

# “Chemical Castration”: White Genocide and Male Extinction in Rhetoric of Endocrine Disruption

June 9, 2020 • 11 minute read • by Meg Perret

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***Editor's Note: This is the third post in the series, Succession: Queering the Environment, which centers queer people, non-humans, systems, and ideas and explores their impact within the fields of environmental history, environmental humanities, and queer ecology.***



In 2002, biologist Dr. Tyrone Hayes conducted a series of experiments that revealed that the most common herbicide, Atrazine, “feminized” male frogs at concentrations below that allowed in drinking water in the United States.<sup>1</sup> He hypothesized that Atrazine works as an endocrine-disrupting chemical (EDC), converting testosterone to estrogen in frogs. Hayes’s research ignited an ongoing political controversy over whether Atrazine causes hermaphroditism in amphibians, humans, and other species. Although the manufacturer of Atrazine, Syngenta, argues that the pesticide is safe, Hayes and other scientists have increasingly demonstrated a link between Atrazine and threats to public health and the environment.

In this essay, I examine the role of gendered rhetoric in scientific and popular representations of this controversy. Through analyzing depictions of Hayes's frogs in scientific research and the media, I find that Atrazine discourse is imbued with cultural anxieties about the extinction of normative masculinity in an increasingly toxic world. This essay contributes a surprising account of how this rhetoric travels into far-right media commentary about "male decline" and "white genocide."



**"Atrazine discourse is imbued with cultural anxieties about the extinction of normative masculinity in an increasingly toxic world."**



Hayes et al.'s (2010) highly cited scientific paper found that "Atrazine-exposed males" were "chemically castrated," meaning that they could not reproduce as biological males or had such other "sexual abnormalities."<sup>2</sup> Ten percent of the population became "atrazine-induced females" that were "completely feminized" as adults: they reproduced as biological females, "mated with control males, and produced viable eggs."<sup>3</sup>

A photograph in the 2010 article shows two frogs in amplexus—the mating position of frogs, where one frog clasps the lower back of another (fig. 1). As the article explains, the photograph depicts one of the "sex reversed genetic males" who become "reproductively functional females."<sup>4</sup> Hayes et al. (2010) references a study of endocrine disruptors on human cell lines by Sanderson et al. (2000)<sup>5</sup> to conclude that Atrazine likely also caused, in the words of the referenced study, "inappropriate sexual differentiation" in other wildlife and humans.<sup>6</sup>



Fig. 1: Photo from Hayes et al. 2010

At a research conference, Hayes remarked that he chose the term “chemical castration” specifically because it angered Syngenta representatives.<sup>7</sup> His word choices, indeed, made attention-grabbing headlines. A *National Geographic* article opens with the Hayes et al. (2010) photo, captioned: “The so-called pregnant man has company: One of the most common weed-killers in the United States can transform male frogs into fully functional females, a new study says.”<sup>8</sup>

A *Science* article includes the same photo, stating, “[S]ome chemically castrated guys develop into egg-laying gals” in which they exhibit “girly behavior.”<sup>9</sup> The article continues that Hayes’s male frogs “not only became submissive, like females, but also apparently send out come-hither signals to the bro’s in their tank.”<sup>10</sup> These “transgender animals” became “male mothers” who allowed males to fertilize their eggs, which grew into offspring.<sup>11</sup> Popular-science coverage of Hayes et al. (2010) appeals to cultural disgust for male bodies that transgress gender norms and to cultural anxieties about transgender people “passing” as cisgender. These representations perpetuate transmisogyny, a term from feminist theory that describes discrimination against trans women, who are impacted by both transphobia and misogyny.<sup>12</sup>

Scholars in queer ecologies, a subfield that explores the intersection of queer theory and environmental studies, have probed how representations of endocrine disruption in popular culture are imbued with normative judgments about the desirability of human sexual variability. Noël Sturgeon argues that popular-science depictions of wildlife often propagate heteronormative ideals of the reproductive nuclear family in the context of the changing global environment.<sup>13</sup> Giovanna Di Chiro uses the term “eco-normativity” to describe how environmental politics draw on people’s fears that exposure to endocrine disruptors destabilizes the “normalness” and “naturalness” of masculinity, femininity, and heterosexuality.<sup>14</sup> Malin AhKing and Eva Hayward likewise demonstrate that the discussion surrounding endocrine disruptors portrays “human sex, particularly male sex, as under siege, endangered, and threatened.”<sup>15</sup>

Analyses involving endocrine disruption often rely on heterosexist conceptions of women, people with disabilities, queer people, and others with non-normative embodiment as “deviant, impure, or contaminated.”<sup>16</sup> Like previous researchers in queer ecologies, I find that representations of Hayes’s frogs—and the futures they imply for humans—encode cultural anxieties about the queering of normative schemas of gender, sex, and sexuality. This essay contributes novel analysis of how the gendered rhetoric of EDCs translates in the discourses of the contemporary alt right.



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Far-right rhetoric in the United States has also featured Hayes et al.’s 2010 findings. American conservative radio-show host and conspiracy theorist Alex Jones released a series of videos on Atrazine’s feminizing effects. In *Alex Jones Comes out of the Closet as a Gay Frog* (2015), he wore a full-body frog suit, green face paint, and pink tutu.<sup>17</sup> In the video, he drinks from a bottle labeled “Atrazine” and pronounces, “Thanks to Atrazine there will

be no more frogs but we are gay so that's cool," and "I'll never have children and I'm sterilized, but the media says I'm totally cool. I'm a gay frog!"<sup>18</sup>

Jones rants that the government developed a "gay bomb" to control the population through rampant homosexuality—a statement circulated on the internet as the "gay frogs conspiracy" or the "gay bomb rant."<sup>19</sup> A video excerpt where Jones yells that water is poisoned with chemicals that are "making the friggin' frogs gay" went viral, with 592,000 views and 1,200 comments on Twitter within six months.<sup>20</sup> The hashtag #gayfrogs circulated among far-right followers on 4chan and reddit, sometimes illustrated with Pepe the Frog meme—a meme coopted by the alt-right movement and officially recognized as a hate symbol associated with Nazism and white supremacy.<sup>21</sup>

In 2020, Alex Jones stated on his TV show that Atrazine will "shrink your son's genitals."<sup>22</sup> In an uncharacteristically sober manner, he elaborates: "Soon males will have genitals the size of a female's clitoris in about two generations with current Atrazine levels. If you like your son not having a cock, then you're going to love Atrazine."<sup>23</sup> Jones cites a *Berkeley News* article<sup>24</sup> on Hayes and colleagues' 2010 research, and states that males exposed to Atrazine "won't be able to have sex since they don't have a penis" and "will die."<sup>25</sup> He alleges the possibility of human extinction due to increasing homosexuality from a government "chemical warfare operation" involving adding chemicals to tap water to reduce the number of children.<sup>26</sup> Atrazine, he says, is a "chemical weapon" used by "globalists" who are "hitting us chemically to attack and take out our species."<sup>27</sup>

Besides their rampant transmisogyny, far-right depictions of environmental issues are coded with concerns over perceived decline of white male social dominance. Scholars in masculinity studies have argued that a narrative of white male decline emerged in the US in the 1960s and 1970s with the rise of identity-based social movements, including the civil rights movement and women's liberation.<sup>28</sup> In popular discourse, as feminist literary scholar Sally Robinson describes, the "white male victim" emerged as the "emblem" of the crisis in white masculinity.<sup>29</sup> White masculinity became culturally constructed as "victimized," "traumatized," and "wounded."<sup>30</sup> Jones portrays male decline in terms of the feminization of male genitalia, which he equates with the death of men and, ultimately, of our species. Feminist science studies scholars view this as an example of the broader phenomenon of casting white male decline in biological terms.<sup>31</sup>

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Like many on the far right, Alex Jones subscribes to the white-genocide conspiracy theory—a white supremacist belief that immigration, low fertility rates, abortion, and miscegenation are causing the decline or even "extinction" of white people. Jones's online news organization, *Info Wars*, is instrumental in spreading racialized fears of white decline—fears rooted in nineteenth-century eugenics<sup>32</sup> and whose latest articulation is described as "white extinction anxiety."<sup>33</sup> Critical theorists of today's far-right movement in the US argue that whites associated with the far right often respond to the country's changing racial landscape by embracing

the “white male victim” ideology in which whites face racial discrimination, denial of cultural rights, and stigmatization for racial pride, all of which threaten the continued existence of the white race.<sup>34</sup>



As feminist political theorist Betsy Hartmann writes, ecofascism—the dangerous intersection between environmentalism and white supremacy—is a “greening of hate” in which concern for the environment is co-opted as a ruse for increased control over women’s reproductive capacities, surveillance of racial minorities, and securing the borders against immigration.<sup>35</sup> Although Hayes would likely be uncomfortable with marshalling environmental pollution as evidence of white male decline, Jones’s (2020) claim that Atrazine will “shrink your son’s genitals” shares rhetorical similarities with Hayes et al.’s (2010) rhetoric of “chemical castration.” Both Jones and Hayes emphasize the feminization of male bodies and the inability of those affected to reproduce as biological males as undermining the future of the species amidst environmental toxicity. In the context of the rhetoric of male decline, white heterosexual masculinity becomes an endangered species.



## Notes

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