

GFP BUNNY AT 20

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ABSTRACT

My artwork *GFP Bunny* was deemed polemical at the turn of the millennium. In the twenty years that followed, it has been appropriated by pop culture, transformed and incorporated into novels, television, games, and film. This article revisits this unique phenomenon and sheds light on the rabbit that shook the world.

KEYWORDS

GFP Bunny, bio art, contemporary art, ontology, mutation

In the two decades that separate 2000 from 2020, my artwork *GFP Bunny* has gone from an epicenter of controversy to an icon of pop culture. At the core of *GFP Bunny* is the fluorescent rabbit Alba, which I commissioned the French laboratory INRA to generate.¹ The shift from polemical to popular is a remarkable transformation that speaks volumes about how the world itself has changed, especially in regard to cultural perception surrounding molecular biology. In the beginning, it was difficult, even for specialized audiences, to understand that bio art was precisely that, that is, a new form of contemporary art. It was challenging for the public to recognize what they had not previously cognized: the unique aesthetic principles of bio art. While there was then and still is much to oppose and be concerned about regarding nefarious uses of biotech, from warfare to the environmental impact of agropharma, the outbreak of a global coronavirus pandemic in December 2019 projected the hope of billions of people onto the search for a vaccine and, as a result, brought into the limelight the life-saving role that molecular biology can play. Clearly, global awareness of the polysemic nature of biotechnology has also evolved in these two decades. Bio art is now shown internationally and is in institutional collections worldwide. Its achievements are routinely addressed in numerous books, papers, conferences, and symposia.

As has always been the case, no medium or process is the exclusive property of one group and any tool can be used in different ways. Photography, for example, was perfected and first announced to the world by an artist (Daguerre, in 1839) and subsequently appropriated by scientists, to the point of becoming a fundamental research tool in virtually all scientific disciplines. This much has not changed. However, the fundamental shift that is my focus here is the cultural dynamic that transforms a work of art from “monstrous” to media star. When *GFP Bunny* first made international headlines in 2000, arts writer and social critic Carol Becker reflected, in the heat of the moment, on the multiplicity of subject positions occupied by the artist who invents and brings new life into the world:

Here the artist has assumed the role of educator, researcher, scientist, social critic, inventor, and co-creator of life. His struggle as an artist is no longer to interrogate his own “hybridity” to register his own “agency,” but rather to actually be part of creating a visually and genetically new, transgenic creature, and then focus on her integration into society, her agency, individuality, and potential designation as “other.” In the universe of the posthuman it would appear that the human species will now not only fuse with machines to determine their destiny and how human they will become, but also, no longer the victim of nature ourselves, will become even more the choreographers, curators, and programmers of all other existent, and yet-to-be-imagined species. (Becker 2000)

Indeed, the creation of new life through molecular biology often goes against the 3.8 billion years of evolutionary pressure that have steered biology through the random pathways that resulted in the life we know. At the same time, from the perspective of the new life created through molecular biology, the artist is precisely one of these random factors. At the turn of the millennium, the new material reality of the twenty-first century, in which “life” is no longer something that “just happens,” but rather something we make happen—in other words, our newly gained awareness of the plasticity of life—was unsettling to some.² Shocked by the birth of a glowing mammal, many people considered Alba an aberration. Art critic Denys Trussell was vehement in his condemnation: “There have been great artistic statements made in the 20th century, but they are not made by the likes of the Kacs, the Warhols and Hirsts whose ethos is so firmly embedded in consumer society. They are made by artists of actual talent and great personal stature, such as the Russian composer Dmitri Shostakovich, his compatriot, the poet Anna Akhmatova, or the indomitable Chilean, Pablo Neruda, author of the epic *Heights of Macchu Picchu*” (Trussell

2001). Not all of Alba's commentators were detractors, though. Writing in 2003, curator and theorist Jens Hauser captured both the political dimension of *GFP Bunny*, missed by Trussell, and its global reach, when he wrote that Alba had acquired the iconographic value of "a Che Guevara of bio art" (Hauser 2003).

Critics such as Trussell prefer a progressive thematic repertoire served in conventional form. I, on the other hand, find this cognitive dissonance counterproductive. Instead of his Neruda, I would highlight the innovative Chilean poet Huidobro; considering Russian poetry beyond Akhmatova, I would put forward the uncompromising experimental poets Khlebnikov, Mayakovski, Kamensky, and Gnedov. But traditionalism is not solely the purview of conservative art critics, as it is also found among science writers. Jeremy Manier, then a science reporter at the *Chicago Tribune*, granted himself no restraints in his 2000 article when expressing his opinion that contemporary artists should show precisely that, restraint. Self-ascribing deontological powers, Manier took the position of arbitrarily deciding that a given life form (in this case, Alba, the bunny) should not have the right to exist. Titling his piece "Making the Bunny Glow. Is This Genetically Altered Rabbit Art or an Abomination?", he naively perpetuated the metanarrative that makes multinationals and Wall Street jump for joy: "The principle that such work should benefit people—maybe not immediately, but someday—or at least add to the vault of human knowledge." Unwittingly, he revealed what many of his readers unfortunately think: that art does not benefit people nor does it add to human knowledge. Needless to say, I disagree—and I'm not alone. To his credit, Manier cited in his article Christiane Paul, curator at the Whitney Museum of American Art: "Paul said Kac's approach recalls that of Renaissance artists such as Raphael and Leonardo da Vinci, who were fascinated equally by the universal laws of science and the universal truths of art" (Manier 2000).

Another point of contention among the public at the time was the concern that domestic animals would henceforth be genetically engineered ubiquitously and on a whim, which proved false. A poignant article that encapsulated the zeitgeist around this topic was published in the magazine *U.S. News & World Report* in March 2002. The cover story offered the requisite drama with the headline "Designer Pets." However, science writer and senior editor Nell Boyce offered a counterpoint to rampant fears: "But the moment that a person gazes into Alba's green eyes, she stops being Frankenrabbit and becomes an adorable little bunny" (Boyce 2002). Also writing in 2002, art critic and curator Steven Henry Madoff, now chair of the Masters in Curatorial Practice program at the School of Visual Arts in New York, made it clear in a *New York Times* article that *GFP Bunny* had loftier goals: "Mr. Kac and a team of geneticists in Paris used green fluorescent protein to create this illuminating rabbit for a higher

purpose: reckoning with transgenics, with crossing species characteristics and what that bodes when the map of the human genome and the genome of other creatures are fully at hand” (Madoff 2002).

As news of *GFP Bunny*'s impact percolated worldwide, creative writers started to transform Alba into characters in their novels. First among them was the French writer Olivier Cadiot, who opened his novel *Retour définitif et durable de l'être aimé* (2001) with a fluorescent rabbit running through the countryside; the 2008 Gallimard edition featured Alba herself on the cover (Cadiot 2001). A larger readership became more familiar with the novelistic interpretation of Alba in Margaret Atwood's *Oryx and Crake*, first published in 2003. The British edition featured glowing rabbits on the hardcover, beneath the dust jacket (Atwood 2003). In 2003, a *Chicago Tribune* reporter attended a lecture by Atwood when she visited the city to receive an award and promote her book, witnessing firsthand her literary turn of phrase even when giving a presentation. “Margaret Atwood's new book *Oryx and Crake* is about a world in which animals and humans are genetically altered. Lest any in the standing-room-only crowd of 500 in the library auditorium think such a world is far-fetched, she notes that a luminous green rabbit in her book has cousins in real life. ‘Somebody wanted a light-up rabbit for their magic hat,’ she says, ‘and scientists obliged’” [3]. Michael Crichton would follow suit with his novel *Next*, which also featured the rabbit on the cover of the German edition; however, contrary to his predecessors, he both presented factual information about Alba herself and, later in the technothriller, also included her in a fictional passage. Here is the latter: “An artist in France had made a glowing bunny rabbit by inserting luminescent genes from a firefly or something. And still other artists had changed the hair color of animals, giving them rainbow hues, and had grown porcupine quills on the head of a cute puppy. These works of art provoked strong feelings” (Crichton 2006).

Continuously through the first decade of this century, the polarized debate focused on *GFP Bunny* and the first literary recreations of Alba went in tandem. Such was the state of reception in the aftermath of Alba's birth. However, things took a different turn after 2008, when the technology I employed to make *GFP Bunny*—namely, green fluorescent protein—received the Nobel Prize. Any false impression that my work could have had the slightest negative effect on the bunny herself, an argument that had been used by some misinformed antagonists, was dispelled once and for all when the medium I worked with received the highest international accolade that can be bestowed upon a scientific development. A *New York Times* article about the Nobel Prize pointed out that “the protein has even entered the world of art” and reminded readers of “a green glowing rabbit named Alba, which [Kac] had commissioned a French

laboratory to modify genetically with the GFP gene” (Chang 2008). The article echoed the recognition of my work by scientist Martin Chalfie, who received the 2008 Nobel Prize for the development of GFP. He projected an image of Alba glowing during his public presentation at the Swedish Academy and included the same image in his article published in *The Nobel Prizes 2008* (Chalfie 2009). This contributed significantly to increased awareness, among the general public, of *GFP Bunny*'s serious scientific foundation, which was further solidified in the public eye by the book *Sapiens: A Brief History of Humankind*, by Yuval Noah Harari, first published in 2011 (Harari 2015). The book, which has been translated into more than 40 languages and became a global bestseller, surveys the history of humankind, starting at about 70,000 years ago, with the emergence of the cognitive faculties that characterize the species *Homo sapiens*, all the way up to the twenty-first century. Among its 464 pages, which condense such a complex history, the author dedicates a page and a half to *GFP Bunny*, as he considers the future of evolution itself.

Indeed, after 2008, what I had been saying since 1998, when I first published my “Transgenic Art” manifesto (Kac 1998), seems to finally have sunk in, for a profusion of initiatives that popularized bio art ensued. Now, not only the firm scientific underpinnings of *GFP Bunny* were clear to everyone but also the fictional afterlife of Alba started to hop from books to television and the movies. A particularly noteworthy adaptation came in *Sherlock*'s season 2, episode 2 (“The Hounds of Baskerville,” arguably the fictional detective's most famous case), first broadcast by BBC One on 8 January 2012. In the episode, the nine-year-old Kirsty Stapleton files a case about her “vanishing glow-in-the-dark rabbit” Bluebell and Sherlock abides. Here is what the writer of the episode, Mark Gatiss, said about his lagomorph subplot: “And then there's a silly story about a rabbit! But this is also true! In my researches, I discovered that a scientist and an artist collaborated to make rabbits glow in the dark—just for fun!” (Gatiss 2012). Gatiss clearly underestimated the potential reach of his subplot, for it became an instantaneous hit with children, teenagers, and young adults, as demonstrated by the fandom that emerged online around Bluebell at the time of the broadcast, on sites such as Instagram, DeviantArt, Reddit, Tumblr, Pinterest, and Redbubble. Since BBC did not exploit Bluebell's image commercially, other vendors seized the opportunity and in 2020 continued to offer all sorts of products with it, including t-shirts, mugs, pillows, posters, weaving patterns, stickers, baby bodysuits, iPhone cases, and virtually anything an image can be printed on.

It was also in 2012 that *The Big Bang Theory* featured Alba's fictionalization, but the context and the approach were dramatically different. In episode 1 of season 6, first aired on CBS on November 15, 2012, the protagonist Sheldon

wears a double-helix t-shirt briefly, just in the first scene. Subsequently, and for almost the entire episode, he wears a t-shirt featuring a robot. But not just any robot. At approximately 4 min into the episode, the following dialogue unfolds:

Scene: The corridor outside Sheldon's office.

Howard: Two forty-four, right on schedule. Hey, Sheldon.

Sheldon: Oh, hello.

Howard: Raj and I are heading over to the genetics lab to pet the glow-in-the-dark bunny. Want to come with us?

Sheldon: No, thank you.

Raj: Are you sure? They turn off the lights, and it's like a cute little laser show that poops all over the place.

Sheldon: I'm quite sure. Good day.

Howard: Well, where are you going?

Sheldon: Where are you going?

Raj: We just told you.

Sheldon: I just told you.

Howard: No, you didn't.

Sheldon: Well, it's your word against mine; see you in court.

Howard: Should we follow him?

Raj: I don't know, I'm torn. I want to know where he's going, but now I kind of want to play with the bunny.

The robot on Sheldon's t-shirt in this scene is the robot I used in my 1986 telepresence artwork *RC Robot*, as documented on my site and in my book *Telepresence and Bio Art*, which features Alba on the cover (Kac 2005). As the scene's dialogue evokes Alba's fictional stand-in while Sheldon's shirt alludes to my telepresence work, the two elements that give my book its title are brought together: *Telepresence and Bio Art*. This t-shirt is not a commercial product; it was made specifically for this television episode. Since I was not contacted by the show producers to request permission, in good spirit I decided to send a message back to them my own way. When invited to give a Ted Talk in Vienna about bio art, in 2015, I took this opportunity and embedded in my presentation a microperformance to respond to the writers and producers of the show. I replicated with utmost precision the Sheldon t-shirt featuring my *RC Robot* and wore it during my talk, which was streamed live and can be watched on YouTube. Since the shirt is not available anywhere, if they watch my talk on YouTube they'll know that I know. It was a whimsical way of opening a communication channel between them and me through a returning signal (the same shirt worn in a broadcast), as if they had sent me a message and I acknowledged having received it by mirroring it back. As an artist who has extensively worked with

communications media, the above-mentioned asynchronous dialogical interaction is emblematic of my interest in nonverbal exchange and transformation.

While in *The Big Bang Theory* Alba's fictional correlate is talked about but not presented visually, glowing bunnies do appear in the sixth episode of the 26th season of the television series *The Simpsons*. Following the trademark fanciful plots of the animated classic, the glowing bunnies become Bart Simpson creatures—which may be described as green bipedal Bart-like animals. This episode is a crossover with *Futurama*, an animated science fiction sitcom. Entitled *Simpsonorama*, it originally aired on the Fox network on November 9, 2014. If you have never watched an episode of *The Simpsons* (or *Les Shadoks*, for that matter), best not to seek a rational explanation for the connections and allusions of the show but simply to enjoy its irreverence. In the tie-in *The Simpsons: Tapped Out* game, a freemium mobile game for iOS and Android, users can create and maintain their own version of Springfield—and turn the character Mutant Rabbit (white) into a Bart Simpson creature (green).⁴

Greater prominence was given to the glow-in-the-dark rabbit *dramatis persona* as a character in *Smurfs: The Lost Village*, a computer-animated film distributed by Sony Pictures in 2017 (Asbury 2017). The Smurfs (originally *Les Schtroumpfs*, in French, a creation of the Belgian cartoonist Peyo) are elf-like creatures that live in Smurf Village. The plot of *Smurfs: The Lost Village* essentially revolves around their search for a mysterious village before the evil wizard Gargamel finds it. They use a special map to find their way through the Forbidden Forest, while having several adventures. One such adventure is escaping from a cavern maze, which they accomplish by seeing a stampede of glowing rabbits and riding them all the way out. One of the fluorescent rabbits accompanies them along their journey for a while. Unlike the BBC, who did not exploit the Bluebell character through merchandising, the Smurfs franchise spawned a whole series of products featuring the glowing bunny. There are plastic and plush toys, reading, coloring and activity books, video, memory and board games, and much more.

In the course of the first 20 years of this century, *GFP Bunny* was widely debated and eventually absorbed by other creative minds, who metamorphosed Alba into an element of their own narratives. In a short documentary video I made in 2003, entitled *GFP Bunny*, I conveyed the tone of the discussion up until then.⁵ In 2018 I made another, longer video, entitled *GFP Bunny: Tales of a Rabbit Gone Viral*, which focuses on the creative reception of the work, and premiered it in my solo show. . . and the bunny goes POP! realized the same year in London.⁶ Together, these two videos can be seen as the audiovisual counterpart to this essay, as they offer an overview of *GFP Bunny's* reception history. The preceding assessments, in video or in writing, are only a partial outline that

will be further expanded when new film and television adaptations, now under way, make their debut on the global stage. Margaret Atwood's MaddAddam Trilogy, which starts with *Oryx and Crake*, will be adapted by Paramount Television for the small screen. Filmmaker Ridley Scott (*Blade Runner*, *Alien*) and Oscar-winning documentarian Asif Kapadia (*Amy*, *Senna*) will adapt *Sapiens: A Brief History of Humankind* for the cinema. In 2002, art critic and curator Judicaël Lavrador wrote an article for the Paris magazine *Beaux Arts*, in which he stated, "Eduardo Kac's fluorescent rabbit is to bio art what Marilyn Monroe was to pop art: an icon" (Lavrador 2002). Since then, Alba has become part of the collective unconscious, with fabulatory clones taking her place in the minds of readers and viewers too young to have experienced *GFP Bunny*'s impact at the time. As a result, Alba has effectively evolved from an icon to an archetype.

EDUARDO KAC is internationally recognized for his groundbreaking and influential contributions to the development of contemporary art and poetry. In the early 1980s, Kac created digital, holographic, and online works that were invested in paving the way to the new global culture we live in today, composed of ever-changing information in constant flux. In 1997, he sent shockwaves across the world by becoming the first human to implant a digital microchip through his work *Time Capsule*. It was also in 1997, in the context of *Time Capsule*, that he coined the term "bio art," thus igniting the widespread development of this new artform. In 2017, the *New York Times* published a full-page article about Kac's *Inner Telescope*, a work he conceived and realized in outer space with the cooperation of the French astronaut Thomas Pesquet. His work is part of the permanent collection of the Museum of Modern Art, New York, and the Tate Modern, London, among others.

NOTES

1. In January 2020, the INRA (Institut national de la recherche agronomique [National Institute of Agricultural Research]) merged with the IRSTEA (Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture [National Research Institute of Science and Technology for Environment and Agriculture]) to originate the INRAE (Institut national de recherche pour l'agriculture, l'alimentation et l'environnement [French National Research Institute for Agriculture, Food and the Environment]).
2. In reality, for millennia we have actively intervened in the natural environment, often seeking to increase crop yield. Take, for example, ancient Rome's development of agricultural science appropriated from Carthage, as embodied in the Latin translation (made shortly after Rome destroyed Carthage, around 140 BCE) of the Carthaginian army general Mago's 28-volume agricultural treatise (which survived only in quotations left by later authors). However, it's not possible to compare the scale of intervention of, say, a small family farm, and the monopolistic,

poisonous, and predatory practices of companies such as Monsanto (since 2018 a property of Bayer, no longer functioning under the former American company's name). The methods employed by the latter go beyond the notion of "intervention in the natural environment" to constitute crimes against individuals and the environment. The countless lawsuits against the company bear witness.

3. Reardon (2003, 2). Reviewers and scholars followed suit. For example: Smith (2003); Schmeink (2016, 84).
4. From the website simpsonstappedout.fandom.com we learn the publication history of the character: "The Mutant Rabbit is a premium, limited time, character that was released on November 5, 2014 during the Simpsonsorama Promotional. It returned on January 23, 2018 during the Bart Royale 2018 Event as a possible prize in the Domsday Mystery Box. It returned again on August 22, 2018 during the Moe's Ark 2018 Event as a premium character." (https://simpsonstappedout.fandom.com/wiki/Mutant_Rabbit)
5. This video is included in Kac (2017).
6. The show was curated by Bronca Ferran and Andrew Prescott and realized at the independent arts venue Horse Hospital, Bloomsbury, London, from June 2 to 23, 2018.

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