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**“The Evolution of Beauty”:
Everything You Always Wanted(?) to Know about Duck Sex,
But Were Afraid to Ask**

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This past week included Charles Darwin’s birthday. He was born a little more than two hundred years ago on February 12, 1809. In recent years, his birthday has become known as [International Darwin Day](#), an annual opportunity to celebrate the principles that guided his life: “perpetual curiosity, scientific thinking, and hunger for truth.”

A tragedy of the ongoing “Creationism vs. Evolution” debate is that coming to terms with Darwin’s theories of natural selection and common descent were among the greatest intellectual challenges of the late nineteenth century. But we live in the early *twenty-first* century, long past the point at which basic tenets of evolution became settled science.

One reason that it is significant to celebrate Darwin Day in UU congregations is that both sides of Darwin’s family were “[largely Unitarian](#).” While it is true that Darwin was baptized in an Anglican Church, attended an Anglican boarding school, and was married by an Anglican priest—it is also the case that, growing up, both “Charles and his siblings attended the Unitarian chapel with their mother” and the liturgy used in his wedding to Emma Wedgwood was adapted to “suit the Unitarians” ([Desmond & Moore, 279](#)). We do tend to be notorious changers of liturgy!

Accordingly, some of our Unitarian and Universalist forebears were among the earliest religious leaders to embrace the paradigm-shifting implications of Darwin’s discoveries that **we humans are *not* a little lower than the angels, but rather “a little higher than the apes”** with

whom we share a common ancestor. And we now know that at the DNA level there is only a [1.23 percent difference between humans and chimpanzees](#). We humans are not uniquely special *creations*. Rather, we humans are one species among many *subspecies* within the Animal Kingdom, deeply interconnected with the other forms of life and their varied ecosystems on this Earth. And our UU [Seventh Principle](#) affirms the importance of “Respect for the interdependent web of all existence of which we are a part.”

Relatedly, I was interested to see a Gallup Poll a few months ago stating that **the percentage of the U.S. population reporting a belief in Creationism is at a new low:**

The percentage of U.S. adults who believe that God created humans in their present form at some time within the last 10,000 years or so — the strict creationist view — has reached a new low. Thirty-eight percent of U.S. adults now accept creationism, while 57% believe in some form of evolution — either God-guided or not — saying [humans] developed over millions of years from less advanced forms of life.

This growing shift toward an evidence-based worldview is good news. And these days, I’m glad to celebrate signs of hope wherever I can find them.

To give you a few more details from that poll, on one hand, it remains the case that, “Most Americans believe that God had a role in creating human beings, whether in their present form or as part of an evolutionary process over millions of years.” On the other hand, it is interesting to note that since 1982 when Gallup began asking this precise polling question, **“Agreement with the ‘secular’ viewpoint, meaning humans evolved from lower life forms without any divine intervention, has doubled”** from 9% to 19% of U.S. adults.

Of course, the challenge used to be greater. If we turn back the clock to Darwin’s own time, the percentage of people believing in Creationism was somewhere around 100%. And a part of the prevailing view that Darwin was challenging was a book titled *Essay on Classification*, a major work of creationism by the world-famous Harvard professor Louis Agassiz (1807-1873). Darwin called this book “utterly impractical rubbish!” In disparaging this book, I don’t think his primary intention was to be mean. (Well, maybe it was a little bit to be mean.) But more importantly, he called this allegedly important book “utterly impractical

rubbish” because it did not explain the natural world as Darwin had seen it through his close, detailed studies (20-21).

Along these lines, the most interesting book I have read recently about a contemporary scientist following in Darwin’s footsteps is *The Evolution of Beauty: How Darwin's Forgotten Theory of Mate Choice Shapes the Animal World - and Us* by Richard Prum, a professor of Ornithology at Yale University—meaning that he specializes in the study of birds. Dr. Prum won the MacArthur Genius Grant back in 2010, and *The New York Times* named this latest book from him on *The Evolution of Beauty* as one of the Top 10 Best Books of 2017.

To give you just one of many reasons why it is a fascinating read, during the time he was writing this book, Dr. Prum tells the story of being at a dinner party with his wife and a few other couples, most of whom they were meeting for the first time. When it came up that he was an ornithologist, one of the people around the table excitedly exclaimed, “You’re just the person I need to ask.” It turns out that one of the favorite books of her three boys was the classic children’s book titled *Make Way for Ducklings* by Robert McCloskey. As some of you have experienced with children and their favorite books, her boys had requested that she read it to them so many times that she basically had it memorized. And throughout all those re-readings, she said, the one part of the book that had always bothered her, is that after the Mallard ducks meet, build a nest, and the female lays her eggs, “It seems that they’re just getting started with a nice family together, but then he just takes off! What’s with that?”

Overhearing this question, Prum’s wife intervened from the other side of the table: “**You didn’t just ask my husband about duck sex, did you?**” The woman had unwittingly ask Prum about one of his particular areas of interest. To try to phrase this as delicately as possible, let’s just say that, just as his wife feared, the dinner table conversation that evening ended up being dominated by the surprisingly interesting amount there is to learn about—shall we say—duck mating anatomy and the sometimes disturbing nature of duck mating practices (149-150).

But ultimately the “Fifty Shades of Grey” behavior of water fowl are only a side project for Prum. His larger interest is in birds generally. And like Darwin before him, he is interested in following where the evidence leads about the world as it *actually is*, not as we think it is or are told it is. The philosopher Wittgenstein summarized this practice as “Don’t think! Look.” And we

UUs call it our 4th Principle: “A free and responsible search for truth and meaning.”

And for Prum, his decades-long practice of closely observing birds began at age ten. And he has been a committed bird-watcher ever since. He says, “My initial curiosity grew into obsession and then into a consuming passion.... I never really considered doing anything else in my life. Which is fortunate, because I am now unfit for any other sort of employment” (1-2).

I have never done any formal birdwatching, but I can understand the appeal from the perspective of a collector hunting to find previously unseen examples of whatever it is one is interested in collecting (2). In the case of the most dedicated bird watchers, “The ultimate goal of birding is to know all the birds of the world. All ten thousand plus species” (3).

And again, although I don’t know that much about bird watching, I have occasionally researched a bird that unexpectedly caught my attention. The most recent time this happened was a year or so ago when I was running around Culler Lake in downtown Frederick. Out of the corner of my eye, I spotted a fairly large bird that I had never seen before. It was maybe two feet long with a grayish-white body, blue-gray wings, red eyes, yellow legs, and the top of its head was black. I thought to myself, “What was that?” So I turned around, ran back a little bit, removed my iPhone from my armband, and posted a picture on social media, asking, “Does anyone know what bird this is?” By the time I was home from my run, more than one person had replied that it was a black-crowned night heron, which I now know are fairly frequently seen around Culler Lake at certain times of the year.

Now, some of you may be thinking, “What does birding have to do with evolution?” Well, Darwin is most famous for his theory of natural selection, which has been summarized as “survival of the fittest.” In other words, those members of a given species best adapted to their environment would be most likely to live long enough to mate and pass on their genes to the next generation.

But here’s where we come to an interesting twist in our story. Darwin saw not only “survival of the fittest” in the world, but also *beauty*. And Darwin famously wrote, “**The sight of a feather in peacock’s tail, whenever I gaze at it, makes me sick!**” Prum explains that, “The tail obviously did not help the male peacock to survive; if anything, the huge tail would be a hindrance, slowing him down and making him much more vulnerable to predators” (21). So how

do we explain the existence of the peacock's beautiful plumage, which is only one of among many examples of beauty in the Animal Kingdom?

To trace the evolution of Darwin's attempts to account for the world as it actually is, it can be helpful to note a longer version of his book title, which is often abbreviated. Darwin was not guilty of "buying the lede"; he put the major insights right there in his long titles. In 1859, he published his most famous book *On the Origin of Species by Means of Natural Selection*. And although his theory of natural selection explained some significant aspects of the world, complicating factors remained like the existence of those beautiful peacock feathers: "Because the extravaganza of its design seemed of no survival value whatsoever... the peacock's tail seemed to challenge everything Darwin had said in *On the Origin of Species*" (18).

A little more than a decade later in 1871, we can see his answer in the title of his next landmark book: *The Descent of Man, and Selection in Relation to Sex*. Although this book title is almost always abbreviated as *The Descent of Man*, that masks the second part of the title *Selection in Relation to Sex*—which is what Prum means with his book title The Evolution of Beauty: How Darwin's Forgotten Theory of Mate Choice Shapes the Animal World - and Us.

The upshot is that Darwin eventually realized that evolution was influenced not only by natural selection (the so-called "survival of the fittest"), but also by a second significant factor: beautiful or otherwise intriguing features that somehow attract mates. In many animal species **it is often the female who is more in control of choices related to this aspect of evolution**, a claim that was scandalous to the Victorian gender assumptions of Darwin's time (21).

So it turns out that in the billions-of-years-long history of evolution, not only does survival and utility happen, but "*beauty happens*" and "*pleasure happens*." Indeed, as Prum details in his book:

Evolution is frequently far quirkier, stranger, more historically contingent, individualized, and less predictable and generalizable than adaptation can explain.... Evolution can even be 'decadent'.... In pursuit of their subjective preferences, individuals can make mating choices that are *maladaptive*—resulting in a worse fit between the organism and its environment.... Natural selection alone cannot possibly explain the diversity, complexity, and extremity of the

sexual ornaments we see in nature. (10-11)

Darwin himself knew that to be the case, and Prum highlights that aspect of Darwin's work, augmented with all the additional insights we have in the twenty-first century.

Still, it is interesting to note that almost 150 years after Darwin published *The Descent of Man, and Selection in Relation to Sex* that the role of aesthetics in evolution is news—to the extent that a book popularizing this insight is named one of the top ten books of the year by *The New York Times*. Why don't readers of the *Times* already know this?

Part of the reason why this aspect of evolutionary science is less well known is that Darwin's theory of natural selection came first and continues to be a major source of controversy. And there is also an appeal in having the one simplistic explanation, resulting in a cottage industry of scientists trying to explain everything under the sun through the lens of natural selection alone.

Prum also points to another reason why the role of aesthetics in evolution has often been neglected: the emphasis this view puts on the power of the *female* members of the species. In Prum's words: "I don't think it was a coincidence that evolutionary biologists finally began to reconsider mate choice, particularly female mate choice, as a genuine evolutionary phenomenon at precisely that moment when women in the United States and Europe began to organize politically and to protest for equal rights, equal freedom, and access to birth control" (41). It further mattered that as larger numbers of biologists were women, the likelihood increased that attention would be paid to the particular roles of females in evolution.

More broadly, we are invited to see anew that more than 150 years after Darwin published *On the Origin of Species*, there continues to be so much more to learn about the implications of the evolutionary worldview. In that spirit, I will conclude with the final paragraph of that world-historic book. Note that Darwin first names things humanity might at first perceive as merely negatives—then shows how those very things are a necessary part of the engine of evolution. He invites us to consider how astounding the evolutionary worldview is:

from the war of nature,

from famine and death,

the most exalted object which we are capable of conceiving...

the production of the higher animals,
directly follows.

There is grandeur in this view of life...;

and whilst this planet has gone cycling on
according to the fixed law of gravity,
from so simple a beginning
endless forms
most beautiful and
most wonderful
have been,
and are being,
evolved.

Together, may we continue to navigate our way through the promises and perils of embracing the best of both spirituality and science—of both reason and religion—here in the twenty-first century.