

Speaking of Science through Art and Storytelling

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Sarah Gregory] Hello, I'm Sarah Gregory, and today I'm talking with Byron Breedlove, the managing editor of the CDC's *Emerging Infectious Diseases* journal. We'll be discussing the development and evolution of EID journal cover essays.

Hi, Byron. Welcome.

[Byron Breedlove] Hello, Sarah. Thanks for having me.

[Sarah Gregory] Tell us about your role at EID, what you do and what you like most about it?

[Byron Breedlove] Well as you know, my title is managing editor. So, much of my work involves coordinating personnel, budget, regulatory stuff, planning activities. I also strive to spur innovation and keep disruptions away from the Editor-in-Chief, Dr. Drotman, so he can focus on science and peer review. One of our very active associate editors (who's also a former Editor-in-Chief), Fred Shaw, calls this type of work "journalology."

[Sarah Gregory] This is a very clinical journal, why do you even do these cover essays? I mean, why are they important to EID?

[Byron Breedlove] Well, the origin may surprise readers, but an astute member of CDC's printing services many years ago told Polly Potter (my predecessor)—and this was when printing was the main mode of distribution—that the journal looked like every other typical government-issued document at the time, and there was no reason for anyone to pay attention to it based on how it looked. So, the idea of cover images evolved initially as a way to say, "Hey, look at me!" Once Polly started pairing actual art with her insightful essays, feedback from readers showed approval, so it continued. Throughout the years, artwork and essays have continued because they bridge art and science, humanize content that is both complex and sometimes alarming, and connect an international audience with cultures and ideas that may be new to them.

[Sarah Gregory] I just want to mention here that Polly Potter was the founding Managing Editor of the journal. So in 26 years, we've only had two Managing Editors.

Byron, how do you go about writing the essays? They must take a lot of research.

[Byron Breedlove] Well, I start by reading and making notes, much like I did on index cards when I wrote research papers in college. The internet, of course, makes it possible to locate information efficiently and quickly. And sometimes I have the CDC library staff acquire books or articles that I need via interlibrary loans. I usually end up with about four or five times more content than I need, but I develop a sense of what I want to say, so I sort, cut, and polish. I guess I approach it, the block of words, like a sculptor. Recall that Michelangelo cut and chipped away at blocks of marble to free figures that he imagined inside of it. I do the same thing with words, but I'm not suggesting I'm a Michelangelo with words, far from it.

[Sarah Gregory] Oh, I don't know. These essays aren't just about the art though. You merge the information about the art and the science and the monthly theme that EID always has. How is that done? Is it peer-reviewed like the rest of the journal?

[Byron Breedlove] Good question. After about my 50th essay, I had an epiphany and realized that the way I approach writing these essays has an analogy in jazz. A website for those wanting to learn jazz

guitar suggests there are three pillars of jazz improvisation. Number one is define the sandbox. That is, what are your limits, topics, themes? So, that's what I do first. And I have three sections I build out in an essay—one will be about the artwork, one about the artist, one about science and public health.

The pillar two is connect the chords, or in this case ideas, logically. So, I start pulling together ideas by using grammatical tools such as coordinating conjunctions, correlative adjectives, and conjunctive adverbs that form the sinews and ligaments of the essay—they pull everything together. But I've tried out different approaches to connect ideas (reordering paragraphs, seeing if I can change the lead). There's no magic or single approach. Every essay is different, and there's always lots and lots of revisions.

The third pillar is to articulate your lines. So once the ideas hang together, I simplify, edit, polish, do it again. At this point, there's a line from a song (it's called "Suit on a Frame" by Joe Henry) that kind of captures how the end result works. The quote is, "There's a suit on my frame like a shadow of birds, stitched altogether by a murmur of words." It's just an image that I kind of relate to.

So, your question about peer review, yes every essay is peer-reviewed. And sometimes by five or six different reviewers who can have divergent ideas and suggestions. I will say the peer review sometimes is challenging, but it always makes these essays better. And I really appreciate the time and input of everyone who contributes to that process.

[Sarah Gregory] Okay, I have to ask here now: are you studying jazz (guitar jazz)?

[Byron Breedlove] No, but I read about it.

[Sarah Gregory] Okay. You mentioned the peer review process. So, what is the most challenging part of writing these essays?

[Byron Breedlove] Starting and finishing, in that order. I typically experience a period of panic when I begin, and this is nothing new. When I was in college years ago and one of my English professors (say, Robert Denham or Edward Little) would assign a research paper, I would immediately be consumed with panic and head to the library and start compiling notes. I do the same thing when I get started on one of these essays, just a sense of panic, how will I get this done?

The other hard part is the conclusion, which is, I'll often have all the sections written but they don't link together—the art and science don't connect logically. Sometimes there is a natural tie-in, but often it's like using a shoehorn to put on a new pair of dress shoes, trying to get these ideas to fit. So, it takes a lot of revision and thought.

[Sarah Gregory] How have they evolved over the years?

[Byron Breedlove] I'm probably going to oversimplify this answer, but our original managing editor (Polly Potter) who started these brought a deep understanding of art, science, history, and culture to her essays. And when I read hers, I feel like I'm transported to another time and place far from here. Another regular contributor to this column, Dr. Terry Chorba, does the same thing in his approach. And both bring a sense of depth and gravity, I think, to the subject and to the artist. After the wand was passed to me, I kind of had to discover my own voice and approach. And I may not delve as much into historical context or backstory, but I'm always looking for things such as comparing the number of viruses on earth to the number of stars in the known universe or offering a glimpse at a unique technique such as the Indonesian artist who uses mosquito coils to create these intricate paintings. I think my approach is

still evolving, at least I hope it is. Another essayist that follows me may do something entirely different.

[Sarah Gregory] Life has been made somewhat easier by all the free available art that's been put online in recent years. What are some of the important online free sources and how does that work?

[Byron Breedlove] You're right, the art museums around the world have graciously made many works available in the public domain for viewing and for reuse. I wouldn't want to single out one over another, but there's a pretty good recent article called "Open Access Image Libraries," a handy list that comes from the February 18, 2020 issue of the art magazine *Apollo*. It lists a whole bunch of museums, their websites. And this is always changing (the ones that have free art or public domain art available). And by the way, January 1 is public domain day in the United States, and this New Year's Day a number of works—music, literature, and art—from 1925 joined the list of works available in the public domain. But the process works differently depending on the source, and sometimes the artwork. Some works may be downloaded in a high resolution file for any purpose. Some museums require you to complete forms to request use of a file in a publication. Sometimes they have processing fees, sometimes they don't for using art in a publication. But often because EID is a non-profit, open access journal, museums work with us and are quite cooperative about allowing us to use the art. Even though it's public domain, it's always best to check and make sure it's cleared for use in a publication.

[Sarah Gregory] Okay, so in spite of these free sources, you still want art that's not always online. So, much of EID's art has to still be obtained directly through the artists, museums, or even agents. I know you have some interesting stories about getting special pieces. Let's hear some of those stories, Byron.

[Byron Breedlove] Well, sure. First, a tip of the hat to a number of the EID staff and to Louise Shaw, who's curator of the David J. Spencer CDC Museum, for offering their ideas about cover art. And finding and getting rights to use some works of art can be quite a process, finding the art can take some detective work, too. A couple of examples, I discovered (I guess maybe three years ago) the remarkable works that Indonesian artist Wawan Geni created with mosquito coils, but I couldn't find a way to contact him and then once I did, to overcome our language barriers. But I remembered I had a friend who had moved to Indonesia to teach English as a second language, and he helped to not only make the connection through email but also helped me initially with some of the language barriers. And we were able to communicate, and he very graciously allowed us to use one of his works. He sent us a high resolution image of it.

2016, we were trying to get a work from the acclaimed Brazilian artist Candido Portinari. And this is when the Olympics were in Brazil. So, I ran into a bit of a roadblock trying to get permission to use the work, and at some point the artist's son became added to our email chain and he interceded and made it possible for us to use one of his father's works, when otherwise we would have never gotten permission or been able to do it. And he also made sure that all the fees were waived for this use.

Twice during my tenure with the journal, we've worked directly with artists who created custom paintings for our covers. There's a wonderful watercolor of the Alamo that's featured on the July 2014 cover, was created for us especially by Eileen Pestorius. And on the December 2017 cover, we have a painting called "A Timeless Symbiosis" by the artist and mathematician, Bindu Viswanathan. And those are a few examples of how we've gotten art from different sources other than going directly to museums or websites.

[Sarah Gregory] Byron, one of my favorite covers, partly just because it's kind of so creepy and it's a true story, and it got a lot of press for us. Even in the Washington Post, I believe. It's called "The Host." You want to tell us about that?

[Byron Breedlove] "The Host" is a very interesting work by British artist Ben Taylor. And I found it just doing a search trying to come up with something for parasitic and tropical infections and some art that would be appropriate for that theme. So, I located this painting and it had a little bit about the story about the artist who had discovered that he had in his eye *Loa loa* worms. He saw it in the mirror, and at that point realized he needed to get to the hospital. It turns out he had spent some time in Africa for several weeks and had become infected there with a number of tropical diseases and parasitic diseases, and he tells this in his own story. And when he came back from the hospital after treatment, there was this painting that he had set aside (he had started working on it about 4 months earlier) and he just felt like he was stuck on it. So he took the painting, he realized it was upside-down, and when he looked at it, he said, "Oh, I'm painting my own eye." He was, in his words, subconsciously painting the infection in his eye with the *Loa loa* worms before he realized he had this condition. And he does...it's a very striking image, up close look at his eye, and you'd look at it and you can see these shapes of the worm across the pupil and cornea, and it's quite horrifying to see. Yet, his painting is quite magnificent and detailed. So, we ended up communicating back and forth through email quite a bit and he relayed the story to me, and it did become our most popular cover, I would have to say, of any of them.

[Sarah Gregory] And I want to mention here that I did do a podcast with Ben, so if anybody's interested they can listen to that and hear it firsthand.

[Byron Breedlove] Absolutely.

[Sarah Gregory] Do you have a favorite piece of art? And why is it your favorite?

[Byron Breedlove] I don't have a favorite piece of art, though I have fond memories of seeing a number of Michelangelo's works in person. And I don't have a favorite artist, though the Spanish painter Joaquin Sorolla is one of my favorites because of how he portrays light in his paintings, particularly light on the surface of water. And this was a painter I did not know before I started this job, and have featured two of his works on our covers.

[Sarah Gregory] And what about essays? What's your favorite one you wrote?

[Byron Breedlove] Isn't this like picking a favorite child? I have some that make me cringe a bit because I think I could have done better, and I have some that I think accomplish their purpose pretty well. Among the latter are "Ceaseless Experimentation Sparks Fireworks, Art, and Science" from September 2015. And I learned a great deal about fireworks, their history, how they were made, and that was kind of the interesting part for me of that essay. Another one was "Commemorating Misadventures, Celebrating Collaborations" from February 2018, and I got to write a bit about a Picasso work and Don Quixote. And linking those together with zoonotic infections was a fun exercise. And a more recent one from last October called "All Bookshelves Are Magical," and it was about a Korean art form from the 18th century that involves elaborate panels with books and other scholarly objects that would be on display. And there was one emperor in Korea who would use one of these backdrops whenever he had meetings as a way to impress people, even though he hadn't read...he didn't really read books and wasn't necessarily a scholar. But the tie-in, of course, was all of the bookshelves that people use for their Zoom and online meetings, and I got a nice compliment from the curator of Asian Art at the Cleveland Museum of Art where we had gotten that particular work.

[Sarah Gregory] So, how does it work when you have guest essayists for the cover? I know you mentioned Terry Chorba. And we do that a few times a year. Why?

[Byron Breedlove] Well, the way it works on the guest essayist is that anybody can submit an essay. This category is like any of the other journal articles, and any outside author can send in an idea. Terry does this regularly, and he has particular themes, for example March we usually have a tuberculosis theme and he's an expert in that field, so he generally contributes that essay and if he writes other ones as ideas occur to him throughout the year and submits those as well. And in a sense, I don't even consider Terry a guest now but as a collaborator on submitting these. He generally does two or three of them a year. I do think it can be challenging for some authors to write a guest essay that hits the marks and tells the story in about 800 words or less. But the idea of having guest essayists is appealing because it brings in more perspectives and ideas, and I'm certainly open to that. And also I like to work with collaborators and co-authors when possible on these essays.

[Sarah Gregory] As I have talked to you over the years a few times where we spoke a bit and then you read your essay—I've done the same thing with Terry, he did a beautiful essay about a very moving World War I war cover two or three years ago. You may remember the year better than me.

[Byron Breedlove] “Trench Warfare.”

[Sarah Gregory] Yes, “Trench Warfare.”

[Byron Breedlove] Yes. That was his own work of art, too. Yep.

[Sarah Gregory] Oh, he owned it, he didn't...

[Byron Breedlove] He owned it, owned that piece. Yep.

[Sarah Gregory] So how did it come about that you write most of the essays? Given the hectic pace of being the managing editor, why don't you shop them all out?

[Byron Breedlove] I came to the job initially on a detail in 2014, and I had experience as a managing editor but I didn't feel like I should be the one writing cover essays. And, in part I was intimidated by the high standards of the work of the EID's founding managing editor, Polly Potter, and also I didn't really have a background in art and art history. So, what was my first task, almost, when I showed up for my detail? Well, I was given the job to write the cover essay for the June 2014 issue.

[Sarah Gregory] I remember that.

[Byron Breedlove] So, that was unexpected but in a way expected. So I just kept going from there, learning more each time, not only about writing but about art, trying to understand more about the science and public health components about peer review, the creative process, and also (and this is important I think) learning how to locate art, work with museums and artists, and sort of seal the deal because that's part of the process as well. And if I had to recruit other people, I think I would spend a lot of time worrying about recruiting them, whether or not they would be able to meet our deadlines. So it just makes a lot of sense for me to have a hand in many of these. But I would note that I really do like working with coauthors who bring a different perspective to these essays, and certainly welcome the contributions of others who want to submit cover stories.

[Sarah Gregory] What do you want for the future of the art we use? Do you have a vision of how you want it to evolve?

[Byron Breedlove] I probably need more time to really reflect on that, but I want to see the art and essays be more global. And I want to continue to feature works by artists who may not be well-known outside of their regions or countries, and not just always focus on the masters and well-known artists because there are a lot of other stories that are very interesting and that can connect to the themes of the journal.

[Sarah Gregory] And what about the essays? Do you think they will change much in the coming years? While you continue to be managing editor, I mean.

[Byron Breedlove] I think the answer depends on how the art itself might change and who writes the essays. Like all the journal articles, there are certain conventions and fixtures in the formatting. So, I don't think they'll change greatly in structure, but I do think they could change in tone.

[Sarah Gregory] And what's your background? You mentioned that you didn't have a background in writing essays on art, but what is your background? Where did you start and how did you end up at EID?

[Byron Breedlove] Oh dear. Well, I'm from a very small town in rural Virginia where I grew up being intrigued by paleontology and astrophysics but went off to get a liberal arts education at Emory and Henry College. So I have a liberal arts background and that means I wrote a bunch of research papers and essays throughout my college years, and I spent four years as a middle school teacher before getting involved in publishing and editing. So, during that time I learned to do all kinds of things that you had to sort of improvise, do things the spur of the moment. I worked as a copy editor for a medical publishing company for several years, and later I oversaw that company's book publishing department and actually started a peer-reviewed journal with that company before a corporate takeover led me to look for another job, and that's when I moved to CDC. I was a technical writer/editor, initially working on manuscripts for CDC authors who were submitting their papers to scientific journals. Then I started designing and editing various publications, including the 1996 Surgeon General's Report on Physical Activity and Health. And I have served as managing editor of the newsletter Chronic Disease Notes & Reports (sort of the predecessor of Preventing Chronic Disease journal) for several years. Then I had a meeting with CDC's Financial Management Office, some folks there, to offer them advice on creating annual reports, and that turned into an offer I couldn't refuse and I ended up working in the FMO office for five-plus years writing and designing CDC's annual reports. I had the chance to advise HHS in how to improve its own annual reports and learned quite a bit about accounting and budgeting. This led to details working on other things, such as the President's Management Agenda and CDC's Future Initiative (for those who remember that experience). And then I was recruited to lead communications for CDC's short-lived Office of Strategy and Innovation, and I followed that by five years of doing the same work in the Office of the Associate Director for Policy before getting asked to work at EID on a detail. It was in February of 2014 when Dr. Drotman and Dr. Pinner interviewed me and offered me the detail, and I knew after a few months the journal was where I wanted to keep working.

[Sarah Gregory] And clearly it became a permanent job shortly thereafter.

[Byron Breedlove] It took about eight months, yes.

[Sarah Gregory] So, 2020 also happened to be the 25th anniversary of the journal and we made at least one significant change coincidental to the pandemic. Fill us in on that.

[Byron Breedlove] Up until 2020, EID had both been a print and online journal. And during the latter part of 2019, we had to make the business decision about whether to continue printing the journal or to

transition to online only. And we made the decision to become an online only journal. As it turns out that was probably a really fortuitous choice because the shipping and printing cost would have been exorbitant had we continued to be a print journal in 2020.

[Sarah Gregory] Because?

[Byron Breedlove] So, and that's because the issues were much larger throughout much of 2020 as we had instead of 40-article issues, we would have 65 and 70 articles in our issues. The other significant change was that like many parts of CDC, EID pivoted to teleworking only. And doing so enabled us to be really more flexible and accomplish more during 2020 when EID published more articles, pages, figures, tables, and appendices than in any other year (and not by a small margin).

[Sarah Gregory] Like 30% more, right? At least?

[Byron Breedlove] About that.

[Sarah Gregory] So, you just touched on this but do you want to talk a little bit more about how producing the monthly EID journal changed since the start of the pandemic?

[Byron Breedlove] During 2020, everybody was aware of the pandemic as it started and began spreading. And we knew that this wave of submissions would be heading our way, and actually the journal received nearly 5,000 submissions during 2020. That's about 3,000 more than during a typical year. And we published more articles than in any other year, probably, I don't know, maybe 70 more articles than in any other year. But that's just part of the story. The amount or the number of articles is part of the story. The other part is during 2020, the pace of publishing accelerated because the demand to get this information out and shared with infectious disease specialists, policymakers, and researchers around the world was very high. We needed move faster and we did. And nearly all of the COVID-19-related articles, which comprised about 65% of submissions last year, were published as early release ahead of the issue articles, meaning that we expedited that publication for those articles.

[Sarah Gregory] Yeah, and at the top of the table of contents on the online journal, the expedited or early release articles all appear at the very top of the page, right? If people want to find them?

[Byron Breedlove] Right. They're always above the table of contents and they stay there for two weeks, then they join the list of early release articles before they show up in their assigned issues.

[Sarah Gregory] So, let's just go back to teleworking for a minute. Everybody's teleworking. I've been doing a podcast in a spare room for the last year, definitely has somewhat affected the quality of the podcasts, but I think we've worked out a lot of the glitches. So, personally I feel that it made the job a lot easier in getting things done. I feel more productive. Do you feel like....I think you sort of said you felt that way too?

[Byron Breedlove] As far as being able to telework, it definitely made us more productive because we didn't have to spend so much time commuting. I think people felt fresher, ready to work. It definitely took an element of stress out of the work process.

[Sarah Gregory] So, you're always extremely busy and don't have a whole lot of free time, I know, because I get emails from you at all kinds of odd hours. But what have you done this last year to stay centered? Do you have any special things you like to do to relax?

[Byron Breedlove] You're assuming I stay centered. Well, I try not to go off the rails too much and so I try to find things to do that do help ground me. Last year, I had a (instead of a victory garden) what I called a virus garden. And there were mixed results. I'm working on that, trying to do better this year.

And been drawing inspiration from Barbara Kingsolver's wonderful book, *Animal, Vegetable, Miracle*, about how one can be more self-sufficient and self-sustaining. An important thing for me is to...I try to find time just to listen to music, not listen while I'm doing something else, but just taking time to focus on music and relax that way. Like a lot of people, I'm sure, I've binged on a few tv series. A notable one for me last year was a Swedish show called *The Restaurant*. And I'm always reading, but maybe not as much as in some years because there's so much on the job reading that it's not always what I want to be doing when I'm off work. And I do a lot of walking, because just what else are you going to do, and it clears your head and it's easy to do. And practice meditation is something I've been doing most days since, actually, June 1973. That helps with the stress and staying centered.

[Sarah Gregory] It's an interesting thing about reading. I'm interested that you said that. I, as you know, traditionally would read a book about every 2 or 3 days. And I always thought, "Oh, if I ever had time where I wasn't doing all of these other social things, I could read all I wanted." And this last year, I have read less than at any other time since I've started reading. I'm not sure what it is, but I guess I listen to a lot of audio books now, maybe because I'm here by myself. Audiobooks are nice company to hear, I don't know. It's something to meditate.

[Byron Breedlove] It could be.

[Sarah Gregory] Anyway, finally, I know you are a very good cook. I know this because EID used to have a monthly themed potluck when we were all together and your dishes were always delicious. What's the one dish you've prepared most often this last year? Or has that evolved? I look at my pantry now full of ingredients for dishes I was making regularly and then stopped. It's even hard to remember some of them now, like hummus. I used to make hummus every couple of days, and now I don't even know when I stopped making it. So, what about you?

[Byron Breedlove] That's kind of you to suggest I'm a good cook. Of course, you know the dishes I bring to a potluck were...those turned out okay, so some of the things I create don't. But I will say I'm persistent and dogged about cooking in that I've revisited many recipes during the pandemic year and become more proficient about using the tools in the kitchen, such as the roasting pans and zesters. I know more ways to cook Brussels sprouts than I used to, and I found that sweet potatoes are very versatile. You can slice and grill them and they're good with cilantro lime and olive oil, and also they work well in chili with unsweetened cocoa and cinnamon. And crab cakes are something that have kind of been a regular about once a month, and discovered a way to bake them rather than fry them. It's really much better.

[Sarah Gregory] Well thank you for taking the time to talk with me today, Byron.

[Byron Breedlove] Well, thank you Sarah for arranging this conversation. And I appreciate the time of everyone who works for the journal and thanks to you for all you do.

[Sarah Gregory] And thanks for joining me out there. You can find all of the past EID cover essays and cover art online at [cdc.gov/eid](https://www.cdc.gov/eid).

I'm Sarah Gregory for *Emerging Infectious Diseases*.

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