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Culture(d) Wars:
Reciprocal Permission Structures in Cultured Meat Bans

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Abstract: "Cultured meat" is an emerging food biotechnology with potential to disrupt the animal agriculture industry by creating animal protein from only an animal's cells. Despite the industry's relative infancy, myriad legislation has been introduced to stifle or ban the technology outright. Using bans in Florida and Alabama as case studies, we identify two mutually reinforcing discourse communities that allow the political right to enact anti-cultured legislation despite such laws explicitly stifling free enterprise, a core conservative value. We dub these top-down (legislative) and bottom-up (social media) discourses *reciprocal permission structures*, in which rhetors of disparate social capital advance a populist conspiracism inherently suspicious of technical rhetoric for social change.

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Introduction

On May 1, 2024, Florida Governor Ron DeSantis signed Senate Bill 1084 into law. Within the bill was a unique provision prohibiting the manufacture for sale, sale, holding or offering for sale, or distribution of "cultivated meat" in the state of Florida. Breaking this law would be punishable by up to 60 days in jail. A restaurant serving what the law specified as any meat or food product produced from cultured animal cells could have its license revoked. Republican Representative Dean Black, a Floridian cattle rancher, decried "fake" meat in his support for the ban: "Cultured meat is made by man. Real meat is made by God himself" (qtd. in Torella, 2024, para. 8). DeSantis concurred. "The bill that I'm going to sign today," he decreed, "is going to say, basically, take your fake, lab-grown meat elsewhere. We're not doing that in the state of Florida" (qtd. in Moline, 2024, in para. 15).

One week later, Alabama Governor Kay Ivey followed suit with SB 23, which warned of up to three months in jail and a $500 fine for producing or selling cultured meat. Passing the bill was, again, a lively process. When introducing the bill for its third reading before the Alabama House of Representatives, Republican representative Danny Crawford had mocked the idea of meat produced in a lab: "They throw a couple of animal cells in there, throw some chemicals in there, some ingredients and boom: You get a chicken leg out" (qtd. in Cason, 2024, para. 4). Other representatives in other states have introduced similar bills using similar logics, including Arizona, Iowa, New Mexico, and Tennessee. On July 1, 2025, Mississippi is set to become the third state to ban cultured meat after its April 2025 passage of HB 1006. The issue is strikingly partisan, with most proponents identifying as Republicans.[1] Noting this disparity, Alabama Democratic representative Marilyn Lands pushed back: "I thought conservatives, Republicans, were all about letting the free market do its work…This makes no sense to me. We don't even do this with cigarettes" (qtd. in Cason, 2024, para. 7).

The bans in Florida and Alabama and their nationwide copycats are particularly unique in that, despite their political framing in legislative debates and bill texts, the views espoused by lawmakers do not necessarily reflect the Republican "establishment" or even their constituents in the animal-sourced meat industry (many of which, like multinational food conglomerate Cargill, have heavily invested in cultivated meat). The Florida Cattlemen's Association (FCA) was optimistic about Florida's SB 1084, as were similar beef industry constituents in Alabama. Dusty Holley, FCA's Director of Field Services, said of cultivated meat: "we know it isn't beef, we know it isn't meat. Meat comes from an animal" (qtd. in Ogles, 2024a, para. 5). However, the North American Meat Association (the largest meat-packing organization in the U.S.) sent Governor DeSantis a letter opposed to the Florida ban, and the Meat Institute's CEO and General Council Mark Dopp similarly argued that cultivated meat consumption should be a matter of choice and not law (see Ogles, 2024b). Similarly, whereas Nebraska representative Mike Flood described cellular meat as "a direct threat to the people I represent in the beef state" (qtd. in Pico, 2024, para. 10), the conservative Cato Institute's Jeffrey Singer decried Florida's ban as "good old-fashioned protectionism" and not "pro-freedom" (Singer, 2024). Writing for the Heritage Foundation, Daren Bakst decried anti-cultivated meat lawmakers as the "food police" at odds with the principles of the free market (Bakst, 2021).

[1] A notable exception is Pennsylvania Senator John Fetterman, a Democrat who has publicly supported Florida's bill and criticized cultured meat as "slop" (Girard, 2024).

Contemporary technical rhetoric researchers have increasingly turned their attention to how foods "are encoded with ideological lessons" that re-assert food's sociopolitical value and manifest cultural differences (Dubisar 2024, p. 109). Technical rhetoric shapes public perceptions of food and emerging food technologies, especially those that challenge traditional notions of edibility. Cultivated meat is no exception to this issue. As Bucchi (2008) contends, when scientific discourse reaches the public level, it can resemble the structures and features of political disputes. Amidst this "alternative trajectory," a new food technology's "deviation to the public level" leads to public communication taking on greater salience than specialist communication alone (p. 64). In keeping with these scholarly premises, we investigate how these legislators not only found potential arguments through which to kneecap the emerging cultivated meat industry, but also structured permission to comfortably bypass influential conservative think tanks and some of their meatiest constituents.

We use "structure permission" here as the verb form of "permission structure," a key analytic through which to understand the political-digital-technical rhetoric at play in the aforementioned bans. The term is most colloquially associated with former U.S. President Barack Obama, who used the phrase to describe political strategies to "reach across the aisle" to his Republican congressional opposition who were under political pressure *not* to abide by his presidential agenda. Per Obama:

> I cannot force Republicans to embrace those common-sense solutions…But they're worried about their politics. It's tough. Their base thinks that compromise with me is somehow a betrayal…And we're going to try to do everything we can *to create a permission structure* for them to be able to do what's going to be best for the country. (qtd. in Lee, 2013, p. 789)

Here, permission structures offer a rhetorical analytic through which to examine how anti-cultivated meat legislation not only *structures* oppositional arguments to the nascent food biotech industry, but also the rhetorical conditions that made those structures *permissable* — perhaps even obligatory — within their digital ideological ecosystems.

However, "permission structure" predates Obama, and was once defined by marketing executives as "[pushing] the proper buttons that need to be pushed" to "get people to *purchase a product they otherwise would shun*" (Hollan & Bohan, 2013, para. 5, emphasis added). In the case of cultured meat bans, the inverse is true: through reciprocal interactions within digital ecosystems, politicians are offered ideological building blocks through which to disparage innovation they might otherwise support—or, at least, be *predisposed* to support by virtue of a Republican Party platform that emphasizes free enterprise and profit-seeking (see Levy, 2020).

We posit that to understand the Florida and Alabama cultivated meat bans necessitates looking past the "top" of the U.S. Republican party and its industry lobbyists and seeking out what many scholars of alt- and far-right communication have dubbed the "bottom of the web" (see Reagle, 2015; among others). In the depths of social media exists a rhetorical style and vernacular that "make[s] up an alternative argot and parodic attitude at the basis of the alt right" (Tutors & Burton, 2021, p. 758). The generic features of posters on anonymous sites like 4Chan and media influencers like Alex Jones coalesce in what Tutors and Burton (2021) described as a "toxic

milieu of interconnected social media comment spaces and discussion forums" ripe with a "reactionary posture" that is "uniquely adapted to the affordances of social media" (p. 758). Our analysis aligns with previous technical rhetoric scholars' exploration of social media and collective knowledge generation (Kimme Hea, 2014), where networked writing environments have helped "knowledge workers gain access to existing communities of practice, maintain a presence within them, and leverage community norms to circulate texts through them" (Pigg, 2014, p. 70). However, our work here focuses more directly on how reciprocal permission structures authorize extreme, conspiratorial or violent discourses about shadowy enemies to the public. In the spirit of this special issue, we identify these permission structures as *unjust* insomuch as they propagate misinformation about cultured meat, stoke suspicion about alternative protein systems, and delegitimize food futurities that could—at least in theory—serve the public interest. Rather than fostering democratic deliberation or protecting consumer choice, these structures entrench division and enable reactionary legislative policy. In doing so, these reciprocal permission structures not only stifle innovation that could potentially curb climate change and lessen animal suffering, but also propagate conspiratorial discourses that make bioengineers and food scientists into elite enemies of the populist public.

Using bans in Florida and Alabama as case studies, we identify two mutually reinforcing discourse communities that allow the political right to enact anti-cultured legislation despite such laws explicitly stifling free enterprise, an (ostensibly) core conservative value. We dub these top-down (legislative) and bottom-up (social media) discourses *reciprocal permission structures*, in which rhetors of disparate social capital advance a populist conspiracism inherently suspicious of technical rhetoric and scientific innovations for social change.

Cultured Meat: The Meat of Tomorrow?

Journalist Julieta Cardenas suggests that "cultured" meat represents "gastronomic dreams of astronomical proportions" (Cardenas, 2023b, para. 2). The quest to produce meat without "meat animals" largely emerged because of animal agriculture's devastating impact on the planet. For example, livestock accounts for up to 15% of global greenhouse gas emissions; 75% of global antibiotics are given to farmed animals which contributes to antibiotic-resistant zoonoses; and air and water pollution from slaughterhouses account for over 10,000 deaths per year. Animal welfare is also a contributing factor given brutal conditions on factory farms and the jarring *one trillion* land animals slaughtered for meat per year (Torrella, 2022). Estimates from early researchers suggested that a global shift toward cultured meat could result in 78–96% lower greenhouse gas emissions, 99% lower land use, and 82–96% lower water use (Tuomisto & Teixeira de Mattos, 2011). As such, institutions like the United Nations have argued that "alternative proteins" like cultivated meat constitute promising solutions to environmental degradation (United Nations, n.d.).

Cultured meat is the result of complex bioengineering. It is called "lab-grown" meat, "cell-based meat, or "cultivated" meat because an animal's cells are cultivated in a laboratory. The process is complex and difficult to explain in brief (though we will try). First, stem cells are extracted from an animal via biopsy, which are then placed in bioreactors designed to mimic an animal's body. In these vessels, cells are "fed" essential components like amino acids and minerals to encourage cell proliferation. The cells eventually develop into muscle and fat tissues that replicate the

composition of conventional meat. The tissue is then harvested and processed into meat products (Asp, 2024). A website called whatiscultivatedmeat.com, designed to assuage non-scientists' confusion over the process, simplifies the explanation as follows: (1) collect a sample of animal cells; (2) provide water and feed as cells grow; (3) harvest and processing; and (4) enjoy your meal ("The Process," n.d.).

Given the complex science involved in producing cultivated meat, lay consumers have expressed anxiety about consuming the product if and when it reaches shelves. The "ick factor," as journalist Allison Parshall calls it, often derives from the products seeming less "natural." This is especially the case when cultured meat's other monikers, e.g. "lab-grown meat," are used. She explains, despite knowing the feeling is irrational, "I feel disgusted by the idea of cultured meat" (Parshall, 2024, para. 6). Parshall is not alone in this sentiment. In general, consumers perceive conventional meat as healthier and tastier than cultivated meat, even if (like most people), they have never consumed it. A large bloc of consumers are unwilling to try it at all if it was offered to them (Koppes, 2024). The industry acknowledges that persuading consumers their product is worth trying at all will be key to securing the necessary funding to get it to store shelves (see Pakseresht, Kaliji, & Canavari, 2022).

This process of cultivating meat is involved and, by extension, expensive. Dutch scientist Mark Post made headlines in 2013 when he unveiled his $330,000 cultured hamburger (Post, 2014). Nonetheless, the cultured meat industry was initially well-funded by interested investors looking to curb climate change and prevent zoonotic disease outbreaks (e.g. avian flu and COVID-19). Overall venture capitalist funding for cultured meat startups peaked in 2021 at a whopping $989 million. However, amidst consumer anxieties and regulatory backlash in recent years, funding has stagnated. By 2022, funding dipped to $807 million. Funding plummeted a full 78% in 2023 to only $177 million (Watson, 2024). Amidst a 50% drop in "agrifoodtech investing" overall, investors explained their actions as general risk aversiveness due to issues of scalability and time to price parity.

Good Food Institute founder Bruce Friedrich noted lack of sufficient government funding as an industry issue as well, likening cultured meat ventures to electric Tesla cars: "if the government gets the industry started then the private sector can take over, just like electric cars…the economic opportunity here, which is also a national security issue, is such that the US government should be prioritizing support for alternative proteins in the same way" (qtd. in Watson, 2024, para. 15). There have been attempts by governments to support cultured meat research and development, with global governments investing $1 billion total in 2023. In 2020, Singapore became the first country to approve the sale of cultured meat. The United States has generally been outpaced by smaller nations though, despite seeming support by President Joe Biden, who endorsed advancing food biotechnologies in a 2022 Executive Order, and the Department of Defense, which earmarked up to $500 million for cultured meat research and development in 2024 (Cardenas, 2023a; Gabel, 2024).

However, in November 2023, Italy became the first country to fully prohibit the production, sale, or import of cultivated meat, citing the need to protect Italy's food heritage and traditional agriculture (Kirby, 2023). Australia has considered banning cultivated products from using terms like "steak" or other traditional meaty names, as have U.S. States such as Iowa and Ohio in

debates akin to the "Margarine Wars" of the 1900s (Malson, 2024). By September 2024, nine U.S. states considered legislation banning the manufacture, sale, or distribution of cultured meat. Florida (SB 1084) and Alabama (SB 23) successfully passed their legislation and their governors signed it into law. Florida, Alabama, Italy, and most recently Mississippi's laws were spurred by extremely conservative leaders, lawmakers, and congresses (Economist Staff, 2024). Notably, Florida was then sued by UPSIDE Foods, Inc., a cultured meat company, accusing Florida's ban as unconstitutional and in violation of both the Supremacy and Commerce Clauses of the U.S. Constitution (Southern Ag Today Staff, 2024).

In sum, the cultured meat industry has seen high highs and low lows. The industry's complex scientific, social, and regulatory challenges hinge not only on investor funding, but also on effective communication to lay audiences. Technical rhetoric plays a crucial role in shaping public perceptions and navigating policy debates, especially in a politically polarized climate shaped in some sects by growing right-wing populism and scientific conspiracism.

On Meat, Politics, and Technology

Cultured Meat and/as Technical Rhetoric

Scholars in technical rhetoric have long examined how politics, policy, and power shape the communication of food and nutrition, tracing how scientific and technical authority intersect with "everyday" genres and public understanding. Indeed, Lippincott (2003)'s rhetorical genealogy of Ellen Swallow Richards' rhetorical strategies in late 19th-century nutrition science demonstrated gender's role in shaping the construction and dissemination of early nutritional studies. Moeller and Frost (2016) built upon Lippincott's work by imploring technical rhetoric scholars to critically reassess technical genres like cookbooks from a feminist lens and challenging narratives that view such genres as inherently liberating for women. Perhaps most pertinent to our study, in assessing the development of the USDA's Food Pyramid and accompanying nutritional guides, Mudry (2010) argued that "enumerated discourse" dramatically altered citizens' understandings of food by emphasizing foodstuffs' *scientific* properties as opposed to cultural and gastronomic experiences.

Myriad scholarship has discussed rhetoric's role in alleviating and/or exacerbating public concerns about new and emerging food technologies. Much of this research focuses on genetically modified organisms, both in terms of how experts and lawmakers communicate these foodstuffs (see Gauthier & Kappen, 2017 Clancy & Clancy, 2016; Kaangmenaang et al., 2016; among others) and how lay publics communicate about them through various media platforms (see Hellstein, 2003; Clancy & Clancy, 2016; among others). While cultured meat is not by definition a GMO food, its departure from perceived "natural" foodstuffs results in similarly charged discourses between experts, lawmakers, and laypersons regarding an ethical code of practice "in which public morality and the epistemic authority of science were intertwined" (Bloomfield & Doolin, 2013, p. 502).

Technical rhetoric research about "meat" production in particular is also vast. It elucidates the difficulties of communicating animal rearing and slaughter to different stakeholders. For example, Abrams, Zimbres, and Carr (2015) revealed consumers expect communicative

transparency about "sensitive" issues like livestock slaughter, yet prefer gentler *euphemisms* about animal death like "harvest." Conversely, Bjørkdahl and Syse (2021) describe such rhetorical strategies as "welfare washing."

Because lab-grown meat is a novel and emerging industry, there is limited research relating to cellular agriculture from the *specific* perspective of technical rhetoric. Work on communication and cultured meat has largely come from hypothetical perspectives regarding what marketing strategies could get consumers to try and/or buy the product (see Ruzgys & Pickering, 2020; Lee & Lee, 2024; among others). There are, however, helpful exceptions to this issue. Broad (2020) effectively argued that professionals should draw on metaphors of "openness" and "connection" to more effectively authorize cultured meat consumption within public consciousness. Specht, Rumble, and Buck (2020) assessed online backlash against cultured meat across Twitter (now X) influencers; Goodwin & Shoulders (2013) assessed mainstream media news framing of cultured meat and preferred sources of citation; and Helliwell and Barton (2021) exposed various "narrative silences" in dominant cultured meat narratives.

Our work aligns with Bucchi (2008), who posits that "the reception of science communication is not a passive process, but a complex set of active transformative processes… [that] cannot be sharply separated from popular exposition" (p. 66). Ergo, "top-down" communication about cultured meat is not immune from "bottom-up" communication about food, nor should it be. Various stakeholders engage in networked, affective communication work that reconfigures public debate about cultured meat and, subsequently, public policy regarding the industry. However, in assessing the cultured meat bans in Florida and Alabama, such discursive networks often take the form of populist conspiracism, a limiting model of discourse that casts expertise as villainous, innovation as poisonous, and alternative food futures as dystopic.

Populist Conspiracism

Populist conspiracism undergirds Florida and Alabama bans on cultured meat. We use the terms "populism" and "conspiracism" together, but each has multiple uses and complex definitions. We adhere to Mudde (2004)'s definition of populism: "an ideology that considered society to be ultimately separated into two homogenous and antagonistic groups, 'the pure people' versus 'the corrupt elite,' and which argues that politics should be an expression of the *volonté générale* (general will) of the people" (p. 543). Under this definition, a political binary exists between populism and elitism. Populism emerges from a so-called "populist heartland" under circumstances of political resentment, perceived threats to a way of life, and presence of charismatic populist leadership. Populism, though, is a "thin" ideology insomuch as it is "moralistic rather than programmatic" (p. 544), and thus easily combines with various other ideologies from left-wing anarchism to right-wing white nationalism.

Due in part to populism's role as a thin ideology, it is a natural partner to various models of conspiracy thinking (see Neville-Shepard, 2019; Hameleers, 2021; among others). Mudde (2004) explains that "in the populist mind, the elite are the henchmen of 'special interests'" (p. 561). These special interests change across time, space, and place, but have included international financiers (often code for Jewish people), billionaires with political influence, or even the "politically correct" (Mudde, 2004, p. 561). These narratives dovetail with the general storytelling genre we call "conspiracy," which typically involves secretive plots by shadowy

authorities seeking to undermine the general public (see Uscinkski & Parent, 2014). While conspiracism is often described as a type of paranoid psychological pathology (see Hoftstadter, 1964), viewing conspiracy as a narrative style offers greater insight into how conspiracies form and flourish in particular rhetorical situations (Aupers, 2012). Like populism, researchers suggest that people turn to political conspiracy thinking to regain a sense of "control," particularly if they feel disempowered politically and/or associate with the "extreme" political left or right (Imhoff et al., 2022). Right-wing authoritarianism, then, is a prime arena for conspiracism, as documented in the unexpected rise of candidate-to-president Donald Trump (Homolar & Scholz, 2019).

In framing this rhetorical genre as "populist conspiracism," then, we are not writing about *general* populism or *general* conspiracism. Rather, we identify a *particular iteration* of right-wing populist political rhetoric that has proliferated through social media, specifically through "alternative" or "alt" spaces more colloquially called the "alt-right." While the alt-right is not an ideological monolith, it broadly rejects mainstream conservatism's "more liberal and market-based elements" in favor of populist sentiments based upon both covert and overt assertions of white supremacy and U.S. nationalism (Tutors & Burton, 2021, p. 760). Most significant about the alt-right's political rhetorical tactics, though, is its "methodological focus on co-ordinated action online" through memes, in-group slang, and a general "online trolling subculture" (Tutors & Burton, 2021, p. 760). American conservatism has long relied on so-called "alternative news media" for movement-building purposes, including direct mail, AM radio, and now newer digital media formats. However, scholars note the election of Donald Trump in 2016 marked a turning point in right-wing media spaces because of "the reciprocal dynamics of influence" between right-wing rhetors and their digitally-mediated audiences (p. 760). This influence was particularly strong amongst alt-right community members:

> Again and again, alt-right slang found its way from pseudonymous or anonymous discussion forums associated with the far right into mainstream political discussion and its associated milieus, from obscure comment sections to highly visible Twitter feeds… This type of propagation of politically extreme vernacular vocabulary is among the alt-right's most significant accomplishments. (Tutors & Burton, 2021, p. 760)

As we will explore, the alt-right's strategic use of digital media has facilitated the mainstreaming of its extremist rhetoric, embedding its vernacular into broader political discourse. Politicians like Ron DeSantis who are able to tap into or deploy instances of this vernacular, can drum up support among certain online audiences and alienate those not in the know (Woods & Hahner, 2019, p. 8).

Populist conspiracism simultaneously *denigrates* new technologies at the same time as it *proliferates* through novel communication infrastructures. Reading conspiratorial backlash to 5G as a "technological drama," Butot & van Zoonen (2024) suggest "because the cultural meanings that technological regularization draws on are inherently open to interpretation, exploiting such indeterminacies is a key mechanism for voicing and legitimating opposition" (p. 1021). For example, they posit, "techno-utopian myths of digital salvation from crisis inherently correlate to powerful opposites in the form of techno-dystopian imaginaries of technological subjugation, which are deeply rooted in popular culture" (p. 1021). This tension offers a framework for

understanding how cultured meat becomes both a key symbol for populist conspiracism and a technical communicator's nightmare—explicating new technologies against a backdrop of competing rhetorical imaginaries and stakeholders predisposed to close their ears to any "expert" associated with the technological elite.

Further, populist conspiracism relies on *mutually reinforcing chains of authority* rather than merely a top-down process to encourage audiences to tailor their beliefs in a certain way *or* an entirely organic conspiracy theory rising from the Internet. For example, liberal conspiracy theories that Trump had stolen the election from Harris exploded online in November 2024, with dozens of posts garnering over 10 million views. However, misinformation experts noted that, unlike conspiracies about 2020 election fraud, the claim was not authorized or amplified by well-known liberal political figures (Tenbarge & Horvath, 2024). By contrast, the "eating bugs" conspiracy has "made the leap from online message boards to national politics in at least two countries," including Dutch politician Thierry Baudet, the two major Polish parties (PiS and PO), Governor DeSantis, Vice President JD Vance and more (Jingnan, 2023). Populist actors can reject more traditional models of public engagement with technical knowledge by constructing alternative networks of legitimacy that neuter scientific expertise in favor of affective resonance, cultural grievance, and ideological loyalty to anyone "in the know."

Populist conspiracism, then, is an iteration of both populist political appeals and conspiracy storytelling that sources power from the "bottom of the web" (Reagle, 2015). Noting the proliferation of the pro-Trump QAnon conspiracy subculture on 4chan, Marwick and Partin (2024) highlighted the centrality of "doing your own research" to these "fringe" communities. Anecdotes trump expertise amongst these groups, resulting in the construction of "alternative facts" and what has been colloquially called a "post-truth" approach to fact-finding and knowledge production. Since traditional arbiters of truth and facticity (e.g. "official sources") cannot be trusted, knowledge is often crowd-sourced by anonymous posters or, in some cases, offered by online influencers who peddle conspiracies (see Colley & Moore, 2022; Muller, Rooney & Cerja, 2024). Such "conspiracy brokers" (Ballard et al., 2022) harness the power of virality to spread conspiracies through social media and, in many cases, profit from ad revenue or their "alternative" products (see Alex Jones' "Super Male Vitality" product line). Expertise is a messy concept within populist conspiracism, where legitimacy is not granted by credentialism but by anecdotal data, charisma and virality.

Analysis: Reciprocal Permission Structures in Cultured Meat Bans

Florida and Alabama's controversial cultured meat bans are best understood as reactive legislation responsive to the reciprocal permission structures endemic to multimodal alt-right politics. Reciprocal permission structures, embedded as they are in populist conspiracism, begin when a conspiracy solidifies in certain corners of the Internet. Then, a politician invokes this conspiracy, either on its own terms or to cast an emerging object in a new light, encouraging audiences to adopt a new point of view by connecting new information to existing belief systems. Simultaneously, this political figure who calls upon the conspiracy is structured by this act—legitimizing *themselves* to a new or existing conspiratorial audience that they are trustworthy and an outsider to the elite pulling the strings. As a result, other information about

that political figure's past or future actions is filtered through these newly structured belief systems.

In the context of cultured meat, politicians who invoke existing conspiracy theories around COVID-19 vaccines or the "Great Reset" encourage audiences to tie this technology to these existing beliefs. Rather than a neutral legislative debate about the technicalities of balancing free market regulations and individual liberties, cultured meat bans are prefigured by appeals to existing conspiracy structures that nullify concerns about such traditional right-wing values. In associating cultured meat with bug-eating or forced vaccinations, then, political figures can connect cellular meat to symbols of tyrannical practices and further away from representations of liberty. To explicate this process in the Florida and Alabama cellular meat bans, we turn to two online conspiracy theories invoked in the legislative process that structured the debate around cellular meat: forcible bug-eating and mandatory vaccinations. For each, we trace the symbiotic relationship between online iterations of the meme and its presence in legislative battles over cultured meats in Florida and Alabama.

Eating the Bugs

When Florida Governor Ron DeSantis signed SB 1084 into law, the Governor's office wrote a press release stating:

> Florida is taking action to stop the World Economic Forum's goal of forcing the world to eat lab-grown meat and insects, 'an overlooked source of protein.' While the World Economic Forum is telling the world to forgo meat consumption, Florida is increasing meat production… (DeSantis, 2024).

DeSantis' reference to the World Economic Forum "forcing the world" to eat lab-grown meat and bugs may seem strange and random. After all, what does lab-grown meat have to do with consuming insects? Indeed, eating insects or the World Economic Forum's nefarious plans were not mentioned in the bill nor the legislative debates in the Florida House, the Senate nor any of the committees that discussed the bill. We suggest that DeSantis' references to "eating bugs" function rhetorically as an attempt to provide instructions for an audience aware of far-right online conspiracies on how to interpret the legislation *and* his support for it. This attempts to tap into existing populist conspiracism around bug-eating in order to broaden the conspiratorial milieu to enhance DeSantis' image and include another target: cultured meat.

DeSantis' statements at the bill signing, the press release and official social media posts from the Governor's office invoke a memeified version of an online conspiracy, popular in alt-right and white nationalist digital spaces, which suggests that a shadowy global elite aims to weaken the West and white men by forcing a diet of insects. Proponents often evidence these claims by pointing to environmental advocates who argue that insects can act as a sustainable protein alternative. Most commonly, this conspiracy is expressed through the phrase "eat the bugs" or, more satirically, "eat ze bugs." However, as we touch on below, this conspiracy does *not* generally center on what DeSantis calls "lab-grown meats," which are far from market availability. Rather, DeSantis' invocation of "eating bugs" directs his audience familiar with the

bug-eating conspiracy on how to interpret lab-grown meat—as a tyrannical overreach by elites, rather than a burgeoning, if undesirable, product on the free market.

The earliest appearances of the phrase “eat the bugs” or “I will not eat the bugs” has been traced by disinformation researchers back to the 4chan message board sometime in 2019 (Jingnan, 2023). It seems to originate from anonymous posts which repeat the phrase (sometimes paired with “I will not live in a pod”) in response to photos of Greta Thunberg, a well-known climate activist. Soon after its origin, white nationalist Twitter accounts began using the phrase, which increased in popularity and were mentioned in political settings in Europe and elsewhere as early as 2022 (Jingnan, 2023). Although the phrase originally “started out” as “kind of a meme” on these message boards, others began using it earnestly to express discontent or fear about hypothetical actions to combat climate change (Jingnan, 2023).

“Eat the bugs” has been circulating in alt-right communities since 2019. However, it garnered broader attention in the wake of the COVID-19 pandemic and subsequent mandates on travel, social gatherings and masking. Conspiratorially-minded online posters quickly suggested that such restrictions were being used by global “elites” to seize power and exercise control over the general population, including forcing a diet of insects (Jingnan, 2023). “Eat the bugs” exploded further into the mainstream after the announcement of a July 2020 World Economic Forum initiative called the “Great Reset” — an international effort to rethink governance strategies after COVID-19 that emphasized a fairer economy, building green infrastructure, and directing technological innovation towards health and social challenges (Schwab, 2020).

In light of the “Great Reset,” and several subsequent articles from the *World Economic Forum* promoting the consumption of insects as a sustainable alternative to animal-derived meats, “eat the bugs” has solidified into a vast nebulous conspiracy. Commonly, this conspiracy revolves around global elites (often imagined to be Jewish) working to establish a “communist dictatorship” that will abolish private property and weaken the population into submission through a forced diet of insects (Berenbaum, 2023, p. 239). Since 2022, far-right political figures in the United States and Europe have invoked the conspiracy to varying degrees of familiarity.

For example, Thierry Baudet (2023), a far-right member of the Dutch Parliament, tweeted a picture of himself pouring worms on the ground, captioned “WE WILL NOT EAT THE BUGS.” In Poland, the two major parties (PiS and PO) accused each other of planning to forcibly replace meat consumption with insects (Reuters, 2023). In 2023, the popular right-wing media channel “Prager University” posted a video asking people on the street if they knew that “the World Economic Forum wants you to eat bugs to save the planet.” Notably, none of these examples mention cultured meat.

Although DeSantis is hardly the only politician or major conservative voice to draw upon the “eat the bugs” conspiracy, his statements reveal greater attention to its online origins than other politicians who invoke the eating bugs conspiracy without such context. For one, DeSantis has previously come under fire for campaign messaging that drew on imagery and memes from far-right digital spaces, such as campaign-produced video edits of DeSantis with Nazi imagery to hyperpop music, a style popular in white nationalist online spaces (Cabral, 2023). Although that

staff member was fired after significant backlash, this indicates at least some willingness to indulge in far-right digital aesthetics.

Similarly, DeSantis' press release and public statements on the legislation consistently invoke key actors in the broader bug-eating conspiracy like the World Economic Forum or the World Health Organization. His press release contains the quote "'an overlooked source of protein,'"[2] which links to a 2021 World Economic Forum post on the possible use of insects to feed humans and other animal species like farmed fish. Despite the connection between "eating the bugs" and broader conspiracies about the World Economic Forum, the latter context often drops out when invoked by politicians like JD Vance, Baudet, or members of the Polish government. Vance connected "eating bugs" broadly to enemies of America (Garcia, 2024), while Baudet declined to mention who would force insect-diets in his tweet. The Polish parliamentary debates and a subsequent hypothetical "anti-bug legislation" were tied to European Commission regulation changes around the use of mealworm larvae in food products rather than the World Economic Forum (Tilles, 2023).

Woods and Hahner (2019) describe this type of messaging common to the alt-right as relying on *lulz*, a subversive approach that aims to upend normative assumptions through irony and ambiguity (p. 104). As a given meme or belief system becomes more widespread, more popular figures in the media or the political sphere can invoke its relevance for audiences who recognize it, while simultaneously concealing significant details and its origins to provide plausible deniability if challenged. For example, in 2021, anonymous users on the social media platform "4chan" began sharing memes that embraced the genetic superiority of the "Milk Zone" — parts of the world that supposedly have greater lactose tolerance and tend to be whiter (Woods & Hahner, 2019, p. 103). Popular alt-right posters like Richard Spencer or Baked Alaska began posting milk emojis on Twitter devoid of context, to signal their agreement with the meme but with strategic ambiguity about their knowledge of its origins. DeSantis, by tying cultured meat to the phrase "eating the bugs," is similarly able to upend normative assumptions about the nascent industry by referencing a conspiracy theory some of his audience may recognize, without bearing the responsibility of overtly stating the more outlandish components.

Unlike Vance, Baudet, or Polish politicians who invoke the bug-diet conspiracy in vague terms, DeSantis' tweets and public statements about the bill signal familiarity with the finer details of the conspiracy *and* expand on this conspiracy to include lab-grown meat. When the bill passed on May 1st, the Governor's Twitter account tweeted a legislative explainer of SB 1084, titled "STOP GLOBAL ELITES. SAVE OUR BEEF." This explainer claims that "Florida is punching back at the World Economic Forum's plan to force the world to eat fake meat and bugs to achieve their authoritarian goals" and links to a WEF article about insect consumption (DeSantis 2024a). In a follow-up tweet after he signed the bill into law, DeSantis (2024b) declared that "global elites" want to "push a diet of petri dish meat and bugs on Americans." How cultured meats — a central topic of the bill, unlike bugs — assist the WEF's authoritarian goals is unexplored, nor does DeSantis explain *why* the WEF is pursuing such actions. Simply speaking in the lingo of alt-right conspiracism (Tutors & Burton, 2021) is sufficient to signal to

[2] The quote "an overlooked source of protein" does not appear in the linked WEF article. It's unclear where it originates. Nor does the WEF article mention forcing a diet of insects.

knowledgeable readers the importance of banning cultured meat—and DeSantis' credibility by taking a stand against "global elites."

On May 28th, nearly a month after the bill's passage, the official Governor's Twitter account quote-tweeted the original "SAVE OUR BEEF" explainer in honor of National Burger Day. The governor's tweet reads:

> Happy National Burger Day! In Florida, we reject the WHO and global elites who want us to eat fake meat and bugs. We have taken preemptive action to keep Davos' agenda out of Florida. The @wef can take a hike! (DeSantis, 2024c).

Amidst some negative responses and quote-tweets, there are also responses to this tweet that seemingly embrace DeSantis' attempt to connect the eating the bugs conspiracy and cultured meat. Some users, like @penske2005 (2024) replied "TAKE A HIKE WEF!!!! HANDS OF OUR MEAT!!!!" Others, like @DaveInSWFL (2024) emphasized DeSantis' trustworthiness in light of the legislation, celebrating the cultured meat ban as a "push back against globalists…He's the only one doing stuff to prevent them from taking over the country." Similarly, @AF_okjody (2024) declared that "This is how you beat the NWO [New World Order]." Many replies consisted simply of users posting pictures of meat they had cooked, with a hashtag derived from DeSantis' earlier post on the legislation, #SaveOurSteaks. DeSantis thus occupies multiple roles, both as a "conspiracy broker" encouraging his audience to adapt new information into existing belief systems (Ballard et al., 2022) and as a political leader, whose authority legitimizes such conspiracies into the mainstream and establishes his own position as an outsider to the "elite."

Vaccinated Meat

Alongside "eating bugs," Alabama and Florida political figures also invoked conspiracies regarding the pharmaceutical industry and vaccines, particularly COVID-19 vaccines. Like the connection between "eat the bugs" and cultured meat, the ties between cultured meat, vaccines, or medical experiments is not immediately obvious. However, as some actors that commonly feature in populist conspiracism, like the Gates Foundation, have invested in both cultured meats and vaccine accessibility and research, the two are sometimes imagined to be naturally connected by conspiracy theorists. Indeed, Bill Gates has been a prominent investor in startups that tout the use of CRISPR technology, which can be used for genome editing, in the production of cultured meats (Brodin, 2019).

The unprecedented growth in social media conspiracies and misinformation around COVID-19 and mRNA vaccines, which has been labelled an "infodemic," makes such connections ripe even with little supporting evidence (Zarocostas, 2020). In 2023, anti-vaccine conspiracy theories circulated online that cows and pigs will receive mRNA vaccines, suggesting that meat-eaters will face poisonous effects of the vaccine. The claim spread so widely that the USDA and the National Cattlemen's Beef Association issued statements denying that mRNA vaccines would be used on cattle and clarifying that vaccinations are not transferable through consumption (Frank, 2023). Similar conspiracies about cultured meat and vaccines circulated on the "bottom of the

web" (Reagle, 2015). Take, for example, a representative tweet by @thecavedaddy (2024) one month before SB 23 was filed and while SB 1084 was in committee:

> The same government that wants you to be pumped full of MRNA and DNA-altering vaccines as well as make you eat plastic, lab grown meat…wants to tell you you can't drink raw milk because it's "bad for you."

These conspiratorial and alt-wellness social media circles are connected by a generalized "distrust of institutional authority," which encompasses "the government, the pharmaceutical and vaccine industry" (Baker, 2022, p. 8). In these digital spaces, anti-vaccine sentiments blur together with broad suspicion of pharmaceutical interventions, scientific objectivity, and an embrace of alternative food, lifestyle, and wellness practices. Despite tensions and contradictions, a generalized oppositional stance emerges, for even though "their subject matter may vary…the underlying logic of constructing an evil enemy and heroically seeking to restore Truth, Freedom, and Justice is remarkably similar" (Baker, 2022, p. 11). Cultured meat, which is associated with complicated machinery, artificiality, laboratories, and scientific expertise, is a natural target for such populist conspiracism.

However, the sense that cultured meat was tied to pharmaceutical experimentation or forced vaccination did not remain in online spaces but crept into Alabama and Florida's legislative debates. For example, when SB 1084 was discussed in the Florida House of Representatives on March 5th, the co-sponsor of the bill, Representative Alvarez, said that the bill would ensure that "Florida citizens are not open to your experimentation" (The Florida Channel, 2024a). The debate on SB 1084 the next day continued with references to pharmaceutical control and suspicion of scientific processes. Alvarez closed the second House debate by describing the bill as concerned "corporate capture" to protect Florida citizens, comparing cultured meat to vaccines against COVID-19:

> Just recently we went through 'trust the government. It's safe.' And as we watch people die from myocardial infactions[sic]. We watched cardiac events. We watched the litany of side effects hit us from what the government said is safe. You turn to me and say, 'trust, don't verify?' (The Florida Channel, 2024b).

Like DeSantis, Rep. Alvarez's statements function to nudge members of their audience already embroiled in anti-vaccine beliefs to graft cultured meat into existing conspiratorial worldviews. Rep. Alvarez also engages in the strategic ambiguity common to mainstream iterations of populist conspiracism, declining to mention the word vaccines or to state in detail the comparison—only mentioning vaguely what "just recently we went through" (Woods and Hahner, 2019). In this sense, cultured meat and vaccines are forwarded as analogous extensions of a longstanding and intuitively recognized conflict between "the pure people" and "the corrupt elite," with the bill and its proponents acting as a stand-in for the interest of the people (Mudde, 2004, p. 543).

Alabama's SB 23 was also mired in conspiracies about vaccines. The bill was supported by Health Freedom Alabama, an organization which "grew out of the grassroots movement and statewide collaboration to pass a bill to ban vaccine passports in Alabama during the 2021 State

Legislative session" (Health Freedom Alabama, n.d.-b). Their website features a petition to jail Fauci for vaccine mandates which supposedly caused widespread injury and death, a form to testify about vaccine injuries, records of Alabama politicians who receive donations from Pfizer, and promotions for events showing anti-vaccine media like *Vaxxed III: Authorized to Kill*. In a call-to-action blog titled "Franken-Meat & Masks," Health Freedom Alabama encouraged their audience to voice their support for both SB 23 (to ban cultivated meat) and an amendment to HB9 to prevent carve outs for mask mandates. They suggest that these bills are together representative of "a power grab by the medical establishment…who want to keep you under the thumb of medical tyranny indefinitely" (n.d.-a). The overlap between opposition to cultured meat and vaccines is indicated in the blog's closing remark that "many of our members feel strongly about" both issues (Health Freedom Alabama, n.d.-a).

In the Alabama House debate on SB 23, Rep. Lands voiced her confusion that Republicans were engaging in a "slap in the face to the free market," wondering who was "behind the bill." Rep. Lands suggested that Health Freedom Alabama was a central organization pushing the bill, including spreading to constituents the unfounded belief that there were "vaccines being put in these cultivated products" (The Alabama Channel, 2024b). Indeed, a March 2024 article in the *Montgomery Independent* declared that "anti-vaccine advocates" were pressing to ban cultivated meat and spreading a fear that "the government plans to inject vaccines in cultivated food to secretly vaccinate the public" (Martin, 2024).

One of the co-directors of Health Freedom Alabama, Stephanie Durnin, testified in favor of SB 23 to the Alabama House Health Committee, declaring that the organization's membership supports SB 23 "completely," and that members are "very concerned about lab-grown meat…our members call it 'franken-meat'" (The Alabama Channel, 2024a). This same language about "franken-meat" also emerged in the Florida House Debate over SB 1084, where Rep. Black argued that "cloned meat…is a petri dish" and "Frankenstein meat." Black further suggested that would-be consumers of "nitrogen-based protein paste" (instead of "meat from God") should "go to California" (The Florida Channel, 2024b). The use of these preferred naming schemes links existing discomfort about "lab-grown meat" (Parshall, 2024) to general distrust of science and the pharmaceutical industry, suggesting that complex technical processes make cultured meat inherently dangerous or unnatural.

From representatives to grassroots organizations, political actors organizing for cultured meat bans invoke generalized suspicions of scientific expertise and naturalistic appeals common in the discourses of online conspiracy spaces. As a result, legislators and political organizations instruct their audience—both inside and outside the political sphere — to understand cultured meat as extensions of the same pharmaceutical conspiracy that produced the COVID-19 mRNA vaccines. These rhetors invite their audiences, especially those who already traffic in conspiracies about vaccines, to slot cultured meat into the same existing conspiratorial framework, brushing aside incongruity between the two. As a result, these political figures are, like DeSantis, able to legitimize their anti-competitive stances as part of a larger attempt to defend "the people" against tyrannical elite forces who pose a greater threat to individual liberty like forced vaccinations—much to the frustration of opposing political actors in Florida and Alabama, who consistently pointed out that a cultured meat ban would seem to violate core Republican principles regarding regulation and the free-market.

Concluding Remarks

The global food system is unsustainable and needs to change. Amidst the existential threats of climate change and zoonotic pandemics, bioengineering technologies like cultured meat offer a possible and indeed promising alternative to industrialized animal agriculture. However, reactive rhetoric circulating about cultured meat has hobbled this emergent industry, resulting in decreasing funding and, pertinent to this paper, reactionary right-wing legislation banning cultivated meat's production and sale. These *unjust* permission structures risk kneecapping an industry in its infancy and subsequently preventing the envisioning and rollout of alternative food systems, a decision not only at odds with ostensibly Republican principles of free enterprise, but also detrimental to curbing environmental devastation and animal suffering. In our assessment of anti-cultured meat legislation in Florida and Alabama, we demonstrated how food innovation and technical communication—particularly that surrounding emerging food biotechnologies—can be strategically undermined by political and ideological discourse emerging not solely from "on high," but through a reciprocal relationship between everyday online ecosystems and Congressional chambers. By analyzing the relationship between legislative action and social media narratives, we highlighted how misinformation and populist conspiracism structure barriers to public understanding and policy acceptance of new food technologies.

Technical communicators concerned with alternative food systems can and must navigate and counteract hostile rhetorical environments to foster more informed and productive public discussions about scientific innovation. While cultivated meat is not necessarily a panacea to food systems crisis or environmental injustice, technical rhetoricians must take note of how right-wing legislators have leveraged populist conspiracism to pass legislation that (1) mutes novel approaches to curbing climate change and (2) runs counter to seemingly conservative principles of capitalism and free trade. We offered "reciprocal permission structures" as an explanation of this phenomenon and offered Florida and Alabama's recent cultured meat bans as case studies.

To be clear, there are *legitimate concerns* regarding the potential social and environmental impacts of cultured meat. For example, because the industry is young, it remains unclear if the technologies necessary to produce cultured meat, if brought to a global scale, will *truly* produce substantially fewer energy emissions than traditional agriculture (see Mattick et al., 2015). And, as with other forms of corporatized agriculture, the privatization of emerging protein technologies raises pressing concerns about labor rights and inequity should the cultured meat industry spread worldwide (see Mahoney, 2022). However, the discourses dominating Florida's and Alabama's recent bans on the product show a disturbing discursive pattern wherein legitimate debates about alternative food systems are stifled, reducing complex policy discussions regarding equity, access, and environmental degradation to alt-right populist conspiracy narratives reinforced by reciprocal permission structures. Here, lay and expert discourses on food futures are stifled and hobbled, suppressing both novel innovation in bioengineering and nuanced discussions between stakeholders to align cultured meat with broader goals of social and environmental justice.

Reciprocal permission structures offer valuable insight into how top-down and bottom-up discourses mutually reinforce one another to sustain anti-scientific values and dismantle innovation for social change through the lens of populist conspiracism. Conspiracism is by its nature distrustful of experts and expertise. It sees science as compromised and new technologies as suspicious. As such, when conspiracism emerges as a dominant discourse about a salient political issue, technical communication designed to promote social change is hobbled from the start.

How to appropriately engage suspicious publics is an ongoing question, particularly when stakeholders — be they politicians or citizens — are predisposed to conspiratorial thinking (Taubert et al., 2024). Novel research in de-bunking and pre-bunking offers potential engagement techniques designed to "inoculate" audiences against misinformation and conspiracy mindsets (Compton et al., 2021). Insights from technical rhetoricians could offer a crucial supplement to these largely social scientific approaches, as studies of permission structures are, in a sense, studies of how rhetors "open doors" to previously impermissible thoughts and actions. As former Obama aide Dan Pfeiffer said when articulating permission structures, "sometimes there is an issue that seems intractable and in order to help someone find a path your point of view, you have to build in a process that helps them see your point of view more clearly" (qtd. in Holland & Bohan, 2013, para. 10). Similarly, strategies of *rhetorical inoculation* aim to "close" doors, offering discursive formations that nudge audiences toward more productive epistemes by forecasting and waylaying imminent arguments (see Compton, 2023).

While cultured meat is a favorite target of this political moment, who knows what might come next? Technical communicators must deepen their understanding of conspiracy discourse as it intersects with reciprocal permission structures to have any chance of communicative success amidst these emergent conspiracy cultures.

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