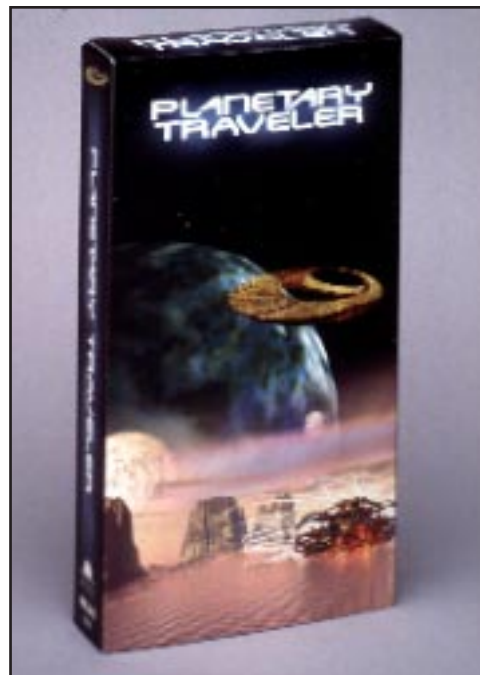
All New Space Ghost. Cartoon Network is airing 24 new episodes of *Space Ghost Coast to Coast* starting on July 18. The new slate of episodes will feature special guests including Fred Schneider, Beck, Bobcat Goldthwait, Robin Leach, Peter Fonda and Mark Hamill. The animated super-hero-hosted late-night talk show has been airing since 1994.

Wendy The Witch To Be Animated Series. Harvey Entertainment is developing the classic comic character, *Wendy the Witch* as an animated children's TV series. Writer Sherri Stoner, whose credits include development for *Casper*, *Animaniacs*, and *Tiny Toons*, has been signed to adapt the property, which made its debut within the 1960s *Casper* animated TV series.

Home Video

Disney Releases 3 New Sing-Along Videos. Walt Disney Home Video will release a new collection of their sing-along video series on July 22. The *Disney's Sing-Along Songs Collection of All-Time Favorites*

series includes three 30 minute videos available for a limited time at \$14.99 each. Each video is subtitled with song lyrics and a bouncing Mickey Mouse or highlighted words to follow. The first volume, *The Modern Classics*, offers the first opportunity to own sequences from *Hercules* on video, with two musical sequences from the film, as well as scenes from *The Little Mermaid*, *Aladdin*, *Pocahontas*, *The Lion King*, and *Beauty and the Beast*. Volume two, *The Early Years*, includes classic musical shorts and feature film sequences from the Thirties and Forties, including *Who's Afraid of the Big Bad Wolf?*, *Zip-A-Dee-Do-Dah*, and scenes from *Pinochio* and *Dumbo*. The third volume, *The Magic Years*, contains classics from the Fifties and Sixties, including "Bibbidi-Bobbidi-Boo" from *Cinderella*, "The Bare Necessities" from *The Jungle Book*, and others from *Lady and the Tramp* and *Sleeping Beauty*.



Planetary Traveler **Lands On Video.** Fox Lorber Associates and Third Planet Entertainment will release *Planetary Traveler*, a feature length,

computer animated, science fiction film on video, in stores this Fall. Produced and directed by Jan C. Nickman, the 40 minute film is said to be the first full length production ever to be created entirely on standard desktop computers. Nickman, who produced the 50,000 unit-selling video, *The Mind's Eye*, created *Planetary Traveler* with digital artists across the country, via the Internet, by holding creative team meetings in AOL chat rooms and exchanging storyboards and designs via email. Using Macintosh computers, the animation was animated and rendered with Bryce software provided by MetaCreations, and hardware provided by MetaCreations, Streamlogic and Truevision. The video will be available in stores on September 26 at a suggested retail price of \$19.99, while a DVD (digital video disc) version is in the works.



Disney's *Pooh's Grand Adventure: The Search for Christopher Robin*.

All New Pooh. On August 5, Walt Disney Home Video will release their third animated made-for-video movie, *Pooh's Grand Adventure: The Search for Christopher Robin*, at a suggested retail price of \$24.99. The 76 minute film is the first original Winnie the Pooh movie created in 20 years, since the home video entitled *The Many Adventures of Winnie the Pooh*, released earlier this year, was not an original production, but a collection of shorts.

Russian Classics Finally Distributed, By Jove! Films By Jove, a Studio City, California-based distribution company, has added a foreign sales distribution arm in order to distribute their library of films to television, home video and theatrical markets worldwide. The Films By Jove library includes the majority of the animated films produced at Russian Soyuzmutfilm Studios between 1952-1980, acquired in 1992 from former distributor Sovexportfilm. The international distribution arm, headed up by executive vice president Trish Gardner and head of sales Melissa Wohl, has already signed distribution deals with Warner Bros., Walt Disney Co., Channel 4 U.K., and the U.S. cable network Bravo. With Live Entertainment and Warner Bros., Films By Jove recently released *Mikhail Baryshnikov's Stories From My Childhood*, a 13 hour home video series which includes films such as *The Snow Queen*. Over \$1.5 million in restoration work was conducted to prepare the damaged films and dub the soundtracks, for the collection. The English version of which features the voices of stars including Charlton Heston, Shirley MacLaine and Mickey Rooney. Films By Jove's next project will be to release animated features by Russian animators Nina Shorina and Yuri Norstein (if he ever finishes it!)

CPM Anime Releases. Central Park Media will release several science fiction and erotic thriller-style anime titles on home video in August, including *Yotoden: Chronicle of the Warlord Period, Chapter 1*, *Peacock King: Spirit Warrior 1*, *Machine Robo: Revenge of Cronos, Volume 1*, *Visionary by U-Jin, Volume 1*, and *Ogenki Clinic*. All titles will be available retail for between \$19.95 and \$29.95. In September, Central Park

Media will release Masami Ohbaris *Voltage Fighter Gowcaizer: Round 1* (dubbed) on video, at a suggested retail price of \$19.95. The action-adventure anime film is based on the popular video game of the same name. Also on September 2, CPM will release volumes from their prolific "Black Jack" and "Patlabor" series: *Black Jack: Clinical Chart 3* (dubbed, \$19.95) and *Patlabor: The Mobile Police-The New Files, Volume 5* (sub-titled, \$29.95).

Commercials

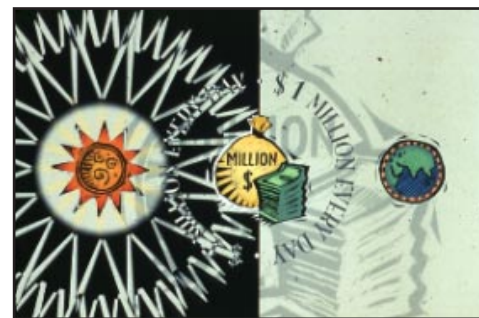
Spotlight On Spots.

Duck Soup Productions created *Animation I/Educational* and *Animation II/Sustaining*, a package of four animated commercials from the Hoosier Lottery's Daily Millions game. The 30, 20 and 10 second spots were animated by director Stephen Lawes and his crew using traditional techniques combined with Adobe Illustrator, Photoshop, and Alias. . . . **Olive Jar Animation** in Boston completed *Crunch Course*, a 30 second commercial for Cap'n Crunch cereal bars, through the Foote, Cone & Belding agency in San Francisco. Directed by Rich Ferguson-Hull and animated by Jeffrey Sias, the spot uses stop-motion, cel animation and special effects to depict children being turned into crunchy, marshmallow coated cereal bar snacks. . . . **Film De Trapani** in Portland created *Paint*



Colossal's *George of the Jungle* video.

People, a 30 second live-action/animation commercial for Seabrook Designs paint. . . . **Colossal Pictures** created an animated music video/movie trailer for Walt Disney Pictures' *George of the Jungle* live-action feature, set to the pop band, The Presidents of the United States of Americas performance of the films theme song. The limited animation, directed by Colossals George Evelyn and animated by Varga Studio in Budapest, is inspired by the 1970s *George of the Jungle* animated television series by Jay Ward. The three minute spot is being shown in theaters, on MTV and on The Disney Channel. . . . Portland, Oregon-based **Animakers** completed *Stages of Your Life*, a public service announcement for The California Department of Health Services, through the agency Montoya Communications. The spot uses a painterly, Matisse-inspired technique animated in Macromedias Director software by director John Haugse. . . . **The Ink Tank** in New York created *Money*, a stylized, graphic animated commercial for Puerto Ricos Banco Popular. The spot was directed by R.O. Blechman and produced through the Saatchi & Saatchi agency. The Ink Tank also recently completed *You Must Have Been A Beautiful Baby*, a 30 second spot for Massachusetts' South Shore Plaza Mall. Also directed by R.O. Blechman, this spot employed the talents of animation director Tissa David and *New York Times* fashion illustrator Sharon Watts. . . . **Telezign** created a package of station ids, program opens and logos for San Francisco's Fox 2 (KTVU) TV station. . . . **Curious Pictures** created a group of 10 and 15 second commercials for the Wizard Stick-Ups Air Fresheners product from Reckitt & Colman, through McCann-Erickson agency in New York. Directed by Steve Oakes, the



Curious Pictures' commercial for the Hoosier Lottery.

two spots, *Toys* and *Closet* use combinations of stop-motion/CGI animation to depict some very stinky situations. . . . Curious also created two pairs of 15 second spot bumpers for Wendy's Restaurants International; *Big Frosty Dipper* and *No Hitchhikers*, utilizing miniature models, 3D computer animation, live action and 2D type graphics to depict an outer-space world in which fast food becomes spacecraft. . . . Curious also made two opener commercials for the Tele-TV Media cable/satellite venture. *Critics Choice*, by recently-signed director Chel White and *Movie Open* by director Heidi Holman both utilize cut-out and collage techniques. . . .

Interactive & Internet

Popeye's Brilliant New Role. Brilliant Digital Entertainment has signed an agreement with King Features Syndicate to develop and produce three interactive games for children based on the *Popeye* animated series and character. The titles will be packaged as part of Brilliant Digital's "Multipath Movies," a new digital entertainment line to be distributed over the Internet, on CD-ROM, as television programming and on home video. The concept of Multipath Movies is for the viewer to be able to create hundreds of possible plot alternatives and choices, as in the *Choose Your Own Adventure* books style, to which Brilliant Digital

has acquired the exclusive rights from Bantam Doubleday Dell Books to develop for this medium. Brilliant has already formed a three-year strategic alliance with Packard Bell NEC to distribute Multipath Movies over the World Wide Web, and a joint venture agreement with Crawfords Productions to distribute the television formats. The first Popeye title, *Popeye and the Quest for the Woolly Mammoth*, is targeted for a late 1997 release. For a detailed history of Popeye's development from comics to animation, see Mark Langers Article "Popeye From Script to Screen" in the July issue of *Animation World Magazine*.

Nightmare Ned Game In The Works. Recently downsized Disney Interactive is preparing for a September 1997 release of the *Nightmare Ned* CD-ROM game, developed and produced through their exclusive output deal/partnership with Glendale-based Creative Capers Entertainment. Originally conceived as an interactive game concept by Terry and Sue Shakespeare and David Molina, the property was adapted and released as a TV series which began airing on ABC Saturday morning in April. The audience which has been established through the series should boost sales of the game, which, at an estimated retail price of \$35-\$40, is in the high end of the price range for childrens game titles.

Technology

Time Machine Ridefilm In Shanghai. Suzhou Amusement Land in Shanghai, China opened a new ride simulator/film attraction called Time Machine, developed by the U.S. company Catalyst Entertainment, creators of the "Back to the Future" ride for Universal Studios in Hollywood.

The Time Machine attraction, which features a ten story, 80 foot dome screen and a 70mm projection system, will open with "RGB Adventure," a computer generated film directed by Ben Stassen of New Wave Entertainment.

Pentafour Counts 63 Animos. Cerritos, California-based Pentafour Software has purchased 63 licenses of Cambridge Animations Animo software for use in its multimedia studios in California and Madras, India. They plan to use the 2D animation package for digital ink and paint on a feature film currently in production by Pentafour in association with Rich Entertainment (*The Swan Princess*), as well as on television series and multimedia CD-ROM projects.

Metacreations Upgrades Infini-D. MetaCreations, the software company formed by the recent merger of software companies MetaTools and Fractal Design, will release version 4.0 of the Power Macintosh Infini-D video/animation/effects software package. Infini-D is used by professionals to create broadcast-quality digital video and 3D animation. Features integrated into this upgrade include real-time rendering, volumetric lighting effects and control of particle physics such as life span, gravity and collision detection, as well as deformation tools for morphing effects. The Infini-D software package sells for about \$899, and the upgrade will be available for \$199 (suggested retail prices). The Power Macintosh version upgrade is available now, and the Windows 95/NT version will be available by the end of 1997.

Events

Academy Animation Seminar Series. The Academy Foundation is

presenting a six week seminar on animation, July 16-August 20, 1997 at their Academy Little Theater in Beverly Hills. The schedule of speakers includes:

- July 16: Animation historian Leonard Maltin
- July 23: Animation historian Joe Adamson.
- July 30: Disney animator Andreas Deja and Warner Bros. Feature Animations Brad Bird.
- August 6: Speaker to be announced.
- August 13: Eric Armstrong from Sony Pictures Imageworks.
- August 20: Animation historian Charles Solomon, voice actor June Foray, and veteran animator Marc Davis.

Tickets for the whole series are available for \$120.00 (\$100 for Academy members and students), admission to individual shows are not sold separately. For information/reservations, call (310) 247-3000, extension 111.

Dykstra's Fantasy In Film Lecture. Visual effects artist Jon Dykstra will give a presentation on the subject of "Fantasy in Film," as part of the Academy Foundation's George Pal Lecture Series. Dykstra is an Academy Award winning visual effects artist whose credits include "*Star Wars*," "*Batman Forever*," "*Star Trek: The Motion Picture*," "*Dune*," and, most recently, "*Batman and Robin*." Dykstra's talk will take place on August 7, at 8:00 p.m., at the Academy's Samuel Goldwyn Theater in Beverly Hills. Admission is \$2.00 to the general public, free to Academy members. For information, call (310) 247-3000.

Virtual Lawnmower? The Los Angeles-based LAwNMoweR a loose acronym for the New Media Roundtable, group will present a discussion, showcase and reception on

the subject of virtual worlds, on August 6 from 6:00 p.m. to 10:00 p.m. Virtual worlds are interactive digital environments such as VRML and virtual reality games, which often feature animated characters known as "avatars." Los Angeles Mayor Richard Riordan is set to kick off the evening with an announcement of his commitment to new media development through support of a new business market for the industry. His speech will be followed by a panel discussion with representatives from companies such as The Palace, which are creating virtual online environments. Following the presentation will be the trademark LAwNMower showcase and cocktail reception, known as a top "schmoozefest" for people working in the interactive and online industries. Admission is \$20 at the door, and the event will take place at Paramount Pictures in Hollywood. For information visit www.lawnmoweronline.com or call (800) 58-LARKIN.

Cartoon Network Makes A Splash. Cartoon Network has launched its third annual Dive-in Theater Tour, a promotion which transforms community swimming pools across America into floating theaters to watch cartoons. Tickets are given away on radio stations to hundreds of kids, who cool off in the pool while sitting on Johnny Bravo inner tubes, and "Dexter submarines" while watching the new series, *Johnny Bravo*, *Cow and Chicken*, as well as new episodes of *Dexter's Laboratory*. The Dive-in Tour splashed into Los Angeles last week, and will be visiting the following cities over the next few weeks: Denver (July 18), Chicago (July 26), Pittsburgh (July 29), New York (August 2), Boston (August 5), Washington, D.C. (August 8), Tampa (August 13), and



Disneyland's "Hercules Victory Parade."

Atlanta (August 15).

Disneyland Launches Herculean Parade. Disneyland in Anaheim, California is running a new parade called "The Hercules Victory Parade," which is a live-action musical performance picking up on the story where the animated feature left off. Featuring 82 performers and many elaborate props, puppets and floats, the parade runs through September 7.

Siena Short Film Fest. The Second Siena International Short Film Festival will take place October 17-25 in Siena, Italy. The competition features a category for short animated films, and cash prizes are awarded to winners in all categories. Also included are retrospectives and a short film market. For information visit <http://www.comune.siena.it/film/corto.htm> or email filmclub@pronet.it

Children's Film Fest In India. The 10th International Film Festival for Children and Young People will be held November 14-23, 1997 in India. This biannual festival is organized by the National Center of Films for Children and Young People (NCYP), and includes both competitive and non-competitive screenings, and retrospectives of Indian and Asian animation. There are four juries consisting of international members, who will determine the winners of the Golden, Silver and Bronze Elephant awards. For information

and entry forms, contact the NCYP at tel: (022) 387-0875 or fax: (022) 387-565610.

Digital Media World is a conference and exhibition held in both London (November 1997) and Australia (March 1998). Digital Media World incorporates an exhibition of the latest technology and services in the industry, and three separate conferences: The Australian Effects and Animation Festival (AEAF), Multimedia World, and TV Australia. For information, visit <http://www.dmw.com.au>

Awards

Faith Hubley To Receive Gotham Award. New York-based independent animator Faith Hubley has been chosen by the Independent Feature Project (IFP) West to receive the first ever Special Gotham Award for Animation. Hubley has produced 20 independently animated films, in addition to the more than 20 films she produced with her late husband John Hubley. She has also worked in collaboration on films with her daughter Emily Hubley. IFPs Gotham Awards aim to celebrate New York as a center for filmmaking, honoring individuals who have demonstrated an outstanding commitment to independent filmmaking. The awards ceremony will take place on September 16, on the second night of the Independent Feature Film Market in New York. Additional Gotham Award recipients for 1997 include Bob and Harvey Weinstein, Errol Morris and Macky Alston.

Daytime Emmys Animation Winners. The 24th Annual Daytime Emmy Awards were awarded in May. Warner Bros.' *Animaniacs* won for both Outstanding Childrens Animated Series and Outstanding

Music Direction and Composition, while their *Freakazoid* won for Outstanding Special Class-Animated Program. Walt Disney Television took home Emmys for *Mighty Ducks*, chosen for Outstanding Sound Editing-Special Class and *The Lion King's Timon and Pumbaa* for Outstanding Sound Mixing-Special Class. Fox's *Life With Louie* took home the prize for Outstanding Performer in an Animated Program.

Promax/BDA Awards. The PROMAX/BDA Awards were presented in Chicago on June 5, as part of the annual PROMAX/BDA (Broadcast Design Association) convention. The awards honor creativity in promotional and packaging productions for U.S. television, with the focus on commissioning networks rather than production companies. Gold and Silver winners in the animation categories were:

- Cable System/MSO, Promotional Animation-Large Market
Gold: *SportsChannel Theme Nights* for SportsChannel New York.
- Network-Broadcast, Promotional Animation
Gold: *Thrillology* for NBC, Burbank.
Silver: *3rd Rock - She's a Lady, Evil Dick: Superfreak* for NBC, Burbank.
- Network-Broadcast, Non-Promotional Animation
Silver: *Centennial Olympic Games* for NBC Sports, New York.
- Network-Cable, Network I.D.
Gold: *Buzz ID-Paint ID* for Cartoon Network, by Speedy Films.
Silver: *Buzz ID-Wire Noses-Soup ID* for Cartoon Network, produced by Cuppa Coffee Animation.
Silver: *Farm ID-Mondrian ID-Rollercoaster ID* for Cartoon Network, by John Dilworth.

Silver: *Winky Dog Xmas, Bug Eyes, Martian* for HBO, New York, by Steve Dovas.

- Network-Cable, Promotional Animation
Gold: *Nick Movies Open* for Nickelodeon, New York, by Colossal Pictures.
Silver: *Addams Family Teaser* for Cartoon Network by Primal Screen.
Silver: *CNNFN ID* for CNN by Lance Russell.
Silver: *The Comedy Channel-Animation Spots* for The Comedy Channel by Mark Gravas/Alex Catchpole.
Silver: *The Comedy Channel-Alter Ego* for the Comedy Channel by Digital Pictures, Australia.
Silver: *MSNBC/Cable Launch* for NBC by Ralph Famiglietta/Guy Pepper.
Silver: *Nickelodeon Bumpers* for Nickelodeon, animated by Eric Rosner and Adam Gravois.
Silver: *Pay-Per-View It!* for Viewers Choice, New York by Allan Neuwirth.
- Network-Cable, Non-Promotional Animation
Gold: *Arena Idents-Science Fiction, Paparazzi, and Zoetrope* for XYZ Entertainment by Diana Costantini.
Silver: *Arena Idents-Film Festival, Moon and Smarties* for XYZ Entertainment by Diana Costantini.
Silver: *Birthday Salute* for Turner Network Television by Division 6.
Silver: *Cartoon Network Responds-Open* for Cartoon Network by Michael Ouwelen.
Silver: *The Hub Opening Titles and Packaging Elements Intros* for XYZ Entertainment by Diana Costantini.
Silver: *Magical World of Disney* for Disney Channel by Helium.
Silver: *Mysteries Inc.-Open, Mysteries Inc.-D Mysteries Inc.-E Bump* for Cartoon Network by Two Headed Monster.
Silver: *Nicktoons TV* for Nickelodeon

- UK by Liquid TV.
Silver: *Science Frontiers Open* for The Learning Channel by Liquid TV.
Silver: *Sex Bytes-Main Title* for HBO by Lauri Jones.
Silver: *Small World-Open, Small World Cantonese Girl, Close* for Cartoon Network by Serious Robots.
Silver: *The Buzz Opening Title Sequence* for Red Music Television by Watchout Productions.
Silver: *Turner Classic Movies: Sunny Side of Life* for Turner Classic Movies by Colossal Pictures.
Silver: *TCM Imports-Foreign Film Showcase Open* for Turner Classic Movies by Cuppa Coffee Animation.
Silver: *VH-1 Fairway to Heaven Open* for VH-1 by Alison Karnbad.
Silver: *VH-1 RNR Picture Show Open* for VH-1 by Linda Danner/Greg Lazzaro.
Silver: *Village of the Doomed-Jonny Quest* for Hanna Barbera by William Chapman.

- Television-General, Promotional Animation-Large Market
Gold: *CITV: Art Attack* for Central & ITV Network, England by Jude Hartley/Tony Jopia.
Silver: *Central Presentation Kit* for Carleton Television by Moving Picture Company.
Silver: *CITV: Idents* for Central & ITV Network by Infynity.

Animation World News is compiled daily for publication in the AWN Daily Flash, the weekly *Animation Flash* email newsletter, and monthly issues of *Animation World Magazine*.

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DESERT ISLAND SERIES

On A Desert Island With... Digerati!

Compiled by Wendy Jackson

This month, *Animation World Magazine* asked a few of "the digital elite," a.k.a. computer animators, for their top ten animation films. While these artists may spend their days staring at computer screens and animating cutting-edge visual effects, they are the last ones to go home at night to watch *Terminator 2*. Their selections prove that the root inspiration for great animation lies in classic tradition.

Steve Williams is a visual effects supervisor at Industrial Light & Magic, whose credits include visual effects animation on *Jumanji*, *The Mask*, *Jurassic Park*, and most recently *Spawn*., the comic-inspired live action feature due out this month.

Doug Dooley is a senior animator on the creative team at Blue Sky Studios. He has worked on all of the studio's feature film projects, including *Joe's Apartment*, *A Simple Wish*, and *Alien Resurrection*. Webster Colcord is an animator who worked in traditional stop-motion animation techniques at Will Vinton Studios, as a freelance commercial director, and on Henry Selick's *James and the Giant Peach*, before he took on a position working at Pacific Data Images, as a computer animator on DreamWorks' feature film, *Ants*.

Here's the ten animated films that Steve, Doug and Webster would want to have with them if stranded on a desert island.

(continues)

Steve Williams' top ten:

1. *The Great Toy Robbery* by Jeff Hale, National Film Board of Canada.
2. *Lupo The Butcher* by Danny Antonucci.
3. *Ren and Stimpy: Space Madness* by John Kricfalusi, Spumco.
4. *Three Little Bops* by Friz Freleng, Warner Bros.
5. Any Porky Pig films up until 1957.
6. *Rabbit Hood* by Chuck Jones, Warner Bros.
7. *Rocket-Bye-Baby* by Chuck Jones, Warner Bros.
8. *Daffy Doodles* by Robert McKimson, Warner Bros.
9. *The Spirit of X-mas* by Trey Parker and Matt Stone.
10. *Man's Best Friend* by John Kricfalusi, Spumco.



Doug Dooley

Doug Dooley's picks:

1. *Beauty and the Beast*, because it is my favorite overall Disney film.
2. *The Nightmare Before Christmas*, because of the excellent design.
3. *Toy Story*, because it has a lot of great CG character animation.
4. *Bambi*, because it contains some of my favorite performances of any animated feature.
5. *Jungle Book*, for its great performances and music.
6. *The Wrong Trousers* by Nick Park. It is one of the most amazing short animations I've ever seen.
7. *Nestor the Long Eared Christmas Donkey*. It is one of my favorite Rankin/Bass holiday specials.
8. *The Secret of NIMH* by Don Bluth. My favorite Bluth film.
9. *Akira*, my favorite Japanimation film.
10. *The Salute to Chuck Jones* tape. Chuck is my favorite Warner Bros. short animation director.



Webster Colcord's favorites:

1. Mike Smith's Demo Reel.
2. *Lord of the Rings* by Ralph Bakshi.
3. *A Christmas Carol* by Richard Williams.
4. *The Mascot* by Ladislav Starevitch.
5. *Symphony in Slang* by Tex Avery.
6. *Watership Down* by Martin Rosen.
7. *The Thief and the Cobbler* by Richard Williams, with the sound turned off and one finger on the fast forward button.
8. *James and the Giant Peach* by Henry Selick.
9. *Colonel Bleep* episodes by Jack Schleh, Soundac.
10. *Tale of Tales* and a never completed cut-out animation film by Yuri



AWN Comics



The Dirty Birdy by John R. Dilworth

Highlights from the September Issue...

Television, September 1997

Our Fall issue will feature the world of television with a focus on the innovations of MTV Animation and the Children’s Television Workshop. A dinner conversation with MTV’s Abby Terkuhle and CTW’s Arlene Sherman will be included as will an article by Chris Robinson tracing the impact of these two animation leaders. A Fall TV preview will be included along with commentary by a special “mystery” guest. The newly crowded French market will be explored by Marie-Agnès Bruneau. Milt Vallas will report on the big changes in Korea’s animation scene and the state of television’s finances will be investigated by Buzz Potamkin. Event reviews will include SIGGRAPH, ComiCon, Masters of Animation and AnimExpo. Rose Bond will also profile Joanna Priestley and much, much more.

Animation World Magazine 1997 Calendar

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