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Pitching agri-food tech: performativity and non-disruptive disruption in Silicon Valley

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ABSTRACT

Food and agriculture have recently become focal points of tech sector innovation and financing. Rapidly multiplying agri-food tech startups are promising to import the tech sector's trademark disruptive innovation into an industry they deem sclerotic, inefficient, and unsustainable. This paper interrogates the cultural and market frictions attending Silicon Valley's foray into food and agriculture through the lens of what is perhaps the tech sector's most prominent narrative genre: the public investment pitch. Building on scholarship that views pitching as a performative practice, we show how pitches serve to mediate the tech sector's entrée into this established industry. Our analysis of four key moments of the agri-food tech pitch reveal how carefully curated framings of agri-food problems and solutions work to reconcile the world-changing ambition and profit-making potential demanded by Silicon Valley investors with the deeply entrenched political economic realities of food and agriculture. Our analysis also suggests a tendency towards 'non-disruptive disruption' (Goldstein, J., 2018. *Planetary improvement: Cleantech entrepreneurship and the contradictions of green capitalism*. Cambridge, MA: MIT Press). Despite nods to disrupting the established industry, the tech sector primarily offers incremental improvements on existing technologies, often developed or marketed in partnership with industry incumbents, underscoring the distinction between technological disruption on the one hand and genuine systemic transformation on the other.

Introduction

The setting is a cavernous warehouse in San Francisco's South of Market district. With décor featuring industrial pendant lighting and exposed pipes, it looks more like the mythical garage of tech origin stories than anything typically associated with food or agriculture. As you enter the space, you encounter a large banner featuring the logo of the hosting organization – generally a company or nonprofit that seeks to incubate innovation and build networks within the tech space – and below it the smaller logos of the event sponsors. These sponsors include venture capital firms and other funders but also, you may at first be surprised to notice, some of the most heavyweight corporations of mainstream food and agricultural production. You move into the main hall and encounter buffet tables replete with typical reception food – cheeses, salumi, dips, and other varied hors d'oeuvres – along with an open bar. The perimeter of the space is flanked by manned tables featuring poster

boards, company literature, and product demos. Some also display exotic food offerings, albeit of the more processed and packaged variety, perhaps a high protein bar made with cricket flour or a vegan meat product. Other displays are centered around models of a technological invention – say, a device for rapidly detecting unsafe microbes on a food, a food delivery robot, or a software platform for analyzing and managing digital farm data. All hold out the promise that technological innovation can drastically improve how food is produced and distributed in the name of sustainability, safety, or efficiency.

For the next hour or so the relatively young, primarily white and Asian attendees eat, drink, circulate, and trade business cards. Many approach the tables to watch product demos and hear mini pitches from the entrepreneurs; others cozy up to the big-name company founders in the room. After attendees are well-plied with food and drink, and the din is a near roar, the crowd is called into an adjoining space, this one likely featuring a raised, brightly lit stage and rows of folding chairs. An upbeat pop tune plays on the sound system as the host takes the stage to introduce the format of the event. This is an agri-food tech pitch event: each startup company will have a short period (generally ranging from four to ten minutes) to pitch their innovation, followed by a few minutes of questions either from the audience or from a small panel of venture capitalists, consultants, or other experts. Sometimes the night ends with the judges or audience voting for their favorite company, which then receives some sort of prize or leg-up from an incubator or venture capital fund. Speaker after speaker crosses the stage, each promoting an ambitious, yet achievable, technological solution to a major problem facing the agri-food system.

Food and agriculture have recently become focal points of tech sector innovation and financing, a domain that they label 'under-invested.' Annual fundraising by agri-food tech startups has been growing rapidly from $2-3 billion per year in 2012 and 2013 to over $8 billion in 2015 and 2016 to over $20 billion in 2018 and 2019 (AgFunder 2019). The covid-19 pandemic, if anything, fueled this trend by highlighting the importance of supply chain efficiency and food safety (Fairbairn and Guthman 2020, Reisman 2021), leading to an estimated $30 billion in agri-food fundraising in 2020 (AgFunder 2021). The sector is defined in different ways, with some technology 'landscape maps' categorizing food tech and ag tech as two different sectors (The Mixing Bowl 2019a, The Mixing Bowl 2019b). However, the line between these sectors is very blurry – think of cellular meat, which would supplant conventional livestock production but be sold directly to consumers as food – and so it is also common to denote a singular agri-food tech sector with technologies running the gamut from edible food products to farm inputs. The sub-categories within this sector are legion: crop and livestock biotechnology; farm management software and big data analytics; in-field and remote farm sensors; farm robotics; vertical agriculture and other novel farming systems; food safety, traceability, and supply chain logistics; cultured meat, plant-based meat, and other alternative proteins; electronic restaurant and grocery delivery apps; and robotic delivery, to name just a few (AgFunder 2019). Though agri-food startups are founded in various geographic locations, in the US the industry is still overwhelmingly concentrated in the San Francisco Bay Area technology hub known as Silicon Valley (AgFunder 2019).[1]

As Silicon Valley becomes an increasingly central player in food and agriculture, it brings with it a particular technological and cultural playbook honed through its disruptive transformation of other sectors. Yet agri-food is not like other sectors. Large and long-standing bodies of scholarship within critical agrarian studies and critical food studies – interdisciplinary fields that span rural sociology, agriculture and food geography, science and technology studies, and more – point to the peculiar material, cultural, and economic characteristics of agri-food production. Political economists dating back to Marx have observed that agriculture's dependence on biophysical production processes lends it many unique characteristics not present in other industries: a production process limited by seasonal growth cycles, product development constrained by plant and animal reproductive processes, exposure to weather and other unpredictable environmental risks, and more (see, for example, Goodman *et al.* 1987, Mann 1990). Yet constant efforts to overcome these material challenges through technological innovation have often produced negative unintended consequences.

Farmers have been aggressively adopting new technologies for decades in pursuit of ever-increasing yields, leading to high costs of production, low crop prices, and high rates of farm failure (Cochrane 1979, Guthman 2004, Bell 2010). Over the long term, the most evident beneficiaries of this techno-logical change have been agri-food corporations, which have cut into farmer profits both upstream (as farm-made inputs have been replaced by costly patented products) and downstream (as farm-made foods have been replaced by lab-made substitutes) (Goodman *et al.* 1987). The food industry, meanwhile, also faces fierce market pressures. It is highly dependent on consumers, whose ideas of what constitutes 'good food' (Biltekoff 2013), or even edibility itself (Roe 2006, Sexton 2018), are highly normative, culturally specific, and resistant to change (Belasco 2008). The entire agri-food industry has been subject to cannibalistic competition resulting in a small handful of 'incumbent' agribusiness corporations dominating everything from agricultural input provision to meat process-ing to food and beverage manufacturing (Heffernan 2000, James *et al.* 2013, Hendrickson 2015, Howard 2016). Recent scholarship has examined current areas of technological innovation in food and agriculture (e.g. digital agriculture, farm robotics, alternative proteins) and found a ten-dency to follow the same trajectories of growing farm sector consolidation and corporate control (Wolf and Wood 1997, Bronson and Knezevic 2016, Carolan 2017, Miles 2019, Rotz *et al.* 2019, Chiles *et al.* 2021, Howard *et al.* 2021).

With close attunement to the material specificities and political-economic dynamics of the agri-food industry, this paper interrogates the cultural and market frictions attending Silicon Valley's foray into food and agriculture through the lens of what is perhaps the tech sector's most prominent narrative genre: the public investment pitch. Through the pitch, Silicon Valley entrepreneurs must concisely yet charismatically convey the value of their innovation. But the pitch is not just a stylized format for persuasion. Instead, growing bodies of research in economic sociology and entrepre-neurship studies suggest that it can be fruitfully viewed as a performative practice that influences the trajectories of individual startups and even entire economic sectors. The pitch creates market opportunities for new firms by imbuing them with legitimacy (Lounsbury and Glynn 2001), pro-viding them with iterative rounds of feedback that shape their eventual form, and enrolling the part-ners who can eventually make their envisioned project a reality (Benton 2020). It also shapes economic prospects for entire industries by dramatizing promissory futures of technological change and attendant profit which, if they are convincing enough, may attract investor funding and become real (Tsing 2000, Rajan 2006). However, despite growing interest in the market-making functions of the pitch, little attention has so far been paid to how pitches may mediate the entrée of the tech sector into established industries.

Focusing on the agri-food tech pitch allows us to bring together two literatures rarely put into conversation: cultural economy's interest in the performative depiction of new markets with critical agri-food studies' interest in real-world consequences of technological change in the food system. We contribute to cultural economy work on the market-making role of the pitch by asking: how does the pitch facilitate the tech sector's entry into food and agriculture? At the same time, by show-casing the imaginaries with which tech entrepreneurs depict the agri-food system, the pitch sheds light on the types of agri-food futures made possible by the tech sector's increasingly central role in food provision. We therefore simultaneously contribute to critical agri-food scholarship by asking: what can the agri-food tech pitch tell us about the possible outcome of the tech sector's growing involvement in food and agriculture? In other words, we are interested in both what agri-food tech can tell us about the pitch and what the pitch can tell us about agri-food tech.

After describing our methods and positioning our work in the context of scholarly work on the pitch, we proceed systematically through four key 'moments' in the agri-food tech pitch, consider-ing how each emphasizes, ignores, or otherwise strategically frames the existing agri-food industry. The agri-food tech pitch, we argue, serves to navigate an inherent tension between, on the one hand, the combination of world-changing ambition and profit-making potential demanded by Silicon Valley investors and, on the other, the political economic realities of food and agriculture. It helps frame the problems of the agri-food system such that these complex and entrenched

challenges appear most amenable to the kind of solutions the tech-sector can provide. This involves ignoring some inconvenient details about the reality of agri-food production, while highlighting others for their ability to lend moral weight to the startup's project or suggest a reliable path to commercialization. At the same time, the promissory nature of the agri-food tech pitch offers hints at the likely futures enabled by the tech sector's venture into food provision. It reveals a tendency towards what Jesse Goldstein (2018) terms 'non-disruptive disruption' – though couched in a discourse of revolutionary and systemic change, the sector primarily offers incremental improvements on existing technologies, often developed or marketed in partnership with industry incumbents.

Methods

This paper draws on research our team conducted from August 2018 through March 2020. During this time, we conducted participant observation at 34 agri-food tech events in the broader Bay Area (Silicon Valley) ranging from evening events to multi-day conferences, many of them involving a pitching component. Our research approach was informed by collaborative event ethnography. Recognizing that it is at events that decisions are made that 'shape the ideological and practical orientations of institutions' (Brosius and Campbell 2010, p. 247), this approach provides opportunities to capture engagements between various actors in the context of a time-condensed meeting (see also Nyqvist *et al.* 2017). We also draw from some of the 41 interviews our team conducted during this period with agri-food tech sector actors, including entrepreneurs, investors, and tech incubator and accelerator executives. Though informed by all of this data, this paper draws primarily from a close reading of eight pitch events, which comprised a total of 36 individual pitches. The researchers took extensive field notes during these events, some of which were also filmed and posted online by the organizers, allowing for subsequent review.

There are many different types of pitch, which are performed in different contexts, for different audiences (Chapple *et al.* 2021), and at different stages of a startup's development (Teague *et al.* 2020). The pitches in our sample were public investment pitches: short, charismatic presentations by a startup founder, accompanied by sleek visuals (the all-important 'pitch deck') before an audience of investors, fellow entrepreneurs, and others linked to the tech sector. Though pitches can vary in length, the ones we discuss were all brief – in the 3–10 min range – and therefore more oriented towards generating buzz and piquing investor interest than resulting in any immediate funding decision. Though the companies were at different stages of development, all would have been interested in attracting funding from either angel or venture capital investors.

Performing disruption, conjuring capital: the Silicon Valley pitch

The activity of pitching is central to the high stakes venture capital ecosystem of Silicon Valley.[2] Pioneered by charismatic entrepreneurs such as Steve Jobs, the promotional pitch has now been absorbed into popular culture, its compact format and idealistic entrepreneurial ethos visible everywhere from TED Talks and television's *Shark Tank* to pitch contests for literary contracts and philanthropic programs. Pitches make a fascinating object of study because they are so highly performative. This is true both in the dramaturgical sense of being highly staged and carefully rehearsed performances designed to convey a public image of the company, and in the theoretical sense of iteratively shaping the future they purport to describe (MacKenzie *et al.* 2007). The pitch dramatizes the possibilities of future technological change, value generation, and market growth, and in the process attempts to conjure the investor capital that could one day make these things a reality. The performativity of the pitch is thus also what makes it a compelling vantage point from which to view the tech sector's attempts at market-making: it supplies a compelling narrative that frames and thereby facilitates the entry of tech into a new and unfamiliar industry, while its future-orientation offers insights into what the outcomes of this entry could be. Here we examine

how the pitch as performative practice has been understood by scholars in entrepreneurship studies, economic sociology, and economic anthropology.

The explicit function of the pitch is to raise capital for early-stage ventures by presenting a start-up's value proposition in an efficient and persuasive format. Within entrepreneurship studies, the dominant tendency has been to accept this purpose of the pitch at face value. Much of this literature adopts a positivist perspective (Teague *et al.* 2020), seeking to understand investor decision-making processes and asking which elements of the pitch are most likely to result in a favorable funding decision (see, for example, Maxwell *et al.* 2011). However, even as this work tends to conceive of investors as rational economic decision makers, it has nonetheless shown that the *performance* of the pitch is vitally important to receiving a positive funding decision. Investor decision-making is not based solely on the substance of the pitch, but also – and more than they care to admit – on the manner in which it is presented (Clark 2008), as well as on the founder's perceived characteristics, including how passionate they appear to be about the enterprise (Chen *et al.* 2009). Research in the vein of 'cultural entrepreneurship,' meanwhile, reconceives the pitch as a form of cultural storytelling which, when done well, weaves a credible and engaging narrative that confers a sense of legitimacy upon a new venture, reducing investor doubts about funding it (Lounsbury and Glynn 2001). Silicon Valley itself has reached the same conclusion about the central importance of the presentational aspects of the pitch. Pitching skills are now taught by a whole subsector of incubator and accelerator programs, consultants, and events dedicated to training startup founders to recite the value of their company in a manner calculated to attract investor capital. Indeed, this intensive training in how to present the value of one's company – and, crucially, oneself as company founder (Benton 2020, Ghosh 2020, Komulainen *et al.* 2020) – can be seen as 'a key part of the entrepreneurial enculturation process in Silicon Valley' (Jervis 2020, p. 321).

Crucially, a good pitch will often perform moral values as well as economic ones. A frequently noted element of Silicon Valley culture has been the instrumentalization of moral mission by technology companies. Google's original motto, for instance, was 'Don't be evil' and Facebook's Mark Zuckerberg long described the social network's main mission as promoting empathy and connecting people. Many tech companies similarly animate their public relations with claims to improve the world or make consumers' lives better through their product, a moralizing reflex inherited from earlier communalist movements that shaped the region (Turner 2006). The reigning Silicon Valley ideology of 'disruptive innovation' plays a key role in reconciling moral worth and economic value creation by conflating radical technological reinvention with social progress (Gianella 2015, Hogarth 2017). Entrepreneurial storytelling can play a key role in interweaving the dual imperatives of Silicon Valley to both 'make a difference' (i.e. change the world) and to 'differentiate' one's company (i.e. find a profitable market niche in a competitive market) (O'Connor 2000). In our view the pitch is essential to dramatizing this blend of monetary and ethical values. Performed with 'missionary zeal,' the 'salvationary-cum-profitable structure' (Rajan 2006, pp. 124–125) of the tech pitch touts a company's potential for disruptive 'impact,' making visible – and thus investible – their 'world-changing' ambitions.

The pitch doesn't just narrate the value(s) of a company or the market opportunity it envisions – it is a relational practice that actively helps to create that value and market opportunity through experimentation and network-building. Recent entrepreneurship research reveals that the functions of the pitch go well beyond simply soliciting funding. Instead, the process of developing and repeatedly delivering the pitch can be seen as a social practice through which the startup founders build relationships, receive and incorporate critical feedback, and hone their entrepreneurial approach (Teague *et al.* 2020, Chapple *et al.* 2021). In other words, startups don't just make pitches pitches make startups (Benton 2020). These findings intersect with work on the 'sociology of demonstrations,' which understands business models, product prototypes, and other similar entrepreneurial artifacts as 'market devices' that function less as accurate descriptions of the new venture than as opportunities to test its potential feasibility or enroll allies who could help make it a reality (see also Doganova and Eyquem-Renault 2009, Berglund *et al.* 2020). These performative effects can extend

beyond individual startups to entire markets. Successful business plans can become templates that circulate and inspire imitation by other companies looking for ways to extract profit from a new field (Doganova and Muniesa 2015). The same can be said of successful pitches, which circulate in digital format as videos or pitch decks (cf. Stark and Paravel 2008), as well as being chronicled in the considerable self-help literature on pitching.

At an even more fundamental level, pitches are performative in the sense that they narrate technological and economic possibilities and, in the process, help to make those possibilities into reality by attracting investment capital to fund them. For most early-stage tech startups, the product and revenue streams described in the pitch do not yet exist, and they only ever will if the founders succeed in raising the capital needed to bring them into existence. As Tsing (2000, p. 118) puts it, start-ups must 'dramatize their dreams in order to attract the capital they need … profit must be imagined before it can be extracted; the possibility of economic performance must be conjured like a spirit to draw an audience of potential investors.' The pitch helps summon forth investment capital – and the futures it can make possible – by providing a format in which to succinctly and convincingly narrate 'a shared work of imagination' predicated on 'potential rather than analyzing actual performance' (Benton 2020, pp. 496–497). Pitches, therefore, are just one of the many ways in which technology companies summon forth 'promissory futures' (Rajan 2006, p. 119) that they hope – but can never guarantee – may one day come into existence. Here, too, there is reason to think that the activity of pitching plays a role in constructing and stabilizing entire technology sub-sectors, not just individual companies. Public pitching events fuel collective excitement around certain entrepreneurial visions of tech-centric futures, infusing them, as Benton (2020, p. 494) explains, with 'emotional energy' and 'creat[ing] the sense of dynamism the field needs to function.'

Of the many functions of the pitch, one area has received comparatively little scholarly scrutiny: how the activity of pitching may serve to mediate – and simultaneously prefigure – the tech sector's entry into already established industries. Breezy discourses of disruptive innovation notwithstanding, instigating meaningful change in an established industry is not a straightforward task. Long-standing industries are characterized by entrenched social relations and material infrastructures that are not easily disrupted by newcomers from Silicon Valley – at least not while producing the kinds of profits that tech funders have come to expect. This tension is hinted at by Chapple *et al.* (2021), who demonstrate that the kind of pitches that resonate with investors may fall flat when presented to analysts who are deeply familiar with the specifics of the industry in question. Such entry may be particularly fraught when Silicon Valley is setting itself up as a savior to transform an industry it has deemed environmentally or socially problematic. One of the few studies to foreground this tension is Jesse Goldstein's (2018) ethnography of the green energy industry, known as 'cleantech.' His research, which included attending many pitch events, reveals that overhauling an existing industry, known for its production of waste and environmental damage, while also meeting the demands of venture capitalists – who want social impact but also a clearly delineated route to profitability – is a very tall order. As a result, cleantech ends up being characterized by what he calls 'non-disruptive disruption': cleantech entrepreneurs tout their desire to save the planet from environmental destruction, yet the disciplining power of investor capital selects for incremental technological change and guaranteed profitability, ultimately precluding the kind of systemic transformation needed to address the root causes of environmental crisis.

The challenges of the agri-food industry, like those of the energy industry, are highly complex and have not historically proven themselves very responsive to whole-cloth, technology-driven transformation. Not only has past technological change contributed to declining farmer incomes and corporate consolidation (Howard 2016), it is largely responsible for the environmental and public health ills that Silicon Valley now aims to fix (Guthman 2004). In the remainder of the paper, we dissect the agri-food tech pitch, exploring simultaneously how the tech sector deploys the pitch to account for its entrance into the idiosyncratic and fraught agri-food industry *and* what the pitch can tell us about the possible outcomes of their union. The pitch, we argue, plays an important role in that it provides an opportunity for founders to narratively frame their

contribution to the existing agri-food industry, highlighting some aspects of the industry while excluding others from consideration. Specifically, agri-food tech pitches narrate the existing industry in ways that add moral weight to their efforts at changing it and make its problems seem relatively tractable to the kind of technological solutions Silicon Valley can offer. At the same time, these pitches provide a window onto the kind of futures agri-food tech can deliver, revealing a tension between grandiose promises to transform the industry status quo and a need to work within existing market structures in order to ensure the profitability investors demand.

Anatomy of the agri-food tech pitch

Agri-food tech pitches follow a fairly standardized format. They generally begin by outlining a systemic problem besieging the agri-food system, go on to present the company's innovative technological solution, describe the potential market, and wind up by relating practical aspects of their business plan. In each successive component of the pitch, the existing agri-food industry plays a central role as the context against which entrepreneurial innovation takes place. However, in service to the narrative genre of the pitch – which must be both inspirational and credible, delivering both world-changing ambition and surefire returns – the existing industry features in very different ways throughout the pitch: sometimes appearing as an unsustainable foil against which claims of technological disruption are deployed, at other times appearing as the source of legitimating institutional affiliation to anchor promises of future revenue streams. In the process, the actual, complex reality of the agri-food system is frequently bracketed in favor of a narrative most compelling to investors, raising questions about the tech sector's ability to create the meaningful change it promises.

The problem: simplified stories of agri-food dysfunction

Though the exact order may vary, most agri-food tech pitches begin by introducing the problem that the proposed technology will solve. This problem, at least when framed for a Silicon Valley audience, is generally a 'grand challenge' (Kaldewey 2018) that is massive, complex, global, and morally weighty, such as climate change, global hunger, animal welfare, foodborne illness, or food waste. This opening both creates a sense of urgency and appeals to the reigning ethos of bettering the world with surprisingly simple technological fixes.

　　The most pervasive problem raised in agri-food tech pitches is the specter of global food insecurity. This is generally attributed to population growth, sometimes paired with climate change-induced farm productivity loss, dwindling agricultural land, or growing demand for protein in emerging economies. This problem-solving framing was salient in many of the pitches we attended:

> We have to produce a lot of calories to feed us, to feed the human population on this planet right now. The problem is that … by 2050 we have to double the amount of calories that we need to produce. The other bad news is that the land area that we have available for this is actually quite small and, due to climate change, the surface that we are currently using for traditional agriculture is certainly not extending and most probably shrinking, some estimates say quite drastically by 2050. [aquaculture startup]

> So why have such a vehicle? Well, 2019 marks the ten-year anniversary of the FAO's seminal paper, 'How to Feed the World by 2050.' Well, we've used up a quarter of our time. We must, and we really must, accelerate our move towards sustainable agriculture. [autonomous farm robot startup]

Often referenced by the shorthand of '10 billion by 2050,' this problem framing exploits the unique emotional power of food and hunger to add moral salience to almost any food- or agriculture-related technology, while also infusing the presentation with the sense of urgency so attractive to Silicon Valley investors. A technological advance that might seem relatively narrow in its scope of impact – such as a self-driving robot that provides digital information about the health of

fruit trees – becomes much more impactful when framed as part of a pressing battle to feed a grow-ing world population.

Such neo-Malthusian problem framings are dramatically compelling – they allow the entrepre-neur-storyteller to appear as the 'epic hero' in the '"change the world" storyline' favored by Silicon Valley (O'Connor 2002, p. 37) – but they do not actually present a very complete picture of agri-cultural reality. They neglect the fact that gains in global food production have outstripped popu-lation growth for decades (Weis 2007), and in the US – where many of these technologies are at least initially targeted – the greatest challenge facing farmers has actually been a recurrent *oversupply* of many farm products (Winders 2009, Graddy-Lovelace and Diamond 2017). In fact, this oversupply problem is largely attributable to technological change. US farmers have long been subject to what Cochrane (1979) famously described as a 'technological treadmill': as new technologies facilitate higher agricultural yields, crop prices tend to decline, forcing farmers to either adopt the expensive new technologies or go out of business entirely. This relationship between agricultural technology and surplus production largely explains why the population of US farmers has declined from almost 7 million in the mid-1930s to roughly 2 million today (Howard 2016). Yet such histories must be strategically ignored in the pitch, since the technological solutions on offer generally promise to increase production. The pitch therefore plays a key market-shaping role of framing the problem such that it matches with the type of solution tech startups can provide.

Another common class of problems to feature in the agri-food tech pitch are those created by the very food or agriculture industry status quo that the entrepreneurs seek to displace. Goldstein (2018) labels this phenomenon the 'non-impactful foil.' Entrepreneurs, he observes, often conjure what they see as wasteful, purely profit-oriented, uncreative, and otherwise 'boring' industries as a foil to highlight the impactful nature of their own entrepreneurial ambitions and future imaginaries. In agri-food tech pitches, the non-impactful foil of existing agri-food industries is often the consti-tutive antagonist of the grand challenge addressed. This is particularly the case when it comes to the livestock industry, which is central to the problem section of many alternative protein pitches:

> School kids from all over the world in their thousands are now taking it upon themselves to protest on the streets. They're demanding action on climate change because it's their future and they're fighting for it … And sustainability has never been more needed than for an industry we quite frankly don't hear enough about: the dairy industry … I've seen firsthand the amount of damage that this industry can cause, where one dairy cow produces twice as much methane as a beef cow. And it's an industry that produces one of the most unsustainable of all food products: cheese. *[lab-cultured cheese startup]*

> Well, industrial agriculture may have its benefits but it also has its costs … . One, animal welfare. Every year, billions of sentient beings are confined in small areas and slaughtered for their meat. Two, environmental impacts. Industrial agriculture can generate a lot of meat but it can generate a lot of waste … And third, food safety … every year thousands of people die from foodborne illnesses. Lab-grown meat, cultured meat, can address all of these issues. *[cultured meat startup]*

Such problem statements are delivered with passion and conviction and often accompanied by striking images, dramaturgical elements designed to generate affective responses. The second speaker quoted above, for instance, illustrated the inhumanity of industrial agriculture with a photograph of a pig, its snout pressed through the bars of its small enclosure. A startup pitching pet food made from alternative protein sources, meanwhile, was accompanied by video clips show-ing densely packed chickens and cattle in industrial livestock production facilities. The existing agri-food industry, because it contributes to a range of planetary problems – from climate change to food waste to animal cruelty – serves as a useful foil against which tech-sector companies can pitch their technologies of improvement. Incumbent actors are depicted as figments of the past: unethical, inefficient, unsustainable, and generally ripe for disruption. This problem framing allows the presenter to affectively engage the audience while simultaneously highlighting their company's own virtuous pursuit of 'impactful,' if promissory, industry transformation for a better future.

While the existing agri-food industry is ever-present in these pitches, it tends to be described on a very abstract level, with just enough detail to serve as backdrop or anti-hero. It is therefore

somewhat rare to find a problem statement that is specific to the nitty gritty of food or agriculture. One notable exception was the pitcher at an ag tech event who began with the problem statement: 'Potatoes don't have sex.' Tellingly, he first introduced himself with a slightly awkward and self-deprecating preamble: 'Good afternoon, we're going to talk potatoes. It's unbelievable there are so many people still in the room. Most of the time everybody leaves when I start talking about potatoes.' Though the problem description that followed – all about the inherent material difficulties of potato reproduction – was actually quite compelling, it was nonetheless highly potato-specific. His preamble suggests an awareness that, in Silicon Valley at least, potato sex doesn't sell. For the pitch to live up to its performative function of conjuring investor capital and imagining new frontiers for tech sector expansion, problem framings must be grand and emotionally compelling, their drama more important than their realism. The existing agricultural industry can provide this drama but it requires careful curation – bringing some elements of agri-food dynamics into the frame and excluding others.

The solution: technologies tenuously grounded in agri-food realities

At the start of a multi-day agricultural technology conference in San Francisco in 2019, the keynote speaker demanded that the audience strive to discover agricultural 'moonshots' – ideas so disruptive that they seem impossible, or even laughable, until they have been executed. He described the development of the Haber Bosch process for artificial nitrogen fixation as an example of a previous agricultural moonshot. The idea of taking nitrogen out of the air for use in fertilizer would have seemed preposterous to people just a few years earlier, he argued, yet it happened; it revolutionized agriculture, and it 'arguably saved humanity.' 'Those laughable proposals are what change the world,' the speaker argued. Throughout his speech, he exhorted the audience to abandon incremental change and instead come at problems with completely fresh ideas. 'If you want to make ten times the change in the world rather than the 10% changes in the world that most efforts are really working towards, if you want any chance at a Haber Bosch-like breakthrough,' then you have to stop 'tinkering around the edges' and instead adopt a 'starting over mentality.'

In line with Silicon Valley's pursuit of morally impactful disruptive innovation (Hogarth 2017), food and ag tech pitches frequently promise that their technology will contribute to the greater social good. Sometimes pitchers explicitly state that their technology has world- or industry-changing potential:

> This is going to be truly revolutionary, I think. Just like how smart phones have revolutionized your social and work lives, we believe this technology will revolutionize agriculture. [autonomous farm robot startup]

> Our stuff is cheap and it takes heat and it's going to change the world. [green food packaging startup]

> We have made a unique, a once-in-a-decade, disruptive scientific discovery … This, this is huge, and it's going to change this industry. [plant biotechnology company]

More often, however, the disruptive potential of the technology is simply implied by the magnitude of the problems it purports to solve.

In fact, despite these world-changing ambitions, the majority of innovations pitched represent relatively incremental and technical solutions that can rapidly fit into existing market structures. Within ag tech, many recent startups work on aspects of supply chain logistics, on-farm sensors, digital farm management platforms, and various types of field imaging – all representing incremental improvements on the existing digital agriculture tech landscape, which has been evolving gradually since the advent of precision agriculture in the 1990s (Wolf and Wood 1997). Food tech, meanwhile – the headline-grabbing potential moonshots of 'air protein' and cellular meat notwithstanding – is largely populated by numerous takeout and grocery delivery apps, cloud infrastructure for restaurants and retailers, and reformulated consumer packaged goods involving mildly novel ingredients.[3] The limited novelty of such food tech 'solutions' is even occasionally noted within

Silicon Valley: 'we don't want another granola company,' lamented one unusually candid food tech accelerator executive we interviewed. Across both food and agriculture, many startups offer to import the sharing economy model of AirBnB and Uber, including companies that rent out unused commercial kitchen space (e.g. The Food Corridor) and those that rent out unused tractors (e.g. Hello Tractor). As these examples imply, many of the technological solutions presented in pitches have actually been transferred from other industries, suggesting that supposedly 'revolutionary' solutions are in fact often products of convenience and cross-sectoral reapplication. In such cases, the pitch functions to elevate even relatively mundane technologies and business models by lending them an aura of world-changing potential calculated to appeal to venture capital.

Importantly, entrepreneurial narratives of massive and impactful changes do not resonate equally well with all audiences. We found that the framing of pitched solutions tended to be more ambitiously promissory and morally saturated when aimed at an audience of investors and tech-sector professionals (the kind of Silicon Valley audience that is the focus of this paper) and considerably more targeted and pragmatic when addressed to an audience of growers and other agricultural professionals (what we might call a Salinas Valley or Central Valley audience). This aligns with Chapple *et al.*'s (2021) finding that pitches prepared for an investor audience often fall flat before an audience of industry analysts, who want realism and accuracy in place of vision and passion. These performances also differ dramaturgically, requiring quite different self-presentation. When asked how one pitches to a farmer audience, the founder of an agricultural imaging company reflected ruefully that, 'You don't do what I did at my first farmer conference in the Central Valley where I wore tight black jeans and kind of like a hipster shirt and used swear words while talking to them. That is what you don't do.' While Silicon Valley rewards a performance of youthful vigor and irreverence for the unforeseen technological breakthroughs they may produce, to an agricultural audience these traits may instead convey ignorance of or disrespect for an established industry.

Some ag tech professionals with closer ties to the agricultural industry question the entire Silicon Valley approach to divining solutions. For example, one executive at an ag tech incubator, despite being generally very appreciative of tech sector contributions to agriculture, expressed frustration that its solutions are sometimes neglectful of the real economic needs of growers, as well as of the skill and knowledge they already apply to maximize their yields and profits. It made him 'bristle,' he said, when tech sector people spoke deprecatingly of growers as doing only 'back-of-the-envelope calculations,' when in fact they mostly employ highly sophisticated planting schedules. Addressing the disconnect between tech sector solutions and grower needs, he explained:

> Around here, we can't imagine a world where demand exceeds supply on a routine basis … In fact, I'm playing around with a seminar concept of, you know: 'Could you please stop talking about yield forecasting with the idea like we don't know what the hell we're doing?' Because so many things factor in that. So, for instance, if someone walks in here, and says, 'Well, I'm going to help you get more yields on lettuce.' I go, 'Really? If I'm a count-based shipper, are you going to increase my plant population?' Or, you know, [they say] 'we do certain things that increase, where you're growing this size instead of that size.' Okay, well now I'm growing a basketball instead of a head of lettuce, well that reduces my plant population.

After decades of yield-increasing (and input cost-increasing and product price-depressing) technological change, farmers are hardly new to technology. Even large and successful growers generally operate on very small margins, making them skeptical of technologies that do not add considerable value (Buttel and Busch 1988, Gillespie and Buttel 1989). Long histories of technological change in agriculture – from seed genetics to mechanization to pest control – are thus almost always left out of the pitch narrative with the effect that pitched technologies appear as novel, standalone inventions. Such exclusions are another way to convey the sense of impact that investors desire and to avoid some thorny, practical questions about effects on farmers.

Indeed, because Silicon Valley works with very different incentives than agriculture, ag tech startups may succeed even if their usefulness to farmers is limited. A compelling problem narrative and quickly deployable technology may be more important for attracting investors than a solution

that addresses agricultural problems in all their complexity. An ag tech consultant we interviewed explicitly connected Silicon Valley's performative idealism with its failure to properly consult farmers about the solutions they want:

> I want to help the world as much as the next guy, but so many of these people from Silicon Valley [say], 'Oh, I worked for Google, and now I just want to save the world for my grandkids.' And it's like, 'Well, all right. Why don't you work with some people from ag, and listen to them?' … I mean, I know people who have raised $5 million without ever talking to a farmer. Because they watch the news that farmers have a problem with drought, and water, and nitrates in the soil, and [they think] 'Oh, well, I can fix that.' Four years later, they haven't fixed it. They've pivoted to do something else that makes sense to their investors to try to get some money coming in. So people don't listen to what farmers need.

His claim that an ag tech startup could raise millions of dollars 'without ever talking to a farmer' suggests a disjuncture between the type of solutions that appeal to venture capital and those that appeal to farmers. Some ag tech startups find success, the consultant argued, simply because their team is extremely good at venture capital fundraising:

> The big problem with our investors is that they aren't looking for you to build a good company. They're looking for an exit. All of these VCs, they do not care that you ever make a penny profit, or that you're building something anybody wants. They want their 10X return from someone else wanting that product.

The financial logic of Silicon Valley, in other words, favors innovations that are easy to sell to other companies, rather than those that provide the greatest value to farmers. This is a slightly new twist on the otherwise familiar story of agricultural technology companies 'appropriating' value from farmers through the sale of expensive inputs whose benefit to the corporate vendors is much more evident than their benefit to farmers (Goodman *et al.* 1987).

Food tech, like ag tech, is rife with solutions disconnected from actual problems. Some of these disconnects are common to both, as when the embrace of productivist problem framings leads to a misdiagnosis of consumer needs. The food tech accelerator executive who complained about the excess of granola companies, for instance, explained:

> The reality is right now, we have too much corn, soy, dairy than we know what to do it. So, all of those people are making investments on a perceived shortage of food scarcity [*sic*] in 2050. We're recognizing there's an abundance of food right now. We have a mismatch in terms of getting calories to the right people at the right place.

In addition to misconstruing consumer *needs*, food tech can also sometimes misconstrue consumer *desires*. One notorious example, Juicero, was a mid-2010s startup that garnered $120 million in funding from Silicon Valley venture capital stalwarts including Kleiner Perkins and Alphabet to produce a flashy 'smart juicer' complete with internet connectivity, a scanner, a microprocessor, and other features (Huet and Zuleski 2017). When it was shown that one could just as easily squeeze the proprietary subscription packets of fruit and vegetables by hand to make juice – without using the $400 juicer – the product was quickly labeled 'the poster child for Silicon Valley stupidity' (Nguyen 2019). In a similar vein, Bodega founders raised capital in 2017 with the promise of a technified vending machine that was widely excoriated as a brazen marker of gentrification that threatened to replace immigrant-owned convenience stores while stealing their name (Judkis 2019).

Such boondoggles further illustrate the function of the pitch: to coordinate – and indeed constitute – markets by conjuring capital for solutions that are compelling to investors, but may be bereft of problems that actually need solving in the food system.

The market: massive problems, massive potential profits

The next step in the pitch is often to describe the size of the potential market, a question of paramount importance to investors. While waiting for the presentations to begin at one pitch night on the theme of 'How Biotechnology is Saving the Planet,' one of our team's researchers fell into

conversation with a scientist who had developed an invention he hoped to eventually commercialize. He explained that his innovation, which involved a novel technique for straightening proteins, had many food science applications, but he did not expect much investor interest because it was 'only a million dollar idea.' To attract venture capital, he explained, you really need a 'billion dollar idea' – 'the problems, the profits, the people affected all need to be in the billions.' 'The presenters today probably won't even say the "M word" at all,' he predicted. Ideally, in fact, they would find a way to use the word 'trillion.' The planet-saving ambitions of the event, he suggested, were partially a response to this investor appetite for enormous markets; the requisite billions are more easily evoked for planetary scale growth. His commentary proved uncannily accurate. Before introducing the speakers, the moderator began by describing the many dire challenges facing planet earth, including climate change, pollution, and population growth. But, she went on to say, 'we can pivot to population growth as an opportunity. A $100 trillion market is going to open up due to the increase in population, so we think that biotechnology can contribute to a lot of these different industries.' In this moment, she deftly transformed the master grand challenge category of population growth into an imagined future market opportunity not to be missed.

Depicting a huge potential market is one of the surest discursive maneuvers for conjuring investor capital. The promissory prospect of locking in even a small share of a massive preexisting market serves to reassure potential investors that they will make a profit. When asked in an interview what makes a good pitch, the co-founder of a tech company that ferments plant-based dairy products explained:

> Something that all [prospective investors] care about is big industry size numbers. They don't care if you have the perfect solution for an industry that's just worth $1 billion or $4 billion … They like companies where, I mean, the dairy industry is $700 billion. If we capture one percent of that, we've made back their return 10 times easily. It's more about big market sizes, big impact, and big return potential.

Because of its importance to investors, pitches almost always address the issue of market size. To give just a few examples: a food imaging startup positioned itself in the context of the $2 trillion global fresh food market, a cultured meat startup promised to 'take a bite out of the $33 billion US pet food market,' while a lab-cultured cheese startup pointed to the meteoric rise of plant-based milks and asked the audience to imagine the same thing happening in the $136 billion cheese market. Slides represent this market, often in the form of nested circles, that progress from the most immediately conquerable market subsector to the colossal 'total available market' which takes up most of the slide.

At this moment of the pitch, the specificity of food and agriculture is once again very selectively framed. The fact that food is a biological necessity for survival provides agri-food tech companies with excellent narrative fodder, allowing them to posit a potentially massive and ever-expanding market. The reality of the food industry, however, is that individual products or brands rarely garner large segments of food markets. These markets are renowned for being intensely competitive, as new products 'cannibalize' existing ones (Levenstein 1988, Howard 2016). The pitch format allows founders to appeal to investors with the allure of massive and global markets while the problem of fragmented and fickle food markets is strategically omitted – or simply not countenanced.

The business plan: working with incumbents

The presenter generally ends the pitch with a concrete and immediate plan of action for capturing that market. This final portion of the presentation, what we are calling the 'business plan,' is actually comprised of many small subsections, each focusing on a practical detail of the company's plan: the revenue model, the plan for taking the product to market, the proposed timeline including any milestones already achieved (e.g. funding received, intellectual property rights acquired, regulatory

hurdles cleared), the company's key personnel and advisors, and possibly even the company's ultimate exit plan.

This is frequently the moment in the pitch when the presenter establishes legitimacy by demonstrating links to established institutions and actors (cf. Lounsbury and Glynn 2001), including those in the agri-food industry. In reciting their team's bona fides, a near requisite feature of the pitch, they might mention past experience with incumbents. Or they might list incumbent advisors to the project.

> I put together an awesome team; together we have over 200 years of manufacturing experience *[green packaging start-up]*

> We've put together a team of seasoned veterans in biotechnology and pet nutrition to execute our road map, including professionals who led R&D development at companies like Genencor, Nestle, Purina, and Blue Buffalo. *[vegan pet food start-up]*

Presenters may also reveal that incumbents are among the startup's early-stage investors, demonstrating a vote of confidence that can bring considerable credibility to the company.[4]

Within food tech, specifically, partnering with incumbent corporations can be important for product formulation. Startups developing products with novel ingredients may risk problems with biological integrity, for instance. The tech-centric meal replacement brand Soylent famously discovered this vulnerability when it released an updated 'version' of its drink powder, Soylent Formula 1.6, which made some customers sick and led to a recall (Lomas 2016). Food entrepreneurs also often encounter the 'yuck factor,' a widely understood reference to consumer rejection of foods that evoke disgust, often due to being culturally and aesthetically unfamiliar. Partnerships with mainstream food manufacturers, accustomed to working with unpleasant sounding ingredients and turning them into something palatable, can be a huge advantage in this respect. In a pitch, the co-founder of an insect protein startup described such partnerships as key to overcoming consumer distrust of his product:

> As much as the market is huge, we still need to tackle the yuck factor. And our strategy is joint ventures and pilots with leading food producers around the globe. We are developing with them sausages, sports protein powders, snacks and many more food products and they will help us educate the market.

Unlike other tech products, food must be compatible with human bodies and with deeply entrenched cultural norms surrounding consumption. Partnering with incumbent food corporations can be the best way to overcome these unique difficulties.

The role of incumbent corporations is also evident in many companies' plans for taking their product to market. Venture capitalists are notoriously impatient, generally wishing for a 500-1,000 percent return on investment within five years (Hogarth 2017), which creates tremendous pressure for rapid product commercialization. Likely as a result of this pressure, many agri-food tech startups pitch a 'go-to-market strategy' involving partnerships with incumbent corporations that can provide ready access to established distribution channels in the sector. For ag tech firms, this strategy of partnering with incumbents for distribution is important because farmers tend to rely on extension agents, chemical company advisors, and other trusted sources for production advice (Harrison 2011). Ag tech pitchers therefore make statements such as:

> We will form strategic partnerships with the global ag and seed companies for broader global commercialization. *[sustainable pest control startup]*

> We have technical partnerships with industry leaders across the country and this is how we're bringing it to growers. *[microbial pathogen control startup]*

> We plan to sell our products through established dairy channels. *[cow probiotic startup]*

The pitch not only narrates these relationships to industry incumbents, but can actively shape them through audience feedback (cf. Benton 2020, Chapple *et al.* 2021). For example, after a pitch by the

co-founder of a pest sensor startup, one of the expert questioners – a partner in a venture capital firm – pushed the presenter to consider distribution through established agri-chemical companies: 'there's a lot of dead bodies by the side of the road from ag-tech companies that try to build their own sales teams. How have you thought about collaboration with channel partners, especially the chemistry companies?' The presenter gave a slightly muddled answer, at first attempting to assert that his company would indeed build its own sales team, but ultimately conceding that partnerships with established companies were 'essential' to getting the product into the hands of farmers. In this moment, the pitch served to structure the kind of disciplinary encounter that Goldstein (2018, p. 11) described in the cleantech sector, in which 'innovators (and their creativity) are disciplined by incumbent industries and the investment logics supporting them.'

Within food tech, also, partnership with incumbents can be a key path to scaling up operations through widespread distribution. Alternative meat startups – whose problem framing so often involves a scathing indictment of the conventional meat industry – sometimes pitch a go-to-market strategy involving distribution partnerships with national fast food chains. This mirrors the strategy of forerunners Impossible Foods and Beyond Meat, which can now be found at Burger King, Denny's, Dunkin', Del Taco, Qdoba, White Castle, and more (Jiang 2019). The need to partner with these chains reveals the limitations of Silicon Valley's world-changing ambition: one hugely problematic portion of the existing meat industrial complex (the livestock industry) would be challenged while another major sector (fast food retailers) would be left unchallenged. And, in fact, partnership with meat industry incumbents is by no means out of the question. Global leaders in conventional meat production Tyson Foods and Cargill have made major investments in cultured meat forerunner Memphis Meats, part of a larger trend of dominant agri-food firms moving to secure their market position by pursuing acquisitions and joint ventures with alternative protein companies (Howard *et al.* 2021).

Finally – especially for startups at more advanced stages of development – this portion of the pitch also sometimes gestures toward possible exit strategies. While not all founders wish to sell to a larger company, demonstrating their willingness to do so helps communicate the potential value of their company. Possible exit plans for the current startup are rarely detailed in short-format public pitches, but when the topic does come up, incumbent corporations loom large as potential buyers. At one ag tech session, for instance, the CEO of a soil moisture sensor startup was asked about his potential exit options and he responded that there were 'three buckets of companies that potentially acquire companies like ours: farm equipment and seed companies … irrigation equipment manufacturers … and then you have potentially big data companies if it gets really large.'

Overall, the final minutes of the pitch are when it loses its promissory and world-changing ambitions and becomes highly pragmatic. Here the existing agri-food industry is deployed differently. It goes from being an underperforming industry in need of disruption through technological solutions to providing startups with legitimacy in the form of influential contacts, institutional affiliations, funding sources, and market access. This, then, is the moment in the pitch when it becomes clear that most startups will achieve only 'non-disruptive disruption,' as moralizing narratives about the need for wholesale food system transformation give way to a pragmatic willingness to work with industry incumbents and entrepreneurs perform their willingness to be 'tamed' by investor demands for commercial success (Goldstein 2018, p. 3).

Conclusion

Silicon Valley, once just a hub of computer hardware and software, has become a driving force for much more than that. Ground-breaking success in altering everyday life – from how we communicate, to how we travel, to how we run businesses – has given rise to the notion that anything that can be disrupted should be. This fetish of disruptive innovation is often infused with moral mission: radically new technological solutions, the logic goes, can address such global grand challenges as

social inequity and environmental destruction. Now Silicon Valley has trained its sights on food provision, an economic domain it depicts as inefficient, environmentally, nutritionally, and socially harmful, and generally ripe for profitable reinvention. The work of creating and sustaining this perception takes place amidst the clashing business cultures and material constraints of Silicon Valley and the food and agriculture industries. This is nowhere more evident than in the meticulously rehearsed, passionately delivered public pitch.

The pitch makes an interesting object of study, from a cultural economy perspective, because it is such a pervasive and effective market-shaping instrument. The communicative function of the pitch corresponds with Silicon Valley's reliance on performative value creation, where credibility and passion trump realism (Rajan 2006). Yet, the pitch does much more than generate hype, especially, we have argued, as Silicon Valley enters into sectors that are both established and in need of reform for prior ills – many of them the result of earlier rounds of technological innovation. The pitch narrates the problems in these sectors such that complex, long-standing, socially embedded challenges appear most pliable to the kind of technological solutions that Silicon Valley can offer. The pitch, in other words, plays a 'narrative sense-making' role (O'Connor 2002), framing the relationship between tech sector innovations and the broader industry they seek to disrupt. In the case of the agri-food tech pitch, it must mediate between Silicon Valley investor desire to generate both profit and impact, and the entrenched political economic realities of food and agriculture, which threaten to get in the way of both. As we have suggested, this involves editing out some key details of the existing industry, while emphasizing others that contribute financial credibility or moral weight to the company's project.

The agri-food tech pitch is simultaneously of interest to scholars of agri-food systems because its promissory nature sheds light on the likely futures enabled by the tech sector's venture into food provision. Despite frequent nods to the potential for socially impactful disruption in agriculture and food, many of the technologies on offer fall into a few crowded and easily recognizable categories, not always well grounded in the concrete material or economic realities of its target industries, except when developed or marketed in partnership with industry incumbents. As such, the pitch reveals Silicon Valley's tendency toward 'non-disruptive disruption' (Goldstein 2018). Many of the most deeply entrenched problems of the food system have their roots in the ongoing, technology-fueled intensification of production and the corporate consolidation it has enabled (Howard 2016), trends which the tech pitches evince little interest in disrupting.

Silicon Valley's performances of impactful disruption expose the types of future the tech sector imagines for food and agriculture, vividly underscoring the distinction between *technological disruption* on the one hand and genuine *systemic transformation* on the other. From their dystopic predictions of the possible futures that could result from our current trajectory (the rampant scarcity and hunger evoked by the '10 billion by 2050') to their projections of the more resource-efficient and humane futures that could be delivered by the right technology (the moonshots that could 'save humanity'), agri-food tech pitches are highly focused on the future. However, the futures they are capable of delivering are ultimately very limited, and their ecomodernist vision of technological progress may in fact foreclose the kind of political or social solutions that could result in more radically different future food systems (Goode and Godhe 2017, Powers 2019). Critical scholars of food and agriculture see the problems of our food system in a very different light than those presented in agri-food pitches: inequitable distribution rather than underproduction, weak food and environmental regulation rather than any current incapacity to produce food in more nutritious and sustainable ways, and corporate profits eating into farm income rather than unknowledgeable farmers, to name a few (Guthman 2011, Howard 2016). Elsewhere, very different kinds of food system futures are being conjured: futures in which mutual aid breaks the straightjacket of proprietary corporate technology (Kloppenburg 2014) and redistribution of productive resources addresses racialized dispossession (Penniman 2018). Not only will these futures never be funded

by venture capital, there is a danger that the hype culture of Silicon Valley, of which pitches form a crucial part, may crowd out such alternative imaginings.

Notes

1. In 2019, California agri-food startups received more investor funding than those in all other states combined (AgFunder 2019). This number includes startups founded in Silicon Valley, but also the many that relocate there as they mature in search of opportunities and funding.
2. We approach Silicon Valley as denoting both a collection of overlapping geographies, and a concatenation of market ideologies and discourses linked to high tech companies and professional networks in the region. As a grounded, literal place, Silicon Valley generally refers to the Santa Clara Valley and its main city of San Jose. In fact, however, the entire San Francisco Bay area plays a role in tech culture, with many tech (and tech financing) firms scattered across surrounding cities. The region centralizes high tech professional and research networks boasting the country's greatest concentration of early-stage capital (Schubarth 2019).
3. See AgFunder 2019 for a much more detailed breakdown of funding across both ag and food tech.
4. Such early-stage investments generally also come with strings attached. Early-stage incumbent investors often demand some type of right of first refusal to any future deals involving the startup, which may effectively constrain, rather than enable, the startup's future development.

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