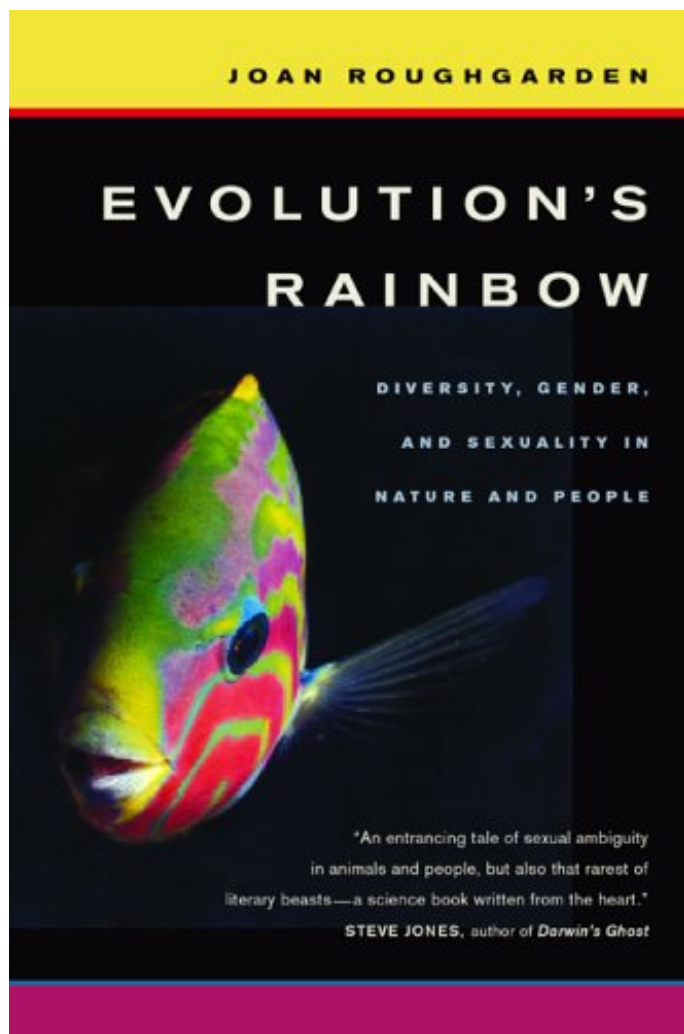

Joan Roughgarden

Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People



Title: Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People

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Description

In this innovative celebration of diversity and affirmation of individuality in animals and humans, Joan Roughgarden challenges accepted wisdom about gender identity and sexual orientation. A distinguished evolutionary biologist, Roughgarden takes on the medical establishment, the Bible, social science—and even Darwin himself. She leads the reader through a fascinating discussion of diversity in gender and sexuality among fish, reptiles, amphibians, birds, and mammals, including primates. *Evolution's Rainbow* explains how this diversity develops from the action of genes and hormones and how people come to differ from each other in all aspects of body and behavior. Roughgarden reconstructs primary science in light of feminist, gay, and transgender criticism and redefines our understanding of sex, gender, and sexuality. Witty, playful, and daring, this book will revolutionize our understanding of sexuality.

Roughgarden argues that principal elements of Darwinian sexual selection theory are false and suggests a new theory that emphasizes social inclusion and control of access to resources and mating opportunity. She disputes a range of scientific and medical concepts, including Wilson's genetic determinism of behavior, evolutionary psychology, the existence of a gay gene, the role of parenting in determining gender identity, and Dawkins's "selfish gene" as the driver of natural selection. She dares social science to respect the agency and rationality of diverse people; shows that many cultures across the world and throughout history accommodate people we label today as lesbian, gay, and transgendered; and calls on the Christian religion to acknowledge the Bible's many passages endorsing diversity in gender and sexuality. *Evolution's Rainbow* concludes with bold recommendations for improving education in biology, psychology, and medicine; for democratizing genetic engineering and medical practice; and for building a public monument to affirm diversity as one of our nation's defining principles.

Insightful reviews

Danny: Roughgarden is incredibly biased, and she admits as much from the get-go. Nonetheless, there were many moments during this book that her clear sense of bias made me question the validity of the claims she was making. Some chapters in particular seemed to be included so that she could share her opinions on a given topic that didn't necessarily feel as if it contributed to her overall arguments.

This book is dense and she covers a lot of ground. It's a good read, but be sure to get a degree in biology first. Some of the information in here and really important and I hope that someday a more accessible version of this material is published.

Andre: All in all a very informative book. Compared to what it covers albeit very short of course. Many of the information regarding the different genders in many species is very interesting. However, I don't agree with everything and especially her definition of what defines a genetic disease is a bit naive in my eyes and only applicable under the conditions of natural selection. In animal breeding many breeders could claim that all those degenerations are adaptive and bind the animals closer to them, no matter how many other sideeffects these traits cause. Furthermore you could say in such a case that the traits can't be defects because they are so

common. With her definition you could fully justify the breeding of flat-faced pugs and too small Pekinese.

Kendra: A lot of interesting information. Most of the first half of the book is about animal and plant sexuality, a bit much. The information on Native Americans and other non-Christianized peoples of the world was ver interesting.

Becca: I had a few severe ambivalence approximately this book. Ultimately, it truly is an incredibly bold ebook with a wide scope, aiming to be one of many significant items of gender and intercourse literature for numerous groups, together with biologists, educators, trans, intersex/people with adjustments in sexual improvement and genderqueer individuals, queer teams debating even if to incorporate trans issues, politicians and doctors. So the truth that it used to be a bit susceptible on a few of these fronts used to be to be anticipated and can't be stated to detract from the general groundbreaking nature of the book. The e-book is prepared into 3 parts: gender, intercourse and sexual orientation in animal organisms; gender, intercourse and sexual orientation in people, and finally, the background of gender edition in human societies. Not surprisingly, on condition that Dr. Roughgarden is an organismal biologist, the 1st half is via a ways the strongest. And it isn't simply powerful relative to the remainder of the book, it truly is actually a superlative work. It explores first the biologic definition of intercourse and speculates approximately species within which there will be greater than sexes at the foundation of variety of gamete dimension in different identified species. She then is going directly to talk about hemaphroditism (sequential and simultaneous.) i did not locate a lot of this novel, most likely simply because I examine myself slightly of an novice ichthyologist, and every one of these early examples concerned reef creatures i used to be already well-known with, yet Roughgarden nonetheless provides it in a manner that it really is compelling and flows good with the sooner part of the booklet on sex. the very best a part of the e-book is set gender in animal species: Roughgarden explores numerous species (mainly birds, lizards, fish and insects, initially) the range of gender roles and kin buildings that exist in several species. She speculates as to the evolutionary benefits of getting a variety of gender roles, in that it makes it possible for speedy reaction to moving environmental factors, and argues that it presents an elevated probability of offspring survival in different cases. Finally, in most cases primates, Roughgarden discusses comparable intercourse relationships within the animal kingdom, back arguing that very same intercourse relationships fill an evolutionary niche, by way of assisting negotiate alliances that bring up the opportunity of offspring survival. Importantly, in all of this, Roughgarden is particularly transparent that exploration of gender, intercourse and sexual orientation variance in animals is critical for our figuring out of diversity, yet she doesn't argue that LGBT humans could be supported as a result of prevalence of parallel qualities in animals, yet really simply because it is ethical to aid them. She explicitly states that a lot of animal habit shouldn't be approved in people and masses of human habit that's priceless isn't present in animals. i believe caution humans of ways effortless the naturalistic fallacy will be the following and actively discouraging her readers from failing for it was once either brave and intellectually honest. So ultimately, i've got purely gripes with this whole first part, and either are thoroughly semantic. One is that she consistently refers to her inspiration of the "genial gene" (genetic features that experience advanced to motivate interorganism cooperation in an effort to inspire survival of offspring and thereby bring up person reproductive fitness) as being in clash with the Dawkinsian concept of the "selfish gene" (genes evolve to extend survival of themselves.) those

should not in any respect in conflict. they're either in keeping with evolutionary biology because it is presently understood and the "selfish gene" speculation helps the evolution of genetic qualities which are "altruistic" in habit if that helps the growth of the gene within the population. the second one is that Roughgarden insists on bearing on genetic variety as a "genetic rainbow." in the midst of a story that's another way conversing approximately gametes, alleles, and different advanced biologic topics, instantly utilizing "rainbow" as a systematic noun is jarring and undermines Roughgarden's credibility. i do know that she desired to elevate readability, yet honestly, a person who will get via this primary part has the examining comprehension to appreciate the be aware "diversity."The subsequent components are rockier. I had the toughest challenge with the center part, during which Roughgarden makes numerous diversions. One is to criticize American drugs for overpathologizing humans specially with genetic conditions. She makes an issue that if a trait has a undeniable inhabitants frequency, it must never be that pathologic. This argument is technically true: for a given allele frequency, there's a certain at the impression on reproductive fitness, given a restricted de novo cost of mutation. However, this argument ignores the potential of heterozygote advantage, on condition that many (most?) of the stipulations that she argues as a result has to be invaluable or impartial are autosomal recessive. In addition, the dialogue of reproductive health isn't a price judgement -- one of many stipulations that she concurs has to be the main deleterious to reproductive fitness, entire androgen insensitivity, is a situation that i'd strongly argue shouldn't be pathologized: humans (usually women) with whole AIS require using complex reproductive expertise to have biologically gonads, simply because they've got sperm-producing gonads, woman genitalia and typically establish as women. that is an immense reproductive hit, yet an differently common person. at the different hand, she argues that salt-wasting congenital adrenal hyperplasia is overpathologized, and as a clinical geneticist, i will safeguard my correct to pathologize genetic stipulations that kill infants. She then extends herself to genetic stipulations more often than not (not simply transformations in sexual development) and generalizes that the hazards of genetic engineering, in addition to the moral hazards of selective reproductive know-how outweigh any gain to treating those patients, whom she claims are overpathologized. Again, i am sensitive, simply because this is often my job, which i've got a doctorate and large postdoctorate education in, yet I see young children die as a result of their "genetic trait, which isn't unavoidably a disease" and this can be very sad. i've got helped decide upon embryos that don't hold the genetic situation that their sibling died of and i am now not sorry. Dr. Roughgarden recommends on the finish that the FDA certify even if a is a ailment earlier than a physician can deal with it, and that i imagine this argument particularly showcases lack of understanding of the scientific paperwork and the problems involved: FDA approval is an exceptionally sluggish process, even now, sticking to foodstuff and Drugs, which there are transparent procedures for. The variety of simply human genetic illnesses is within the thousands. She herself makes use of examples of allelic stipulations the place at one finish there's transparent ailment and the opposite finish is extra a version of standard (such as AIS and CAH above.) I day-by-day see sufferers with alleles that experience by no means earlier than been reported. If i wanted FDA approval to determine a sufferer in my health center in line with their person allele, it can most likely take a decade for every sufferer to be approved! I want that Dr. Roughgarden have been given a chance to wait a clinical genetics clinic. i feel sleek scientific geneticist are usually considerate and steer clear of pointless pathologizing. i think that this is often easily a case the place Dr. Roughgarden, terrific as she sincerely is from the 1st chapter, isn't really as brand new on clinical genetics. To be clear: I consider her thoroughly that

sufferers with DSDs have been traditionally overpathologized and have been victimized via poorly thought of operative strategies, and that i remember that given her services in gender and intercourse she will be suspicious of the remainder of the field. I cherished different elements of this chapter: Dr. Roughgarden completely debunks the concept that there are giant gender adjustments in humans. She then reports the gender transformations which have been stated and places them into context for the reader. i wanted she may have long gone even extra into rejecting the concept there's clinical scaffolding for significant gender dimorphism in humans, yet she does speak about this a bit partially three, the place she explores numerous cultures that experience had a 3rd gender as a class for both individuals with DSDs or those who are trans. This half is a bit rocky, simply because at times, she imposes her different types at the narratives of the folks she is summarizing. even supposing she is careful, she occasionally makes use of pronouns or nouns which are gendered in a different way than what the individual used, claiming that the individual could have pointed out as fe/male had that society allowed it. at the whole, i discovered it rather attention-grabbing to examine the historical and geographic span that gender edition has occupied and inspiring to examine societies that have been mostly accepting of gender variation.

Ray: this was once my first publicity to evolutionary idea and it used to be remarkably effortless to follow. i skimmed many of the lengthy lists of examples yet i feel the writer did a good task getting throughout how vital and impressive organic variety is. she does not turn away from making radical statements approximately technology which i admire and it truly is fresh to work out a trans writer proportion her abilities in a possible unrelated area. you are going to by no means understand how many crops and animals are overall genderfuckers!

Kaliseviltwin: so as to recognize extra concerning the intercourse and gender problems with birds and fish than you even concept possible, this can be the ebook for you. I was once skeptical after the 1st bankruptcy of this ebook approximately no matter if the author's presentation of knowledge will be objective. even though the writer basically has an agenda, which she by no means attempts to hide, the assertions within the ebook are subsidized through technological know-how and reason. The innovations within the ebook firmly live in organic evolution. it truly is mercifully without the hot pattern of reading every thing in the course of the guise of "evolutionary psychology" (which turns out to have little to no clinical basis). utilizing a few animal learn studies, Roughgarden makes a compelling case opposed to Darwin's sexual choice idea and provides an alternate view on how and why intercourse and gender roles are adaptive. it really is truly a really smart and good piece of work.

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