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BOOK REVIEW

Blood, Gore, and Cuckoldry: A Review of Hugh Drummond (2023) *Blue-Footed Boobies: Sibling Conflict and Sexual Infidelity on a Tropical Island*

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"Animal behavior might explain human misbehavior."

–Drummond, 2023, p. 217

Hugh Drummond's *Blue-Footed Boobies: Sibling Conflict and Sexual Infidelity on a Tropical Island* is more than a comprehensive, scholarly account of the blue-footed booby. According to Drummond's friends and colleagues (p. xi), it is "the entire booby soap opera story", filled with "blood, gore, and cuckoldry", and "would make a good series for Netflix following up on *Game of Thrones*!" Replete with entertaining anecdotes and bouts of humor, *Blue-Footed Boobies* is a captivating natural soap opera spanning over 40 years and featuring a cast of over 23,000 blue-footed characters. However, Drummond tells an additional story: that of a behavioral ecologist's four-decade-long journey of naturalistic observation on Mexico's Isla Isabel. Throughout his book, which reads like a novel with a richly complex plot, Drummond does not merely feed data. Instead, readers are brought into Drummond's mind to experience each incremental idea and experimental step he and his team took to arrive at the detailed understanding we have today of the blue-footed booby.

All species of boobies (genus *Sula*), along with three species of gannets (genus *Morus*), comprise a family of medium-sized, plunge-diving marine birds called Sulidae (p. 17). Blue-footed boobies (*Sula nebouxii*) are one of seven species of boobies, distinguishable by their bright blue webbed feet, which readers can appreciate from the dozens of stunning, colored photos within the book. Throughout, Drummond's findings are interpreted in light of evolutionary theory and seminal work that drove the sociobiology revolution in the 1960s and 1970s (e.g., Dawkins 1976; Hamilton, 1964a, 1964b; Maynard Smith, 1974; Parker, 1979; Trivers, 1974; Williams, 1966; Wilson, 1975). However, readers need not be familiar with these seminal theories to appreciate the content Drummond presents. Drummond eloquently articulates important concepts in a manner that is digestible to all readers, without *over*simplifying them. When he reckons he may do so, he carefully states where he is sacrificing precision for readability. For instance, Drummond notes that his occasional use of mentalistic language when reporting observable behavior does not imply conscious intent or planning (p. 51). He admits that working around mentalistic language is tedious and sacrifices readability, but he is explicit about this so readers unfamiliar with behavioral ecology are not misled. Throughout his book, Drummond skillfully balances the trade-off between precision and digestibility, resulting in a story that can be appreciated by all readers.

In *Blue-Footed Boobies,* Drummond highlights three domains of booby conflict: between sibling chicks, between chicks and parents, and between mates. The first six chapters focus on conflict among blue-foot siblings, with close comparison to brown boobies (*Sula leucogaster*) as well as other avian and non-avian species. In Chapters 7 and 8, Drummond turns to sexual conflict between blue-foot mates. In the final chapter, Drummond reflects on his more than 40 years of blue-foot observation, with reference to the current literature on sibling conflict and sexual conflict in modern humans (*Homo sapiens*)—a thoughtful analysis that, depending on the reader, may excite or provoke. However, Drummond is clear in his approach: the data are the data, and readers are encouraged to draw their own conclusions about similarities between blue-footed boobies and humans.

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Boobies as Models of Human Family Conflict

> To illuminate our evolved behaviors, we habitually turn to our closest relatives—chimpanzees and bonobos—but for family conflict, blue-footed boobies are more relevant models and provide starker insights into our emotions and behavior.
> –Drummond, 2023, p. 2

The principal species highlighted in this book is the blue-footed booby, and Drummond's presentation of blue-foot behavior alone provides a worthwhile read. However, much of the family conflict experienced by boobies is similar to that of humans, and Drummond argues that boobies may be the best available comparative model of human family conflict. Of course, unlike humans, booby behavior is not governed by culturally constructed norms or laws. Boobies do not sign marriage certificates or divorce papers. Deserting males are not required to pay child support. Booby parents are not tried for child neglect or infanticide. Sibling abuse and siblicide are tolerated. The only laws by which booby behavior is governed are the laws of natural and sexual selection (Darwin, 1859, 1871)—laws from which humans are not exempt *despite* recent cultural and legal innovations over the last 10,000 or so years.

Avian species are useful comparative models of human evolution, with the last common ancestor estimated to have lived over 300 million years ago (Deakin & Ezaz, 2014), long before the last mammalian common ancestor, estimated to have lived approximately 180 million years ago (Damas et al., 2022). Because avian species are so distantly related to humans, comparative similarities are more likely to be analogous than homologous (Isbell, 2006), produced by convergent evolutionary processes reflecting similar adaptive challenges. Like many avian species and many humans, boobies reproduce in nuclear families, in which socially monogamous mothers and fathers rear and protect a small number of offspring. This nuclear family dynamic differs considerably from the female-dominated child care seen in modern humans' closest evolutionary relatives, chimpanzees and bonobos (p. 2). Although human cognitive architecture is more similar to that of closely related primates, the adaptive challenges coincident with human family dynamics might, as Drummond argues, be better modeled by boobies.

Blue-footed boobies are just one of thousands of avian species that reproduce in nuclear families. However, there are numerous reasons why this species is particularly well-suited for research on nuclear family conflict. First, the origin of the name *booby* is thought to be derived from the Spanish word *bobo*, which loosely translates to *foolish* or *stupid* (Cambridge University Press & Assessment, 2025). This perceived foolishness by early Spanish sailors (p. 17) may be attributable to boobies' large webbed feet, their amusing waddling gaits, or their unusual tolerance of nearby humans. In any case, this tolerance makes boobies convenient study participants because they can be easily observed and banded for individual longitudinal tracking. Boobies are also well-suited for longitudinal analyses because they live relatively long lives and are not migratory. Moreover, although boobies reside in large reproductive colonies, they are rarely socially involved with individuals outside their familial nest, barring altercations over nesting territory or group defenses against Hermann's gulls, the island's "street-wise gangsters" (p. 22). Thus, blue-footed boobies provide a straightforward model of conflict *within* nuclear families—the most harrowing of which is sibling violence.

Sibling Blood and Gore

> Nothing excites the rage of a booby chick as much as the lifted vibrating head of another chick; it must be toppled or bludgeoned into silence by a volley of pecks to the cranium, face, eyes, and nape, or indeed anywhere on its body.
> —Drummond, 2023, p. 1

Siblicide, or *cainism* (referring to the biblical story in which Adam and Eve's firstborn son, Cain, murders his younger brother, Abel; *King James Bible*, 1769/2025, Genesis 4:8), is common among boobies and is consistent with Hamiltonian principles of kin selection and inclusive fitness (Hamilton, 1964a, b). Natural selection does not necessarily favor traits that increase an organism's own reproductive fitness, but rather those that increase its *inclusive* fitness. As Drummond conveys, a booby (or human) should value the reproductive success of a given kin member to a degree commensurate with the amount of genetic material probabilistically shared with them. Because, on average, there is a 50% chance that any given gene is shared between siblings, a booby is likely to behave altruistically toward its sibling if the behavior benefits its sibling at least twice as much as it benefits itself.

Booby chicks, which typically come in pairs, hatch several days apart, giving firstborns (i.e., senior or Cain) a head start on maturation over secondborns (i.e., junior or Abel). In both blue-footed boobies and brown boobies, daily violence is common, primarily from seniors aimed at juniors. Several avian species lay more eggs than they can nutritionally support (Lack, 1947, 1954, 1968), and in conditions of normal or limited food supply, brood reduction is often in the reproductive interests of parents. However, when food availability is ample, juniors may be fledged alongside seniors, increasing the reproductive success of all parties. Blue-foot sibling violence is conditional on food availability, and seniors may allow juniors to fledge in favorable conditions. In

contrast, sibling violence in brown boobies is *un*conditional and occurs whenever the opportunity is presented. Drummond attributes this disparity to food shortage being greater among brown boobies than blue-footed boobies.

Whereas sibling violence appears straightforward in brown boobies ("…off with its head!"; p. 69), violence in blue-foots appears to center on establishing dominance. Via "trained winning and losing" (p. 57), daily blows from a dominant blue-foot maintain this asymmetry, and accepting a subordinate role is a junior's best chance at fledging. On the other hand, brown boobies are incapable of being trained, a conclusion bolstered by a brilliantly designed study in which Drummond's team fostered brown boobies in blue-foot nests (p. 72–78). Brown boobies are *Desperados* (see Grafen, 1987), or in Drummond's words, "Fluffy white Sesame Street dolls gone rabid." (p. 77). Seniors strike whenever feasible and few junior brown boobies live more than a week (p. 48). Thus, juniors' most viable option seems to be fighting back rather than submitting and merely expediting their death sentence. Because juniors are behind in maturation, violence is unlikely to be effective, but there is no apparent reproductive harm in expending such energy if death is virtually inevitable. The brown booby "rule of thumb" appears to be simple: regardless of food availability and regardless of birth order, strike when possible.

Human Sibling Conflict

Sibling conflict in humans can be explained by the same Hamiltonian principles that account for booby sibling conflict. Of course, siblicide in humans is not common, but sibling aggression is, and competitiveness can manifest as early as infancy (p. 230). Weaning is a prime example of sibling conflict in humans. Following Hamiltonian principles, mothers and juniors benefit from weaning seniors earlier than seniors would benefit from conceding breast milk to their younger siblings. When comparing boobies and humans (Chapter 9), Drummond carefully considers differences in both cognitive complexity and cultural ecologies. Unlike boobies' narrow "rules of thumb" (e.g., "strike more when hungrier"), human children employ more wide-ranging approaches to establishing dominance and increasing self-flourishment in a manner that would have increased relative reproductive success ancestrally. Rather than head bashing, it may come in the form of "imposition, coercion, persuasion, deception, and aggression" or "charm, tantrums, simulating illness, or faking the dependence and vulnerability of a younger child" (p. 220).

Sibling conflict in boobies may center on food intake, but sibling aggression in humans is likely motivated by desires for a diverse array of resources. Desired resources likely differ with culture, and Drummond addresses this by including both industrialized and traditional human societies in his comparative analyses. Just as booby aggression increases when food availability is scarcer, human sibling aggression increases when resource availability decreases—and, as with boobies, older siblings are more likely to get their way (pp. 230–231). Sibling conflict is pervasive among humans, and although it is affected by recent cultural innovations, emotions and urges that benefited ancestral children are produced in the minds of modern children. Drummond suggests that sibling aggression may even be *more* prevalent now than in the ancestral past because children in industrialized societies are often sequestered within a single-family home, contrasting with the cooperative breeding more common in traditional human societies. Thus, recent industrial innovations may have made human family dynamics even more similar to those of boobies than they once were. In both species, however, monogamous pairings are penetrable.

Sexual Conflict and Cuckoldry

> …female infidelity is too big a phenomenon to write off as a nonadaptive behavior that is inconsequential or even dysfunctional.
> –Drummond, 2023, p. 215

According to English folklore, every bride should carry something old, something new, something borrowed, and something blue (Staffordshire Advertiser, 1876). As Drummond notes, "of course, boobies don't get married" (p. 155). However, this rhyme is intriguingly characteristic of booby mating. Boobies breed monogamously on a seasonal basis, sometimes with the same partner as a previous season (something old) and sometimes with a different partner (something new). When paired, boobies often engage in infidelities with extra-pair partners (something borrowed). Whether it be a primary partner or a short-term dalliance, female mate selection largely depends on the brightness of males' feet (something blue), which is positively associated with nutrition, youth, past engagement in sabbaticals (i.e., reproduction-free seasons), and offspring flourishment (pp. 162–165).

In sexually reproducing species for which monogamy is the norm, the greatest reproductive benefit of male infidelity seems straightforward: males who successfully fertilize extra-pair females may cryptically gain cheap additional offspring in which they need not invest (or, in Drummond's words, "freebies"; p. 202). For females of such species, including humans and boobies, the reproductive benefits of infidelity remain unclear. What is clear, however, is that female infidelity occurs at a meaningful frequency. Twenty-two years of observations by Drummond's team indicate that all boobies *court* extra-pair mates, while 53–61% of males and 33–53% of females *copulate* with extra-pair mates (p.

190). When a booby's in-pair partner is on their nesting territory, male sexual infidelity is reduced by half, and female sexual infidelity drops sixfold (p. 196). Considering only cases in which a female's extra-pair partner is nearby, copulations are *35 times* more likely when an in-pair male partner is absent than when he is present (p. 191). Mated females sometimes adjust their hunting schedules to increase their availability for unsupervised extra-pair sex, and, as would be expected in the face of conflicting sexual interests, males have co-evolved to adjust their own hunting schedules to limit their partners' sexual engagement with extra-pair males (p. 192).

Unlike human males' wide-ranging reactive responses to female infidelity (see Buss, 1988; Buss & Shackelford, 1997), male boobies who witness a partner's extra-pair copulation often appear to let it run its course. Moreover, there is no evidence that males who witness a partner's infidelity later attempt to increase copulations with their in-pair partner to gain an edge in sperm competition (i.e., competition within a female's reproductive tract, between sperm from two or more males attempting to fertilize an ovum; see Baker & Bellis, 1995). Males are, however, more likely to kill the first-laid egg in their brood if they are suspicious of or witness a partner's infidelity, corroborated by both natural observation and a brilliant kidnapping experiment conducted by Drummond's team (pp. 192–196). Paternity tests indicate that 11% of booby chicks are sired by extra-pair males (p. 190). This extra-pair paternity rate falls in between those found in human populations, which Drummond reports to range from roughly 2% in industrialized societies (where modern contraceptives are available) to 17% in the Himba of Namibia (though extra-pair paternity rates in Himba pastoralists have been reported to be as high as 48%; see Scelza et al., 2020).

Drummond's team observed that female boobies copulate more frequently with their in-pair partners than with extra-pair partners during the five-day window prior to laying an egg (when they are most fertile). Further, the last two copulations by all females observed were with in-pair partners (p. 190). These findings cannot be attributed to males forcing copulation on in-pair partners when they are most fertile because, unlike in humans and many other species, ejaculate transfer in boobies requires cooperation by both parties (p. 162). Booby sex is always consensual and female choice is never thwarted. Thus, it appears that female boobies willingly grant their in-pair partners an edge in sperm competition by allowing a greater number of copulations during their most fertile period and by saving their last two pre-laying copulations for their in-pair partners. If booby reproduction aligns with *last male sperm precedence* (Parker, 1984), this would suggest that, all else being equal, in-pair partners are more likely than extra-pair partners to sire the females' offspring.

We speculate that the female booby strategy *might* be to prioritize the sperm of in-pair partners but to copulate with other males because, if the extra-pair sperm outcompetes the sperm of her in-pair partner (which is granted considerable advantage), the extra-pair ejaculate is likely to be of very high quality—and so too might be the ejaculates of resulting male offspring. Or, females might copulate with extra-pair partners to receive an insurance ejaculate in case their in-pair partner dies or is infertile (infertility-induced hatching failures are relatively common among boobies; p. 216). In either case, ejaculates from in-pair partners are afforded an edge, but if an extra-pair ejaculate is of higher quality than an in-pair partner's, the extra-pair sperm may prevail and thereby increase the female's relative reproductive success.

Switching

Drummond provides several other hypotheses for female infidelity for which there is at least circumstantial evidence. The *switching hypothesis* posits that extra-pair liaisons might function as "interviews" that "create the vibes" for a potential future pairing (p. 202). Thus, regardless of whether a female booby benefits directly from the ejaculate of an extra-pair male, the infidelity may facilitate a backup option in case an in-pair partner ends up infertile, dead, or uninterested in maintaining the current pair bond. Like junior chicks acting as insurance policies for a senior's failure to fledge, extra-pair liaisons may act as insurance policies that can save a female booby from a reproductively null season. The *mate-switching hypothesis* (see Buss et al., 2017) proposes similar adaptive benefits for ancestral human females. "Creating the vibes" with a potential partner before ending an active pairing decreases the likelihood of being without a mate for an unfavorable period.

Because only 6% of blue-foot pairings end due to a mate switch (p. 203), and because booby breeding is seasonal, extra-pair liaisons by female boobies may have greater benefits for upcoming seasons than for mid-season switches. Infidelities may function as a preemptive (blue) foot forward in cultivating a partner for a future season. As Drummond notes, *all* blue-foots court extra-pair mates (p. 234), but not all courtings culminate in copulation. In humans, future partners may be piloted via emotional infidelities (e.g., facilitating an emotional bond with an extra-pair partner) with or without sexual involvement. However, inferring sexual interest from a potential partner is usually accompanied by perceptual uncertainty (see Haselton & Buss, 2000, for examples in humans), and consensual extra-pair copulation may be a firmer signal of the potential for a future pairing than courting or emotional infidelity alone. Because, over evolutionary history, copulation for males has recurrently been less costly than for females, males' extra-pair sexual engagement is less likely than females' to provide a firm

cue of interest in pairing. However, *if* the primary benefit of female infidelity is (for boobies) or was (for ancestral humans) the cultivation of a new partner, selection may have favored adaptations in males to use sexual access as such a cue, thus favoring females who signal their interest in pairing via coitus.

Egg Dumping

Female infidelity in several species has been proposed to facilitate paternity confusion, decreasing the likelihood of infanticide by males who *might* have sired their offspring (Hrdy, 1979). Drummond makes a similar argument regarding the probability of egg destruction by extra-pair male boobies. Female boobies sometimes dump their eggs in neighboring nests when the to-be-parasitized couple is absent (p. 203–205). They tend to do so when the neighboring couple is hormonally primed for incubation, either when the female is soon to lay an egg or when the pair has recently lost a clutch. Males will often expel parasitic eggs, but they are *less* likely to do so if they have recently copulated with the egg dumper.

Drummond relays a story in which a female booby was witnessed laying an egg in an extra-pair partner's nest when he and his in-pair partner were away hunting (p. 204). Rather than scurrying from the crime scene after laying her egg, the dumper maintained an incubation posture for approximately 75 min, awaiting the return of the resident couple. In Drummond's words, when the resident female returned, she "went ballistic, grunting excitedly, yes-headshaking, and jabbing into the dumper's face. But the dumper was cool." The dumper remained cool, withstanding abuse from the resident female for over five minutes until the resident male (the dumper's extra-pair partner) returned to the nest. His contribution to the dumper's eviction was ambivalent as "rather than making a headlong dash and raining jabs on her, he stood in the middle of the territory, jabbing ineffectually into space." It appears that the dumper was willing to endure abuse from the resident female long enough for the resident male to return and see that the dumper was his extra-pair partner. After the dumper left the nest, her parasitic egg, which *may or may not* have been the male's genetic offspring, was incubated by the resident female.

Not all egg dumps of this nature are successful, but *all* successful dumps witnessed by Drummond's team occurred in the nest of an extra-pair male. Providing nutritional investment in multiple chicks is a tall order, but females who successfully parasitize the nests of extra-pair males may earn additional offspring without additional investment, aligning closely with the benefits of male infidelity. In the colony studied by Drummond's team, approximately 2% of blue-foot chicks are reared by unwitting adoptive mothers (p. 204). Because female humans gestate offspring internally from conception until birth, maternal uncertainty has never been an adaptive problem for *Homo sapiens*. However, as illustrated by the story above, both male *and* female boobies are at risk of unwittingly investing in unrelated offspring.

Good Genes

The *good genes* or *dual mating strategy hypothesis* posits that female reproductive success may increase by obtaining "good genes" from an extra-pair male while maintaining investment from an in-pair partner (see Gangestad & Haselton, 2015, for a discussion in humans). Despite being the most widely accepted hypothesis for avian female infidelity, it appears to have been the most challenging hypothesis for Drummond's team to provide supportive evidence for in boobies. Drummond notes that extra-pair males courted or copulated with by paired females are not of higher quality than in-pair mates in terms of body size, body condition, foot color, age, or breeding success in previous seasons (p. 205). Nor do any of these qualities differ between extra-pair males for which courting does and does not culminate in copulation. However, Drummond's team observed that boobies paired with attractive males only copulated with extra-pair males with brighter feet than the in-pair partner (p. 206)—yet no evidence indicates that females who do so have higher-quality offspring.

Offspring *do* appear to be of higher quality when one parent is considerably older than the other parent, regardless of whether the older parent is male or female (p. 208). Using a data set of over 3300 boobies between the ages 1–21 years (from seven generations), Drummond's team found that boobies with differently aged parents were more likely to be observed successfully breeding after fledging (p. 209). They also found that chicks with differently aged parents hosted fewer ticks, which may signal greater immunocompetence (p. 210). Older males may possess superior genes, indicated by the mere fact that they have survived as long as they have, but receiving an ejaculate from an older male may be a "double-edged sword" (p. 207). In light of recent work on age-related decline in avian ejaculate quality (see Segami et al., 2021), Drummond notes that "…it's looking like old guys inseminate shoddier genetic material than we used to believe" (p. 208).

With regard to infidelity, Drummond's team found that female boobies aged eight years and older were more likely to reproduce with younger extra-pair males, whereas female boobies between the ages of two and four years were more likely to reproduce with older extra-pair males (who, on average, were six years older than the female's in-pair partner; pp. 208–209). However, chicks raised by a cuckolded father appear to fare no better than chicks raised by their genetic father (p. 214). Whereas human adoption studies indicate that children's development depends more on the

traits of genetic parents than of adoptive parents (see Plomin, 2019), Drummond's booby adoption studies appear to indicate the opposite with regard to paternal influences on chicks' development. Although chicks' growth is positively correlated with fathers' foot color regardless of genetic relatedness, growth is *three times* more dependent on the foot color of adoptive fathers than of genetic fathers (p. 165). Thus, it appears that a chick's success depends *more* on having a high-quality investing father in the nest than receiving higher-quality paternal genes.

The good genes hypothesis, as applied to blue-footed boobies, remains inconclusive. Throughout his book, Drummond is clear about what is *known* and *unknown* and carefully considers the degree to which available evidence supports a given hypothesis. Regarding the good genes hypothesis, Drummond (p. 215) states:

> For two reasons, the case is not closed: first, because we haven't shown that the extra-pair offspring of similar-aged partners outperform their within-pair half-siblings; and second, because we can't be sure that the superiority of offspring with different-aged parents is due to their genes rather than the parental care they receive, or a combination of genes and parental care.

Drummond's team was eager to investigate these questions, but their readiness was thwarted by a backfiring conservation effort on Isla Isabel (pp. 211–214). The removal of non-native cats in 1995 led to a decrease in cat predation on non-native rats, which subsequently led to an increase in rat predation on native milk snakes. The blue-foot colony on Isla Isabel indirectly benefited from this removal of non-native cats; as rat predation on milk snakes increased, milk snake predation on blue-foot hatchlings decreased from approximately 5% to 2%. However, an effort to remove these non-native rats in 2010, which directly decreased rat predation on milk snakes, indirectly caused milk snake predation on blue-foot hatchlings to climb from approximately 2% to 50% in the past decade—a fascinating but unfortunate plot twist in this natural soap opera.

In any case, seeking the *greatest* benefit of female infidelity does not imply that hypothesized benefits are mutually exclusive. Likewise, suggesting that additional offspring is the greatest benefit of male infidelity does not imply that male infidelity does not afford other benefits. For instance, recent multinational work suggests that ancestral *men*, too, might have been frequent dual-mating strategists (Murphy et al., 2024). In addition to switching, paternity confusion, and securing good genes, other hypothesized benefits of female infidelity (reviewed in Murphy et al., 2024) include the acquisition of immediate benefits (Smith, 1984; Smuts, 1985), obtaining investment from multiple partners (Scelza & Prall, 2018), assessing one's own mate value (Greiling & Buss, 2000), increasing genetic heterogeneity among offspring (Smith, 1984; Yasui, 2001), enacting revenge (Symons, 1979; Greiling & Buss, 2000), and pushing an unwanted partner away (Buss et al., 2017). In both blue-footed boobies and humans, and in both sexes, there are likely numerous concurrent benefits of infidelity, and future research is needed to investigate the complexity of this behavior.

Conclusion

Hugh Drummond's *Blue-Footed Boobies: Sibling Conflict and Sexual Infidelity on a Tropical Island* provides an enthralling illustration of familial and sexual conflict among blue-footed boobies. Like many humans, blue-footed boobies reproduce in nuclear families in which both members of a socially monogamous pair invest in highly dependent offspring. Sibling conflict and sexual conflict are pervasive in both species and via convergent evolutionary processes, similar adaptive solutions evolved to address similar adaptive problems. However, as Drummond states in his concluding remark, "*Homo sapiens* is no ordinary beast" (*p*. 243). Unlike any other species, *Homo sapiens* have evolved minds complex enough to comprehend the very process from which they arose. We agree with Drummond's suggestion that we are better off recognizing and reflecting on unfavorable psychological inclinations rather than denying their existence simply because they are deemed unpalatable. Drummond further suggests that we are not responsible for our inclinations and urges but only for our actions in the face of them. The most efficient way to mitigate harm induced by evolved psychological urges is to understand them as comprehensively as possible. Comparative analyses with other species, such as the blue-footed booby, can broaden our understanding of evolved human cognition and lead to hypotheses that might not otherwise be considered. As Drummond states in his final chapter, "animal behavior does indeed explain some human misbehavior" (p. 242).

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Declarations

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