through to another era (which we have, we're now postindustrial, postinnocence, post–many things, yet we still have loving relationships with these things called trains and celluloid). The idea was that, after the explosion, things may look the same, but we know they're not.

MacDonald: You mentioned the other day that one of the things that interests you is pixels versus dots of film grain. And that that gap between the two media is one of the places where you're working.

Holden: Throughout the whole project I was thinking about film grain and digital noise and mixing them together in different ways, more obviously in some places than others. The shot of the red freighter in "Active Pass" is my favorite shot in this respect because I caught a dance of film grain and digital noise in an equal mix. I used a high-grain film stock, and this confused the telecine equipment, which produced extra noise in a way that was really attractive.

MacDonald: Trains of Winnipeg is dedicated to your wife, Alissa. Did she have particular input into the film?

Holden: Not usually directly, but yes quite a lot overall. She's a novelist; we work down the hall from each other and have for nineteen years. We constantly talk about our art and our ideas. I don't know if I could be doing what I'm doing if we hadn't met.

MacDonald: What are you working on now?

Holden: I'm well into a new multiyear project called *Utopia Suite.* I chose the name because I think it sounds like an early twentieth-century Scandinavian symphony, with all that that implies. It's a "suite" of experimental film-based works that are being shown equally in galleries and cinemas, and they all involve explorations into moving visuals as music. I'm very excited to be working on these with Oscar van Dillen, a Rotterdam-based composer. I'm learning a lot from him; it's turning into a great relationship.

Each work in the suite explores the meaning of the word "utopia." The project suggests the possibility of a renewed, dynamic utopianism based on organic structures and movement, with avant-garde cinema as a metaphor.

Eventually, there will also be a book to collect the texts that go with each segment of the suite. These texts are by, and about, a quasi-fictional character named "Conn." They alternate between his childhood in utopia/dystopia, and his contemporary life as a forty-eight-year-old avant-garde filmmaker and artist.

Up Close and Political

Three Short Ruminations on Nature Film

A few months ago I saw a film on TV, one of the *Nova* series I think, about spiders. I've never see anything more fascinating, or more visual. How can you possibly ignore such work? I'm delighted it's there, and I've always wanted to show it. And it's always worked very well, in terms of audiences.

Amos Vogel[1]

Probably no substantial dimension of film history that is so widely admired by a public audience and so frequently utilized in academic contexts has been so thoroughly ignored by film critics, historians, and theorists as the nature film (or "wildlife film"): those films and videos that purport to reveal the lives of other species.[2] Indeed, the recent appearance of Gregg Mitman's *Reel Nature: America's Romance with Wildlife on Film;* Derek Bousé's *Wildlife Films;* Cynthia Chris's *Watching Wildlife;* and the beautiful book on the French nature-film pioneer Jean Painlevé, *Science Is Fiction: The Films of Jean Painlevé,* edited by Andy Masaki Bellows and Marina McDougall, with Brigitte Berg, are the exceptions that prove the rule.[3] Until the appearance of these books, there had been a dearth of writing about nature film, at least within the annals of American film scholarship. Most academic film studies

1. Amos Vogel on programming science films, in Scott MacDonald, "An Interview with Amos Vogel," in *Cinema 16: Documents toward a History of the Film Society* (Philadelphia: Temple University Press, 2002), 49.

2. In this particular context, I prefer "nature film" to "wildlife film" because "wildlife film" has come to refer primarily to films about animals, whereas "nature film" more comfortably includes the lives of insects and sea organisms, as well.

3. Gregg Mitman, *Reel Nature: America's Romance with Wildlife on Film* (Cambridge, MA: Harvard University Press, 1999); Derek Bousé, *Wildlife Films* (Philadelphia: University of Pennsylvania Press, 2000); Cynthia Chris, *Watching Wildlife* (Minneapolis: University of Minnesota Press, 2006); and Jean Painlevé, *Science Is Fiction: The Films of Jean Painlevé,* ed. Andy Masaki Bellows and Marina McDougall, with Brigitte Berg (Cambridge, MA: MIT Press; San Francisco: Brico Press, 2000), respectively.

There is also Oliver Gaycken's "'A Drama Unites Them in a Fight to the Death': Some Re-

professionals don't take nature film seriously, either historically or theoretically. Indeed, there are few better indications of the educationally counterproductive gap between the humanities and the sciences.

While one can hope that the three volumes mentioned here—along with the remarkable recent successes of *Winged Migration* (2001, directed by Jacques Perrin), *Deep Blue* (2003, directed by Andy Byatt and Alastair Fothergill), and especially *March of the Penguins* (2005, directed by Luc Jacquet)—will instigate further exploration of this neglected genre, and perhaps increased exhibition of its major contributions, the general attitude of film historians and scholars currently makes such a revival less than certain. The obvious location for serious thinking about the nature film, at least within academic film studies, would seem to be within the history and theory of documentary film. In fact, in the popular mind few forms of filmmaking are more obvious instances of documentary. But historians of documentary routinely ignore the nature film, for reasons articulated by Bill Nichols.[4] For

marks on the Flourishing of a Cinema of Scientific Vernacularization in France, 1909–1914." *Historical Journal of Film, Radio and Television* 22, no. 3 (August 2002): 353–74; and Jan-Christopher Horak's "Wildlife Documentaries: From Classical Forms to Reality TV," *Film History* 18, no. 4 (2006): 459–75. Gaycken's discussion of early French scientific films produced by the Éclair, Pathé, and Gaumont studios, especially the Éclair series called "Scientia," is very useful. Gaycken discusses the distinction between films made in the service of scientific experimentation and films of "scientific vernacularization": that is, films that attempted to make scientific investigations and ideas available to a more general audience; and he examines a number of films involving insects and animals doing battle with one another in ways that are early instances of some of the films discussed in this essay. Horak's essay is particularly useful in its review of early German wildlife films produced by Oskar Messter and others.

Derek Bousé carefully reviews the scholarship on wildlife film in *Wildlife Films*. The British in particular have amassed a considerable body of writing in the field.

4. Lewis Jacobs's seminal anthology *The Documentary Tradition: From* Nanook *to* Woodstock (New York: Hopkinson and Blake, 1971) does include Arthur Knight's brief discussion of Arne Sucksdorff, "Sweden's Arne Sucksdorff," which mentions *Struggle for Survival* (1944), Sucksdorff's study of bird life on a Baltic island; and Bosley Crowther's review, "Cousteau's *The Silent World* [1956]." Erik Barnouw's *Documentary: A History of the Non-fiction Film* (New York: Oxford University Press, 1993) devotes a single paragraph to the nature film (pp. 210–12) in which the early Disney True-Life Adventures and Jacques-Yves Cousteau's film work are mentioned. But none of the recent anthologies focusing on documentary so much as mentions this dimension of documentary history.

Derek Bousé's first chapter includes an extensive consideration of the ways in which wildlife films correspond and fail to correspond to conventional understandings of documentary. In general, Bousé sees the wildlife film as a genre separate from what we usually call documentary. I do consider the films I discuss here documentaries; for me, Jean Painlevé's definition has been particularly useful: a documentary is "any film that documents real phenomena or their honest and justified reconstruction in order to consciously increase human knowledge through rational or emotional means and to expose problems and offer solutions from an economic, social, or cultural point of view." Painlevé, in "Castration du documentaire," *Cahiers du cinéma*, March 1951, reprinted in Painlevé, *Science Is Fiction*, ed. Bellows et al., 39.

Nichols, the capacity of the photographic image to generate indexical representations of the world makes it valuable for scientific imaging, but cinema's very usefulness to science "depends heavily on minimizing the degree to which the image, be it a fingerprint or x-ray, exhibits any sense of perspective or point of view distinctive to its individual maker. A strict code of objectivity, or institutional perspective, applies. The voice of science demands silence, or near silence, from documentarian or photographer."[5] Since documentary requires a "voice of its own," according to Nichols—"voice of its own" meaning a clear or at least identifiable ideological position—nature film is by definition not part of documentary history.[6]

There are several problems with this position, and they grow increasingly evident the more fully modern society comes to terms with the many dimensions of the evolving environmental crisis. Of course, it is true, as Nichols suggests, that nature films (science films in general) have historically pretended to objectivity. There are a variety of reasons for this. Since science is our cultural attempt to find out what aspects of the physical world can be known through observation and experimentation, that is, those aspects of the physical world that are verifiable regardless of ideology or belief, it is hardly surprising that scientific films have an aura of objectivity that is confirmed by the cinema's ability to make indexical, seemingly objective, records of sensory phenomena. But the moment a nature filmmaker begins to construct a particular film, there is no escaping point of view: filmmakers must choose what to show us and why and determine a filmic structure that exhibits a particular set of conclusions, whether they are those of an individual scientist, a group of scientists, or science-interested laypeople. The presumption of objectivity in science film is simply a particular instance of the aura of objectivity that documentary nearly always carries with it, and which, as Nichols has so often made clear in other contexts, must be qualified by the point of view that is explicit or implicit within any specific documentary.

A second reason for the widely held position that nature films are not really documentaries, and therefore not worth serious investigation within a film studies context, is historical, in at least two senses. First, until Mitman and Bousé, no American scholar had described a history of nature

5. Bill Nichols, *Introduction to Documentary* (Bloomington: Indiana University Press, 2001), 85.

6. I am sure Nichols would agree that the films I discuss in this essay *are* more fully documentary than the more strictly scientific use of cinema to collect data, which is his focus in the lines I have quoted. Nevertheless, the position he enunciates confirms the broad tendency not to take the nature film seriously *as cinema*. If I have stretched Nichols's position beyond what is fair, I apologize to him.

dependent filmmaker Nathaniel Dorsky, for example, counts the early True-Life Adventures as one of the primary influences on his work: "I had started to make films with an 8mm camera when I was around ten or eleven. I was very influenced by the Disney True-Life Adventure series, like *Beaver Valley* and *Nature's Half Acre*. They were the first time I saw, for instance, flowers growing in time-lapse—very photographic films, held together with music and narration. Both films went through the four seasons, and for some reason, I was very taken with that."[11] I do not remember precisely when or where I first saw the early True-Life Adventures, but such characteristic elements as Winston Hibler's narrating voice and the use of an animated paintbrush to introduce the films remain deeply familiar artifacts of childhood.

Disney began production of wildlife films as a way of dealing with the financial problems created by the high cost of animation. Although the animated features the Disney Studio released during the 1940s were, and remained, immensely popular—*Pinocchio* (1940), *Fantasia* (1940), *Bambi* (1942), *Song of the South* (1946), and *Cinderella* (1949) were the five most popular films of that decade, according to the *New York Times Almanac*—the considerable cost of producing each of these features made them, at first, economically tenuous at best. During this financially stressed moment, the comparable cost of a nature film, even a feature nature film, allowed this new Disney product to be a financial success. While *Bambi* cost $2 million, and lost $1 million during its first run, *The Vanishing Prairie* cost around $350,000, and grossed $4 million.[12]

Furthermore, the True-Life Adventure films were, like the animations, durable: neither the animations nor the nature films aged as quickly as most live-action films tend to. Over the decades, the Disney animated features have done quite well, and they continue to be successful in rerelease, and while the nature films fell prey to changing science and an evolving social awareness (the opening narration of *The Vanishing Prairie*, for example, is patronizing to Native America in ways that have come to seem quite problematic), they too were able to last through their original theatrical runs to become popular television entertainment during the years when Disney was a major force in television programming, and the True-Life Adventures were ubiquitous in school libraries across the country during the decades when school districts routinely bought 16mm prints of educational films. Several of the feature True-Life Adventures can still be found in video rental outlets.

11. Dorsky, in MacDonald, *A Critical Cinema*, 81. Dorsky's *Hours for Jerome* (shot in the late 1960s and edited in 1982) seems particularly indebted to the True-Life Adventures. Dorsky's film takes the viewer through a year in New York City and at a lakeside retreat in northern New Jersey, not particularly focusing on wildlife but creating a sense of the seasonal cycle, as represented by weather, plant life, and human activity, as a set of events worth contemplating in cinema.

12. Mitman, *Reel Nature*, 111–14.

The popularity of the Disney films was a function of their combination of first-rate nature photography and forms of narrative entertainment developed by the Disney Studio during the decades that preceded the release of *Seal Island*. While the Disney nature photographers were sent into the field without a script to capture the most interesting imagery they could find and ideally, according to James Algar, "those unexpected and unpredictable happenings that cannot possibly be written into a story ahead of time,"[13] Disney made sure that the films that developed out of this cinematic research were as carefully constructed and as entertainment-driven as any film produced by a Hollywood studio. And if the Disney nature films seemed to their first audiences as far from politics or ideology as the early Silly Symphony cartoons, these films were powerful in supporting not only particular attitudes toward family life and gender but a deep complacency about the history of Manifest Destiny and modern middle-class life. Indeed, for all their charm and beauty, the True-Life Adventures can often seem to a contemporary viewer as ideologically motivated as *Animal Farm*.

In *The Vanishing Prairie*, as in so many Disney films, the focus is on the nuclear family, especially on the bond between mothers and children, and in particular on moments within the lives of animals that seem to mirror middle-class American mores and the gender politics of the time. The film begins with birds migrating—beautiful shots that seem premonitions of *Fly Away Home* (1996, directed by Carroll Ballard) and *Winged Migration*—then focuses on various avian courtship rituals and an amusing moment in the domestic life of a pair of grebes: a pie-billed grebe father looks after grebe eggs while the mother grebe is searching for food for several chicks. The father does not see that one of the eggs has gotten caught in his feathers and is pushed out of the nest when he steps out. The narrator comments, "Like most males he's rather careless about domestic chores!" and then mouths the thoughts of the mother grebe when she returns: "Well that's typical! Perhaps if he had to *lay* these eggs, he'd be more careful. I declare, these husbands—always leaving things for someone else to pick up!" The fact that the male grebe is tending to the children and the female grebe is out looking for food runs counter to white middle-class gender roles in the 1950s, but the possible impact of this moment is quickly

13. Algar in an interview with Gregg Mitman, ibid., 119.

suppressed in favor of humorous banter that locates the grebes within conventional family patterns.[14]

A sequence of amusing mating rituals among grouse leads to a passage on buffalo, highlighted by the birth of a buffalo calf, the mother's care of the calf, and the calf's first attempts to nurse; then to a passage on pronghorns and bighorn sheep; then to a long passage of a mother mountain lion caring for and training her cubs; then to a complex passage focusing primarily on a community of prairie dogs and their amusing attempts to deal with interlopers (including a mother coyote, searching for food for her pups, and a male badger that meets a female and falls in love). The climax of *The Vanishing Prairie* is a sequence that begins with buffalo in mating season (no actual mating is shown), followed by a lightning storm that starts a prairie fire, which is put out by heavy rain and a flood. The well-known and much-imitated finale takes us to mountains in winter, where male bighorn sheep battle to the music of "The Anvil Chorus." The film concludes with the narrator's assurance that "Nature preserves her own and teaches them how to cope with time and the unaccountable ways of man. Mankind in turn, beginning to understand Nature's pattern, is helping her to replenish and rebuild so that the vanishing pageant of the past may become the enduring pageant of the future."

It is, of course, a pageant that Disney provides in *The Vanishing Prairie*, *The Living Desert*, and the other True-Life Adventure films. We are sutured into the Disney vision by the continuous presence of the narrator; by the music, which is carefully and continuously synced with the action so as to create particular, interpretive cinematic moods; and by the film's visual and textual framing of the "adventures" of the animals. Not only do these films create animal characters that are meant to lure children, mothers, and fathers into emotional identification in much the same way as Disney's animated features do, but individual sequences are often fabricated to suggest that the animals, like the spectators in the theater, are interested observers of what is occurring on-screen. In *The Living Desert*, an owl "watches" a burrowing snake, a courtship ritual of tarantulas, and a courting dance of scorpions; and when ground squirrel "Skinny," the "kid from across the way," confronts a Gila monster and chases it away by kicking sand in its eyes, the heroic exploits of the little guy are watched and admired by the neighborhood ground squirrels, who realize they have underestimated Skinny (at the end of the sequence, Skinny rides off into the sunset on the back of a desert tortoise). In other words, in these films as in any other Hollywood melodrama, we enjoy the pleasure of gazing at the private lives of characters we can identify with, and we share the characters' gazes at each other.

14. In *Wildlife Films*, Bousé suggests that wildlife films may "entail an ever greater potential [than Hollywood features] for naturalizing ideological values—for example, by 'finding' in nature the predominance of the nuclear family, or the values of hard work, industry, and deferred gratification. Indeed, because wildlife films are about nature, there may be an even greater commitment than in Hollywood films to making things appear natural" (18).

Originally, the True-Life Adventures provided a new, exotic form of entertainment (after half a century, at least judging from my recent classes on the history of documentary, the entertainment value of *The Living Desert* is still considerable for film students); it combined the conventional pleasures of entertainment film with the sense that the audience was learning something. Of course, the True-Life Adventures do create an expanded sense of the animals that inhabit particular regions, combined with an emotional residue of pleasant nostalgia for the innocent past and an implicit acceptance of the inevitable progress of civilization. The True-Life Adventures may have created in their first audiences a greater awareness of the natural environment, but it was an awareness qualified by a deep complacency. The natural world is valuable and admirable, the Disney films suggest, precisely to the degree it can be understood to reflect and confirm the ideology of contemporary American middle-class family life.

When one comes to the Painlevé films having first experienced the Disney nature films as a formative childhood influence, it is difficult not to feel that they are transformative, at least in terms of what we assume a nature film can be. Whereas the True-Life Adventures were instigated by financial concerns, Painlevé's nature films were an attempt to demonstrate the value of cinema for science (a highly controversial idea for French scientists of the 1920s),[15] and to simultaneously produce good science and good cinema (actually, Painlevé made two kinds of films: research films for use by scientists and films aimed at popular audiences; my focus here is on the latter). In a sense, the pageantry of the Disney films reflects their origins in the studio system: many of the True-Life Adventures were elaborate feature-length extravaganzas, produced within a hierarchical studio system involving many people. The Painlevé films are generally eight to fifteen minutes long and were relatively humble productions, often collaborations with Painlevé's longtime partner, Geneviève Hamon, in which Painlevé, working with technology he himself adapted for filming underwater, did his own cinematog-

15. When Painlevé's early research film *L'oeuf d'épinoche: De la fecundation à l'éclosion (The Stickleback's Egg: From Fertilization to Hatching* [1927]) was screened for scientists at the Académie des sciences in 1928, it was met with skepticism and outrage. "One scientist, infuriated, stormed out, declaring: 'Cinema is not to be taken seriously!'" Brigitte Berg notes (Painlevé, *Science Is Fiction*, ed. Bellows et al., 17).

raphy or worked with a single cameraperson (most frequently, André Raymond early on, and later, Eli Lotar). Like the Disney films, Painlevé's nature films were made in 35mm and were shown in public theaters. Indeed, one of these films, *The Seahorse* (*L'hippocampe*, 1934) was successful enough to support a spin-off: a line of seahorse jewelry designed by Hamon and displayed "in chic boutiques alongside aquariums filled with live seahorses."[16] But *The Seahorse* was the only Painlevé nature film to break even (and even the profits from the seahorse jewelry were stolen). Painlevé was, throughout his life, more a scientist and educator than a capitalist, and his energies were generally directed toward the promotion of science films as an educational tool.

Not surprisingly, given their vastly different production processes and purposes, the Painlevé nature films are very different from the Disney films, both in their scope and in the ideology that seems to underlie Painlevé's choices of subjects: the second of his "Ten Commandments" for filmmakers is "You will refuse to direct a film if your convictions are not expressed."[17] Each Painlevé film tends to focus on a single organism and, because of Painlevé's fascination with and commitment to underwater organisms, usually on a single sea creature. Each film presents, clearly and concisely, the crucial moments in the life cycle of the chosen organism, often beginning by recognizing that this particular organism might not at first seem worthy of being the focus of a film. In general, Painlevé's commitment is to reveal the wonder and the beauty even in organisms that some would consider beneath our notice (the sea urchin, for instance, or the acera, a tiny mollusk). And he is drawn to organisms, or aspects of organisms, that some would find disgusting: the South American vampire bat in *The Vampire* (*Le vampire*, 1945), for example, and the love life of the "cephalopod, horrifying animal" in *The Love Life of the Octopus* (*Les amours de la pieuvre*, 1965). Though the body of each film focuses on in-close examinations of an organism, Painlevé often makes clear how this organism relates to human society—in a simple practical sense. *The Vampire*, for example, introduces its examination of the vampire bat with a brief reminder of the pervasiveness of vampires in the arts and in our imaginations—a shot from Murnau's

16. Brigitte Berg, "Contradictory Forces: Jean Painlevé, 1902–1989," in Painlevé, *Science Is Fiction*, ed. Bellows et al., 25.

17. Painlevé's ten commandments were written in 1948 for a program called "Poets of the Documentary" and are reprinted in Painlevé, *Science Is Fiction*, ed. Bellows et al., 159. Commandment four, "You will seek reality without aestheticism or ideological apparatus," suggests that what Painlevé means by "convictions" in his second commandment is not *political* convictions in the contemporary sense but convictions that develop from an exploration of natural reality from an unbiased position.

Nosferatu (1922) is included; and *Shrimp Stories* (*Histoires des crevettes*, 1964) begins with imagery of men and women fishing for shrimp in ocean shallows.

While the True-Life Adventures tend to reconfirm, in live action, attitudes and ideas evident in Disney's early animated features and cartoons, the Painlevé films can be seen, at least in part, as related to Painlevé's interest in art and, in particular, surrealist art. Painlevé (the son of the distinguished mathematician and French prime minister Paul Painlevé) studied mathematics, then medicine, then biology and zoology. In 1923, at the age of twenty-one, he coauthored a scientific paper with one of his professors and presented it to the Académie des sciences, and in 1924, he graduated from the Sorbonne with a degree in physics, chemistry, and biology. By the time he graduated, he had become fascinated with the then-thriving French avant-garde art scene in Paris and soon was friendly with a number of the surrealists; he was one of the publishers of, and a contributor to, the single issue of the journal *Surréalisme*.[18] Painlevé also became involved with the ciné-club movement, which was sweeping through France and the rest of Europe, making available to public audiences a wide variety of forms of cinema not regularly screened in commercial theaters. Through ciné-club activity he became close friends with Jean Vigo, and in 1927 he finished his own short surrealist film, *Methuselah* (1927), which is reminiscent of René Clair's *Entr'acte* (1924). Painlevé's engagement with surrealism would continue; for example, he supplied the remarkable text for the narration of Georges Franju's *The Blood of the Beasts* (*Le sang des bêtes*, 1949).

The defiance of social convention implicit in Painlevé's early movement between the worlds of science and surrealist art is frequently evident in his nature films, especially in his (usually implicit, but clearly evident) reasons for focusing on particular organisms. While the Disney nature films focus on animals whose activities can be seen as analogous to or sentimentally reminiscent of the activities of the largely middle-class families who were their primary audience, Painlevé's choices often seem, at least in part, a function of the ways in which particular organisms offer a challenge to conventional societal assumptions and values. For example, in a conversation with Brigitte Berg, Painlevé makes clear that one of the reasons for his early

18. Painlevé's contribution to *Surréalisme* was a bit of prose that may well be coherent biology, though it reads like surrealist fantasy. The piece begins, "The plasmodium of the Myxomycetes is so sweet; the eyeless *Prorhynchus* has the dull color of the born-blind, and its proboscis stuffed with zoochlorellae solicits the oxygen of the *Frontoniella antypyretica;* he carries his pharynx in a rosette, a locomotive requirement, horned, stupid, and not at all calcareous." The entire contribution is included in Painlevé, *Science Is Fiction*, ed. Bellows et al., 117.

choice of the seahorse as subject was the way the male and female seahorses collaborate on raising their young: the abdomen of the male seahorse has a pouch into which the female lays her eggs; once the eggs are fertilized, the male nourishes the eggs and, in time, gives birth to the baby seahorses in a manner reminiscent of female human labor. As Painlevé explained to Berg, "The seahorse was for me a splendid way of promoting the kindness and virtue of the father while at the same time underlining the necessity of the mother. In other words, I wanted to re-establish the balance between male and female."[19] Painlevé uses his cinematic report on seahorses to do what he sees as progressive gender politics; he wants us to learn not only *about*, but *from* this strange fish.

Painlevé's interest in the acera mollusks in *Acera or the Witches' Dance* (*Acéra ou le bal des sorcières*, 1972) seems to have two motivations: one of them obvious and the other more subtle. Of obvious interest is the acera's way of finding a mate; as suggested in the film's title, the acera do a kind of ballet, during which the cloaks that encircle their bodies fly open, evoking tutus. A substantial portion of the film is devoted to shots of this dance, which is fascinating and lovely—and reminiscent of moments from films by Oskar Fischinger and from Disney's *Fantasia*. A brief shot of what appears to be Michèle Nadal doing an imitation of Loïe Fuller's "Serpentine Dance" is edited into the sequence of acera doing their witches' dance, Painlevé's way of recognizing a connection between this lowly species and humanity.

Once the acera have found mates, we learn that their means of sexual reproduction could not be further from anything even implied in a Disney film: each acera is bisexual and can function sexually as either male or female, or, as is demonstrated in *Acera or the Witches' Dance*, as simultaneously male *and* female: we see in one instance a chain of five acera in which each of the three middle partners in the sexual act is fertilizing the eggs in one acera and, at the same time, having its own eggs fertilized by another acera. For Painlevé the beauty of the acera does not depend on its mimicking conventional Western assumptions about sexual morality. One can only imagine the repercussions if this lovely film were shown in high school biology classes!

The Vampire, the best-known Painlevé film, at least in this country, makes its politics more specific and more overt. During the German occupation of France, Painlevé was persona non grata for a variety of reasons, including his activities in helping immigrants on the run from fascism to obtain work visas and French citizenship. Painlevé spent the Occupation years in hiding,

19. Ibid., 23.

and is said to have escaped to Spain underwater, using scuba diving gear. Just before the war, Painlevé had seen, for the first time, the Brazilian vampire bat (*Desmodus rotundus*) and had begun work on what would become *The Vampire*. His interest in the creature and the film seems to have been closely related to his hatred of Nazism: the bat, which could be a scourge to its animal and human neighbors, was, like the Nazis, a "brown pest." Near the end of *The Vampire*, soon after we have seen how the bats can transmit disease, Painlevé reveals "the salute of the vampire": "When I was finishing the film, I noticed how the vampire bat extends its wing before going to sleep. I thought it looked like the Nazi 'Heil-Hitler' salute."[20] In this instance, the bat is used overtly as a political metaphor in a way that is not particularly characteristic of Painlevé's work—though, as usual, the film is good science.

Throughout his career, Painlevé's primary commitment was to support the creation of first-rate science films and the development of public audiences for these and other forms of cinema that might function to energize and inform the public. Soon after the war, Painlevé became president of the French Federation of Ciné-Clubs, and he continued to promote the use of cinema as a way of popularizing science through his work with the Institute of Scientific Cinema, which he had founded in 1930, and by helping to found the International Association of Science Films, which held conferences where science films from around the world were screened. He was also among the first science filmmakers to work with television and in time would experiment with new video techniques. While for Disney, the nature film was one small part in the construction of an empire, for Painlevé, filmmaking always remained a means of democratizing scientific research and of using cinema to work across theoretical and cultural distinctions to share information about our remarkably complex, sometimes terrifying, but always wondrous world.

INADVERTENT ENVIRONMENTAL POLITICS IN NATIONAL GEOGRAPHIC'S *SONORAN DESERT, A VIOLENT EDEN* (1997)

For a number of years, I have spent time in and around the Sonoran Desert near Tucson, Arizona. At first, my visits were brief—spring break escapes from central New York State winters—but in time, the visits got longer. The first version of this essay was written during my fourth full winter and spring living in the desert. I have lived in three locations to the west of Tucson, two of them in the eastern foothills of the Tucson Mountains, the third,

20. Ibid., 33

several miles west of the range, within sight of the western headquarters of the Saguaro National Park and about two miles from the Arizona-Sonora Desert Museum. During these stays I have done a good bit of desert walking and like many locals have often made water and "quail blocks" (solid blocks of seed and grain beloved of birds and rodents) available to the neighboring wildlife. I have read some of the literature the Sonoran Desert has inspired and have talked with park rangers and other more permanent locals about the desert—and have even considered buying desert land while some is still available.

I had already developed an affection for and a fascination with the Sonoran Desert when, during one of my winters in central New York State, I noticed that a National Geographic documentary, *Sonoran Desert, a Violent Eden*, was about to air on television. I watched the hour-long piece with considerable interest and found the film stunning and informative—but came away troubled by its impact. Indeed, in the days after watching the film, I found I was questioning whether I wanted to spend the following winter in the Tucson area, as I had planned—a feeling that hovered in my near consciousness for quite some time. This experience helped to instigate a deeper interest in nature filmmaking and has caused some revisions in my courses in the history of documentary. What is interesting to me is how a seemingly scientific film about a specific place can create various contradictory levels of impact, and how some of this impact may well have subtle political effects that the filmmakers may not have foreseen.

Sonoran Desert, a Violent Eden was produced and written by Sean Morris and, in its video release, is part of a series of films, "World's Last Great Places."[21] In general, it is a perfectly competent, relatively conventional nature film, beautifully photographed (by Morris, Keith Brust, and a number of assistants), well edited (by Barry Nye), and contextualized by a traditional voice-of-god narrator (Richard Kiley). Indeed, whereas the True-Life Adventures use footage collected by first-rate wildlife photographers

21. Other titles include *Antarctica, the Last Wilderness; Arctic Kingdom, Life at the Edge; Baja, Mexico's Cactus Forest; Belize, a Tropical Kingdom; Everglades, Secrets of the Swamp; Galapagos Islands, Land of Dragons; Hidden Congo, Forest Primeval; Lake Tanganyika, Jewel of the Rift; Namib Desert, Africa's Hostile Dunes; Panama Wild, Rain Forest of Life; Tanzania, Thorn Tree Country.*

I do not have particular enough memories of my first viewing of *Sonoran Desert, a Violent Eden* to remember whether that viewing was identical to the one provided on the VHS of the piece available from National Geographic. On the VHS, it is preceded by two advertisements for other National Geographic pieces: *Nature's Fury* (1994; the advertisement presents a series of images of relatively horrific instances of "nature's fury") and *The Photographers* (1996), an encomium to the people who gather images for National Geographic television films.

within a context that has at most the aura of science, the science in *Sonoran Desert, a Violent Eden* is, so far as I have been able to determine, relatively accurate, at least in the sense that the creatures are not anthropomorphized in ways that tend to obscure the realities of the biota of which they are a part. Indeed, one naturalist at the Desert Museum told me that Sean Morris and his collaborators were able to capture events he had never seen during a lifetime of studying the desert: the horned lizard squirting a coyote with blood from a pouch in its eye socket, for example. Nevertheless, the filmic exploration of the Sonoran Desert in *Sonoran Desert, a Violent Eden* is problematic.

Sonoran Desert, a Violent Eden opens with a visual précis of what is to follow, then the National Geographic identification logos and an indication that Richard Kiley is the narrator. The tone is set by the subtitle *a Violent Eden* and by the opening lines of the précis: "This is a stern and unforgiving land, a withering desert, tormented by the sun; only the most superbly adapted creatures can survive here and the blink of an eye can separate life from death." These lines are accompanied by a sequence that begins with an image of a Gila monster, followed by shots of an antelope squirrel running and being struck by a rattlesnake, a deer sensing danger, another shot of the Gila monster, a battle between a deer mouse and a centipede, bees seemingly attacking something, and a tarantula darting out of its hole to strike a roach. The body of *Sonoran Desert* follows, moving the viewer roughly through a calendar year, beginning in late winter and ending after the late summer monsoon has allowed life to burst forth, "a sign of triumph and a time of celebration."

After the passage of landscape shots that follows the précis and opening credits, during which the narrator provides information about the Sonoran Desert's geologic past, the film develops a consistent rhythm: sequences focusing on particular creatures are intercut with short, time-lapsed passages of landscape and skyscape that function as transitions through time and from topic to topic. Roughly, the topics covered include snakes and Gila monsters coming out of hibernation at the end of winter, mating, and searching for and finding food ("for their prey, the desert is a death trap"); cactus bees harvesting the blooms of prickly pear cacti, mating, providing food for their offspring, becoming exhausted, and being eaten by ants, birds, and lizards; a family of thrashers protecting their nest from a king snake; nectar bats finding their way to saguaro blooms; sand scorpions becoming cannibals during the heat of midsummer and being eaten by a shovel-nosed snake; a battle between a grasshopper mouse and a ten-inch centipede (one of the "terrible monsters that are on the prowl" during summer nights); plants and

animals enduring or succumbing to the brutal heat; the saguaro producing fruit; coyotes taking advantage of a weakened javelina; a horned lizard eating ants and a coyote trying to kill the lizard; a late-summer lightning storm causing a fire; monsoon rains creating flooded washes and ponds in which spadefoot toads live, breed, and die; and the desert covered with poppies after the rains.

As may be evident from this description, *Sonoran Desert, a Violent Eden* is focused primarily on the struggle for food and on desert creatures mating to survive—basically the same foci as in the Painlevé films and the Disney True-Life Adventures. In some ways, the National Geographic film is more like the Disney than the Painlevé films: for instance, it pretends to cover an entire region, rather than a single species. But, like the Painlevé films, it is more candid about what the creatures actually do. Indeed, *Sonoran Desert, a Violent Eden* focuses on what Disney tends to suppress: open depictions of the deaths and the sex acts of the creatures. Early in the film we see, in extreme close-up, rattlesnakes having sex and, soon after this, an expanded version of the scene in the précis during which an antelope squirrel runs from a Gila monster only to be struck and engorged by a rattler; then a Gila monster eating, first, the eggs of a Gambel's quail, then the babies of a white-footed deer mouse—a counter to the Disney tendency to romanticize and suburbanize animals (the narrator explains that "the white-footed deer mouse is a diligent, successful mother" of her week-old "pink babies" just before the Gila monster arrives to eat them). In general, whereas the Painlevé films are brief, witty, poetic science lectures, and the Disney True-Life Adventures, somewhat slapstick comedy-romances, *Sonoran Desert, a Violent Eden* is an action-adventure drama that exudes something of the aura of the early "bring 'em back alive" films.

While all the events depicted certainly do occur, with various degrees of frequency, like any typical action-adventure film, *Sonoran Desert* tends to temporally condense the activities depicted into what becomes an extravaganza of the violent and the bizarre; basically, it constructs a fiction from nonfictional elements.[22] Indeed, the assumption of the film seems to be that it is precisely the unending series of violent events revealed in the film that renders the Sonoran Desert distinctive, one of the "Last Great Places." But all natural environments are full of predators of one kind or another; predatory "violence" is no more frequent in the Sonoran Desert than in a lake in the Catskills or on a Wisconsin dairy farm: creatures prey on other creatures everywhere, and in ways that, if we saw them in the kinds of close-ups cinema can provide, might seem as impressive as what one sees in *Sonoran Desert, a Violent Eden.*

22. The tendency of nature films, particularly those hoping to appeal to a general audience, to focus on battles between animals and insects is evident in some of the earliest films that depict insects and animals. See Oliver Gaycken's discussion of *Le Scorpion languedocien* (Éclair, 1912), in which a scorpion attacks and kills a rat, in "'A Drama Unites Them in a Fight to the Death,'" 362–70.

Further, and more precisely relevant here, the moment one walks into the Sonoran Desert, one experiences a radically different sense of the place from what the film suggests. *Sonoran Desert* excludes much of what might cause a viewer to feel the serene beauty of this environment, where bird life seems to dominate (it is a favorite haunt for birders), and the animals most in evidence are the cottontail rabbit (not represented in the film) and other, smaller rodents. It is true that the Sonoran Desert is home to several poisonous species—several kinds of rattlesnakes, the bark scorpion, and the Gila monster—but the actual danger of these creatures has always been exaggerated by conventional cinematic depictions of the region, and it is exaggerated in *Sonoran Desert.* According to a local Tucson hiking guide, the overwhelming majority of rattlesnake bites are "incurred while someone [often someone under the influence of alcohol], usually a fifteen- to twenty-five-year-old male, is playing with the snake"; no human deaths from scorpion bites have occurred in thirty years; and to get bitten by the rarely seen Gila monster, "you would practically have to fall near one and surprise it."[23] The biggest danger in the Sonoran Desert is probably skin cancer. Indeed, Craig Ivanyi, a curator at the Desert Museum, took particular umbrage at the implication in the film that the Gila monster was an aggressive, dangerous creature: "The Gila monster is the gem of our desert, and if you should be so lucky as to see one, you should treasure the experience."[24]

The documentary effectiveness of *Sonoran Desert, a Violent Eden,* for anything beyond somewhat sensational entertainment, is particularly compromised by the film's refusal to recognize that the human being is now the most visible species in much of the Sonoran Desert (and of course has been part of this environment for centuries); indeed, some of *Sonoran Desert* was shot near the Desert Museum, which is the second most popular tourist attraction (after the Grand Canyon) in Arizona. The only indication in the film that the relatively recent arrival of millions of human beings may have had an environmental impact on the region is the narrator's mention, over footage of the desert wildfire created by the lightning storm, that "wildfires are new to the Sonoran. Plants introduced by man are what make the brush dense

23. Betty Leavengood, *Tucson Hiking Guide* (Boulder, CO: Pruett, 1991), 9, 10–11.
24. I spoke with Ivanyi on the phone on April 8, 2005.

enough to burn." The film's remarkable erasure of human settlement from the Sonoran Desert, while not unusual for a nature film, is a convenient way of avoiding the fact that this "Last Great Place," this "Eden," is, for all the symbiosis of its flora and fauna, endangered.[25] In other words, the film provides a way of entertaining an audience in part by creating a sense that the audience is learning about reality, while at the same time enforcing the audience's complacency about the fragility of the environment depicted.

All in all, the impact of the Sonoran Desert in *Sonoran Desert, a Violent Eden* is somewhat similar to the impact of "If It Bleeds, It Leads" news shows. If one watches this kind of news coverage long enough, one can hardly fail to become frightened. I am sure that the makers of *Sonoran Desert* found the desert beautiful and fascinating—why else would they devote so much time and energy to making the film?—but the impact of their depiction seems more likely to alienate their audience from the desert than to engender respect for it. And this alienation is particularly a problem, given the fact that the southern Arizona climate continues to attract new residents at record-setting rates. If these new residents arrive with deep-seated fears of the natural environment of the region, they are all the more likely to be drawn to forms of residential development that eliminate direct experience of the desert, and they are far less likely to see what remains of the desert as worth protecting. The Sonoran Desert may be one of the "Last Great Places," but given the grotesqueness of what goes on there, the film inadvertently suggests, maybe it is just as well that it *is* disappearing in the face of suburban development. While the makers of *Sonoran Desert, a Violent Eden* may not have wanted to make a pro–suburbia / urban sprawl film, the

25. On March 22, 2005, I spent an hour with Rick Brusca, executive program director, and Mark A. Dimmitt, director of natural history, of the Arizona-Sonora Desert Museum outside Tucson, and both confirmed my sense of the depiction of the Sonoran Desert offered by *Sonoran Desert, a Violent Eden*. Both agreed that the film was well done, and in some cases provided remarkable imagery of rarely seen desert events (some of them filmed at the Desert Museum), but they found that the film's overall sense of the desert was exaggerated and for all practical purposes a fiction. Craig Ivanyi responded the same way in my conversation with him (note 24).

Despite the misleading title, *Namib Desert, Africa's Hostile Dunes* (made in 1977 by David Saxon and David Hughes and finished as *Creatures of the Namib Desert*, another film in the Last Great Places series but not released as part of the series until 1998) avoids the exaggerations and distortions of *Sonoran Desert, a Violent Eden*. Its focus, as its original title suggests, is on the adaptations of those species that live in the Namib desert, which includes, of course, some species preying on others. But this film does not exaggerate the predatory nature of the environment it depicts; further, it does not ignore the lovely serenity of the place or the history of human presence in this environment; we meet men and women researchers who love the Namib. The irony is that the Arizona-Sonora Desert Museum, where much of *Sonoran Desert, a Violent Eden* was shot, is far less remote than the research center shown in *Namib Desert, Africa's Hostile Dunes*.

subtle impact of the film might well confirm a fear of the desert and a desire for protection from it. For all practical purposes, *Sonoran Desert, a Violent Eden* transforms one of the world's most beautiful environments into a problem to be overcome by modern consumer society.[26]

THE NATURAL WORLD AS PARALLEL UNIVERSE: *A DIVIDED WORLD* (1948) AND *MICROCOSMOS* (1996)

One of the problems with the failure of academic film studies to seriously explore the nature film is that even landmarks in the genre have gotten lost, at least for the overwhelming majority of viewers—sometimes when such a loss was easily avoidable. A particularly good example is the Swedish director Arne Sucksdorff's remarkable short *A Divided World*. During the postwar explosion of the film society movement in the United States, the Sucksdorff film was celebrated. It was shown at Cinema 16, accompanied by program notes written by the distinguished critic Arthur Knight. During the following decades, when public, school, and university libraries were buying 16mm films, *A Divided World* was often part of these collections. In recent years, however, as many academics have abandoned 16mm, these libraries have closed, and many of what were considered film classics a generation ago are no longer available to audiences. This seems particularly the case with nature films, including *A Divided World*, which is no longer in distribution in the United States.[27]

A Divided World begins with an organist playing a Bach fantasia, as we see shots of a marsh and a snowy forest, lit by a full moon. A small church and a cemetery and several houses in a small village are visible; then, slowly, the camera moves back into the snow-covered forest, where we see the eyes

26. An interesting comparison and contrast to *Sonoran Desert, a Violent Eden* is provided by the recent *Secrets of the Sonoran Desert* (2004, photographed by Gilbert Urias, written by Marcia Hall and Jean Henderer). A thoroughly conventional documentary (with a voice-of-god narrator: Russell Buchanan), *Secrets* covers much the same ground as *Sonoran Desert, a Violent Eden*. It is less coherently organized and less impressively photographed than the earlier film—and sometimes confirms stereotypes included in *Sonoran Desert, a Violent Eden* (creepy music is used with reptiles, for example). But the makers place much less emphasis on violence and melodrama and much more on celebrating the beauty of the area. They do not demonize the Gila monster; and they do not entirely ignore the presence of human beings and the fact that the growing human population in the American Southwest is having negative impacts on animal habitat and species diversity.

27. I have a decent 16mm print of *A Divided World* only because a public library in northern Minnesota gave away its collection of 16mm films. Over the years I have often presented "Cinema 16 shows" at colleges, universities, and other organizations interested in film history, and the nature films that Cinema 16 audiences saw and admired have consistently been the hardest to locate.

of a distant owl, and the music becomes subdued as the night cries of animals and birds become audible. A tiny white mink is eating the carcass of a bird, but it runs and hides from a fox, which eats what remains. A white rabbit is seen running through the woods (the church is seen in the distance at one point), as wind blows through the trees, making eerie shadows on the snow. The eyes of the owl are again seen in the distance. The owl then flies across the woods and confronts the fox, which has apparently killed the rabbit. As the weasel watches, staying carefully out of reach, the owl and fox battle over the carcass. The owl flies off with the carcass, and the fox is seen nursing an injured paw. At the end of the film, as Arthur Knight suggested in his program notes, "when the camera turns back to the snug little house on the edge of the forest, civilization takes on new meanings. The music of Bach suggests the sublimation of primitive instincts through art and man's creation."[28]

Much of the impact of *A Divided World* comes from Sucksdorff's recognition that the two parts of our "divided world" are in very close proximity, that indeed they exist in virtually the same place and time. In *A Divided World*, one world is visually the background of the other and vice versa, and the Bach fantasia and the sounds of nature interweave throughout the film. While the action in *A Divided World* is reminiscent of both *Sonoran Desert, a Violent Eden* and the Disney True-Life Adventures—like *Sonoran Desert*, Sucksdorff's film focuses on a series of predatory encounters between animals; and as in *The Vanishing Prairie* and *The Living Desert*, humor is added by the presence of the tiny white mink—its impact is very different from that of these other films, in large part because of Sucksdorff's way of combining reality and fantasy.

It is a fundamental tendency of the nature film to use long shots of real landscapes to cover up the fact that the in-close shots of animal or insect life are fabricated within carefully controlled environments.[29] While the kinds of events we see may be part of the real existence of the creatures depicted, the particular depictions are constructed, either by setting up a situation that would be impractical to wait for (when a giant saguaro falls in *Sonoran Desert, a Violent Eden*, we recognize that while such an event is inevitable for every saguaro, this one was toppled specifically for the film),

28. Scott MacDonald, *Cinema 16: Documents toward a History of the Film Society*, 144. Cinema 16 was the most successful and influential of American film societies for more than sixteen years.

29. As Gaycken explains, even in the earliest nature films, the movement from long shot of real environment to close-up of fabricated environment "is deployed in order to enhance the believability of the ethological fiction that the observations are of animals in their natural habitats" (364). He describes a number of such instances, pointing out that match-on-action shots are the primary tool for accomplishing this illusion.

or by creatively editing events (the rattler striking the antelope squirrel at the beginning of *Sonoran Desert* was clearly constructed in the editing). Both methods are used in *A Divided World*.

However, while the animals and their actions in *A Divided World* are clearly real—and, as in most nature films, are made reasonably convincing by careful control of mini-environments and creative editing—the scintillant, gorgeously lit long shots of farm and woods *and* the close-ups of the animals (all of which are beautiful specimens, seemingly unmarked by life in the wild) create an aura of fantasy, and as a result, the film seems more a parable than an exercise in stark realism. The houses and church appear to be models. No people are ever visible, though during the final shot of the farmhouse at the end, smoke is coming out of the chimney. This is a fairy-tale town. Ultimately, the two levels of Sucksdorff's divided world recontextualize each other, each making the other seem less solid, less complete, less "real." The ambiguity of the film is confirmed by what is perhaps the most obvious deviation from the conventional nature film in *A Divided World:* Sucksdorff's refusal of direct commentary or explanation. There is neither text nor narration, and the result is a sense that both human nature and nonhuman nature are beautiful and powerful mysteries.

A related approach is evident in the remarkable French feature *Microcosmos: Le peuple de l'herbe* ("The People of the Grass") by Claude Nuridsany and Marie Pérennou. In making *Microcosmos*, Nuridsany and Pérennou were at great pains to combine science and art as a means of avoiding some of the implications of more conventional nature films. According to Pérennou, "We try to engage the imagination of the spectator. We tell the story of this world as if it were an opera, not simple biology. We are right in the middle of art and science; we put these two fields together—people have a tendency to separate them."[30] As is true in *A Divided World* (and in some of the Painlevé films as well), in *Microcosmos*, the focus is not on a distant, exotic, vanishing "Last Great Place" but on dimensions of the everyday world we normally ignore: in this case, the life of insects in a meadow during the summer.[31] And, like Sucksdorff, Nuridsany and Pérennou do not pretend to explain what they show us but, rather, confront us with the essential mystery, beauty, and wonder of our natural surround.

While the overall organization of *Microcosmos* is similar to the organization of *Sonoran Desert, a Violent Eden*—each begins with a précis, followed

30. Pérennou, in an interview with Charles Wright, in Phoenix.com archives, 1996.

31. Of course, sometimes Painlevé does choose to focus on exotic creatures—in *The Vampire*, for instance—but, at least in the films I have seen, his more frequent choice is to explore the lives of organisms that most of us would normally consider beneath our notice.

by a bit of general commentary, followed by the body of the film, during which we move back and forth between often beautiful landscape shots that purport to be the environment being considered and close-ups of the lives unfolding within this environment—the two films could hardly be more different in tone and impact. Whereas the narration in *Sonoran Desert* is virtually continuous and is meant simultaneously to explain what we are seeing *and* to communicate the filmmakers' sense of the Sonoran Desert as a violent and dangerous (although sometimes beautiful) place, *Microcosmos* uses only two brief passages of narration during its eighty minutes (both spoken by Kristin Scott Thomas). Each is an attempt to promote a form of spectatorship unusual for a film with a scientific bent.

During the précis, we move from airplane shots of cloudscapes down to a helicopter shot of a meadow and then *into* the meadow grass and into microscopic cinematography that makes the grass stems look like tree trunks. And we hear the first of the two passages of narration:

> A meadow in early morning, somewhere on earth.
> Hidden here is a world as vast as our own,
> Where the weeds are impenetrable jungles,
> The stones are mountains,
> And even the smallest pond becomes an ocean.
> Time passes differently here.
> An hour is like a day;
> A day is like a season;
> And the passing of a season is a lifetime.
> But to observe this world, we must fall silent now and listen to its murmurs.

And the filmmakers do fall silent, at least verbally, until nearly the end of the film.

Nuridsany and Pérennou's decision to back away from words and to allow what they show us to speak for itself reflects their confidence in both their subject matter and their cinematic skills in communicating what they feel about the world they are depicting. And it reveals a very different attitude toward the natural world from that revealed in *Sonoran Desert*. For Nuridsany and Pérennou, the natural world is an astonishing, not a fearful, place. As Pérennou explains, "Insects are so often portrayed as little robots who are always killing each other, like [in] science fiction movies. To us they are like mythological creatures, creatures of great beauty."[32] This attitude is

32. Pérennou interview.

evident in the decision both to have a soft-spoken female voice speak the two brief passages of narration that are included and to use language that is poetically evocative, rather than, as in *Sonoran Desert*, blunt and definitive.

Of course, in *Microcosmos*, as in most nature films, music and sound effects do function as indirect forms of narration. In general, Nuridsany and Pérennou use various combinations of sound effects, sometimes by themselves, sometimes along with one of several forms of music (the sound design of the film is by Laurent Quaglio; the original music, by Bruno Coulais). At times, it is not entirely clear whether a sound *is* a sound effect or a musical imitation of insect sounds, while at others, imagery is accompanied by orchestral, sometimes operatic music. The mood created by the sound effects and music depends on the particular subject matter, but the filmmakers are at great pains to avoid using music that might confirm conventional clichés about insects being creepy and dirty. While the use of Bach in *A Divided World* emphasizes the gap between the civilized world and the goings-on in the forest, in *Microcosmos*, music and other sound are used to create a respect for the insects.

During the body of *Microcosmos*, we are presented with a considerable variety of insect life, organized roughly into the cycle of a typical summer day, beginning with early morning and ending, after an evening rainstorm, with night.[33] Imagery of insects (and in one instance a pheasant), based on fifteen years of research and three years of shooting (in some cases with equipment designed by the filmmakers), is presented at appropriate moments during the daily cycle. It is, of course, one of the inherent dimensions of theatrical cinema that the combination of camera and projector magnifies whatever is shot, and in this particular instance, cinematic magnification powerfully confirms the stunning microphotography by Nuridsany, Pérennou, Hugues Ryffel, and Thierry Machado. What is most notable about *Microcosmos*, however, is that the directors choose to place particular emphasis on astonishing dimensions, not of exotic creatures we are relatively unacquainted with, but of the most common insects, and often insects conventionally considered pests.

One of the early sequences in the film begins by following a ladybug crawling onto a stem where ants are tending to a colony of aphids. The ants repel the ladybug, which goes on its way, and we watch as the ants harvest

33. Because narrative development, especially controllable narrative development leading to climax, is difficult to find, or even to orchestrate, in nature films, it is common for longer nature films to include either fires or dramatic rainstorms, or both—often just where a commercial dramatic feature would present its climax.

the honeydew the aphids are producing.[34] The clarity of this imagery negates the need for narration, allowing us to confront the astonishing spectacle of one insect species domesticating another, protecting it, and caring tenderly for it. In another of the film's most remarkable sequences, two snails are apparently having sex. They are filmed in gorgeous, extended, glistening visuals, accompanied by operatic music. The visual beauty of the sequence and the operatic track seem perfectly matched. The film's final sequence powerfully confirms the filmmakers' tendency to invest the mundane with deep significance: after the second passage of narration, an insect—most viewers, I would guess, are not clear at first what insect this might be—emerges from water, undergoing several astonishing and beautiful transformations, to the accompaniment of orchestral music. At the climax of the passage, we realize that the amazing process we have witnessed was the growth of a common mosquito.

While visual beauty is an aspect of many nature films—the True-Life Adventures are full of beautiful shots, and the long shots of the Sonoran Desert in *Sonoran Desert* are lovely—in *Microcosmos*, the filmmakers are at considerable pains to confirm their respect for the insect world by consistently creating lovely visual compositions and a sumptuous palette of color. But often it is the mythical dimension of "the people of the grass" that seems to determine the directors' decision to include the images they choose. The sequence of a dung beetle pushing its ball along the ground, only to have it get stuck on a thorn, and then struggling to free the ball until it can once again continue on its way is reminiscent of the mythological character of Sisyphus; the pheasant that attacks the ant colony, seen sometimes from inside the anthill, is reminiscent of many mythological giants, from the Cyclops to King Kong; and the emergence of the mosquito at the end of the film evokes, as Pérennou has indicated, the mythological Venus, "rising out of the water."[35] Indeed, it is this mythological character of the world of insect life that justifies the loving attention that the filmmakers have dedicated to the film. As in some of the Painlevé films, in *Microcosmos*, it is as much what we can learn *from* the activities in this "underworld" as it is what we can learn *about* them that seems crucial for Nuridsany and Pérennou.

The implication of the National Geographic series title "Last Great Places" is that the subjects of these films are among the few remaining

34. Aphids suck the sugars produced by plants, but they cannot digest all of what they imbibe and release some of it through their anuses in the form of liquid, or "honeydew," which is eaten by the ants.

35. Pérennou interview.

Dung beetle as Sisyphus in Claude Nuridsany and Marie Pérennou's *Microcosmos* (1996). Courtesy Claude Nuridsany and Marie Pérennou.

"Edenic" wilderness environments on earth—"Edenic" meaning, apparently, not interfered with by humanity. And yet, to maintain what is essentially a fantasy, the director, Sean Morris, needs to go to great lengths to hide the human presence in the Sonoran Desert. Nuridsany and Pérennou, on the other hand, do not participate in the kind of romantic fantasy promoted by Morris and National Geographic; they are interested in using cinema to rediscover the complexity of the real life that surrounds us, to alert us to a world "beyond anything we could imagine / And yet almost beneath our notice," as they explain in the narration that leads into the final sequence of *Microcosmos*. The life forms they reveal to us have clearly adapted to life as successfully as we have, and in a "neighborhood" they share with human beings. The message here is not one of fear and disgust but one of empathy, respect, and appreciation.

One context for thinking about the two very different attitudes reflected in the films discussed in this essay is postcolonial theory. The Disney films and *Sonoran Desert, a Violent Eden* are similar in their refusal to allow the creatures they depict anything like their own voice. In both, narration and interpretive music are relentless. That is, in these films the creatures are treated like colonial subjects, subjects that are fully understood by the experts who have come to record them and whose exotic lives must be, and can be, explained to the viewer. Further, the creatures are understood within a set of stereotypes supplied by those who have come to document their

lives: the filmic interpretations of many of the actions of the animals and insects in the Disney films are clearly projections of stereotypical middle-class American family experiences; and many of the events in *Sonoran Desert* reflect conventional stereotypes of the brutality of the exotic animal and insect life depicted.

A different sensibility is evident at many moments in the Painlevé films and throughout *Microcosmos*. Painlevé often allows the creatures he records to "speak for themselves": for example, we are allowed to watch the acera dance without continual textual comment intervening; their dance is seen as fundamentally similar in function to the dances we do—though the acera are more graceful than most of us. In *Microcosmos*, the activities of the insects are seen not as exotic and implicitly inferior to human activities. Rather, the activities of these generally familiar creatures are magnified and mythologized, and we come to understand their lives as different, effective, fully evolved strategies for living in the real world.[36] Nuridsany and Pérennou remind us that human life needs insect life more than insect life needs us. Who knows, they imply, what the remarkable adaptive strategies we can see around us every day might teach us during coming decades as we confront our growing environmental crisis and new challenges to *our* adaptability?

A few final conjectures. In her video *The Head of a Pin* (2003), Su Friedrich intercuts between long and medium shots documenting a vacation near the Delaware River in northern New Jersey (Friedrich and several others live in a small cabin and walk to the river to enjoy swimming and picnicking) and in-close shots of a spider subduing and wrapping a wasp or a mayfly that has gotten caught in its web.[37] During the shots of the spider and its prey, the vacationers discuss the strange, grisly spectacle and at one point admit to each other that "what we know about nature" would fit "on the head of a pin." Near the end of the video, the final in-close shot of the spider and its now wrapped and stored prey concludes when the camera pulls back and up, and we realize that this tiny saga of predation has been occurring

36. Sucksdorff's view seems more ambivalent. He does suggest that our world is divided between a fallen creation and a human realm to some degree secure from the brutalities of nature as a result of a spiritual connection with God—and yet, in *A Divided World*, both realms seem equally real and unreal. The natural world seems sensually more beautiful than the human world, just as the colonial world often seems more sensual than the "more civilized" colonizing world—and yet, at least in *A Divided World*, the human realm seems comparatively empty.

37. I have not been able to determine whether the insect is a wasp (Braconidae or Ichneumonidae) or a stem sawfly (Cephidae). Thanks to Dr. William H. Gotwald Jr., professor of biology at Utica College, for his assistance in narrowing the possibilities.

Cathy Quinlan identifying flower in Su Friedrich's *The Head of a Pin* (2004). Courtesy Su Friedrich.

underneath the kitchen table in the cabin. As in *A Divided World*, we see that what can seem to be two different worlds are simply two aspects of the same space; but whereas Sucksdorff emphasizes the differences between two mysterious realms, Friedrich's concluding gesture suggests the relationship between what is going on below the table and what normally occurs on top of it: both spiders and humans live by means of periodic exploitation of other life forms, and intelligence lies in recognizing the intricate relationships between what may at first seem separate worlds.

In the present context, *The Head of a Pin* can serve as a metaphor for the gap that has formed between the humanities and the sciences in the current American academic environment. Although educators generally recognize that anything like a sensible liberal arts education requires experiences with both the sciences and the humanities, the tendency for many faculty and students is to see one of these areas as primary and the other as, for all practical purposes, a strange, hidden world. This gap has produced one of the more remarkable paradoxes of modern intellectual life: the seemingly contradictory nature of crucial recent conclusions and discoveries in the humanities and in the sciences.

The primary conclusion of many scholars working across the humanities during recent decades has been that the categories that earlier generations assumed were biological givens—gender, race, sexual preference, even individual identity itself—are in fact social constructions, that our ways of understanding the world around us and of coming to terms with each other are not biologically intrinsic to us, not *essential* dimensions of us, but the social fabrications of postmodern capitalism. On the other hand, among the most remarkable conclusions of many scholars working across the sciences during recent decades is that our physical being is mapped, from the moment of conception, by our DNA, and that this mapping is so distinct for each of us that anyone with the tools to read it can distinguish each human individual from every other, and various classes of humans from each other, on the basis of even the tiniest molecule of the human body, living or dead. In other words, however much our socialization constructs predictable, conventional, often-problematic patterns of action and thought, there *is* an essential identity within each of us.

Of course, I recognize that I am oversimplifying very complex issues, but I cannot help but wonder whether the tendency on the part of the first generation of academic film teachers and scholars to ignore the history of nature film might be, at least in part, a reflection of a repressed fear of confronting those dimensions of the physical world around us that might frustrate our desire for an unambiguous, stable political consciousness, and for definitive theoretical solutions to complex social questions. Obviously, the humanities and the sciences need each other more than they sometimes realize, and the wide world of cinema, including the long history of films devoted to depictions of the natural world, remains one of those dimensions of culture that may yet help us come to terms with this need.

In any case, I hope it is evident that bringing nature film, and science film in general, into the mainstream of film-historical thinking and teaching has a variety of potential benefits. Most obviously, of course, it would help us become more aware of the full range of cinematic accomplishment. Certainly, the best nature films—of course, we need to develop definitions of what "best" means in this genre—should be recognized alongside the best dramatic narratives, the best animations, the best avant-garde films, the best films of any kind. And we can learn from, and enjoy, the ongoing evolution of this genre. Just as the modern histories of the horror genre and film noir can help us think about the developing power of women to deal with their societal marginalization, the evolution of the nature film can help us think about our relationship to other species and to the environment we all share and perhaps, as suggested earlier, can help us consider the complex, puzzling relationship between our biological nature as individual instances of a species and our psychological and sociological development as members of particular societies.

At its best, the evolution of the nature film—and here there can be no better example than *March of the Penguins*—reveals, at least as fully as any other strand in the weave of film history, an astonishing level of filmmaking courage and persistence, as well as commitment not only to the audience but to a species other than Homo sapiens and to ways of living that may have things to teach us. Luc Jacquet's feature has received generally grudging accolades from serious film critics, many of whom are understandably put off by the film's overuse of sentimental music and narration—and perhaps by the Disney-like marketing of *March of the Penguins* in the United States, where it was touted as *the* family film of the summer of 2005. Of course, *March is* a family film, but as much in the Painlevé sense as in the Disney sense (once the emperor penguins mate, they are monogamous, and focused on producing an egg and raising a chick—but only for one year; for nearly every emperor penguin couple, each year brings a new monogamous relationship).

The advertising for *March*, and many of the critiques of it, also ignore the film's implicit environmentalist politic. Jacquet and his collaborators create considerable empathy for one of many forms of life placed in danger by global warming (the film's official website—http://wip.warnerbros.com/marchofthepenguins—makes the danger of global warming to emperor penguins explicit). But the reticent critics and the sentimental advertising campaign do not entirely obscure what I expect is evident to most viewers—especially those who watch the film's final credits. Throughout the body of the film, the filmmakers are resolutely invisible, entirely in service to the emperor penguins and to the viewers who will see the finished film. But during the final credits, we see imagery of the filmmakers and their utterly unimposing equipment and realize that, like these penguins, the filmmakers have created something fascinating and memorable with very humble means. It is a realization that has any number of ideological implications.[38]

38. As yet, I have not been able to find out exactly what equipment was used to film the penguins. Presumably, the Dumont d'Urville base in Antarctica is well equipped and made its facilities available to Jacquet and his colleagues, but the emphasis in the imagery we do see of the filmmakers during the credits is on the simplicity of what they were working with.

Of course, for us to be able to see the imagery and sound of the emperor penguins in local theaters, the filmmakers needed to create alliances with marketing entities that have considerable resources. But the various steps in the distribution of *March of the Penguins* should not obscure the core of the experience: the filmmaking that Jacquet and his collaborators did in Anarctica and subsequently, in composing the story of these remarkable birds.

I am grateful to my Hamilton College colleague Patricia O'Neill for reminding me of how similar *March of the Penguins* is to Flaherty's *Nanook of the North*.