

GAGOSIAN GALLERY

Can Animals be Gay?



Jeff Koons for The New York Times

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Published: March 29, 2010

The Laysan albatross is a downy seabird with a seven-foot wingspan and a notched, pale yellow beak. Every November, a small colony of albatrosses assembles at a place called Kaena Point, overlooking the Pacific at the foot of a volcanic range, on the northwestern tip of Oahu, Hawaii. Each bird has spent the past six months in solitude, ranging over open water as far north as Alaska, and has come back to the breeding ground to reunite with its mate. Albatrosses can live to be 60 or 70 years old and typically mate with the same bird every year, for life. Their “divorce rate,” as biologists term it, is among the lowest of any bird.

When I visited Kaena Point in November, the first birds were just returning, and they spent a lot of their time gliding and jackknifing in the wind a few feet overhead or plopped like cushions in the sand. There are about 120 breeding albatrosses in the colony, and gradually, each will arrive and feel out the crowd for the one other particular albatross it has been waiting to have sex with again. At any given moment in the days before Thanksgiving, some birds may be just turning up while others sit there killing time. It feels like an airport baggage-claim area.

Once together, pairs will copulate and collaboratively incubate a single egg for 65 days. They take shifts: one bird has to sit at the nest while the other flaps off to fish and eat for weeks at a time. Couples preen each other's feathers and engage in elaborate mating behaviors and displays. "Like when you're in a couple," Marlene Zuk, a biologist who has visited the colony, explained to me. "All those sickening things that couples do that gross out everyone else but the two people in the couple? . . . Birds have the same thing." I often saw pairs sitting belly to belly, arching their necks and nuzzling together their heads to form a kind of heart shape. Speaking on Oahu a few years ago as first lady, Laura Bush praised Laysan albatross couples for making lifelong commitments to one another. Lindsay C. Young, a biologist who studies the Kaena Point colony, told me: "They were supposed to be icons of monogamy: one male and one female. But I wouldn't assume that what you're looking at *is* a male and a female."

Young has been researching the albatrosses on Oahu since 2003; the colony was the focus of her doctoral dissertation at the University of Hawaii, Manoa, which she completed last spring. (She now works on conservation projects as a biologist for hire.) In the course of her doctoral work, Young and a colleague discovered, almost incidentally, that a third of the pairs at Kaena Point actually consisted of two female birds, not one male and one female. Laysan albatrosses are one of countless species in which the two sexes look basically identical. It turned out that many of the female-female pairs, at Kaena Point and at a colony that Young's colleague studied on Kauai, had been together for 4, 8 or even 19 years — as far back as the biologists' data went, in some cases. The female-female pairs had been incubating eggs together, rearing

chicks and just generally passing under everybody's nose for what you might call "straight" couples.

Young would never use the phrase "straight couples." And she is adamantly against calling the other birds "lesbians" too. For one thing, the same-sex pairs appear to do everything male-female pairs do *except* have sex, and Young isn't really sure, or comfortable judging, whether that technically qualifies them as lesbians or not. But moreover, the whole question is meaningless to her; it has nothing to do with her research. " 'Lesbian,' " she told me, "is a human term," and Young — a diligent and cautious scientist, just beginning to make a name in her field — is devoted to using the most aseptic language possible and resisting any tinge of anthropomorphism. "The study is about albatross," she told me firmly. "The study is not about humans." Often, she seemed to be mentally peer-reviewing her words before speaking.

A discovery like Young's can disorient a wildlife biologist in the most thrilling way — if he or she takes it seriously, which has traditionally not been the case. Various forms of same-sex sexual activity have been recorded in more than 450 different species of animals by now, from flamingos to bison to beetles to guppies to warthogs. A female koala might force another female against a tree and mount her, while throwing back her head and releasing what one scientist described as "exhaled belchlike sounds." Male Amazon River dolphins have been known to penetrate each other in the blowhole. Within most species, homosexual sex has been documented only sporadically, and there appear to be few cases of individual animals who engage in it exclusively. For more than a century, this kind of observation was usually tacked onto scientific papers as a curiosity, if it was reported at all, and not pursued as a legitimate research subject. Biologists tried to explain away what they'd seen, or dismissed it as theoretically meaningless — an isolated glitch in an otherwise elegant Darwinian universe where every facet of an animal's behavior is geared toward reproducing. One primatologist speculated that the real reason two male orangutans were fellating each other was nutritional.

In recent years though, more biologists have been looking objectively at same-sex sexuality in animals — approaching it as real science. For Young, the existence of so many female-female albatross pairs disproved assumptions that she didn't even realize she'd been making and, in the process, raised a chain of progressively more complicated questions. One of the prickliest, it seemed, was how a scientist is even supposed to talk about any of this, given how eager the rest of us have been to twist the sex lives of animals into allegories of our own. "This colony is literally the largest proportion of — I don't know what the correct term is: 'homosexual animals'? — in the world," Young told me. "Which I'm sure some people think is a great thing, and others might think is not."

It was a guarded understatement. Two years ago, Young decided to write a short paper with two colleagues on the female-female albatross pairs. "We were pretty careful in the original article to plainly and simply report what we found," she said. "It's definitely a little bit of a tricky subject, and one you want to be gentle on." But the journal that published the paper, *Biology Letters*, sent out a press release a few days after the California Supreme Court legalized gay marriage. At 6 the next morning, a Fox News reporter called Young on her cellphone. The resulting story joined others, including one in this paper, and as the news ricocheted around the Internet, a stampede of online commenters alternately celebrated Young's findings as a clear call for equality or denigrated them as "pure propaganda and selective science at its dumbest" and "an effort to humanize animals or devolve humans to the level of animals or to further an agenda." Many pointed out that animals also rape or eat their young; was America going to tolerate that too, just because it's "natural"?

A Denver-based publication for gay parents welcomed any and all new readers from "the extensive lesbian albatross parent community." The conservative Oklahoma senator Tom Coburn highlighted Young's paper on his Web site, under the heading "Your Tax Dollars at Work," even though her study of the female-female pairs was not actually federally financed. Stephen Colbert warned on Comedy Central that "albatresbians" were threatening American family values with their "Sappho-avian

agenda.” A gay rights advocate e-mailed Young, asking her to fly a rainbow flag above each female-female nest, to identify them and show solidarity. Even now, the first thing everyone wants to know from Young — sometimes the only thing — is, what do these lesbian albatrosses say about us?

“I don’t answer that question,” she told me.

A FEMALE LAYSAN albatross is physically capable of laying only one egg per year — that’s just how it’s built. Nevertheless, since as early as 1919, biologists have periodically found nests of albatrosses (and similar species of birds) with two eggs inside them, or with a second egg just outside, as if it had rolled out. (This will inevitably happen; there’s simply not enough room in the nest for two eggs and one Laysan albatross.) Scientists have a term for the phenomenon of extra eggs in a nest: a “supernormal clutch.” But in the case of the albatross, they never had a watertight explanation.

In the early 1960s, one ornithologist tried to put the whole cumbersome mystery to rest by asserting that some of those female birds must simply be able to lay multiple eggs. The claim was apparently based on sketchy data, but supernormal clutches were so rare that it was hard to rack up enough observations to disprove the hypothesis. Real progress was finally made in 1968, when Harvey Fisher, a dean of midcentury albatross science, reported on seven years of daily observations made at 3,440 different nests on the Midway atoll in the middle of the Pacific. Fisher concluded that “two eggs in a nest are an indication that two females used the nest, although at different times.” He was describing “egg dumping,” whereby, for example, an inexperienced female accidentally lays her egg in the wrong nest. From then on, egg dumping was a default explanation for supernormal clutches in albatrosses. After all, Fisher had also declared that “promiscuity, polygamy and polyandry are unknown in this species.” Lesbianism apparently never occurred to anyone — even enough to be cursorily dismissed. As Brenda Zaun recently told me, “It never dawned on anyone to sex the birds.”

Zaun, a biologist with the U.S. Fish and Wildlife Service, was studying a Laysan colony on Kauai 40 years after Fisher's publication. She realized that certain nests there seemed to wind up with two eggs in them year after year; the distribution of the supernormal clutches wasn't random, as it would presumably be if it were caused exclusively by egg dumping. On a hunch, Zaun pulled feathers from a sample of the breeding pairs associated with two-egg nests and sent them to Lindsay Young, asking her to draw DNA from the feathers and genetically determine the sexes of those birds in her lab. When the results showed that every bird was female, Young figured she'd messed up. So she did it again — and got the same result. Then she genetically sexed every bird at Kaena Point. "Where it wasn't totally clear, or I worried that maybe I mixed up the sample, I actually went back into the field and took new blood samples to do it again," Young told me. In the end, she genetically sexed the birds in her lab four times, just to be sure. She found that 39 of the 125 nests at Kaena Point since 2004 belonged to female-female pairs, including more than 20 nests in which she'd never noticed a supernormal clutch. It seemed that certain females were somehow finding opportunities to quickly copulate with males but incubating their eggs — and doing everything else an albatross does while at the colony — with other females.

Young gave a talk about these findings at an international meeting of Pacific-seabird researchers. "There was a lot of murmuring in the room," she remembers. "Then, afterward, people were coming up to me and saying: 'We see supernormal clutches all the time. We assumed it was a male and a female.' And I'd say: 'Yeah? Well, you might want to look into that.' " Recently, journals have asked her to confidentially peer-review new papers about other species, describing similar discoveries. "I can't say which species," she explains, "but my guess is, in the next year, we're going to see a lot more examples of this."

It may seem surprising that scientists sometimes don't know the true sexes of the animals they spend their careers studying — that they can be tripped up in some "Tootsie" -like farce for so long. But it's easy to underestimate the pandemonium that they're struggling to interpret in the wild. Often, biologists are forced to assign sexes to

animals by watching what they do when they mate. When one albatross or boar or cricket rears up and mounts a second, it would seem to be advertising the genders of both. Unless, of course, that's not the situation at all.

“There is still an overall presumption of heterosexuality,” the biologist Bruce Bagemihl told me. “Individuals, populations or species are considered to be entirely heterosexual until proven otherwise.” While this may sound like a reasonable starting point, Bagemihl calls it a “heterosexist bias” and has shown it to be a significant roadblock to understanding the diversity of what animals actually do. In 1999, Baghemihl published “Biological Exuberance,” a book that pulled together a colossal amount of previous piecemeal research and showed how biologists’ biases had marginalized animal homosexuality for the last 150 years — sometimes innocently enough, sometimes in an eruption of anthropomorphic disgust. Courtship behaviors between two animals of the same sex were persistently described in the literature as “mock” or “pseudo” courtship — or just “practice.” Homosexual sex between ostriches was interpreted by one scientist as “a nuisance” that “goes on and on.” One man, studying Mazarine Blue butterflies in Morocco in 1987, regretted having to report “the lurid details of declining moral standards and of horrific sexual offenses” which are “all too often packed” into national newspapers. And a bighorn-sheep biologist confessed in his memoir, “I still cringe at the memory of seeing old D-ram mount S-ram repeatedly.” To think, he wrote, “of those magnificent beasts as ‘queers’ — Oh, God!”

“What Bagemihl’s book really did,” the Canadian primatologist and evolutionary psychologist Paul Vasey says, “is raise people’s awareness around the fact that this occurs in quote-unquote nature — in animals. And that it can be studied in a serious, scholarly way.” But studying it seriously means resolving a conundrum. At the heart of evolutionary biology, since Darwin, has been the idea that any genetic traits and behaviors that outfit an animal with an advantage — that help the animal make lots of offspring — will remain in a species, while ones that don’t will vanish. In short, evolution gradually optimizes every animal toward a single goal: passing on its genes. The Yale ornithologist Richard Prum told me: “Our field is a lot like economics: we have a core of

theory, like free-market theory, where we have the invisible hand of the market creating order — all commodities attain exactly the price they're worth. Homosexuality is a tough case, because it appears to violate that central tenet, that all of sexual behavior is about reproduction. The question is, why would anyone invest in sexual behavior that isn't reproductive?" — much less a behavior that looks to be starkly counterproductive. Moreover, if animals carrying the genes associated with it are less likely to reproduce, how has that behavior managed to stick around?

Given this big umbrella of theory, the very existence of homosexual behavior in animals can feel a little like impenetrable nonsense, something a researcher could spend years banging his or her head against the wall deliberating. The difficulty of that challenge, more than any implicit or explicit homophobia, may be why past biologists skirted the subject.

IN THE LAST DECADE, however, Paul Vasey and others have begun developing new hypotheses based on actual, prolonged observation of different animals, deciphering the ways given homosexual behaviors may have evolved and the evolutionary role they might play within the context of individual species. Different ideas are emerging about how these behaviors could fit within that traditional Darwinian framework, including seeing them as conferring reproductive advantages in roundabout ways. Male dung flies, for example, appear to mount other males to tire them out, knocking them out of competition for available females. Researchers speculate that young male bottlenose dolphins mount one another simply to establish trust and form bonds — but those bonds actually turn out to be critical to reproduction, since when males mature, they work in groups to cooperatively gain access to females.

These ideas generally aim to explain only particular behaviors in a particular species. So far, the only real conclusion this relatively small body of literature seems to point to, collectively, is a kind of deflating, meta-conclusion: a single explanation of homosexual behavior in animals may not be possible, because thinking of "homosexual behavior in animals" as a single scientific subject might not make much sense. "Biologists want to

build these unified theories to explain everything they see,” Vasey told me. So do journalists, he added — all people, really. “But none of this lends itself to a linear story. My take on it is that homosexual behavior is not a uniform phenomenon. Having one unifying body of theory that explains why it’s happening in all these different species might be a chimera.”

The point of heterosexual sex, Vasey said, no matter what kind of animal is doing it, is primarily reproduction. But that shouldn’t trick us into thinking that homosexual behavior has some equivalent, organizing purpose — that the two are tidy opposites. “All this homosexual behavior isn’t tied together by that sort of primary function,” Vasey said. Even what the same-sex animals are doing varies tremendously from species to species. But we’re quick to conceive of that great range of activities in the way it most handily tracks to our anthropomorphic point of view: put crassly, all those different animals just seem to be doing gay sex stuff with one another. As the biologist Marlene Zuk explains, we are hard-wired to read all animal behavior as “some version of the way people do things” and animals as “blurred, imperfect copies of humans.”

When I visited Zuk at her lab at the University of California at Riverside last December, an online video clip of an octopus carrying a coconut shell around the seafloor, and periodically hiding under it, was starting to go viral. For a few days, people everywhere were flipping out about how intelligent and wily this octopus was. Not Zuk, though. “Oh, spare me,” she said. To us, Zuk explained, that octopus’s behavior reads as proof that “octopuses are at one with humans” because it just happens to look like something we do — how a toddler plays peekaboo under a blanket, say, or a bandit ducks into an alleyway dumpster to avoid the cops. But the octopus doesn’t know that. Nor is it doing something so uncommon in the animal world. Zuk explained that caddis-fly larvae collect rocks and loam them together into intricate shelters. “But for some reason we don’t think that’s cool,” she said, “because the caddis-fly larvae don’t have big eyes like us.”

Something similar may be happening with what we perceive to be homosexual sex in an array of animal species: we may be grouping together a big grab bag of behaviors based on only a superficial similarity. Within the logic of each species, or group of species, many of these behaviors appear to have their own causes and consequences — their own evolutionary meanings, so to speak. The Stanford biologist Joan Roughgarden told me to think of all these animals as “multitasking” with their private parts.

It’s also possible that some homosexual behaviors don’t provide a conventional evolutionary advantage; but neither do they upend everything we know about biology. For the last 15 years, for example, Paul Vasey has been studying Japanese macaques, a species of two-and-a-half-foot-tall, pink-faced monkey. He has looked almost exclusively at why female macaques mount one another during the mating season. Vasey now says he is on to the answer: “It isn’t functional,” he told me; the behavior has no discernible purpose, adaptationally speaking. Instead, it’s a byproduct of a behavior that does, and the supposedly streamlining force of evolution just never flushed that byproduct from the gene pool. Female macaques regularly mount males too, Vasey explained, probably to focus their attention and reinforce their bond as mates. The females are physically capable of mounting any gender of macaque. They’ve just never developed an instinct to limit themselves to one. “Evolution doesn’t create perfect adaptations,” Vasey said. As Zuk put it, “There’s a lot of slop in the system — which,” she was sure to add, “is not the same as saying homosexuality is a mistake.”

ABOUT TWO DOZEN birds were knocking around when Lindsay Young and I arrived at Kaena Point one afternoon. Young dished about a few of them — “Her mate didn’t show up last year”; “God, this one’s annoying” — as they waddled by. Laysan albatrosses are not nearly as graceful on land as they are in the air; even they seem surprised by the size of their feet. (Later that week, at a nearby resort, I would recognize their gait while watching an out-of-shape snorkeler toddle back to his beach towel in rented flippers.) “I’m just writing down who’s here,” Young said, reading the numbers on the birds’ leg bands and marking them on her clipboard. After trying and failing to get a clear view of

one bird's leg with binoculars, she finally just walked to within a few feet of the animal and leaned over to look.

This is the luxury of studying Laysan albatrosses. Having evolved with no natural predators, the birds have no fight-or-flight instinct — you can basically go right up to one and grab it. In fact, Young did just this a short while later, slinking up to a male on all fours, sweeping it in by its flank and, in one expert motion, straightjacketing the wings under one arm and clamping the beak shut in her other hand. Then, she walked over and handed the thing to me; she needed to take an expensive tracking device off the bird's ankle. "Sorry, but it's like watching a thousand-dollar bill fly around," she said. She took some pliers from her backpack to twist off the anklet and, as I stood bear-hugging the albatross, she added: "They have a nice smell. It's a little musty."

Young and Marlene Zuk are now applying for a 10-year National Science Foundation grant to continue studying the female albatross pairs. One of the first questions they want to answer is how these birds are winding up with fertilized eggs. Typically, albatrosses fend off birds who aren't their mates. So Young has been trying to determine if males who arrive back at the colony before their own partners do are forcing themselves on these females or whether these females are somehow "soliciting" the males for sex. She was staking out Kaena Point on a daily basis, trying to watch these illicit copulations unfold for herself. This was Young's third year; so far, she'd only managed to see it happen twice.

Young and I ambled around for half an hour, maybe more. Then she pointed and, in a monotone, said, "So, that's a female-female pair." We crouched and watched the two birds, numbers 169 and 983. They sat under a spindly, native Hawaiian naio bush. They made *baa* sounds at each other. After a while, Young and I got up.

Another hour passed. (Usually, Young brings along a camping chair.) Occasionally, albatrosses danced in groups of two or three, raising their necks, groaning like vibrating cellphones, clacking their beaks or stomping. But most of the time, they didn't do much at all. "I've spent a lot of my career watching animals not have sex," Zuk later told me.

Multimedia

Homosexual activity is often observed in animal populations with a shortage of one sex — in the wild but more frequently at zoos. Some biologists anthropomorphically call this “the prisoner effect.” That’s basically the situation at Kaena Point: there are fewer male albatrosses than females (although not every male albatross has a mate). Because it takes two albatrosses to incubate an egg, switching on and off at the nest, a female that can’t find a male (or maybe, Young says, who can’t find “a good-enough male”) has no chance of producing a chick and passing on her genes. Quickly mating with an otherwise-committed male, then pairing with another single female to incubate the egg, is a way to raise those odds.

Still, pairing off with another female creates its own problems: nearly every female lays an egg in November whether she has managed to get it fertilized or not, and the small, craterlike nests that albatross pairs build in the dirt can accommodate only one egg and one bird. So Young was also trying to figure out how a female-female pair decides which of its two eggs to incubate and which to chuck out of the nest — if the birds are deciding at all, and not just knocking one egg out accidentally. From a strict Darwinian perspective, Young told me, “it doesn’t pay for one bird to incubate the other’s egg unless her partner is going to let her egg be incubated the following year.” But presumably, neither female bird knows whether an egg is hers or the other bird’s, much less whether it’s fertilized or not. A Laysan albatross just knows to sit on whatever’s under it. “They’ll incubate anything — I have a photo of one incubating a volleyball,” Young said.

And these were only preambles to more questions. With the male of an albatross pair replaced by another female, every step of the species’ normal, well-honed process for fledging a chick seemed suddenly to present a fresh dilemma. Ultimately, either the rules of albatrossdom were breaking down and the lesbian couples were booting up some alternate suite of behaviors, governed by its own set of rules, or else science had never thoroughly understood the rules of albatrossdom to begin with. And that’s the whole point, for Young: it’s the complexity and apparent flexibility of the species that

fascinates her — the puzzle those female-female pairs create at Kaena Point just by existing. She's not trying to explain homosexual behavior. She's trying to explain the albatross. And that's why the rest of the world's politicized reaction to her work caught her by surprise.

Many people who contacted Young after the publication of her first albatross paper assumed she was a lesbian. She is not. Young's husband, a biological consultant, was actually an author of the paper, along with Brenda Zaun (who is also not gay, for what it's worth). Young found the assumption offensive — not because she was being mistaken for gay, but because she was being mistaken for a bad scientist; these people seemed to presume that her research was compromised by a personal agenda. Still, some of the biologists doing the most incisive work on animal homosexuality are in fact gay. Several people I spoke to told me their own sexual identities either helped spur or maintain their interest in the topic; Bruce Bagemihl argued that gay and lesbian people are “often better equipped to detect heterosexist bias when investigating the subject simply because we encounter it so frequently in our everyday lives.” With a laugh, Paul Vasey told me, “People automatically assume I'm gay.” He is gay, he added, but that fact didn't seem to detract from his amusement.

IN RETROSPECT, the big, sloshing stew of anthropomorphic analyses that Young's paper provoked in the culture couldn't have been less surprising. For whatever reason, we're prone to seeing animals — especially animals that appear to be gay — as reflections, models and foils of ourselves; we're extraordinarily, and sometimes irrationally, invested in them.

Only a few months before I visited Kaena Point, two penguins at the San Francisco Zoo became the latest in a tradition of captive same-sex penguin couples making global headlines. After six years together — in which the two birds even fostered a son, named Chuck Norris — the penguins split up when one of the males ran off with a female named Linda. The zoo's penguin keeper, Anthony Brown, told me he received angry e-mail, accusing him of separating the pair for political reasons. “Penguins make their own

decisions here at the San Francisco Zoo,” Brown assured me. And while he stressed that there is no scientific way of determining if animals are “gay,” because the word connotes a sexual orientation, not just a behavior, he also noted that, being the San Francisco Zoo, “there’s definitely a lot of opinion here, internally, that we give in and call the penguins gay.” Another male-male penguin couple who fostered a chick at the Central Park Zoo was subsequently immortalized in 2005 in the illustrated children’s book “And Tango Makes Three.” According to the American Library Association, there have been more requests for libraries to ban “And Tango Makes Three” every year than any other book in the country, three years running.

What animals do — what’s perceived to be “natural” — seems to carry a strange moral potency: it’s out there, irrefutably, as either a validation or a denunciation of our own behavior, depending on how you happen to feel about homosexuality and about nature. During the Victorian era, observations of same-sex behavior in swans and insects were held up as evidence against the morality of homosexuality in humans, since at the dawn of industrialism and Darwinism, people were invested in seeing themselves as more civilized than the “lower animals.” Robert Mugabe and the Nazis have employed the same reasoning, as did the 1970s anti-gay crusader Anita Bryant, who, Bruce Bagemihl notes, claimed in an interview that “even barnyard animals don’t do what homosexuals do” and was unmoved when the interviewer pointed out what actually happens in barnyards. On the other hand, an Australian drag queen known as Dr. Gertrude Glossip has used Bagemihl’s book to create a celebratory, interpretive gay animal tour of the Adelaide zoo, marketed to gay and lesbian tourists. The book has also been cited in a 2003 Supreme Court case that overturned a Texas state ban on sodomy and, similarly, in a legislative debate on the floor of the British Parliament.

James Essex, director of the Lesbian, Gay, Bisexual and Transgender Project at the American Civil Liberties Union, told me he has never incorporated facts about animal behavior into a legal argument about the rights of human beings. It’s totally beside the point, he said; people should not be discriminated against regardless of what animals do. (In her book, “Sexual Selections,” Marlene Zuk writes, “People need to be able to

make decisions about their lives without worrying about keeping up with the bonobos.”) That being said, Essex told me, polls show that Americans are more likely to discriminate against gays and lesbians if they think homosexuality is “a choice.” “It shouldn’t be the basis of a moral judgment,” he said. But sometimes it is, and gay animals are compelling evidence that being gay isn’t a choice at all. In fact, Essex remembers reading a brief mention of animal homosexual behavior during an anthropology class in college in the mid-’80s. “And as a closeted guy, it made a difference to me,” he told me. He remembers thinking: “Oh, hey, this is quote-unquote natural. This is normal. This is part of the normal spectrum of humanity — or life.”

But later in our conversation, Essex paused and stayed silent for a while. He was thinking like a lawyer again now, and found a hole in that line of reasoning. “I guess, some of these animals could actually be quote-unquote making a choice,” he said. How could we, as humans, ever know? “Huh,” he said. “I’m just stopping to think that through. I’m not quite sure what to do with that.” Essex had stumbled right back into what he originally identified as the underlying problem. Those wanting to discriminate against gays and lesbians may have roped the rest of us into an argument over what’s “natural” just by asserting for so long that homosexuality is not. But affixing any importance to the question of whether something is natural or unnatural is a red herring; it’s impossible to pin down what those words mean even in a purely scientific context. (Zuk notes that animals don’t drive cars or watch movies, and no one calls those activities “unnatural.”) In the end, there’s just no coherent debate there to have. Animal research demonstrating the supposed “naturalness” of homosexuality has typically been embraced by gay rights activists and has put their opponents on the defensive. At the same time, research interpreted — or, maybe more often, misinterpreted — to be close to pinpointing that naturalness in a specific “gay gene” can make people on both sides anxious in a totally different way.

In 2007, for instance, the University of Illinois neurobiologist David Featherstone and several colleagues, while searching for new drug treatments for Lou Gehrig’s disease, happened upon a discovery: a specific protein mutation in the brain of male fruit flies

made the flies try to have sex with other males. What the mutation did, more specifically, was tweak the fruit flies' sense of smell, making them attracted to male pheromones — mounting other males was the end result. To Featherstone, how fruit flies smell doesn't seem to have anything to do with human sexuality. "We didn't think about the societal implications — we're just a bunch of dorky biologists," he told me recently. Still, after publishing a paper describing this mutation, he received a flood of phone calls and e-mail messages presuming that he could, and would, translate this new knowledge into a way of changing people's sexual orientations. One e-mail message compared him with Dr. Josef Mengele, noting "the direct line that leads from studies like this to compulsory eradication of gay sexuality . . . whether [by] burnings at the stake or injections with chemical suppressants. You," the writer added, "just placed a log on the pyre." (Earlier that year, PETA and the former tennis star Martina Navratilova, among others, were waging similar attacks on a scientific study of gay sheep, presuming it was a precursor to developing a "treatment" for shutting off homosexuality in human fetuses.)

Still, many people who contacted Featherstone were actually grateful — for the same, baseless prospect. Some confessed struggling with feelings for members of the same sex and explained to him, very disarmingly, the anguish they'd been living with and the hope his fruit-fly study finally offered them. There were poignant phone calls from parents, concerned about their gay children. "I felt bad in a way," Featherstone told me. It was hard not to be moved, and he would try to explain the implications of his research, or lack thereof, politely. "But there's also this liberal, modern side of me that's like: 'Take it easy, lady. Let your son be your son.' "

Not long ago, more than two years after the publication of the fruit-fly paper, a woman wrote to Featherstone about her college-aged daughter. The daughter couldn't shake an attraction to other girls but honestly felt she'd never be able to bring herself to accept it either. She was now contemplating suicide. "She feels that she is losing herself," the mother wrote, "that sweet, innocent light that is within her." Like many who reached out to Featherstone, the woman and her daughter seemed to take for granted that

homosexuality was inborn — natural. Otherwise, the situation wouldn't feel so torturously unfair. The mother begged Featherstone to rethink his unwillingness to turn his fruit-fly research into a treatment. "We all deserve a choice," she wrote.

GRASPING FOR PARALLELS with animals can create emotional truths, though it usually results in slushy logic. It's naïve to slap conclusions about a given species directly onto humans.

But it's disingenuous to ignore the possibility of any connection. "A lot of zoologists are suspicious, I think, of applying the same evolutionary principles to humans that they apply to animals," Paul Vasey, the Japanese-macaque researcher, told me. There's an understandable tendency among some scientists to play down those links to stave off ideological misreading and controversy. "But broadly speaking, research on animals can inform research on humans," Vasey says. What we learn about one species can expand or reorient our approach to others; a well-supported finding about one animal's behavior can generate new hypotheses worth testing in another. "My research on Japanese macaques might influence how someone conducts their research on octopus, or their research on moose. Or their research on humans," he said. In fact, it has influenced Vasey's own research on humans.

Since 2003, in addition to his investigation of female-female macaque sex, Vasey has also been studying a particular group of men in Samoa. "Westerners would consider them the equivalent of gay guys, I guess," he told me — they're attracted exclusively to other men. But they're not considered gay in Samoa. Instead, these men make up a third gender in Samoan culture, not men or women, called *fa'afafine*. (Vasey warned me that mislabeling the fa'afafine "gay" or "homosexual" in this article would jeopardize his ability to work with them in the future: while there's no stigma attached to being fa'afafine in Samoan culture, homosexuality is seen as different and often repugnant, even by some fa'afafine.)

In a paper published earlier this year, Vasey and one of his graduate students at the University of Lethbridge, Doug P. VanderLaan, report that fa'afafine are markedly more

willing to help raise their nieces and nephews than typical Samoan uncles: they're more willing to baby-sit, help pay school and medical expenses and so on. Furthermore, this heightened altruism and affection is focused only on the fa'afafine's nieces and nephews. They don't just love kids in general. They are a kind of superuncle. This offers support for a hypothesis that has been toyed around with speculatively since the '70s, when E. O. Wilson raised it: If a key perspective of evolutionary biology urges us to understand homosexuality in any species as a beneficial adaptation — if the point of life is to pass on one's genes — then maybe the role of gay individuals is to somehow help their family members generate more offspring. Those family members will, after all, share a lot of the same genes.

Vasey and VanderLaan have also shown that mothers of fa'afafine have more kids than other Samoan women. And this fact supports a separate, existing hypothesis: maybe there's a collection of genes that, when expressed in a male, make him gay but when expressed in a woman, make her more fertile. Like Wilson's theory, this idea was also meant to explain how homosexuality is maintained in a species and not pushed out by the invisible hand of Darwinian evolution. But unlike Wilson's hypothesis, it doesn't try to find a sneaky way to explain homosexuality as an evolutionary adaptation; instead, it imagines homosexuality as a byproduct of an adaptation. It's not too different from how Vasey explains why his female macaques insistently mount one another.

"What we're finding in Samoa now," Vasey told me, "is that it's not an either-or." Neither of the two hypotheses, on its own, can neatly explain the existence, or evolutionary contribution, of fa'afafine. "But when you put the two together," he said, "the situation becomes a whole lot more nuanced." It's significant that Vasey began his work in Samoa only after he'd gotten to the crux of the macaque situation. "The Japanese macaques," he told me, "in terms of my personal development, they raised my awareness of the possibility that homosexual behavior might not be an adaptation. I was more likely to put the two hypotheses together because I was just more sensitive, I guess, to the reality that the world . . . is organized so that adaptations and byproducts

of adaptations coexist and hinge and impinge on each other. Humans are just another species.”

Vasey and VanderLaan’s work in Samoa doesn’t come close to settling theoretical questions about homosexuality. But unlike many biologists I spoke to, Vasey still seemed at ease discussing the speculative and even philosophical ties between animal and human sexuality. He’s not concerned with how foolishly or maliciously his work might be misread. “If somebody wanted to make something out of it, they could,” Vasey told me, “but they’d just look like some kind of misinformed hillbilly.”

Thus far, interpretations of his latest paper on the fa’afafine have been wildly contradictory but all equally overconfident. “New Gay Study Will Make Anti-Gay Activists Cry Uncle,” one blog headline read. Another claimed, “Darwinian Fundamentalists Desperate to Rationalize Homosexuality,” and cleared the way for a commenter to somehow bemoan Vasey’s findings as “justification” for gay men “to sexually abuse their nephews.”

“**THERE’S TWO** mating right there,” Lindsay Young called out.

They were right below her, 10 yards away on a flat, vegetated ridge. It was late afternoon. One albatross lay on its stomach, wobbling with its wings pulled back — the way penguins slide over ice — while a second stood upright behind it, fat rippling down its telescoping neck, as it pumped its pelvis. “That looks pretty standard,” Young said.

The birds carried on for a while. Then the male shivered and retracted. The female came to her feet and walked off. Young read the female’s leg band with her binoculars. “You just hit the jackpot,” she told me. The bird was part of a female-female pair. The male had another mate.

Young started scribbling notes, and we sat there rapidly rehashing the details. The sex didn’t seem forced at all. In a rape, Young said — which, for all the talk of albatross monogamy, is not uncommon in the species — a male will pin a female’s neck to the

ground, or back her into a bush to tangle her up. (One study observed four different gangs of males forcing themselves on a single female, which lost an eye in the process.) But these two birds hardly seemed in a rush. Young made more notes. Then, with the male bird frozen right where he'd been left, the female slapped her rubbery feet on the ground, caught an updraft and disappeared over the ocean.

The next morning, Young still seemed to be assuring herself that her interpretation of what we'd seen was reasonable. "We didn't see how it started, but how it ended looked . . ." — she searched for a precise, nonanthropomorphic phrase. She couldn't really find one, and let out a self-effacing laugh. "Mutually beneficial?" she said. "I don't know!"

Dave Leonard, a friend of Young's, was tagging along. Leonard — tall, lanky and tan, with a ponytail and a few days of scruff — is an ornithologist but works a desk job now for a state wildlife agency and seemed to be enjoying a morning outside. He brandished a gigantic telephoto lens in all directions and had trouble recovering after realizing he'd forgotten to pack his binoculars. Leonard knows his birds, but he was here as a bird lover, not a bird researcher, and wasn't overly concerned with scientific detachment. When Young pointed out a male albatross whinnying at every female that passed overhead, Leonard shook his head and joked, "I feel your pain, dude."

Eventually, Young spotted a female from one of the female-female pairs calling to a male about 15 feet away. The female was standing right where the male and his partner usually build their nest. Her head was straight up in the air, and she clapped her beak animatedly. In Young's experience, it was rare for a bird to call so determinedly to another that's not her partner; this would definitely count as "solicitation," she said, if the two birds wound up copulating. "Pull up a rock," she told me and Leonard.

We sat on the ground expectantly for a while. Eventually, the male albatross took a few steps toward the calling female. Then it stopped and looked around. It was comical, given the circumstances.

“ ‘Will anyone see me if I cheat?’ ” Young said. “I’m not sure if he’s taking her up on it, or just going, ‘Why are you in my spot?’ ” She was doing the bird’s interior monologue, narrating for one blameless, anthropomorphic moment.

The male stopped again and tucked his beak into the feathers behind his neck. Then he turned around and retreated. The taut sexual anticipation — at least as felt by us three humans — seemed to let up. “Well, his partner should be very proud of the self-control,” Young said. Then she said, “I know when to cut my losses,” gathered up her backpack and clipboard full of hard-earned data and trudged off to watch some other birds.

MORE THAN 4,000 miles across the Pacific, at a place called Taiaroa Head in southeastern New Zealand, two female Royal albatrosses (a related species) were building their nest. Later that winter, those two birds would become one of only a few known female-female pairs to successfully fledge a chick at Taiaroa Head in more than 60 years of continuous observation of the colony. (Two years before, the same two birds had engaged in a threesome, presiding over a single nest with the help of one male — just another “alternative mating strategy” albatrosses sometimes engage in, it turns out.)

The tourism board of Dunedin, a gay-friendly region of New Zealand, held a publicity-grabbing contest to name the “lesbian albatross” couple’s chick. For months, as the paired females incubated their egg, a press officer at Tourism Dunedin issued releases, and news organizations around the world, from England to India, ran with the story. The P.R. woman also tried to interest me in a story about a flightless kakapo bird in the region named Sirocco who’d recently made a memorable appearance on the BBC — “He actually started to shag the presenter, Mark Carwardine!” she wrote to me — and “has avid followers on Facebook and Twitter!”

A biologist working with the albatrosses at Taiaroa Head, Lyndon Perriman, seemed to bristle at the idea of naming any albatrosses — “They are wild birds,” he wrote to me in an e-mail message. He noted that the female-female pair made for an inconvenient tourist attraction because their nest was not visible from any of the public viewing areas.

It seemed fitting: people's ideas about the couple were riveting enough; it wasn't necessary to see the actual birds. The chick hatched on Feb. 1. Tourism Dunedin named it Lola. The shortlist also included Rainbow, Lady Gagabatross and Ellen.

Jeff Koons photographed this series of conceptual images for an article on the science of same-sex pairings in animals.









