

The evolving demand for space art has created trying times for space artists.

by Lynette R. Cook



IS SPACE ART DEAD?



First published in *Mercury*, Spring & Summer 2009.
Courtesy [Astronomical Society of the Pacific](#).

One of twelve illustrations I created for Dava Sobel to visually express the individual chapters in her book *The Planets*. Courtesy Lynette R. Cook.

For nearly three years I've been haunted by a headline in the *Los Angeles Times* that read, "Imagine That: NASA's Photos Eclipse Space Art." Befuddled and dismayed, my space-art colleagues and I wondered at the time how this message could have bubbled to the surface from the series of informational interviews the writer had conducted about our work and experiences. Was this an attempt to sell more newspapers, or had she picked up on a real trend in astronomy and astronomical education that spelled doom for this small group of specialized artists?

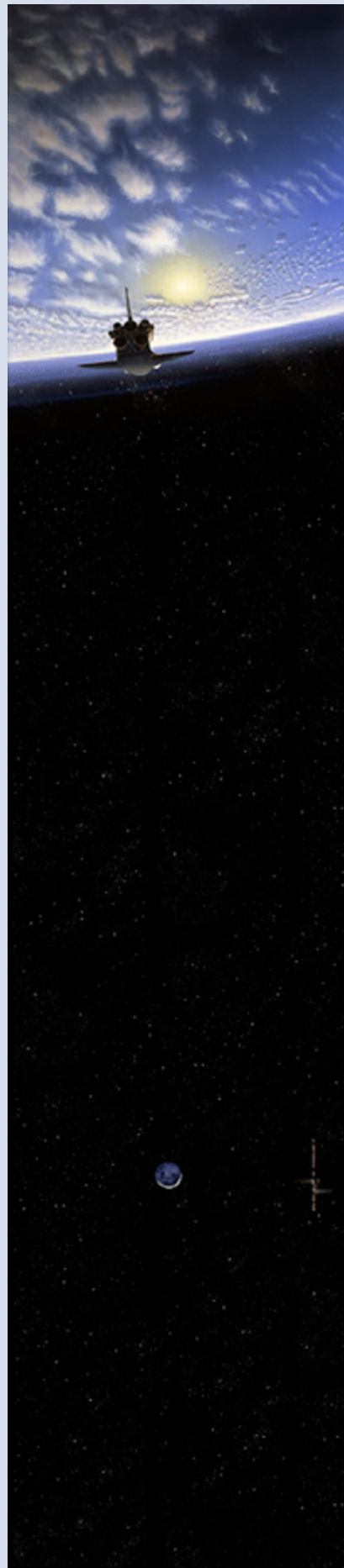
Whether or not this is the proverbial "writing is on the wall," the field of space art — the youngest member under the broad umbrella called scientific illustration — has changed since its inception and continues to adapt as technology advances. Just as earlier artists feared that the advent of the camera foretold their demise, the wondrous success of the Hubble Space Telescope and other technological marvels created ripples of uncertainty among space artists. While there is no doubt that space art and artists still exist — after all, look around...space art is everywhere, right? — what *is* the state of its health? I determined to find out.

What is Space Art?

The expression "space art" is a general term that's used to identify both a broad category of art and a specific subsection of imagery. It has different meanings to different people, including but not limited to matte paintings; planetarium show imagery; depictions of astronomical objects in textbooks and scientific press releases; planetary landscapes in popular science books and magazines; astronomical scenes plastered on t-shirts, mugs, mouse pads, and anything else you can think of; and even planets or galaxies whipped out in minutes by spray-can painters in tourist meccas.

My background as a space artist comes from the tradition of natural science illustration, which teaches that scientific illustration is "art in the service of science." It's in this vein that I think of space art, and it is how my viewpoint is colored. The primary goal of a natural science illustrator — whether focused on astronomy, botany, entomology, herpetology, or any other subject — is not to establish a unique style and sell one's fine art in galleries. Rather, it is to create imagery that will, in published form, educate others about scientific topics. Thus the artist and the scientist are a collaborative team, working together to present the material in a visually appealing and informative way.

It was into this mindset that I threw myself, first in graduate school at the California College of the Arts in Oakland, where I specialized in scientific illustration via the Drawing Department, and then into the working world as Artist/Photographer for the Morrison Planetarium at the California Academy of Sciences, a position I held for 16 years. My earliest planetarium memories are of Assistant Chairman Bing Quock bringing the book *The Grand Tour* and the magazines *Astronomy* and *Sky & Telescope* to my desk to show me the marvelous, otherworldly landscapes



Left: The concept of space art ranges from scenes on t-shirts to magazine covers and many things in between.

Right: Deep Ocean. Far more vast than any oceans before encountered, fragile craft have set sail upon them in search of the greatest treasure of all — knowledge.

Left: Beau Pinkerton. Right: Sky & Telescope.

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created by the well-known space artists of the day. It was via these and other publications that artists such as Don Davis, William K. Hartmann, Pam Lee, Ron Miller, Jon Lomberg, Michael Carroll, Adolf Schaller, Joe Tucciarone, and Alan Gutierrez, became iconic, instilling in me an awe and reverence as though they were endowed with secret and mysterious knowledge of the universe that I could only pretend to imagine.

Today, more than 20 years later, I am a well-published artist in my own right. If space artists really do hold secretive and mysterious knowledge within them, I now hold it too. Yet, I have felt the ground shifting for some time, and the tremors are increasing in frequency and intensity. Thanks to the *LA Times* [article](#), it is impossible to keep my head buried in the sand. With most of my space-art heroes still working in the field, and a host of younger enthusiasts making their own significant mark, now is an ideal time to investigate the state of the art.

The International Association of Astronomical Artists

My first stop is the IAAA — the [International Association of Astronomical Artists](#) — to poll its members on a variety of subjects. Today's IAAA membership is a diverse group of individuals with broad differences in age, background, artistic preferences, and years in the field.

The 62% of members who responded to my questions come from Australia, Belgium, Canada, China, France, Germany, Spain, the United Kingdom, and the United States. Career longevity varies from two to 56 years, with 23 years the average. A realistic art style is prevalent within this group (76%), with the remaining work identified by the practitioners as abstract, expressionistic, informal/conceptual, diagrammatic, impressionistic, pop, representational, semi-realistic, science fiction, storytelling, symbolic, surrealist, art-in-space sculpture, and “other.”

Media choice varies too, with digital (computer generated imagery or CGI) taking the lead at 54%, acrylics second (28%), and oils in third place (8%). The remainder is a smattering of alkyds, charcoal, graphite, glass, gouache, ink (line and wash), installation/environmental, marker, pastel, constructive, photography, printmaking, watercolor, sculpture, and mixed media.

Collectively, this group of individuals has created a huge body of highly visible and internationally acclaimed imagery seen in film, broadcasting, newspapers, scientific journals, trade magazines,

popular books, textbooks, and on the Internet. Their work has been brought to the public by numerous respected companies and organizations, including Addison-Wesley, the BBC, The Discovery Channel, Houghton-Mifflin, NASA, PBS, Random House, *Newsweek*, *Time*, *US News and World Report*, and *The Washington Post*.

The Good News

What especially strikes me about the feedback I received is how many artists are inspired by the universe and feel deeply committed to what they do. Many cite a love of both art and science, with some having had a parent or other family member involved in aerospace who instilled in them a wonder of the cosmos when they were children. Older IAAA members remember marveling at the depictions produced by an earlier generation of space artists, including Chesley Bonestell, R.A. Smith, Charles R. Knight, and Ludek Pesek. Younger space artists were first excited by the renderings by David A. Hardy, Ron Miller, Don Davis, Don Dixon, and others, along with Carl Sagan's *Cosmos* television series.

Enthusiasm remains high amongst today's astronomical artists. When asked, “Since becoming a space artist, have you ever seriously thought about a career change?” more than half said no, with two admitting they'd do their creative work for free if necessary. Aldo Spadoni expresses his dedication in unwavering terms, “I was born a rocket scientist. My earliest memories are of rocket science. I eat, sleep, and breathe rocket science and the human conquest of space. Being a space artist is merely one additional manifestation of my life-long obsession.”

Optimism also prevails in nearly half of the artists who feel more positive about the field of space art now than at a time earlier in their career, compared to 17% who feel the same and 37% who are less optimistic. Reasons credited for the high emotions include new discoveries that provide more sources of inspiration; seeing annual growth in one's business; feeling that there is greater public interest and awareness of space and space art; and evidence that the digital world has opened up avenues for new media as well as opportunities for securing and working with distant clients via the Internet.

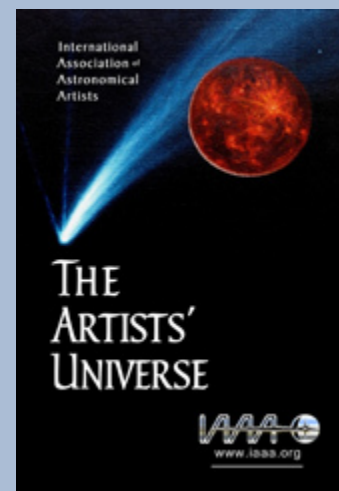
Yet, as wholeheartedly as some artists feel good, others are despondent. “There should be more demand but there isn't.” “People are taking realistic space art for granted due to digital art. I feel space art has lost its magic.” “[I] receive few commissions for new space art. If I had to make a living on space art alone I'd be very

The IAAA

The [International Association of Astronomical Artists](#) (IAAA) is an organization of more than 100 artists representing 20 countries. Founded in 1982 by a handful of pioneering astronomical creatives whose work was firmly grounded in science, members' art has grown to incorporate numerous styles and approaches. Some step outside the bounds of a true scientific rendering, yet all are inspired by astronomy and space exploration.

The Artists' Universe is an exhibition that introduces visitors to both the art and science of astronomical illustration. The exhibit experience instills a realization that artworks in this genre are not mere fantasy; they require disciplined study and meticulous rendering, and they can be essential extensions of real and rigorous science. For more information about this exhibit, visit [The Artists' Universe](#) webpage.

— L. C.





ASP

The surface of Mercury, painted by Chesley Bonestell in 1972 — two years before Mariner 10 became the first spacecraft to photograph this scorched planet.

poor.” “CGI has largely supplanted the need for skilled painters.” These are just a few of the many comments I received expressing concern and dismay.

In trying to understand this disparity of feelings, what strikes me is that the individuals feeling optimistic about space art tend to belong to one of two broad groups: professionals who have moved into the high-end digital realm of three-dimensional graphics (3-D) and animation, or practitioners who are retired, amateurs, hobbyists, or young pros who are becoming better known (and for whom business is picking up). With the exception of a few creatives who appear to be immune (for one reason or another), the remaining professional artists feel that the bottom is dropping out, flinging them into a freefall. It isn't difficult to understand why.

The First Ground Tremors

Broad, sweeping changes in the art world at large have eroded the ground beneath freelancers since the 1980s (see “It’s a Freelance World” on page 8) and foreshadowed future difficulties. The first of these was the royalty-free CD, a collection of illustrations available for unlimited use to any purchaser for a modest, one-time flat fee.

Until the advent and subsequent popularity of this type of art collection — and with the exception of printed clip-art books from Dover and other companies — freelance artists of all flavors would negotiate a use fee when someone wished to publish their existing work. In many cases these fees generated a major portion of the creative individual's income.

The model of the royalty-free CD has expanded to today's plethora of image banks selling stock illustrations. While the companies that sell these images must obtain their source material from artists, payments are a fraction of what these creatives would expect to receive under the traditional pay-per-use system. Consequently, this low-cost imagery provides serious competition for the freelancer.



Clip art (above) may be inexpensive or free, and it has come a long way since it was first introduced, but there's often no guarantee it'll be scientifically accurate.

The Digital Revolution

The maturity of the personal computer and sophistication of graphics software has further revolutionized the art world. Many professional space artists who once worked only with traditional media have gone mostly (or completely) digital. This is due in part to some imagery being simpler and faster to create on a computer than by hand. But it's also due to the expectations and needs of clients who require that changes to artwork not only be possible but also quick and easy to accomplish. These days images for reproduction, whether hard copy or on the Web, are nearly always provided electronically — attached as a JPEG to an e-mail or uploaded as a TIFF to an ftp site.

Gone are the days of depending on Federal Express to deliver 35-mm slides, 4x5 color transparencies, or even original artwork, to clients. Today, traditional is “out” and digital is “in.” Any artist who creates traditional art and wishes to survive must, at the very least, be able to scan his/her illustrations and make the images available for quick electronic delivery.

Is the cup half full or half empty when it comes to the affects the computer has had on the art world? It's difficult to say, as a case can be made for either point of view. On the positive side, the software and tools available to digital artists are remarkable. The amount of realism possible in today's computer-generated work is astounding and often rivals reality. In the arena of art that serves science, whatever looks most real tends to be considered “better” than art that looks more “painterly” or hand-done.

On the negative side, there is a sameness to digitally created artwork since the practitioners use identical software programs. The individual artist's hand once transformed squirts of paint and pristine white paper or canvas into a



Space art: the early years! Here I am with Assistant Chairman Bing Quock, and some of the materials (including three-dimensional models of planets) we used to create planetarium programs in the pre-digital days of show production.

California Academy of Sciences Library Special Collections



Tim Griffith, California Academy of Sciences

An aerial view of the new California Academy of Sciences reveals its 2.5-acre living roof.

creation of brush strokes and style as unique as a person's fingerprint. That hand now holds a mouse or stylus that manipulates electronic pixels within predisposed parameters. Much effort is made to overcome these limitations: electronic textures can simulate the look of canvas or paint, modern print technology produces excellent reproduction of digital files onto canvas and fine art papers, and a few digital artists have managed superbly well to push their pixels into a personal style. Still, the uniqueness and the subtleties of the hand-painted image are gone.

The New Morrison Planetarium

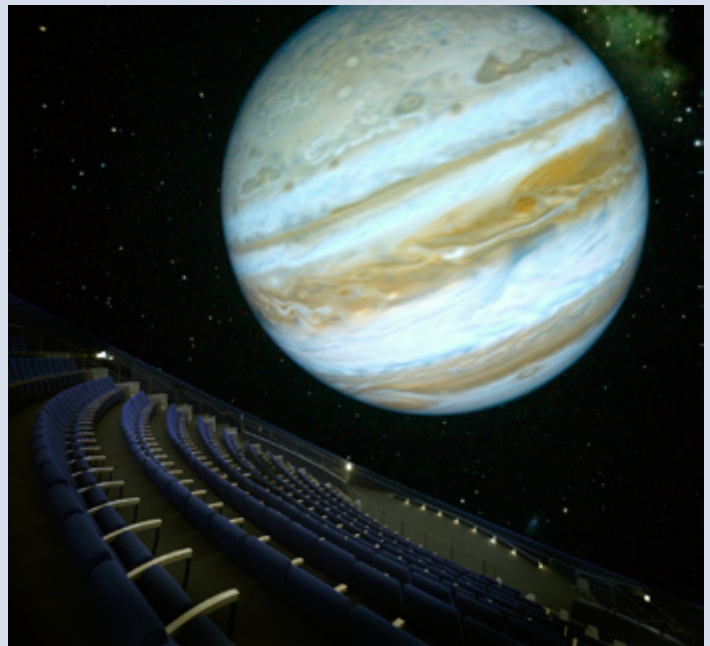
These realities were much on my mind when I recently visited the newly reopened [California Academy of Sciences](#) in San Francisco and witnessed the state-of-the-art facility that has emerged, phoenix-like, from its previous incarnation. During my years as Artist/Photographer at the Morrison Planetarium, a position I held until November 2000, most of the art and graphics were generated traditionally. I well remember the 12 pieces of black matte board that I cut, curved, and painted for each new 360° panorama (scene) that ringed the base of the dome. The 12 finished paintings were then photographed with a 35-mm camera using a special copy stand. The slides were opaqued (so unwanted portions of the image didn't show), mounted, and loaded into the panorama projectors. In the latter years I was doing a portion of my work digitally, yet overall the planetarium's methods and technology remained old school.

Today the [Morrison Planetarium](#) is brand new, rebuilt along with the rest of the museum. It opened to rave reviews in September 2008 and boasts full shows with nary an empty seat to be found. Replacing the old star projector and a large collection of other outdated projection equipment, as well as my black matte board, paint, brushes, film, copy stand, and opaquing fluid, is an impressive all-dome "movie" created in-house by a team of animators and a half-million dollars worth of computer equipment. Part of the "real" in this more realistic presentation is the collaboration with scientific researchers and the use of astronomical data sets to generate images.

My favorite part of the [Fragile Planet](#) presentation was seeing the Moon loom high above, feeling that its weight could crush me if the

right force sent it in my direction. This was an excellent effect, not possible in the planetarium of my tenure. Yet, am I certain that this type of show is more successful in presenting the science than the older ones? I am not.

While I understand that technology and institutions must move forward, I ended my Academy visit realizing that comparing the old and the new was impossible. They were two completely different animals. Furthermore, I was cognizant of the trade-offs. In earlier years, for example, a new public planetarium show made its debut about every 2½ months, with two public feature shows offered each day. Given the time and cost to produce all-dome video, just one public show is now available and it is intended to run 9 to 12



Tim Griffith, California Academy of Sciences

Like most new large planetariums, the Morrison features a tilted dome, luxurious seating, and video projections that fill the hemispherical screen.

months. Overall, is this a positive or a negative? I leave it to others to decide.

While the Morrison Planetarium assembled its own creative team, some space-art freelancers are happily skipping down the same yellow brick road. One of them is Don Davis, who now spends the bulk of his time creating animations for planetarium shows. “Almost no artists I know make a living by selling original paintings anymore,” Don observed. “There are many more opportunities for those artists who have moved on to the digital realm.”

Do What You Love and the Money Will Follow...or Will It?

Generally speaking, the days of being able to command a high price because of one’s reputation or published history are over for space artists. There is just too much competition. Digital CDs and clip art were only the beginning. The [Hubble Space Telescope](#) (HST), along with imagery from other telescopes and space probes, collectively comprise another big hiccup in the art world and a chameleon one at that. On the one hand, these “Wow!” photographs are a constant source of inspiration for space artists, pushing them to new creative heights. On the other hand, they cause artists to lose market share as clients increasingly choose to run these free (public-domain) pictures instead of commissioning new artwork or using existing illustrations.

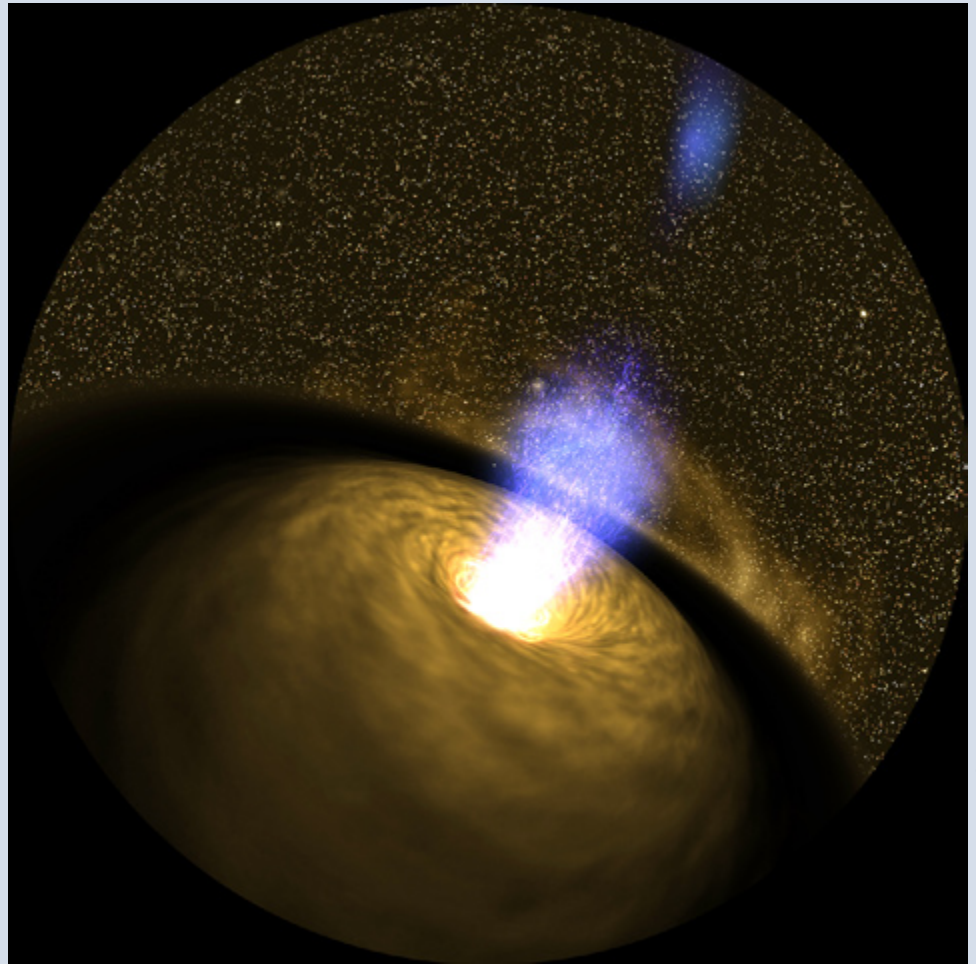
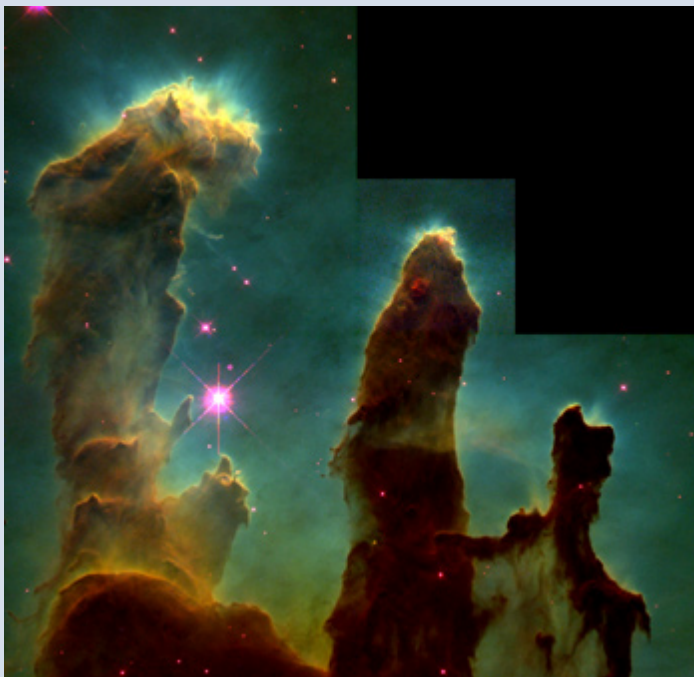


Image created by Don Davis © 2009 Evans & Sutherland. Used with permission.

A jet of gas emerges from the core of the giant elliptical galaxy M87 in this dome-filling scene created by [Don Davis](#) for an all-dome video planetarium show.



NASA / ESA / STScI

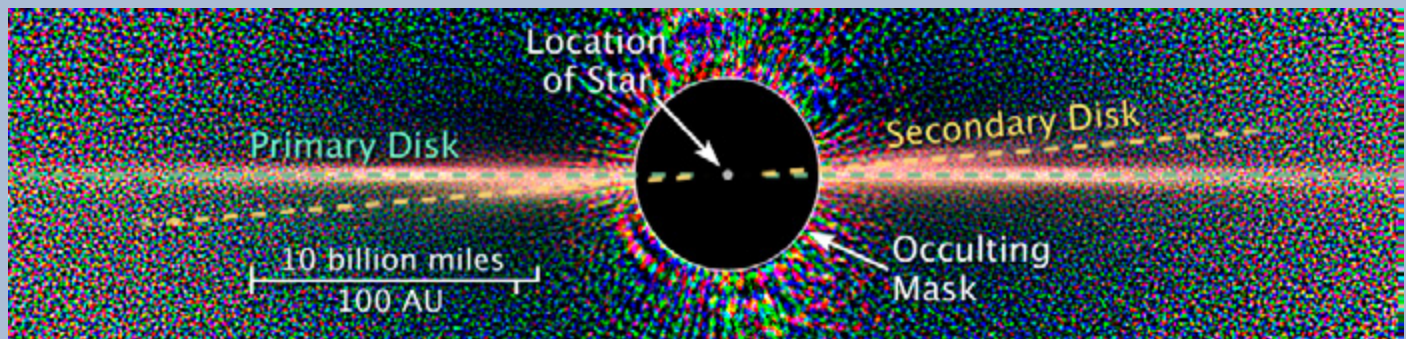
This 1995 HST image of the gas pillars in the Eagle Nebula (M16), sometimes called the “Pillars of Creation,” is often considered the archetype of space images that are more art than science.

Additionally, today’s digital hardware and software make it easy for any space enthusiast to become an instant artist. Combined with the Internet, his or her work can be immediately accessible to anyone with web access. Software packages such as Photoshop, Bryce, and Terragen, along with more robust packages including Light-Wave 3D, Maya, 3ds Max, and others, mean that formal art training is no longer necessary. Almost anyone can create space art, post it on a website, and have it just as visible to potential clients as the work done by 20-, 30-, and 40-year veterans.

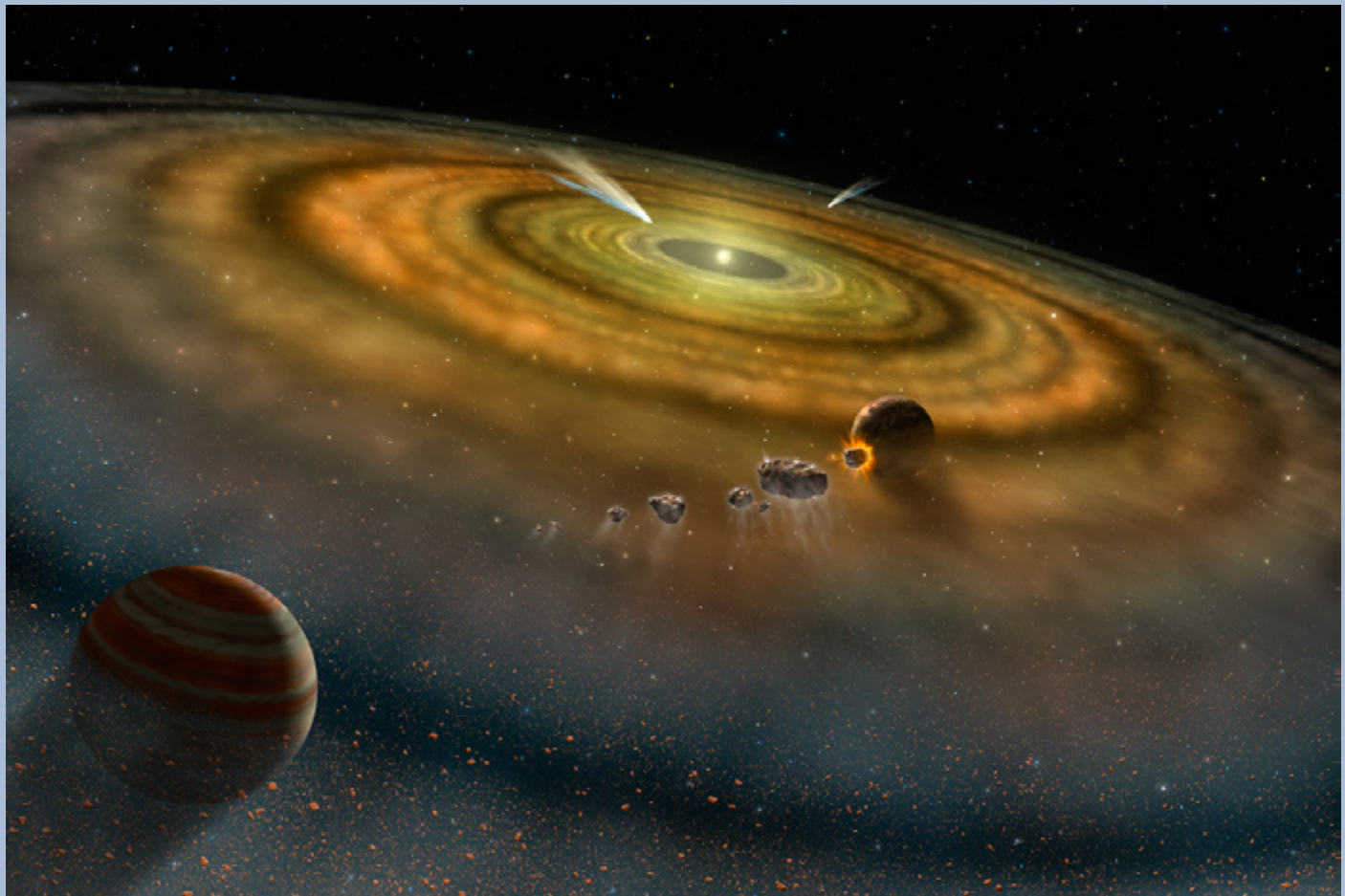
Doctor, May I Have a Free Checkup?

Since many amateurs and hobbyists are motivated not by a need to make a living from their art but by seeing their work “out there,” there is a well-spring of imagery offered at little or no cost. This directly challenges the professionals’ ability to pay their bills. Pros are increasingly asked to lower their fees, with clients citing that they can get cheaper art somewhere else. When asked, “How many times are you asked for free use of your art?” B.E. (BJ) Johnson expressed the frustration of his colleagues by answering, “I’d say that in the last three years, free has been 80% of the requests.” In response to the follow-up question, “In an average year, how many times are you asked for greatly reduced pricing on the use of your art?” Johnson replied, “The other 20%.”

It’s curious that people tend not to ask their dentist for a free cleaning or their grocer for a free bag of food to help feed their



NASA / ESA / the ACS team



Lynette R. Cook

The Hubble Space Telescope has revealed two dust disks circling the nearby star Beta Pictoris (above), increasing the possibility that there is at least one Jupiter-size planet orbiting the star. But the artist's impression (below) of that technical HST image conveys a much better sense of this primeval solar system.

families, yet these societal sensibilities are missing when it involves creative practitioners. “Exposure” is usually the carrot dangled as a reward, as if an image provided free would release a flood of buyers — a veritable dam bursting and spilling its contents the artist’s way. While some space artists have provided their work gratis and do not regret having done so, a great many have discovered that free exposure rarely results in future sales and income, but instead leads to donation fatigue.

In fact, IAAA takes a dim view of members producing professional quality work and not charging users appropriately. The query I asked my colleagues on behalf of *Mercury*’s editor, “Are you willing for the editor of *Mercury* to contact you for a sample of your artwork to be included in this article? Please note that this will be a gratis (free) use.” elicited consternation and a heated discussion on

the IAAA listserv. In the end, most decided it was acceptable since this article is about the genre, but only if proper name, credit, and contact information such as website addresses are given. Others firmly said, “No!” and remained staunch that at least something tangible should be given in return.

Quality Doesn’t Mean Success

Professional artists rightly point out that they, not the amateurs, have the upper hand in creating quality artwork, with the term “quality” including not only scientific accuracy but also greater skill with design, composition, light and shadow, use of color, and other components. Yet this does not equate to the professional space artist having a secure career. Fifty-one percent of the surveyed artists say that the fees and income they receive for comparable work have



Realistic and scientifically accurate views of astronomical places and events (past, present, or future) are the forte of professional astronomical artists.

either dropped or stayed flat over the course of their careers. Of those who have seen their fees and income rise, only 32% reported being better off now than in years past when factoring in the rising cost of living. Joe Bergeron succinctly summed up the experiences of many established professionals.

When I started in the '70s there were maybe 10 space artists who tried to make a living at it. Painting was the only way to make space art, a difficult skill, which guaranteed only people with real artistic ability could compete. Now it seems there are dozens of artists trying for a piece of a stagnant or shrinking space-art pie. Most of them get by using 3-D and digital techniques, which allow non-artists to produce images simply by learning a few pieces of software. Most of them would be helpless to produce professional-quality images through traditional means. The result is a tougher time and less income for everyone except maybe for three or four people at the very top of the heap.

Another component of the digital revolution is that more and more people are finding their news, entertainment, and reading material online. This has led to major downsizing in the newspaper and magazine industries. Book publishers are having leaner times as well. Marvelous though the expansion of the Internet may be, fees for material posted on the Web are not as robust as those for print media. This has serious consequences for artists who once received the bulk of their income from traditional publishing sources.

Artists must also face a “Wild, Wild, West” aspect of the Web — a lack of copyright morality. Even individuals who know better can and do lift images off websites where they are legitimately used and post them elsewhere without permission and name credit. Typically, after a mere 10 minutes of Googling my art, I can locate several unauthorized and uncredited uses. Sites where I’ve found my art include blogs, a university professor’s page, a school’s class-project page, science magazine websites, Facebook, and more.

And what’s my reward for chasing down these scofflaws? Time away from paying projects. A use fee is rarely forthcoming from someone who is told to either pay up, or cease and desist. Even in the occasional situation where I tell the user that he may keep the image up at no cost as long as proper credit, copyright notice, and a

link to my website is shown (on a personal website, for instance), most choose to delete my art rather than make proper amends. Sadly, I am not alone in these experiences.

The Other Side of the Story

Are professional space artists just complaining, or do our comments reveal actual truths and major shifts in the space-art universe? To find out, I next took my investigation to a few key space-art users and sellers in order to get their perspective: Novaspace Galleries, which identifies itself as the world’s largest source for authentic space memorabilia; a number of astronomy and science magazines; and *Science Photo Library*, an image bank that pays their artists and photographers a royalty for every image used by their clients (unlike the stock houses described earlier).

Kim Poor, who has owned and operated [Novaspace Galleries](#) since 1978, says that only 1% of company sales are from artwork as opposed to memorabilia and autographs. Of this 1%, just 5% (in other words, .005% of total sales) is comprised of original art. These numbers certainly don’t indicate that space art is thriving.

I was especially eager for feedback from *Sky & Telescope* and *Astronomy*, since these two periodicals played such a role in my own beginning as a space artist and have been stellar in the number of space illustrations commissioned and published during their histories. I deliberately use “histories,” since in recent years these two magazines are using more photographic material and staff artists are creating some imagery that previously would have been generated by freelancers — much to the consternation of freelance space artists who are receiving fewer commissions from these sources.

It’s a Freelance World

While some salaried staff positions for space artists exist, they are few and far between. Of the IAAA members who responded to my queries and are neither retired nor hobbyists, 84% create their work as freelancers, 12% make astronomical art as both freelance and salaried individuals, and a very few (4%) are salaried only.

What does this mean? At the most basic level, it means that 96% of space artists have home-office or studio expenses that include rent or a percentage of the mortgage, utilities, telephone/fax, art-making supplies and equipment (traditional materials, computer hardware and software, or both), office equipment, transportation, and advertising. Even in the unlikely event that the 12% who are also salaried have all their major income and healthcare needs met by their employer, this still leaves 84% who must pay themselves a salary, pay their own healthcare premiums (at least in the United States), and allow for other benefits such as vacation.

Furthermore, freelancers in the US pay 100% of the required Social Security tax on their freelance income, since there is no employer to pay half of it. Given the current tax laws, it’s possible for freelance artists to have a year during which they generate a profit in their business and have zero taxable income because of various deductions, but are still required to pay up to several thousand dollars of Social Security tax.

Clearly, even in good years it takes a robust freelance income to meet basic living and working expenses. In bad years...well, you don’t want to even think about it.

— L. C.

Robert P. Naeye, editor in chief of *Sky & Telescope*, chose to send the following general statement rather than respond to my specific questions, yet his words sum up my overall findings:

Both the magazine business and the space art environment have changed a great deal in recent years.... As for magazines (and print publications in general), it's no secret that the Internet has eaten into our revenue stream. Like most print publications, S&T's circulation has decreased over the past few years (although it has stabilized in the past year). In addition, major telescope manufacturers no longer have the advertising budgets that they have had in years past. These companies have significantly reduced their amount of advertising in print publications, including S&T. As a result, the magazine has become smaller, since we no longer have the revenue to support larger issues.

In addition, our budgets for freelance writers and art (and in other areas) have also decreased. These are absolutely necessary changes to keep S&T financially healthy. These changes, which are mostly out of our control, have meant that we have fewer opportunities to commission freelance art, and it also forces us to rely much more on our staff illustrators for our space art needs. Fortunately for us, we have two very talented and experienced illustrators, and for now, they are able to meet almost all of our needs for space art. Our current reliance on our staff illustrators will likely continue until market conditions change for the better.

Feedback from *Astronomy's* editor, David Eicher, confirms this overall trend, with *Astronomy* using photographic material as the bulk of its imagery (90%), and with 8% of the artwork created in-house and 2% out-of-house. When asked how the use of space art in *Astronomy* has changed during the past 25 years, Eicher replied: "We're generally using somewhat less art because photographic imagery has become so much better, and the art that we do use now must be tighter and more photorealistic than some of the stuff we used in the past, which restricts the number of potential contributors."

In both cases there's no question that what is disappointing for the freelancer is good for the staff artist. And there's another contributing factor. Sandra Salamon, former Creative Director at *Sky & Telescope*, explains that as publishers increase their web presence, it's necessary for them to rapidly generate images. Visuals of a technical nature are often best created on the premises so they can be posted on the company's website within a matter of hours. That said, the fact remains that art usage is down and use of photographic imagery is up, a net loss when it comes to the amount of space art used.

Science News has numbers similar to *Sky & Telescope* and *Astronomy*. Editor Ron Cowan cites a 75-80% use of free photographic material, 10% use of newly commissioned artwork, 10-15% use of existing art from illustrators, and 5% imagery produced in-house. Regarding no-cost imagery, Cowen says, "We depend a lot on NASA and Hubble, and to lesser extent on other sources. We use a lot of NASA art."

Even *The Planetary Report* is making cuts. Editor Donna Stevens indicates that the use of astronomical art has dropped, because the imagery from Hubble and other photographic sources show places



A fragmenting comet slams into North America 12,900 years ago in this front-cover scene created by *Sky & Telescope* staff illustrator Casey Reed.

that once we could only imagine. In fact, Stevens seldom commissions new artwork from freelancers since she is able to find what she needs in existing imagery. While she recognizes the difficulties that professional space artists face regarding increased competition from amateurs and hobbyists, Stevens offers no solution. "I certainly understand this feeling and can empathize. But I can't see any way around the situation. The Internet has changed so much about how business, art, and just about everything, is conducted."

Even though commissions of new art are going down and use of existing imagery — both art and photo — is rising, extra dollars for the latter aren't going right into the pockets of space artists. Although it would take more research to be certain, feedback from *Science Photo Library* suggests that the existing imagery so often used is more likely to be free than purchased. Picture Editor Andrew Johnstone Simmen explains: "For us the market peaked in the early 90s with astronomy being our biggest revenue sector for some time. As we are now all painfully aware, after every boom there is a bust. Since the 90s, peak astronomy sales have fallen back dramatically as "space" has fallen out of fashion. The drop in sales is not confined to space art but affects all astronomy images across the board."

Of those contacted, only one publisher is bucking the trend. This is *Scientific American*, whose Art Director, Ed Bell, enthuses, "Since I've become Art Director, we've used much more original space art than in earlier years, especially for the planetary sciences. Astronomy is my favorite of all the scientific disciplines. I enjoy

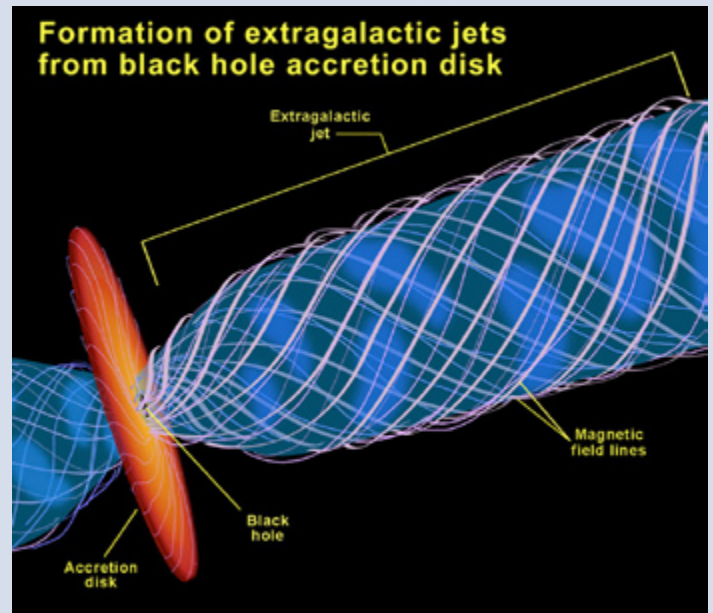
viewing the latest and evermore detailed satellite imagery of the nooks and crannies of our solar system, but my eyes are never wider than when a space artist magically takes me 'there' — to the surface, to the peaks, in the valleys, on the rings, in the mist, and all the other places that the satellite imagery only hints at. For me, it's the personalization of the scientific data. It's the artists saying, "This is what it means."

Regarding the availability of photographic material, Bell says: "In some ways it has increased our use of space art. The amazing images of the Hubble and of various landers has led to increased press coverage in the field and led to more articles in our magazine. Explaining what these photographs show means an increased use of technical illustrations. Here, also, we prefer to use artists who know the field of astronomy to execute these technical illustrations. However, in the area of technical illustration, there are far fewer space artists to choose from, and even fewer whose work I would consider excellent."

What's an Artist to Do?

Diversification is one way that artists are surviving. Just 19% of responding artists make 95 to 100% of their living from space art, with the average being 30% of one's income. What kinds of work are these individuals doing besides space art? Many are involved with other types of art, graphics, video, and/or web design, while the rest claim various part-time jobs and professions: bookstore clerk, college administrator, engineer, space mission consultant, glass blower, teacher, medical doctor, musician, photographer, scientific researcher, writer, and pilot.

Given that the habitat of the science-oriented space artist is melting away like the ice floes of the polar bear, it may be necessary for these creatives to adapt further and move away from territory once held so preciously. Julie Jones is an artist who has done this, finding



NASA / Ann Field (STScI)

There's now more demand for technical illustrations, such as this artist's concept of the formation region of M87's jet, rather than artistic renderings of such a galactic scene. The illustration shows how the magnetic field lines of an accretion disk surrounding the black hole twists tightly to channel the outpouring subatomic particles into a narrow jet.

a niche creating liturgical stoles and banners with space imagery (see the next page). Jones feels that in order for the genre to survive, space art must move beyond the scientific arena. "Space artists must find applications of their art where they will create some commonality with the public, incorporating it into everyday use, inspire the public and illuminate the future."

Salamony muses along similar lines, "I wonder if the best 'new' arena for space artists to break into might be to go back to traditional media and sell their paintings in galleries or online? Or to add a surreal aspect to the work and go after other publishing clients who might need 'think-piece' illustrations to accompany articles on 'reaching for the stars' or something." As an example, Salamony mentions Bettina Forget, a Canadian fine artist who incorporates astronomical imagery into her art and finds the public enthusiastic about her work.

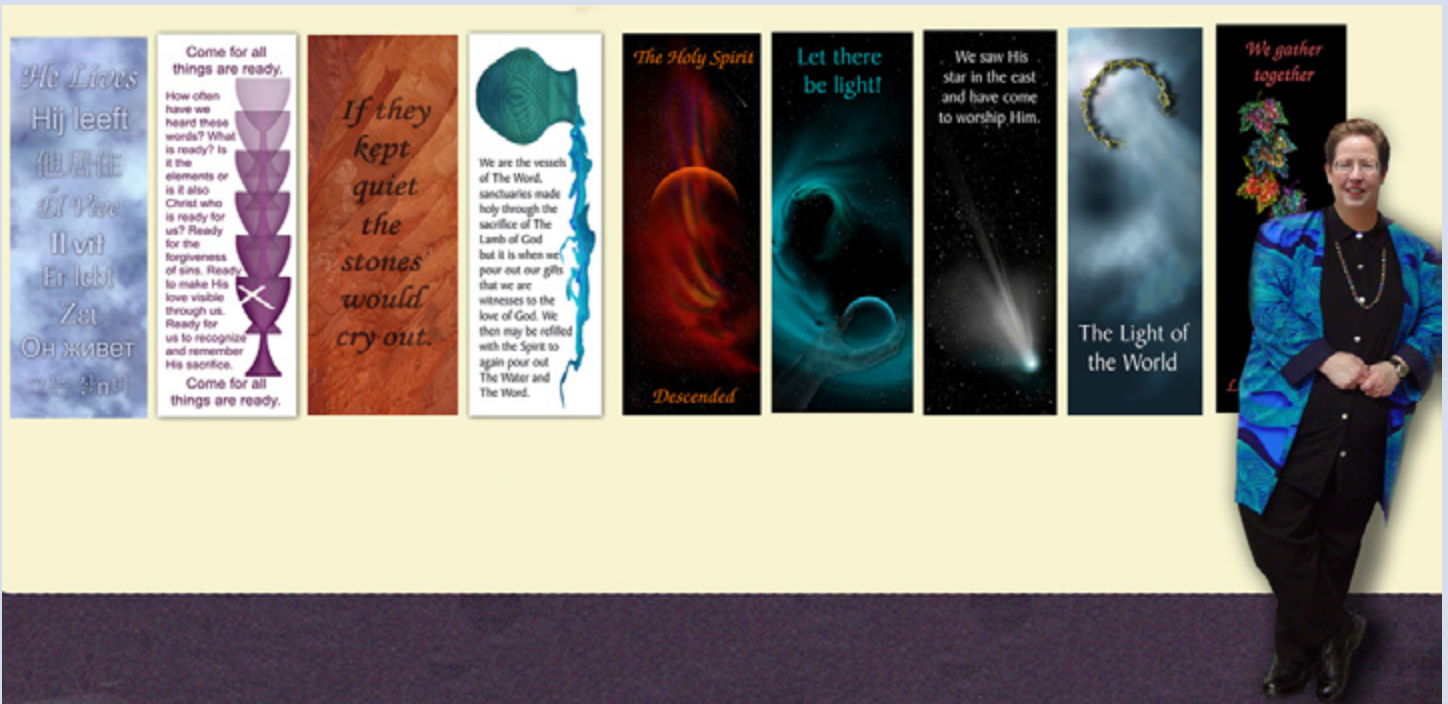
Could Forget's experiences bode well for other space artists making it in the world of fine art? To date, realistic space artists have found such a migration difficult. While IAAA artists liken their work to the tradition of early landscape painters (the 'Hudson River School') — partly in the sense that space artists are opening up vistas of distant worlds in a similar fashion to Bierstadt showing the wonders of Yosemite to the American people of an earlier era — this has been neither validated nor welcomed by the gallery crowd. As space artist and lecturer Edwin Faughn puts it, "Many people I have spoken to say they really love this work but wouldn't feel comfortable putting it over their living room couch. They think it is beautiful but don't understand it or know what to do with it. It seems so far removed from everyday life."

Graduate school experiences about my tug-of-war in the art school environment resurfaced in my mind



Bettina Forget

This photograph of one of several large-format paintings in Bettina Forget's *Naked Eye* exhibit shows a viewer using a flashlight to interact with an accurate representation of the night sky. The painting's deeply colored layered texture includes deep-sky objects such as nebulae, star clusters, and galaxies.



Artist Julie Rodriguez Jones and a few of her banners that have hung at Sparks First Christian Church.

Julie Rodriguez Jones

as I further contemplated this issue. In the 1980s I chose to attend the California College of the Arts (CCA), since it offered a science illustration program that led to a Master of Fine Arts degree. Yet once there I felt that I was an outsider in all but my scientific illustration classes. The school's primary focus was fine art — establishing one's style and exhibiting original work, which is in conflict with the traditions and constraints of the botanical and biological illustration that interested me at the time.

This said, perhaps a new day has dawned and getting some constructive feedback from my alma mater would be possible. What inspired me to find out was my recollection that Dugald Stermer had become the Chair of CCA's Illustration Department. Stermer, a commercial illustrator, has used a significant amount of natural science imagery in his work. His illustrations were well known at the California Academy of Sciences, and it was there that I became introduced to his imagery. Surely, I thought, he would have an opinion about the rift between science illustration and fine art; perhaps he could suggest something that space artists could do to make their work more acceptable in the gallery environment. I e-mailed a list of questions and also provided links so that he could view current space art and be clear about the type of work to which I was referring.

Stermer's response was short and to the point. "I don't know why you'd ask me, since I know nothing about space art. However, I do think the divide between illustration and 'fine art' — I prefer gallery art — has narrowed considerably. The word 'narrative' was recently considered a pejorative when reviewing gallery art, but now it's often a compliment. The difference is that illustration is mostly on commission and must communicate something, while gallery art is sold after the fact, and has no responsibility to communicate."

Since many space artists create their work because they want to, rather than because they are first commissioned to illustrate a topic for a book or article, it seems that gallery acceptance ought to be easier than artists are finding it to be — that is, if the illustration/fine art divide really is closing. To be sure, a few space-art collectors exist who are inspired by highly realistic imagery. Yet they are few and far between, and even the most avid collector is likely to encounter expansion issues at some point in time. In fact, two of the three collectors I contacted have run out of wall space and seldom make new acquisitions because of this.

Why is the number of collectors so small? A possible key to this mystery comes from Dr. Robert Hurt, Visualization Scientist for NASA's Spitzer Space Telescope mission. He feels that since so much of today's space art rivals the imagery obtained from telescopes, people don't "get" that this is art. Rougher traditional pieces showing



Julie Rodriguez Jones

The Pleiades and a comet provide the background for one of Julie Jones' stained glass window banners. She also creates creating liturgical stoles with astronomical themes.



B.E. Johnson

In addition to “traditional” space art, B.E. Johnson and Alyssa Day have created an expanded repertoire to include glass-blown space sculptures, orreries, mobiles, and other forms of fine art created in their studio.

the texture of the media, paint strokes, and great color, which tends to have more of an emotive quality rather than a focus primarily on realism, may have a much better chance in the fine art world.

This brings our discussion back in circular fashion to Forget’s paintings, which are unquestionably “fine art that incorporates scientific subject matter” rather than science illustration. Despite the interpretive nature of her work, Forget stresses that accuracy is important to her. “I go to great lengths to create accurate star fields. I’ll repaint a canvas if I find out there’s a factual error... This way, when someone sees my work, they can learn a little something.”

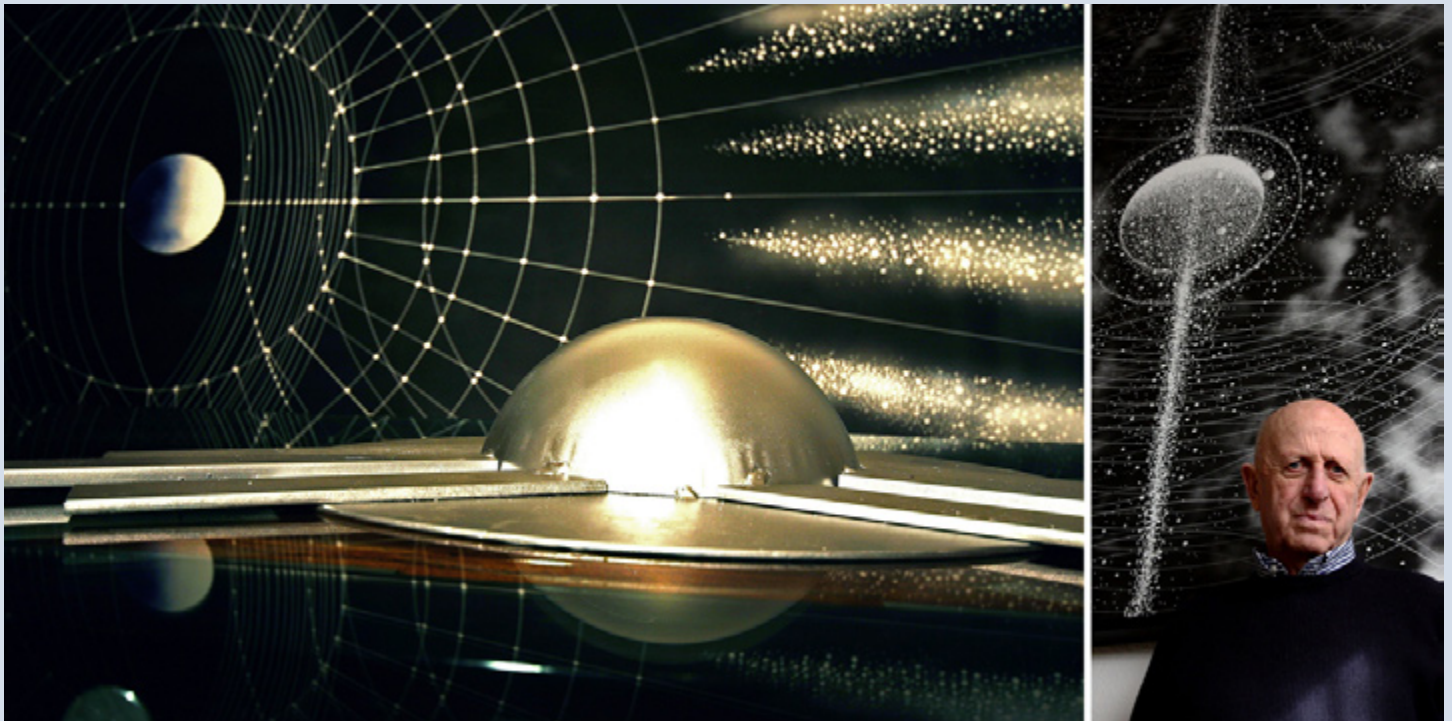
So...Is Space Art Dead?

In summing up the feedback I have collected, my conclusion is that space art is far from dead when one looks at the forest of the genre rather than at the individual trees, because the realities of the digital age appear to ensure its longevity. It’s an exciting time for hobbyists and for the professionals who are wedded to the computer and revel in 3-D graphics and animation. For the amateur it seems to be a mixed bag: a time of uncertainty for some and rising sales and popularity for others. The remaining astronomical artists — the seasoned, science and realism-focused pros who are less computer oriented and the ones who once focused on hard copy print media, sales of original art, and products like posters and cards — are the equivalent of the elephant and the tiger whose ability to thrive is threatened by shrinking resources and habitat.

Those still wedded to hard science may not be completely out of luck. Andrew Simmen muses, “Even though this market has shrunk since its peak, there is still a sizeable market out there for top quality illustrators. The important thing is to develop an accurate yet distinctive style of imagery in order to stand out from the crowd.”

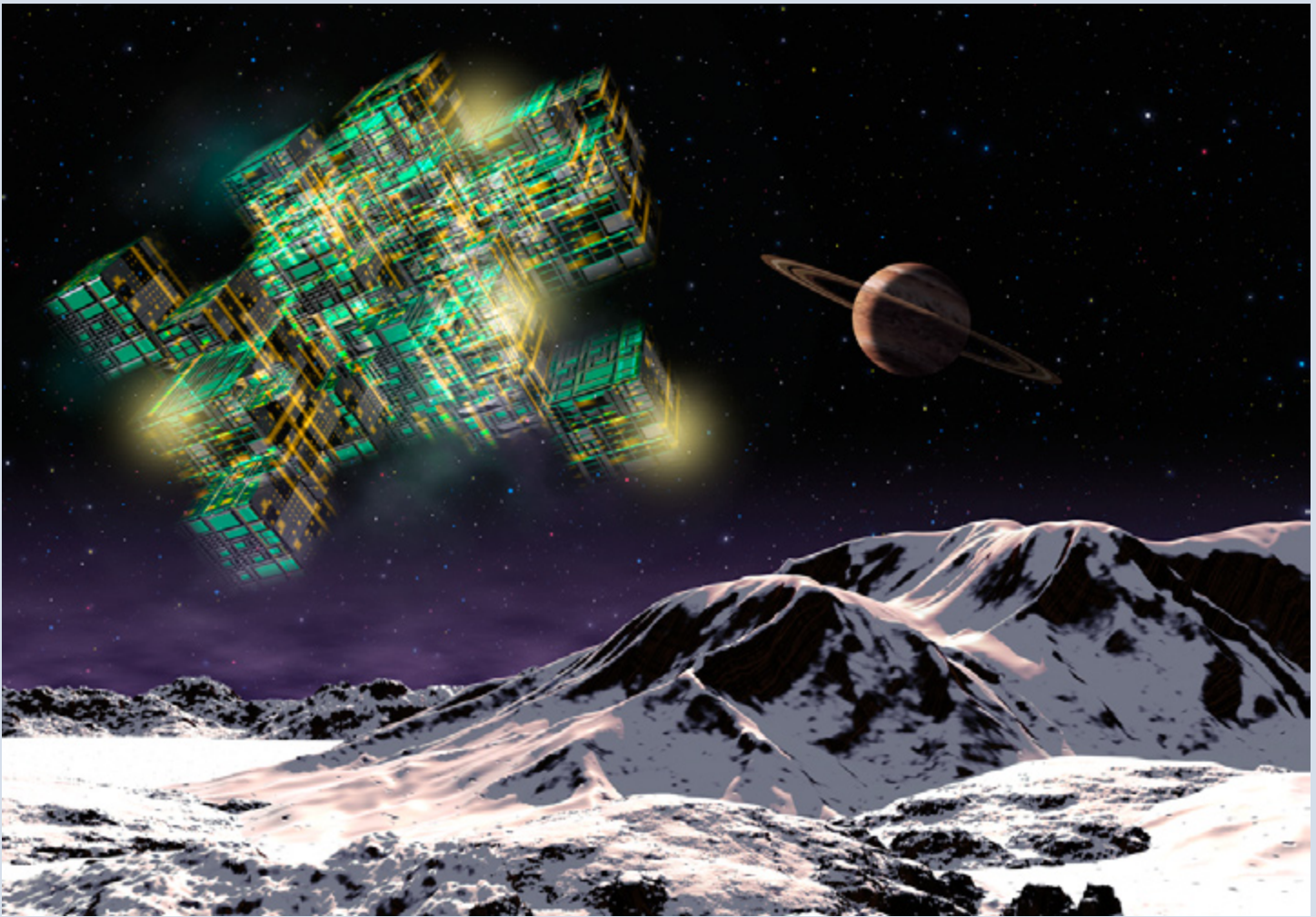
The consensus of artists and publishers alike is that subjects too distant to be photographed or that are “unseen” will continue to be in demand as artistic depictions. This remains the unequivocal realm of the space artist even with the shrinking number of astronomical and astrophysical phenomena that cannot be imaged. Topics include black holes, dark matter, the Big Bang, multiple universes, and other exotic fields of study.

Given that the majority of responses I collected from artists were gathered before the serious economic downturn of recent months, the picture is likely even less rosy than it was when I began my research for this article. Space artists are increasingly challenged to adapt in order to survive. As Ed Bell says, “The digital revolution



Italo Rodomonti (x2)

Italo Rodomonti is one of Italy’s foremost space artists. He uses sculpture and other artistic media to depict the passion and adventure of space.



Lynette R. Cook

An alien von Neumann probe hovers above an icy moon. These futuristic craft, named after the Hungarian-born American physicist John von Neumann (the first to theorize the possibility of self-replicating machines), can travel through interstellar space and use raw materials in asteroids, moons, and planets to replicate themselves. Futuristic scenes based on scientific realism are another possible area of opportunity for space artists.

has dramatically affected and continues to affect many industries.... Yes, professional space artists recognize the problem. Their response to this problem will be critical.”

This said, the ultimate fate of astronomical artists — whatever it may be — will be a shared outcome. Collector Malcolm Currie points out: “Space art is undervalued in both the science and art worlds. Scientists expect to use it free, and the art snobs regard it with disdain as merely illustration. The art serves as an important historical record of our changing knowledge of the universe, and without collectors and scientists commissioning pieces much of this will be lost.”

Impossible though it may seem, there is always a chance that a new era will dawn. As I write these last words, the United States is just days away from inaugurating a new president, an unlikely individual who exemplifies a marked change from the past and who brings renewed enthusiasm both at home and abroad. I sit in my office, look outside, and think about the dry winter California has experienced to date — possibly portending water rationing during the summer months. Yet the baby-blue sky spreads its wings over my house and the sun pushes its warming rays through my office window, illuminating the room. I have hope. ■

Thank You

Mercury and the Astronomical Society of the Pacific gratefully acknowledge the visual assistance of the following space artists:

- [Spherical Magic](#): B.E. Johnson & Joy Alyssa Day
- [The Many Facets of Lynette Cook](#): Lynette R. Cook
- [Art From the Soul](#): Julie Rodriguez Jones
- [The Space](#): Italo Rodomonti
- [Artweb](#): Bettina Forget

The author would also like to thank all the members of the [International Association of Astronomical Artists](#) who patiently answered her questions and assisted in the creation of this article.

[LYNETTE R. COOK](#) is a science illustrator best known for her collaboration with Geoff Marcy and depictions of extrasolar planets. Her artwork has been exhibited and published throughout the United States and internationally.