

Portland State University

PDXScholar

Urban Studies and Planning Faculty
Publications and Presentations

Nohad A. Toulan School of Urban Studies and
Planning

7-1-2018

Reorganizing School Lunch for a More Just and Sustainable Food System In the US

Jennifer Gaddis

University of Wisconsin-Madison

Amy K. Coplen

Portland State University, acoplen@pdx.edu

Follow this and additional works at: https://pdxscholar.library.pdx.edu/usp_fac



Part of the [Sustainability Commons](#), and the [Urban Studies and Planning Commons](#)

Let us know how access to this document benefits you.

Citation Details

Gaddis, J., & Coplen, A. K. (2018). Reorganizing School Lunch for a More Just and Sustainable Food System in the US. *Feminist Economics*, 24(3), 89-112.

This Post-Print is brought to you for free and open access. It has been accepted for inclusion in Urban Studies and Planning Faculty Publications and Presentations by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.



REORGANIZING SCHOOL LUNCH FOR A MORE JUST AND SUSTAINABLE FOOD SYSTEM IN THE US

Jennifer Gaddis and Amy K. Coplen

ABSTRACT

Public school lunch programs in the United States are contested political terrains shaped by government agencies, civil society activists, and agri-food companies. The particular organization of these programs has consequences for public health, social justice, and ecological sustainability. This contribution draws on political economy, critical food studies, and feminist economics to analyze the US National School Lunch Program, one of the world's oldest and largest government-sponsored school lunch programs. It makes visible the social and environmental costs of the "heat-and-serve" economy, where widely used metrics consider only the speed and volume of service as productive work. This study demonstrates that such a narrow understanding of the labor of lunch devalues care and undercuts the potential for school food provisioning to promote ecological and feminist goals. Further, it proposes a "high road" alternative and outlines an agenda for reorganizing school food provisioning to maximize care in all its dimensions.

KEYWORDS

Social reproduction, care labor, foodservice, school food, sustainable food systems, social provisioning

JEL Codes: B54, H4, I3

INTRODUCTION

School lunch is a contested political arena shaped by government agencies, civil society activists, and powerful agri-food companies concerned with what and how children are fed. At its most fundamental level, school lunch is also about *care* – a "species activity that includes everything we do to maintain, continue, and repair our world so that we may live in it as well as possible" (Fischer and Tronto 1990: 40). The social organization of school lunch impacts ecological sustainability, economic development, and social justice (Robert and Weaver-Hightower 2011; Morgan and Sonnino 2013). It is not just *what* children are fed at school that matters, but also who is being fed, who performs the work of feeding, how, and for what

© 2017 IAFFE

45 purpose (Sandler 2011). In this contribution, we examine the intersection
46 of sustainability, ecology, and care at the site of government-sponsored
47 school lunch programs, responding to Julie Nelson’s call for economics
48 to concern itself “more with concrete issues of provisioning related to the
49 actual social and natural environment” (1996: 131).

50 The act of feeding children is vital to social reproduction, which
51 Giovanna Di Chiro defines as “the intersecting complex of political-
52 economic, socio-cultural, and material-environmental processes required
53 to maintain everyday life and to sustain human cultures and communities
54 on a daily basis and intergenerationally” (2008: 281). In many countries,
55 including the United States, social reproduction has been largely
56 decollectivized, becoming the responsibility of the family to be secured
57 in the home or private sphere (Federici 2004; Bakker 2007; Nakano
58 Glenn 2012). Food insecurity – or lack of physical, social, and economic
59 access to sufficient, safe, and nutritious food that meets people’s dietary
60 needs and food preferences for active and healthy lives (Food and
61 Agriculture Organization 2015) – is a symptom of a broader crisis of social
62 reproduction. At specific moments in global, national, and local histories,
63 government and civil society organizations have stepped in to mediate this
64 crisis by offering free or heavily subsidized school lunches.

65 The social organization of school lunch programs is an evolving
66 process that varies both within and across country contexts (Robert
67 and Weaver-Hightower 2011; Morgan and Sonnino 2013; Oostindjer
68 et al. 2016). Program development in industrialized countries follows
69 three distinct phases (Oostindjer et al. 2016). Between 1850 and 1950,
70 programs were established to address hunger and malnutrition among
71 lower socioeconomic groups and, in cases like the US, to redistribute
72 surplus agricultural commodities. In the 1970s, some countries improved
73 the quality and nutritional profile of school lunches to address growing
74 concerns about the health impacts of feeding children highly processed
75 foods. The third and contemporary phase encompasses a wider range
76 of health and sustainability concerns (Morgan and Sonnino 2013). In
77 less industrialized countries, the United Nations (UN) has supported
78 school lunch programs as a means for advancing sustainable and equitable
79 development (World Food Programme 2011). Currently operating in
80 thirty-seven countries, the UN Home Grown School Meals initiative
81 promotes local food and seeks to empower producers and consumers
82 to participate in shaping their own programs (World Food Programme
83 2016). There is tremendous potential, across country contexts, for both
84 long-established and newly developing school lunch programs to promote
85 sustainable diets, which the UN Food and Agriculture Organization
86 (FAO) defines as “diets with low environmental impacts which contribute
87 to food and nutrition security and to healthy life for present and
88 future generations” (2010). Such diets are “protective and respectful of

89 biodiversity and ecosystems, culturally acceptable, accessible, economically
 90 fair and affordable; nutritionally adequate, safe and healthy; while
 91 optimizing natural and human resources” (FAO 2010). However, as our
 92 analysis underscores, school lunch programs can become co-opted in ways
 93 that undermine their public value.

94 Our primary case is the US National School Lunch Program (NSLP),
 95 one of the oldest and largest school lunch programs. We bring together
 96 literature from political economy, critical food studies, and feminist
 97 economics to highlight how the “heat-and-serve” economy erodes the
 98 public value of the NSLP and increases its resource intensity. Using Marilyn
 99 Power’s (2004) social provisioning methodology, we uncover how the
 100 distribution of power and the organization of labor within the NSLP
 101 shape the economic, public health, and ecological impacts of school
 102 lunch. This methodology highlights the importance of social norms in
 103 shaping economic systems (Himmelweit 2002) and provides a platform
 104 for feminists to critically investigate relationships between humans and
 105 nature as mutually constitutive. Power (2004: 5) defines social provisioning
 106 “not as a rigid template or delineation of boundaries, but as a set of
 107 guideposts in a rapidly developing field of knowledge,” including five
 108 intimately interconnected components: (1) the incorporation of caring
 109 and unpaid labor as fundamental economic activities, (2) the application of
 110 well-being as a measure of economic success, (3) the analysis of economic,
 111 political and social processes and power relations, (4) the inclusion of
 112 ethical values and goals as an intrinsic part of the analysis, and (5)
 113 the interrogation of differences by class, race-ethnicity, and other factors
 114 (Power 2004: 3). Following an integrated analysis of social provisioning
 115 within the contemporary NSLP, we put forward an agenda for reorganizing
 116 school lunch to serve both feminist and ecological ends.

118 THE POLITICAL ECONOMY OF THE NSLP

119 The US Congress established the not-for-profit NSLP in 1946 as a
 120 measure of national security to “safeguard the health and well-being of
 121 the Nation’s children and to encourage the domestic consumption of
 122 nutritious agricultural commodities and other foods” (US Department of
 123 Agriculture [USDA] 2014).¹ The NSLP is a microcosm of the US food
 124 system, operating within what agrarian studies scholars refer to as the
 125 “corporate food regime” (1980s–present), characterized by international
 126 trade liberalization, post-Fordist flexible accumulation strategies, and a
 127 shift from public to private regulation (Busch and Bain 2004; Pechlaner
 128 and Otero 2010). The public sector’s inability to regulate transnational
 129 trade has allowed the private sector to wield considerable power in
 130 reconfiguring the social relations of the global food system (Busch and Bain
 131 2004). Despite concerns about the healthfulness and ecological impacts of

133 heavily consolidated and industrialized food systems, large multinational
134 companies continue to gain power through public-private partnerships
135 and regulations that favor their own business practices (Busch and Bain
136 2004). A parallel process occurred within the NSLP, with policy shifting
137 in favor of processed food companies as school lunch became increasingly
138 commercialized.

139 The reduction of food's nutritional value to individual components
140 like fat, calories, salt, sugar, and vitamins – sometimes referred to as
141 “nutritionism” – allows food processors to reformulate and fortify products
142 in order to make health claims about products of minimal nutritional
143 value (Clapp and Scrinis 2017). In the late 1960s and early 1970s, the
144 USDA promoted scientifically nutritious “efficiency foods,” like frozen and
145 pre-plated meals, for use in the many thousands of schools that lacked
146 kitchens and cafeterias (Levine 2008; Poppendieck 2010). Schools were
147 allowed to outsource their lunch programs to for-profit companies. At the
148 same time, schools were beginning to face perverse financial incentives
149 to make money selling snack items in vending machines and à la carte
150 lines in order to balance their budgets. The trend toward “heat-and-serve”
151 foods accelerated throughout the 1970s, with an inflationary crisis and
152 concerns about food waste establishing the groundwork for new legislation
153 (Poppendieck 2010). The USDA “modernized” its commodities program
154 by making highly processed finished products like chicken nuggets far
155 more available to schools. Cost-cutting attempts in the 1980s and 1990s
156 further eroded nutrition standards and brought fast food giants like
157 Domino's and Taco Bell into school lunchrooms, where children were
158 increasingly being treated as “customers” whose taste for salt, fat, and sugar
159 were a source of both current and future profits for fast food franchises and
160 powerful packaged food companies (Poppendieck 2010).

161 The most recent legislative reform to the NSLP, the Healthy Hunger
162 Free Kids Act of 2010 (HHFKA), ushered in updated nutrition standards,
163 which were quickly followed by intense rounds of lobbying by powerful
164 agribusiness companies and trade associations that wanted to “relax” or
165 revoke regulations that reduce their profitability. This included mandates
166 to include more healthful foods like unprocessed fruits, vegetables, and
167 whole grains, and fewer salty and starchy foods like potatoes and pizza
168 (Confessore 2014).² By 2011, the challenge of meeting tight financial
169 constraints and complex regulatory requirements had pushed roughly
170 one-quarter of US schools to outsource their lunch programs (Komisar
171 2011).³ This practice evoked criticism from labor unions and media outlets
172 in the late 1990s and early 2000s after evidence pointed to declining
173 nutritional quality, conflicts of interest, and multiple cases of foodborne
174 illness and fraud (Service Employees International Union 2005; Bogardus
175 2010; Komisar 2011). For-profit management companies, especially those
176 with multi-state and multi-sector contracts, are notorious for controlling

177 their costs by cutting food quality and reducing workers' wages and benefits
 178 (Jacobs and Graham-Squire 2010). Most school districts continue to run Q4
 179 self-operated lunch programs, but they too face pressures to keep food and
 180 labor costs low, which further reinforces the logic of the "heat-and-serve"
 181 economy.

182 183 THE LABOR OF SCHOOL LUNCH

184
 185 Women perform most of the food provisioning practices in schools and
 186 at home, yet they control few resources and hold little decision-making
 187 power over agri-food policy or industry practices (Allen and Sachs 2007).
 188 As a commodified form of reproductive labor, the wages and value
 189 assigned to school foodservice work is tethered to a legacy of feminization,
 190 racialization, and devaluation (England, Budig, and Folbre 2002). Over 90
 191 percent of the estimated 420,000 foodservice workers in US K-12 schools
 192 are women (Jacobs and Graham-Squire 2010). They worked a median
 193 twenty-five hours per week and in 2008 earned a median annual income
 194 of US\$9,300, compared with forty hours per week and US\$30,000 for
 195 the workforce as a whole. Due to chronically low wages, they are about
 196 twice as likely to participate in one or more public assistance programs
 197 compared with the US workforce as a whole (36.3 percent versus 19.7
 198 percent, respectively; Jacobs and Graham-Squire 2010).

199 There are some "good" jobs in school foodservice. The minority of
 200 workers covered by strong union contracts, and those with decades of
 201 seniority or highly specialized skills, earn upwards of US\$15 per hour
 202 and may qualify for employer-provided healthcare and retirement benefits.
 203 However, the vast majority of jobs in the "heat-and-serve" economy are
 204 short-hour low-wage positions without benefits. New employees are hired
 205 as temporary or substitute workers who fill shifts as needed. After gaining
 206 a permanent position it can take a decade or more to be promoted into
 207 a full-time position with benefits. This precarious employment structure
 208 disproportionately affects single mothers and primary providers who make
 209 up a substantial portion of the K-12 cafeteria labor force (UNITE HERE!
 210 2013). The degraded nature of their jobs harms not only the economic
 211 security and well-being of their families, but also the millions of children
 212 and families who depend on the NSLP as a care service.

213 Managers typically assess their operations using a metric of staffing
 214 efficiency and productivity called "meals-per-labor-hour" (MPLH; Rushing,
 215 Anderson, and Boettger 2016), which pushes schools to rely more heavily
 216 on pre-packaged food and disposable trays that have negative consequences
 217 for the health of children's bodies and the environment. Frontline cafeteria
 218 workers are judged primarily by criteria that prioritize speed in both
 219 production and service. In some schools, the lack of culinary infrastructure
 220 makes it difficult for them to prepare healthy meals (PEW Trusts 2013),

221 and the pace of service is so fast that cafeteria workers barely have time to
222 engage children, though public health research demonstrates that verbal
223 prompts help children make healthier choices (Schwartz 2007).

224 Evaluating the labor of lunch predominantly through a lens of time
225 efficiency undermines the social interactions that are vital to providing
226 high-quality meals to children and devalues the expansive range of paid and
227 unpaid caring activities that a social provisioning approach makes explicit.
228 Following Nakano Glenn's (2012) typology of care work, we outline three
229 intertwined categories of labor that cafeteria workers perform. First is direct
230 caring – the physical care of nourishing children's bodies; the emotional
231 care of offering reassurance and knowing children's names, life situations,
232 and preferences; and the services required to help children and families
233 meet their needs, like assisting with paperwork for free lunch applications
234 and keeping track of students with allergies and special dietary needs.
235 Second is maintaining the physical spaces where children eat: washing
236 lunch trays, restocking napkins and utensils, and keeping serving areas
237 clean. Third is the work of fostering relationships and social connections,
238 also referred to as "community mothering," which includes encouraging
239 respectful and caring behavior toward other children and adults, and
240 connecting students to the people who grow and produce their food. For
241 cafeteria workers who live in the communities they serve, and those who
242 have had a long tenure at a particular school, "community mothering"
243 also involves making connections intra- and intergenerationally between
244 the children they feed and their extended family and neighbors.

245 High-quality care depends on the cultivation of sustained personal
246 relationships (Himmelweit 2007), but degraded job conditions disrupt
247 relationships between cafeteria workers and the children they feed. Schools
248 across the US are struggling to recruit and retain cafeteria workers (Jacobs
249 and Graham-Squire 2010). In some cases, cafeterias are short-staffed for
250 months or even years at a time, which pressures workers to skip their
251 scheduled breaks, work overtime without pay, or take on additional tasks
252 to ensure that students are fed on time (UNITE HERE! 2013). Such
253 self-exploitation has parallels across caring industries, where "owners and
254 managers often seem to depend on their workers' willingness to sacrifice
255 for their clients" (England, Folbre, and Leana 2012: 33).⁴ In sum, we argue
256 that failing to recognize, value, and support cafeteria staff's ability to care
257 for children undermines the NSLP's stated goal of "safeguard[ing] the
258 health and well-being of the Nation's children" (USDA 2014).

259 260 REPRODUCING HEALTH AND ENVIRONMENTAL RISK

261
262 At a cost of roughly US\$12.5 billion in 2016, the NSLP is one of the
263 largest and most widespread child welfare programs in the US (USDA
264 2017a). Approximately 95 percent of public and non-profit private schools

265 participate, feeding roughly 30.4 million children (USDA 2017b). Children
 266 qualify for free, reduced-price, or full-priced meals based on their family
 267 income, – a policy that has reinforced class and race divides throughout
 268 the NSLP’s history (Levine 2008; Poppendieck 2010). Non-white families
 269 participate in the NSLP at higher rates (Ralston et al. 2008), as do children
 270 of women employed outside the home (Datar and Nicosia 2012). Over
 271 twenty million eligible children – mostly from higher-income families – do
 272 not participate in the NSLP. The poor quality of school meals, perceived or
 273 actual, coupled with the potential stigma of eating school lunch are just a
 274 few of the reasons why eligible children may opt out (Mirtcheva and Powell
 275 2009; Poppendieck 2010).

276 All school lunches, including “full price” meals, are subsidized to some
 277 extent by the federal government through a formula that dispenses cash
 278 subsidies and an allotment of agricultural commodities per child served.
 279 The maximum 2016 federal reimbursement for a “free” school lunch in the
 280 contiguous states was US\$3.39 and US\$0.44 for a “full price” lunch (USDA
 281 2016). These reimbursement dollars, along with revenue from full-price, Q6
 282 lunches and à-la-carte sales, help offset the cost of free and reduced-price
 283 lunches, which make up about 73 percent of the total number of lunches
 284 served (USDA 2017b).

285 Schools participating in the NSLP must offer a nutritionally balanced
 286 meal and cover their labor, equipment, and administrative costs. To
 287 avoid dipping into general education funds, foodservice directors strive to
 288 minimize costs and maximize average daily participation (ADP). The need
 289 to operate as a “business” creates an economic incentive to attract paying
 290 “customers” by selling brand-name and other commercial foods that mirror
 291 the snacks and fast foods sold in retail settings (Poppendieck 2010). Poor
 292 nutrition negatively impacts children’s ability to excel in the classroom
 293 (Taras 2005). The composition of school lunches, is therefore, especially
 294 important for low-income children who are disproportionately dependent
 295 on the NSLP for their energy and nutritional intake (Briefel, Wilson, and
 296 Gleason 2009).

297 Over the past decade, public health professionals and policymakers
 298 have focused on reforming the NSLP as a means for reducing child
 299 obesity, which has tripled since 1980 (Ogden et al. 2012). Child obesity,
 300 like other diet-related health risks, is distributed unevenly across class
 301 and race lines (Otero et al. 2015). Between the years 2011 and 2014,
 302 only 14.7 percent of non-Hispanic white children were obese, while 21.9
 303 percent of Hispanic children and 19.5 percent of non-Hispanic black
 304 children were classified as obese by the Centers for Disease Control and
 305 Prevention (CDC; 2017). The energy balance model largely guides efforts
 306 to reverse these trends, by theorizing that people gain weight when the
 307 amount of calories they consume exceeds the amount of calories they
 308 expend. This overly simplistic model leads policymakers and activists to

309 treat poor nutrition as an individual problem of personal choice (Gibson
310 and Dempsey 2015). It ignores structural, genetic, and environmental
311 factors that mediate metabolic processes (Guthman 2011). It also deflects
312 attention away from the human and environmental impacts of the energy
313 and chemicals used in growing, transporting, and preserving school
314 meals.

315 The industrialization of the food system contributes to the hundreds
316 of chemicals, including pesticides, bisphenol A (BPA), and phthalates
317 that are now part of the human “body burden,” or the sum of synthetic
318 and naturally occurring chemicals present in an individual’s body (CDC
319 2009).⁵ Chronic exposure to environmental toxins, particularly endocrine-
320 disrupting chemicals, can affect fat tissue development (Newbold et al.
321 2008), disrupt appetite and metabolism (Tabb and Blumberg 2006), and
322 heighten the risk of certain reproductive and behavioral disorders and
323 cancers (Krimsky 2002). Mediating children’s chemical body burdens
324 through individual acts of “precautionary consumption” (MacKendrick
325 2014) requires inputs of additional time and money that many low-
326 income caregivers cannot afford. What’s more, attempting to navigate this
327 landscape of chemical risk creates yet another burden for women who are
328 deciding what to feed their children or whether to let them participate in
329 the NSLP (Cairns, Johnston, and MacKendrick 2013).

330 During Congressional reauthorization of the NSLP in 2010, nutrition
331 standards were updated to more closely match the *Dietary Guidelines for*
332 *Americans* (DGA). Every five years, beginning in 1980, the US Department
333 of Health and Human Services and the USDA have jointly published the
334 DGA – a document ~~that is~~ meant to reflect the most current, science-
335 based nutrition advice (Office of Disease Prevention and Health Promotion
336 2017). Recommendations from an advisory committee comprised of
337 independent experts in the fields of nutrition, medicine, and public health
338 inform the final DGA. **Though** based on scientific evidence, the DGA
339 are far from apolitical (Nestle 2013). Large agri-food companies and
340 trade associations shape nutrition science and policy through selective
341 funding of scientific research, professional lobbying, and donations to
342 lawmakers and professional organizations (Brownell and Warner 2009).
343 Notably, the advisory committee for the 2015–20 DGA included evidence-
344 based recommendations on environmental sustainability and its relation
345 to the American diet (Wood-Wright 2016). However, these considerations
346 were dropped from the final DGA, despite nearly three-quarters of adults
347 in the US supporting the inclusion of environmental provisions and
348 the promotion of sustainable agriculture practices in the DGA (Wood-
349 Wright 2016). At present, the DGA and the social provisioning of the
350 NSLP reinforce the agri-food industry’s influence over nutrition standards,
351 reproduce health disparities along lines of race and class, and limit federal
352 support for sustainable diets.

FOOD, ECOLOGY, AND SOCIAL PROVISIONING

353
354 The social provisioning methodology requires that we extend our analysis
355 of well-being beyond children's bodies to the health and sustainability of
356 the environments they inhabit. A growing number of metrics point to the
357 *un*-sustainability of the dominant global industrial food system (Heller and
358 Keoleian 2003). From an environmental standpoint, these include: loss of
359 genetic diversity, escalating rates of agricultural land conversion, high rates
360 of soil loss and groundwater withdrawal, intensive reliance on fossil fuels
361 and synthetic chemicals, and the generation of large amounts of food waste.
362 From a socioeconomic perspective, indicators include: the limited income
363 and profitability of farming, the aging demographics of farm operators, the
364 precarious legal status and labor conditions of many food chain workers,
365 and the high degree of capital consolidation occurring in the food industry
366 (Heller and Keoleian 2003). From a public health standpoint, pesticide
367 exposures (via farm-based application and food intake) raise the risk for
368 some cancers and reproductive disorders; concentrated animal feeding
369 operations contribute to widespread outbreaks of foodborne pathogens;
370 and excessive use of antibiotics in farm animals can lead to resistant strains
371 of microbes in humans (Horrihan, Lawrence, and Walker 2002).

372 Alternative food networks and movements have grown in response to
373 the environmental, socioeconomic, and public health concerns related
374 to the industrial food system. In the 1960s and 1970s, "back to the
375 land" movements sought to create alternatives through local and organic
376 agriculture, natural food cooperatives, and vegetarian diets (Belasco 2014).
377 At the same time, communities of color drew on the momentum of
378 ~~civil rights movements~~ to organize against the exploitation of migrant
379 farmworkers, framing labor as a critical social justice issue. Beginning in the
380 1980s, new alternative food movements and initiatives emerged and shifted
381 their focus toward environmental sustainability (Allen et al. 2003; Alkon
382 and Agyeman 2011). The contemporary alternative food movement hinges
383 mainly, though not exclusively, on initiatives both by and for the white
384 middle class who decry a perceived disconnect with "where our food comes
385 from" and champion a return to a romanticized agrarianism to combat the
386 alienation of modern urban life (Alkon and Agyeman 2011; Minkoff-Zern
387 2014). The dominant discourse of alternative food politics has thus shifted
388 from the public to the private sphere, away from collective organizing and
389 toward "voting with one's fork" and affecting change primarily through
390 market-based mechanisms (Brown and Getz 2008; Guthman 2008; Jaffee
391 2012).


392 Alternative food movement activism within the context of the NSLP
393 has focused largely on support for school gardens and farm-to-school
394 (FTS) programs. A grassroots group of farmers, parents, and nonprofit
395 organizations launched the FTS movement in the early 1990s (National
396

397 Farm to School Network 2016a). FTS – which includes some combination
398 of local purchasing, school gardens, and educational initiatives – has
399 gained significant traction among policymakers and practitioners in the
400 past decade. The USDA established a formal FTS program in 2012, through
401 which it administers grant funding and technical assistance.

402 FTS programs improve student health (Moss et al. 2013), increase
403 participation in the NSLP, and provide a range of important community,
404 environmental, and economic benefits that are not directly captured
405 using the NSLP’s current metrics (Kloppenborg and Hassanein 2006;
406 National Farm to School Network 2016b). Proponents argue that FTS
407 shifts children’s relationship to food, nature, and community in ways that
408 are healthier and more ecologically sustainable, while at the same time
409 directing public funds to local farmers. Examining the FTS movement
410 through the lens of social provisioning, particularly with regard to political-
411 economic processes and power relations, reveals a more complicated
412 picture. Some critical food studies scholars argue that FTS reproduces
413 much of the rhetoric and practices of neoliberal governance through
414 contingent labor relations, reliance on private funding sources, and the
415 devolution of responsibility to the local level (Allen and Guthman 2006).

416 While over 42 percent of US school districts participated in at least
417 one FTS activity in 2015 (USDA 2016a), reliance on state and local
418 governments and civil society organizations to fill the funding gap has
419 led to highly unequal development, with poorer states participating less
420 in FTS programming (Lyson 2016). Furthermore, cumbersome USDA
421 procurement regulations and the ubiquity of “heat-and-serve” cookery
422 make it difficult for schools to develop robust FTS programs.⁶ Connecting
423 with local farmers, applying a “geographic preference” specification when
424 writing bid documents, and purchasing the necessary equipment to safely
425 store, cook, and serve fresh food all require additional staff time and
426 financial resources that poorer school districts may not have. Despite
427 overwhelming public support for FTS,⁷ less than half of 1 percent of
428 the annual federal budget for the NSLP is allocated to support these
429 programs.⁸ Instead of investing in FTS, most of the NSLP budget supports
430 industrially produced food and reinforces the power asymmetries of the
431 corporate food regime.

432 ~~Moreover, the~~ social provisioning methodology pushes us to explicitly
433 consider the value of paid and unpaid care work and to incorporate ethical
434 goals and values as part of our analysis of FTS programs. As with other
435 alternative food initiatives, an uncritical approach could reproduce the
436 gender, class, and racial hierarchies of the industrial food system, which
437 are not partial to the length of supply chains and often manifest at the
438 local scale (DuPuis and Goodman 2005; McMahon 2005; Born and Purcell
439 2006). For example, critical food scholars have shown that the production
440 of local food relies on the self-exploitation of farmers (Galt 2013) and/or

441 the cheap labor of farm workers who are vulnerable to the same types
 442 of exploitation as those who toil in the global industrial food system
 443 (Gray 2014). K-12 cafeteria jobs do not necessarily improve just because
 444 local food is ~~being~~ prepared and served. The educational wing of FTS 
 445 depends heavily on unpaid volunteers and low-paid service members of
 446 organizations like AmeriCorps whose work supports school gardens, field
 447 trips, and local food tastings (Allen and Guthman 2006). Thus, in order
 448 to avoid the “local trap,” which posits that local eating as *inherently* more
 449 ecologically sustainable and socially just (Born and Purcell 2006), FTS
 450 advocates must focus on dismantling the structural inequalities embedded
 451 within the NSLP and adopt what Charles Levkoe (2011) refers to as a
 452 “transformative orientation.”

453 454 REORGANIZING THE PUBLIC WORK OF FEEDING

456 The preceding critique of the NSLP points to numerous ways that the
 457 current social provisioning of school lunch harms children, cafeteria
 458 workers, and the environment. Reorganizing school lunch in order
 459 to maximize the public benefits of care as an interspecies and
 460 intergenerational activity is a multifaceted endeavor. Informed by critical
 461 food studies (Gottlieb and Joshi 2010; Alkon and Agyeman 2011; Levkoe
 462 2011) and the social provisioning methodology (Power 2004), we outline
 463 five properties of such a food system:

- 465 (1) Food chain workers who grow, process, distribute, prepare, and serve
 466 food earn a decent living and are respected for the role they play in
 467 feeding others.
- 468 (2) The health of human and nonhuman species is actively protected
 469 and restored when necessary.
- 470 (3) Food production, transport, storage, processing, and packaging are
 471 designed to minimize the use of fossil fuels, chemicals, water, and
 472 other resources.
- 473 (4) Regional food cultures that promote vibrant communities and
 474 meaningful connections to the environment are actively supported.
- 475 (5) Producing and consuming food is safe and healthy for people of all
 476 socioeconomic class, gender, race/ethnicity, and legal statuses.

477
 478 Our agenda for reorganizing school lunch in ways that better conform to
 479 these properties is informed by scholarship on “high road” labor market
 480 strategies for the care sector (Folbre 2006), and by the work of planning
 481 scholars Kevin Morgan and Roberta Sonnino (2013) who articulate a new
 482 “moral economy” of school food based on three factors: a broad conception
 483 of care, public procurement as a tool for enhancing social justice and
 484 ecological sustainability, and active citizen participation in the design and

485 delivery of school food programs. In putting forward this agenda, we
 486 identify several “way stations,” or intermediate institutional innovations,
 487 that may only partially embody the values of the ideal alternative, but move
 488 the system in the right direction (Wright 2007).

490 Expanding culinary capacity

491 Scratch cooking is a cost-effective way to expand the variety of healthy
 492 lunches that children are offered (Woodward-Lopez et al. 2014). Countries
 493 as diverse as Japan, Italy, and Brazil all emphasize fresh cooking in
 494 their national school lunch programs (Hager 2015; Liquori 2006; Otsuki
 495 2011). Before the mass industrialization of the NSLP, many US schools
 496 had production kitchens that were outfitted with versatile equipment
 497 that allowed cooks to prepare recipes from scratch (Poppendieck 2010).
 498 Staff followed nutritional requirements and learned a wide range of
 499 culinary skills while on the job: baking bread, scaling recipes, substituting
 500 ingredients, and even basic butchery (Briggs 2004). Their ~~high-level~~
 501 ~~of culinary capacity~~ made the NSLP an economically efficient and less
 502 resource-intensive program (for example, through bargains on seasonal
 503 produce, thrifty ingredient substitutions, and zero-waste practices like using
 504 vegetable peelings and turkey carcasses for making stock). The flexibility
 505 of cooking from scratch also allowed schools to serve culturally relevant
 506 meals that reflected and reproduced the tastes and traditions of particular
 507 communities (Hollingsworth 2012).

509 While the physical infrastructure and skill base for on-site production
 510 in US schools has largely eroded (PEW Trusts 2013), a growing number
 511 of communities are taking the first steps toward transitioning to scratch
 512 production (Collins 2012). Interventions designed to increase “culinary
 513 capacity,” or the skills, time, and equipment needed to turn raw ingredients
 514 into freshly prepared meals, improve not only children’s health and
 515 wellness (Cohen et al. 2012; Djang et al. 2016), but also their educational
 516 outcomes and school attendance (Belot and James 2011). Scratch cooking
 517 also directs more money to labor and ingredients rather than prepared
 518 foods (Tsui et al. 2013), and allows schools to serve more plant-based
 519 entrées that are less resource intensive than the beef, chicken, cheese, and
 520 fluid milk that are currently relied upon as the primary protein sources in
 521 the NSLP. The energy demands of the US food system could be reduced
 522 by up to 74 percent if the population were to shift to an energy efficient
 523 pescatarian diet (Canning et al. 2017).

524 Breaking from the “heat-and-serve” economy and building community-
 525 based culinary capacity acts as a way station for “productive justice,”
 526 or the ability of individuals and groups to actively shape the social
 527 and economic systems in which they live (Wright 2007). Minneapolis,
 528 Minnesota, Public Schools (MPS) offers one example of how schools can

529 simultaneously transition to scratch cooking, promote experiential food
 530 and nutrition education, and support a sustainable agricultural supply
 531 chain (Minneapolis Public Schools 2017). MPS had very low culinary
 532 capacity until it began investing in a kitchen renovation project and
 533 FTS programming in 2012. The city built a central production kitchen
 534 in the 1970s, where workers produced tens of thousands of pre-packed
 535 lunches on a mechanized assembly line. These meals were trucked to
 536 “warming kitchens” in locations across the city where they were reheated
 537 in their plastic or aluminum containers and then distributed to kids in
 538 the cafeterias. Under the leadership of a new foodservice director, MPS
 539 embarked on an ambitious project to renovate the kitchens of all sixty-four
 540 of its buildings to accommodate scratch cooking (Boss 2016).

541 While the MPS project is still underway, early results suggest that
 542 transforming the social provisioning of school food has helped generate
 543 skilled “high-quality care jobs” that are more likely to be full-time and
 544 to allow for ~~more~~ autonomy, creativity, and collaboration (Folbre 2006;
 545 Schneider 2016). Investing in production kitchens has also helped MPS
 546 build capacity from within, thereby increasing the “transformability” of
 547 school lunch as a social-ecological system (Walker et al. 2004). ~~As it~~
 548 ~~built culinary capacity,~~ MPS pioneered the elimination of “ingredients of
 549 concern” from its supply chain and developed “clean label” recipes without
 550 the additives found in products of lower nutritional quality (Minneapolis
 551 Public Schools 2015).⁹ In addition, MPS uses its purchasing power to
 552 support local producers and gives preference to minority growers and small
 553 farms with sustainable agricultural practices and fair labor standards.

554 Investing in structural changes to how school food is grown, prepared,
 555 and served, as Minneapolis has done, would help the NSLP advance
 556 feminist and ecological goals in tandem. The vast network of school
 557 kitchens and cafeterias in the US could be reimagined, and ultimately
 558 reconfigured, to develop a culinary skill base of adults trained to prepare
 559 healthy, sustainable, culturally relevant foods and a “taste base” of children
 560 who have learned to accept or even desire foods that differ from the
 561 flattened-out tastes and expectations of the industrial food system (Carolan
 562 2015).

563
 564
 565

Procurement and participation for the public good

566 Market-based mechanisms may also be able to effectively reorganize
 567 school lunch to promote care and sustainability if the procurement
 568 criteria encompass a holistic range of quality metrics (Morgan and
 569 Sonnino 2013). Rome, Italy, launched a “quality revolution” in 2001 that
 570 dramatically restructured school lunch procurement to prioritize seasonal,
 571 local, organic food, and “bio-dedicated” food chains that promote regional
 572 agricultural identity and global solidarity through fair trade (Liquori 2006).

573 Rome's school lunch service is almost entirely privatized, but the contracts
574 are awarded in a way that limits the overall market share of any single
575 company; and caterers must be able to satisfy a broad set of criteria
576 related to ecological sustainability, cultural identity, social justice, and labor
577 standards (Liquori 2006).

578 Critical food studies scholars warn that the devolution of school lunch
579 policy to the local level can lead to inequitable outcomes (Allen and
580 Guthman 2006; Levine 2008; Morgan and Sonnino 2013). Local flexibility
581 and participatory democracy coupled with strong national procurement
582 standards can help mitigate this concern. To these ends, Brazil's Home
583 Grown School Food program offers a compelling case: federal legislation
584 mandates that 70 percent of the food served in schools is fresh or
585 minimally processed and that 30 percent is sourced from local family
586 farmers (Otsuki 2011). This nationwide stimulus for ethical consumption
587 (Kleine and das Graças Brightwell 2015) protects against the further
588 displacement of regional foodways by the corporate food regime (Monteiro
589 and Cannon 2012).¹⁰ However, these laws came about only after civil society
590 organizations exerted sustained pressure on legislators, demonstrating that
591 transforming food systems requires citizen participation (Hassanein 2003).

592 In the vein of increasing participation in school food systems and
593 establishing the conditions for productive justice, we suggest inviting
594 children to grow, prepare, and serve their own school lunches.¹¹ Such
595 activities increase children's food awareness, skills, and confidence, which
596 may have spillover effects into the home environment (Ensaff et al.
597 2015). These experiential opportunities should be sensitive to and educate
598 students about the ways in which particular populations (such as African
599 Americans during slavery and more recently Latino/a immigrants within
600 the US context) have been exploited in the production of food, and
601 encourage them to explore the ways in which these lasting legacies shape
602 their attitudes and relationships to food labor.

603 School children themselves have at times been exploited in the
604 production of food, for example on farms in Tanzania (Phillips and Roberts
605 2011), and in cafeterias in the US (Levine 2008). It is therefore critical
606 to ensure that students are the beneficiaries of their own labor and that
607 such programs are designed to dismantle rather than reproduce systems of
608 oppression. Furthermore, through the intentional design and delivery of
609 inclusive and holistic programs that allow children to care for themselves,
610 each other, and the environment, the social provisioning of school lunch
611 can advance the feminist goal of breaking down the gendered, classed, and
612 racialized distribution of caring responsibilities.

613 The NSLP's current system of only offering free lunches to children from
614 poor families has the unintended consequence of reinforcing class divides
615 and shaming those parents and children who participate (Poppendieck
616 2010). Advocates of a universal program convincingly demonstrate that

617 providing free lunches to *all* children reduces the stigma of participation
 618 and eliminates the time burden and administrative costs associated with
 619 verifying income-based eligibility (Poppendieck 2010). From a pragmatic
 620 standpoint, universal care policies help taxpayers better understand the
 621 value of increased public provisioning (Folbre, Howes, and Leana 2012)
 622 and the need for improving the quality of school lunches. The potential
 623 for universal gains can help generate political pressure. Take South
 624 Korea, for example: in 2010, a coalition of over 2,100 civic groups and
 625 social organizations successfully demanded that the government provide
 626 universally free school lunches made with local and organic ingredients
 627 through programs managed by school districts, not private companies
 628 (Kang 2011). The South Korean coalition intentionally leveraged the
 629 demand for high-quality social services, in this case school lunch, to initiate
 630 a more democratic arrangement of care and a more ecologically sustainable
 631 food system.

632 A coalition politics that seeks to advance more democratic arrangement
 633 of care within the US might look to the possibility for schools to play
 634 a greater role in the social provisioning of food for other vulnerable
 635 populations. For instance, cafeteria workers who currently hold part-
 636 time positions could be hired full time to prepare affordable, nutritious,
 637 ethically sourced meal “kits” and heat-and-serve meals for caregivers,
 638 ~~elderly, chronically ill, and disabled people~~ who may not have the ability to
 639 cook from scratch. This would help ease the gendered and classed burdens
 640 of ethical consumption (Cairns, Johnston, and MacKendrick 2013), and
 641 help families, especially women, manage competing care responsibilities
 642 for populations whose needs are often pitted against each other in
 643 policy discussions (Folbre, Howes, and Leana 2012). This would make
 644 efficient use of school-based infrastructure that is frequently unused in
 645 the afternoons, evenings, and weekends. Schools could also open their
 646 cafeteria doors to allow the elderly and other vulnerable populations to eat
 647 lunch alongside children and youth, which would reduce social isolation
 648 and teach children of all genders to be both givers and receivers of care – a
 649 step in the right direction for producing caring democratic citizens (Tronto
 650 2013).¹²

651 Achieving these “high road” reforms rests on strengthening and
 652 sustaining community support. This is a whole family issue, but children
 653 and youth have perhaps the most at stake. School lunch impacts their
 654 bodies and the economic and ecological systems they will inherit as
 655 adults. They have agency to organize at the local level and to use social
 656 media to stage mass actions that force policy change at state and national
 657 levels. Organizing cafeteria workers to take a collective stand, as unionized
 658 workers in three US cities have already done, is another way to begin
 659 building the political power necessary to reorganize the social provisioning
 660 of the NSLP (Gaddis 2014). However, this is a daunting task in the US,

661 where decades of attacks on organized labor have created a hostile climate
 662 for the labor movement. They will need allies. “Whole worker organizing,”
 663 whereby labor and community organizing go hand in hand to build
 664 sustained power for change (McAlevy 2016), helps us conceptualize how
 665 the efforts of both the receivers and givers of care could be harnessed for
 666 maximum impact. Finally, by making strategic connections to civil society
 667 organizations with intersecting concerns (such as Black Lives Matter,
 668 fightfor15.org, Slow Food International, 350.org, and La Via Campesina),
 669 this budding coalition of grassroots school lunch activists can amplify their
 670 voices and reach new allies until it has forged a coalition politics capable
 671 of forcing governments to play a more aggressive and proactive role in
 672 mediating crises of social reproduction and environmental destruction (Di
 673 Chiro 2008).

674 CONCLUSION

677 The US NSLP, and its reliance on “heat-and-serve” meals, serves as a
 678 cautionary tale to government agencies and civil society organizations
 679 that are funding school lunch programs as a way to advance sustainable
 680 development. Our analysis demonstrates why an alternative system of
 681 provisioning is necessary in order to maximize the public value of the
 682 NSLP, particularly in relation to care, ecology, and sustainability. The
 683 agenda we put forward builds on Morgan and Sonnino’s (2013) framework
 684 for a moral economy of school food, but following Power’s (2004) social
 685 provisioning methodology generates three caveats. First, we posit that a
 686 moral economy of school food cannot be realized without recognizing
 687 the value of the paid and unpaid care work that goes into feeding
 688 children and actively supporting this work as necessary to children’s well-
 689 being. Second, we contend that a moral economy of school food treats
 690 social reproduction and ecological sustainability as mutually constitutive
 691 collective responsibilities. Third, we argue that a moral economy cannot
 692 be achieved without disrupting the entrenched power structures of the
 693 corporate food regime through intentional and confrontational forms of
 694 collective action and coalition politics (Di Chiro 2008).

695 Finally, we believe that existing public institutions and programs, like
 696 school lunch, deserve greater exploration as part of a broader agenda
 697 of action-oriented scholarship at the intersection of sustainability, care,
 698 and ecology. We agree with Power when she says, “Starting points matter
 699 because of where they take you and, as such, must be chosen with
 700 great care” (2004: 15). Endpoints matter too. The social provisioning
 701 methodology helps to guide a holistic analysis of complex social, political,
 702 and ecological systems; as an analytical approach, it stops short of
 703 radically reimagining possible alternatives and articulating strategies
 704 for transformation, which are made explicit within the tradition of

REORGANIZING SCHOOL LUNCH

705 emancipatory social science (Wright 2007). In making this claim, our
706 intention is to underscore the analytical utility of the social provisioning
707 methodology and to stimulate further research on how social provisioning
708 might be *actively reorganized* in ways that simultaneously serve both feminist
709 and ecological goals.

710

711

Jennifer Gaddis

712

University of Wisconsin-Madison – Civil Society and Community Studies

713

1300 Linden Drive, Madison, Wisconsin 53706, USA

714

e-mail: jgaddis@wisc.edu

715

716

Amy K. Coplen 

717

Portland State University College of Urban and Public Affairs – Urban Studies and

718

Planning

719

506 SW Mill Street, Portland, Oregon 97207-0751, USA

720

e-mail: akcoplen@gmail.com

721

<http://orcid.org/0000-0001-7711-8144>

722

723

724

NOTES ON CONTRIBUTORS

725

Jennifer Gaddis is Assistant Professor in Civil Society and Community
726 Studies at the University of Wisconsin-Madison. Her research, teaching, and
727 outreach focus on transitions to socially just and ecologically sustainable
728 systems of production and consumption. The bulk of her work has been
729 within the context of food systems, specifically school food programs
730 and community-based food justice initiatives. She earned a PhD in
731 Environmental Sociology from Yale University and a BS in Materials Science
732 and Engineering from the University of Illinois at Urbana-Champaign.

733

734

Amy K. Coplen is a PhD candidate in Urban Studies at Portland
735 State University, working at the intersection of food systems, labor, and
736 social justice to explore how race, class, and gender shape our urban
737 environments. She earned a BS in Chemistry and a BA in American
738 Studies from the University of New Mexico, and a Masters of Environmental
739 Management from Yale University.

740

741

742

ACKNOWLEDGMENTS

743

We would like to thank all the foodservice professionals engaged in the
744 work of feeding children at school, as well as the many activists who are
745 fighting for a just and sustainable food system. In addition, we would
746 like to thank the two anonymous reviewers and the participants of the
747 workshop on Sustainability, Ecology, and Care hosted by Friedrich Ebert
748 Stiftung and the International Association for Feminist Economics for their

749 helpful comments. Any remaining errors or oversights are our own. This
 750 research was funded by the National Science Foundation, grant number
 751 1256925.

NOTES

- 755 ¹ Despite a federal mandate to feed all needy children free of charge, few African
 756 American children in racially segregated southern states and northern cities received
 757 any benefit from the federal allocations until the victories of the civil rights movement
 758 in the late 1960s and early 1970s (Levine 2008).
- 759 ² ~~At the time of our writing, conservative lawmakers in the House Freedom Caucus have
 760 targeted the HRFKA as their first agenda item in a list of regulations and rules that
 761 they are advising President Trump to examine or revoke in his first 100 days in office
 762 (Meadows 2016).~~
- 763 ³ This includes both small regional firms and multinational corporations like
 764 Sodexo, Compass, and Aramark. These companies often hold contracts with other
 765 institutional purchasers (such as universities, hospitals, airports, and prisons).
- 766 ⁴ Like other care providers, unionized school foodservice workers are not likely to
 767 exercise their bargaining power because withdrawing their services (that is, going
 768 on strike) puts the very people they care for at risk (Folbre 2001).
- 769 ⁵ Notably, body burdens are higher for populations in the US compared to those in
 770 Europe and Asia (Hites 2004).
- 771 ⁶ In addition, a mismatch in agricultural seasonality (most schools are not in session
 772 during the peak growing months of June–August) and issues of scale are also barriers
 773 that make it difficult for schools to shift their procurement to local farms.
- 774 ⁷ According to a nationally representative survey, 88 percent of US adults support
 775 government-funded FTS programs (Reincke 2015).
- 776 ⁸ The USDA awards up to US\$5 million annually in competitive grants to support FTS
 777 programs (USDA 2016b), but the total NSLP budget exceeds US\$12 billion.
- 778 ⁹ Likewise, Saint Paul, Minnesota, Public Schools and Chicago, Illinois, Public Schools
 779 have also begun to prepare some recipes from scratch, which has resulted in greater
 780 autonomy to purchase local products and to use collective purchasing power to drive
 781 reforms further up the food chain (Stanley, Colasanti, and Conner 2012).
- 782 ¹⁰ Notably, scholars have argued that the UN's embrace of public–private food
 783 partnerships allowed the corporate food regime to undermine public health in the
 784 global south (Monteiro and Cannon 2012).
- 785 ¹¹ Empowering both the givers and *receivers* of paid care is a strategy for increasing the
 786 quality of jobs and services (Folbre 2006; Glenn 2012).
- 787 ¹² There is precedent for such arrangements within the history of the NSLP (see for
 788 instance the September 1971 issue of the *School Foodservice Journal* for a profile of
 789 elderly feeding programs administered by school foodservice departments).

REFERENCES

- 789 Alkon, Alison H. and Julian Agyeman. 2011. *Cultivating Food Justice: Race, Class, and
 790 Sustainability*. Cambridge, MA: MIT Press.
- 791 Allen, Patricia, Margaret FitzSimmons, Michael Goodman, and Keith Warner. 2003.
 792 “Shifting Plates in the Agrifood Landscape: The Tectonics of Alternative Agrifood
 793 Initiatives in California.” *Journal of Rural Studies* 19(1): 61–75.

REORGANIZING SCHOOL LUNCH

- 793 Allen, Patricia and Julie Guthman. 2006. "From 'Old School' to 'Farm-to-School':
794 Neoliberalization from the Ground Up." *Agriculture and Human Values* 23(4):
795 401–15.
- 796 Allen, Patricia and Carolyn Sachs. 2007. "Women and Food Chains: The Gendered
797 Politics of Food." *International Journal of Sociology of Food and Agriculture* 15(1):
798 1–23.
- 798 Bakker, Isabella. 2007. "Social Reproduction and the Constitution of a Gendered
799 Political Economy." *New Political Economy* 12(4): 541–56.
- 800 Belasco, Warren. 1990/2014. *Appetite for Change: How the Counterculture took on the Food*
801 *Industry*. Ithaca, NY: Cornell University Press.
- 802 Belot, Michèle and Jonathan James. 2011. "Healthy School Meals and Educational
803 Outcomes." *Journal of Health Economics* 30(3): 489–504.
- 804 Bogardus, Kevin. 2010. "Lawmakers Scrutinize Food Service Company Over School
805 Lunches." *The Hill*, September 26.
- 806 Born, Branden and Mark Purcell. 2006. "Avoiding the Local Trap: Scale and Food
807 Systems in Planning Research." *Journal of Planning Education and Research* 26(2):
808 195–207.
- 809 Boss, Donna. 2016. "Facility Design Project of the Month: Minneapolis Public Schools."
810 Foodservice Equipment and Supplies. [http://fesmag.com/departments/facility-
811 design-project-of-the-month/13661-lucy-craft-laney-community-school-and-roosevelt-
812 high-school-in-the-minneapolis-public-schools-system](http://fesmag.com/departments/facility-design-project-of-the-month/13661-lucy-craft-laney-community-school-and-roosevelt-high-school-in-the-minneapolis-public-schools-system).
- 813 Briefel, Ronette R., Ander Wilson, and Philip M. Gleason. 2009. "Consumption of Low-
814 Nutrient, Energy-dense Foods and Beverages at School, Home, and Other Locations
815 among School Lunch Participants and Nonparticipants." *Journal of the American Dietetic*
816 *Association* 109(2): S79–90.
- 817 Briggs, Marilyn. 2004. Interviewed by Beth King, Oral History Project, Child Nutrition
818 Archives, Institute of Child Nutrition, July 8.
- 819 Brown, Sandy and Christy Getz. 2008. "Privatizing Farm Worker Justice: Regulating
820 Labor Through Voluntary Certification and Labeling." *Geoforum* 39(3): 1184–96.
- 821 Brownell, Kelly D. and Kenneth E. Warner. 2009. "The Perils of Ignoring History: Big
822 Tobacco Played Dirty and Millions Died. How Similar is Big Food?" *Milbank Quarterly*
823 87(1): 259–94.
- 824 Busch, Lawrence and Carmen Bain. 2004. "New! Improved? The Transformation of the
825 Global Agrifood System." *Rural Sociology* 69(3): 321–46.
- 826 Canning, Patrick, Sarah Rehkamp, Arnold Waters, and Hamideh Etamadnia. 2017. "The
827 Role of Fossil Fuels in the U.S. Food System and the American Diet." USDA Economic
828 Research Service. [https://www.ers.usda.gov/webdocs/publications/82194/err-224.
829 pdf?v=42804](https://www.ers.usda.gov/webdocs/publications/82194/err-224.pdf?v=42804).
- 830 Cairns, Kate, José Johnston, and Norah MacKendrick. 2013. "Feeding the 'Organic
831 Child': Mothering through Ethical Consumption." *Journal of Consumer Culture* 13(2):
832 97–118.
- 833 ~~Carmichael~~ Djang, Holly, Barbara Andersen, Tatiana Masters, Jan Vanslyke, and Blair
834 Beadnell. 2016. "Key Ingredients for School Food Systems: An Evaluation of the
835 Orfalea Foundation's School Food Initiative." *The Foundation Review* 8(2): 20–38.
- 836 Carolan, Michael. 2015. "Affective Sustainable Landscapes and Care Ecologies: Getting
837 a Real Feel for Alternative Food Communities." *Sustainability Science* 10(2): 317–29.
- 838 Centers for Disease Control and Prevention (CDC). 2009. "Fourth National Report
839 on Human Exposure to Environmental Chemicals." Department of Health and
840 Human Services, Centers for Disease Control and Prevention. [https://www.cdc.gov/
841 exposurereport/pdf/fourthreport.pdf](https://www.cdc.gov/exposurereport/pdf/fourthreport.pdf).
- 842 _____ . 2017. "Child Obesity Facts: Prevalence of Childhood Obesity in the United
843 States, 2011–2014." Centers for Disease Control and Prevention. [https://www.cdc.gov/
844 obesity/data/childhood.html](https://www.cdc.gov/obesity/data/childhood.html).

- 837 Clapp, Jennifer and Gyorgy Scrinis. 2017. "Big Food, Nutritionism, and Corporate
838 Power." *Globalizations* 14(4): 578–95.
- 839 Cohen, Juliana, Liesbeth A. Smit, Ellen Parker, S. Bryn Austin, A. Lindsay Frazier,
840 Christina D. Economos, and Eric B. Rimm. 2012. "Long-Term Impact of a Chef on
841 School Lunch Consumption: Findings from a 2-Year Pilot Study in Boston Middle
842 Schools." *Journal of the Academy of Nutrition and Dietetics* 112(6): 927–33.
- 843 Collins, Beth. 2012. "Can Schools Save Kids' Palates? Cooking from Scratch in Schools –
844 the Greatest Food Service Challenge of Our Time." *Childhood Obesity* 8(4): 323–6.
- 845 Confessore, Nicholas. 2014. "How School Lunch Became the Latest Political
846 Battleground." *New York Times*, October 7.
- 847 Datar, Ashlesha and Nancy Nicosia. 2012. "Outsourcing Meals: Effects of Maternal Work
848 on Children's School Meal Participation." *Social Service Review* 86(4): 565–93.
- 849 Di Chiro, Giovanna. 2008. "Living Environmentalisms: Coalition Politics, Social
850 Reproduction, and Environmental Justice." *Environmental Politics* 17(2): 276–98.
- 851 DuPuis, E. Melanie and David Goodman. 2005. "Should We Go 'Home' to Eat? Toward
852 a Reflexive Politics of Localism." *Journal of Rural Studies* 21(3): 359–71.
- 853 England, Paula, Michelle Budig, and Nancy Folbre. 2002. "Wages of Virtue: The Relative
854 Pay of Care Work." *Social Problems* 49(4): 455–73.
- 855 England, Paula, Nancy Folbre, and Carrie Leana. 2012. "Motivating Care." In *For Love
856 and Money: Care Provision in the United States*, edited by Nancy Folbre, 21–39. New York:
857 Russell Sage Foundation.
- 858 Ensaff, Hannah, Charmaine Canavon, Ruth Crawford, and Margo Barker. 2015. "A
859 Qualitative Study of a Food Intervention in a Primary School: Pupils as Agents of
860 Change." *Appetite* 95: 455–65.
- 861 Federici, Silvia. 2004. *Caliban and the Witch*. New York: Autonomedia.
- 862 Fischer, Berenice and Joan Tronto. 1990. "Toward a Feminist Theory of Caring." In
863 *Circles of Care: Work and Identity in Women's Lives*, edited by Emily K. Abel and Margaret
864 K. Nelson, 35–62. Albany, NY: State University of New York Press.
- 865 Folbre, Nancy. 2001. *The Invisible Heart: Economics and Family Values*. New York: New Press.
866 _____ 2006. "Demanding Quality: Worker/Consumer Coalitions and 'High Road'
867 Strategies in the Care Sector." *Politics and Society* 34(1): 1–21.
- 868 Folbre, Nancy, Candace Howes, and Carrie Leana. 2012. "A Care Policy and Research
869 Agenda." In *For Love and Money: Care Provision in the United States*, edited by Nancy
870 Folbre, 183–204. New York: Russell Sage Foundation.
- 871 Food and Agriculture Organization. 2010. "Sustainable Diets and Biodiversity: Directions
872 and Solutions for Policy, Research and Action." Nutrition and Consumer Protection
873 Division, Food and Agriculture Organization. [http://www.fao.org/docrep/016/
874 i3004e/i3004e.pdf](http://www.fao.org/docrep/016/i3004e/i3004e.pdf).
- 875 _____ 2015. "The State of Food Insecurity in the World." Food and Agriculture
876 Organization. <http://www.fao.org/3/a-i4646e.pdf>.
- 877 Gaddis, Jennifer E. 2014. "Mobilizing to Re-value and Re-skill Foodservice Labor in
878 U.S. School Lunchrooms: A Pathway to Community-level Food Sovereignty?" *Radical
879 Teacher* 98: 15–21.
- 880 Galt, Ryan. 2013. "The Moral Economy Is a Double-edged Sword: Explaining Farmers'
881 Earnings and Self-exploitation in Community-Supported Agriculture." *Economic
882 Geography* 89(4): 341–65.
- 883 Gibson, Kristina E. and Sarah E. Dempsey. 2015. "Make Good Choices, Kid: Biopolitics
884 of Children's Bodies and School Lunch Reform in Jamie Oliver's Food Revolution."
885 *Children's Geographies* 13(1): 44–58.
- 886 Gottlieb, Robert and Anupama Joshi. 2010. *Food Justice*. Cambridge, MA: MIT Press.
- 887 Gray, Margaret. 2014. *Labor and the Locavore: The Making of a Comprehensive Food Ethic*.
888 Berkeley: University of California Press.

- 881 Guthman, Julie. 2008. "Neoliberalism and the Making of Food Politics in California."
 882 *Geoforum* 39(3): 1171–83.
- 883 _____ 2011. *Weighing in: Obesity, Food Justice, and the Limits of Capitalism*. Berkeley:
 884 University of California Press.
- 885 Hager, Mary. 2015. "Itadakimasu – Let's Eat!" *Nutrition Today* 50(6): 273–6.
- 886 Hassanein, Neva. 2003. "Practicing Food Democracy: A Pragmatic Politics of
 887 Transformation." *Journal of Rural Studies* 19(1): 77–86.
- 888 Heller, Martin C. and Gregory A. Keoleian. 2003. "Assessing the Sustainability of the U.S.
 889 Food System: A Life Cycle Perspective." *Agricultural Systems* 76(3): 1007–41.
- 890 Himmelweit, Susan. 2002. "Making Visible the Hidden Economy: The Case for Gender-
 891 impact Analysis of Economic Policy." *Feminist Economics* 8(1): 49–70.
- 892 _____ 2007. "The Prospects for Caring: Economic Theory and Policy Analysis."
 893 *Cambridge Journal of Economics* 31(4): 581–99.
- 894 Hites, Ronald A. 2004. "Polybrominated Diphenyl Ethers in the Environment and in
 895 People: A Meta-analysis of Concentrations." *Environmental Science and Technology* 38(4):
 896 945–56.
- 897 Hollingsworth, Melba. 2012. Interviewed by Beverly Cross, Oral History Project, Child
 898 Nutrition Archives, Institute for Child Nutrition, July 18, 2012. ^{Q2}
- 899 Horrigan, Leo, Robert S. Lawrence, and Polly Walker. 2002. "How Sustainable
 900 Agriculture Can Address the Environmental and Human Health Harms of Industrial
 901 Agriculture." *Environmental Health Perspectives* 110(5): 445–56. ¹
- 902 Jaffee, Daniel. 2012. "Weak Coffee: Certification and Co-Optation in the Fair Trade
 903 Movement." *Social Problems* 59(1): 94–116.
- 904 Kang, Mi Ok. 2011. "Organic School Lunch Programs in South Korea." In *School Food
 905 Politics: The Complex Ecology of Hunger and Feeding in Schools Around the World*, edited
 906 by Sarah A. Robert and Marcus B. Weaver-Hightower, 120–40. New York: Peter
 907 Lang.
- 908 Kleine, Dorothea and Maria das Graças Brightwell. 2015. "Repoliticising and Scaling-up
 909 Ethical Consumption: Lessons from Public Procurement for School Meals in Brazil."
 910 *Geoforum* 67: 135–47.
- 911 Kloppenburg, Jack and Neva Hassanein. 2006. "From Old School to Reform School?"
 912 *Agriculture and Human Values* 23(4): 417–21.
- 913 Komisar, Lucy. 2011. "How the Food Industry Eats Your Kid's Lunch." *New York Times*,
 914 December 3.
- 915 Krimsky, Sheldon. 2002. *Hormonal Chaos: The Scientific and Social Origins of the
 916 Environmental Endocrine Hypothesis*. Baltimore, MD: Johns Hopkins University Press.
- 917 Levine, Susan. 2008. *School Lunch Politics: The Surprising History of America's Favorite Welfare
 918 Program*. Princeton, NJ: Princeton University Press.
- 919 Levkoe, Charles Z. 2011. "Towards a Transformative Food Politics." *Local Environment*
 920 16(7): 687–705.
- 921 Liquori, Toni. 2006. "Rome, Italy: A Model in Public Food Procurement: What Can
 922 the United States Learn?" Briefing Paper, Liquori and Associates. [http://www.baum
 923 forum.org/downloads_conference-presentations/sf06/rome_briefing.pdf](http://www.baumforum.org/downloads_conference-presentations/sf06/rome_briefing.pdf).
- 924 Lyson, Helena C. 2016. "National Policy and State Dynamics: A State-level Analysis of the
 Factors Influencing the Prevalence of Farm to School Programs in the United States."
Food Policy 63: 23–35.
- MacKendrick, Norah. 2014. "More Work for Mother: Chemical Body Burdens as a
 Maternal Responsibility." *Gender and Society* 28(5): 705–28.
- McAlevy, Jane F. 2016. *No Shortcuts: Organizing for Power in the New Gilded Age*. New York:
 Oxford University Press.
- McMahon, Martha. 2005. "Engendering Organic Farming." *Feminist Economics* 11(3):
 134–40.

- 925 Meadows, Mark. 2016. "Rules, Regulations, and Executive Orders to Examine, Revoke,
926 and Issue." Special Report from the Office of Congressman Mark Meadows. [https://
927 meadows.house.gov/first-100-days](https://meadows.house.gov/first-100-days).
- 928 Minkoff-Zern, Laura-Anne. 2014. "Challenging the Agrarian Imaginary: Farmworker-Led
929 Food Movements and the Potential for Farm Labor Justice." *Human Geography* 7(1):
930 85–101.
- 931 Minneapolis Public Schools. 2015. "Ingredients of Concern." Culinary and Wellness
932 Services, Minneapolis Public Schools. [http://nutritionservices.mpls.k12.mn.us/
933 ingredients_of_concern](http://nutritionservices.mpls.k12.mn.us/ingredients_of_concern).
- 934 _____. 2017. "Culinary and Wellness Services News." Culinary and Wellness Services,
935 Minneapolis Public Schools. <http://nutritionservices.mpls.k12.mn.us/news>.
- 936 Mirtcheva, Donka M. and Lisa M. Powell. 2009. "Participation in the National School
937 Lunch Program: Importance of School-Level and Neighborhood Contextual Factors."
938 *Journal of School Health* 79(10): 485–94.
- 939 Monteiro, Carlos A. and Geoffrey Cannon. 2012. "The Impact of Transnational 'Big
940 Food' Companies on the South: A View from Brazil." *PLoS Med* 9(7): e1001252.
- 941 Morgan, Kevin and Roberta Sonnino. 2013. *The School Food Revolution: Public Food and the
942 Challenge of Sustainable Development*. New York: Routledge.
- 943 Moss, Ashley, Sylvia Smith, Dawn Null, Sara Long Roth, and Ulrike Tragoudas. 2013.
944 "Farm to School and Nutrition Education: Positively Affecting Elementary School-
945 Aged Children's Nutrition Knowledge and Consumption Behavior." *Childhood Obesity*
946 9(1): 51–6.
- 947 Nakano Glenn, Evelyn. 2012. *Forced to Care: Coercion and Caregiving in America*. Cambridge,
948 MA: Harvard University Press.
- 949 National Farm to School Network. 2016a. "About National Farm to School Network."
950 National Farm to School Network. <http://www.farmtoschool.org/about>.
- 951 _____. 2016b. "The Benefits of Farm to School." National Farm to School Network.
952 [http://www.farmtoschool.org/Resources/BenefitsFact
953 Sheet.pdf](http://www.farmtoschool.org/Resources/BenefitsFactSheet.pdf).
- 954 Nelson, Julie. 1996. *Feminism, Objectivity and Economics*. New York: Routledge.
- 955 Nestle, Marion. 2013 [2002]. *Food Politics: How the Food Industry Influences Nutrition and
956 Health*. Vol. 3. Berkeley: University of California Press.
- 957 Newbold, Retha R., Elizabeth Padilla-Banks, Wendy N. Jefferson, and Jerrold J. Heindel.
958 2008. "Effects of Endocrine Disruptors on Obesity." *International Journal of Andrology*
959 31(2): 201–8.
- 960 Office of Disease Prevention and Health Promotion. 2017. "Dietary Guidelines." Office
961 of Disease Prevention and Health Promotion. <https://health.gov/dietaryguidelines/>.
- 962 Ogden, Cynthia L., Margaret D. Carroll, Brian K. Kit, and Katherine M. Flegal. 2012.
963 "Prevalence of Obesity and Trends in Body Mass Index among U.S. Children and
964 Adolescents, 1999–2010." *Journal of the American Medical Association* 307(5): 483–90.
- 965 Oostindjer, Marije, Jessica Aschemann-Witzel, Qing Wang, Silje Elisabeth Skuland, Bjørg
966 Egelandstad, Gro V. Amdam, Alexander Schjøll, Mark C. Pachucki, Paul Rozin, Jarrett
967 Stein, Valerie Lengard, and Ellen van Kleef. 2016. "Are School Meals a Viable and
968 Sustainable Tool to Improve the Healthiness and Sustainability of Children's Diet
969 and Food Consumption? A Cross-national Comparative Perspective." *Critical Reviews
970 in Food Science and Nutrition*.
- 971 Otero, Gerardo, Gabriela Pechlaner, Giselle Liberman, and Efe Gürcan. 2015. "The
972 Neoliberal Diet and Inequality in the United States." *Social Science and Medicine* 142:
973 47–55.
- 974 Otsuki, Kei. 2011. "Sustainable Partnerships for a Green Economy: A Case Study of Public
975 Procurement for Home-grown School Feeding." *Natural Resources Forum* 35(3): 213–
976 22.

REORGANIZING SCHOOL LUNCH

- 969 Pechlaner, Gabriela and Gerardo Otero. 2010. "The Neoliberal Food Regime:
970 Neoregulation and the New Division of Labor in North America." *Rural Sociology*
971 75(2): 179–208.
- 972 PEW Charitable Trusts and the Robert Wood Johnson Foundation. 2013. "Serving
973 Healthy School Meals U.S. Schools Need Updated Kitchen Equipment." Report from
974 The Pew Charitable Trusts and the Robert Wood Johnson Foundation. [http://www.
975 pewtrusts.org/ ~ /media/assets/2013/12/kits_equipment_report.pdf](http://www.pewtrusts.org/~ /media/assets/2013/12/kits_equipment_report.pdf).
- 976 Phillips, Kristin D. and Daniel Roberts. 2011. "Cultivating Schools for Rural
977 Development: Labor, Learning, and the Challenge of Food Sovereignty in Tanzania."
978 In *School Food Politics: The Complex Ecology of Hunger and Feeding in Schools Around the
979 World*, edited by Sarah A. Robert and Marcus B. Weaver-Hightower, 71–93. New York:
980 Peter Lang.
- 981 Poppendieck, Janet. 2010. *Free for All: Fixing School Food in America*. Vol. 28. Berkeley:
982 University of California Press.
- 983 Power, Marilyn. 2004. "Social Provisioning as a Starting Point for Feminist Economics."
984 *Feminist Economics* 10(3): 3–19.
- 985 Ralston, Katherine, Constance Newman, Annette Clauson, Joanne Guthrie, and Jean
986 Buzby. 2008. "The National School Lunch Program: Background, Trends, and Issues."
987 USDA Economic Research Report Number 61.
- 988 Reincke, Kathy. 2015. "Poll: Nine Out of Ten Americans Want to Keep School Meals
989 Healthy." W.K. Kellogg Foundation. [https://www.wkcf.org/news-and-media/article/
990 2015/08/poll-nine-out-of-10-americans-want-to-keep-school-meals-healthy](https://www.wkcf.org/news-and-media/article/2015/08/poll-nine-out-of-10-americans-want-to-keep-school-meals-healthy).
- 991 Robert, Sarah A., and Marcus B. Weaver-Hightower, eds. 2011. *School Food Politics: The
992 Complex Ecology of Hunger and Feeding in Schools Around the World*. New York: Peter
993 Lang.
- 994 Rushing, Keith, Gary Anderson, and Julie Boettger. 2016. "Key Performance Indicators
995 (KPIs): Practical Applications." Paper presented at the Annual National Conference
996 of the School Nutrition Association, July 10–13, San Antonio, TX.
- 997 Sandler, Jen. 2011. "Reframing the Politics of Urban Feeding in U.S. Public Schools:
998 Parents, Programs, Activists, and the State." In *School Food Politics: The Complex Ecology
999 of Hunger and Feeding in Schools Around the World*, edited by Sarah A. Robert and Marcus
1000 B. Weaver-Hightower, 25–45. New York: Peter Lang.
- 1001 Schneider, Ashley. 2016. "MPS: A Day in the Life of School Food." Presentation
1002 as part of the "Cooks and Caretakers: Engaging Workers as Partners in Farm-to-
1003 School" workshop at the National Farm-to-Cafeteria Conference, June 2–4,
1004 Madison, WI.
- 1005 Schwartz, Marlene B. 2007. "The Influence of a Verbal Prompt on School Lunch Fruit
1006 Consumption: A Pilot Study." *International Journal of Behavioral Nutrition and Physical
1007 Activity* 4(6): <https://doi.org/10.1186/1479-5868-46>.
- 1008 Service Employees International Union. 2005. "Evaluation of Outsourcing in the Public
1009 Sector." Service Employees International Union, Local 1000. [https://www.inthepublic
1010 interest.org/wp-content/uploads/Evaluation_of_Outsourcing_in_the_Public_Sector.
1011 pdf](https://www.inthepublicinterest.org/wp-content/uploads/Evaluation_of_Outsourcing_in_the_Public_Sector.pdf).
- 1012 Stanley, Laura, Kathryn Colasanti, and David Conner. 2012. "A 'Real Chicken'
Revolution: How Two Large Districts are Shifting the School Poultry Paradigm with
Scratch Cooking." *Childhood Obesity* 8(4): 384–7.
- Tabb, Michelle M. and Bruce Blumberg. 2006. "New Modes of Action for Endocrine-
disrupting Chemicals." *Molecular Endocrinology* 20: 475–82.
- Taras, Howard. 2005. "Nutrition and Student Performance at School." *Journal of School
Health* 75(6): 199–213.
- Tronto, Joan C. 2013. *Caring Democracy: Markets, Equality, and Justice*. New York: NYU
Press.

- 1013 Tsui, Emma K., Jonathan Deutsch, Stefania Patinella, and Nicholas Freudenberg. 2013.
 1014 “Missed Opportunities for Improving Nutrition through Institutional Food: The Case
 1015 for Food Worker Training.” *American Journal of Public Health* 103(9): e14–20.
 1016 UNITE HERE! 2013. “Healthy Kids First: Why Cafeteria Workers Want to Cook Fresh
 1017 Meals in New Haven Public Schools.” Unite Here Local 2017. [http://www.realfood](http://www.realfoodrealjobs.org/wp-content/uploads/NH-Cafeteria-Report-for-web.pdf)
 1018 U.S. Department of Agriculture (USDA). 2014. “Richard B. Russell National School
 1019 Lunch Act.” <https://www.fns.usda.gov/sites/default/files/NSLA.pdf>.
 1020 ———. 2016a. “The Farm to School Census.” [https://farmtoschoolcensus.fns.](https://farmtoschoolcensus.fns.usda.gov/)
 1021 [usda.gov/](https://farmtoschoolcensus.fns.usda.gov/).
 1022 ———. 2016b. “Community Food Systems.” [http://www.fns.usda.gov/farmtoschool/](http://www.fns.usda.gov/farmtoschool/farm-school-grant-program)
 1023 [farm-school-grant-program](http://www.fns.usda.gov/farmtoschool/farm-school-grant-program).
 1024 ———. 2017a. “Federal Cost of School Food Programs.” [https://www.fns.usda.gov/](https://www.fns.usda.gov/sites/default/files/pd/cncost.pdf)
 1025 [sites/default/files/pd/cncost.pdf](https://www.fns.usda.gov/sites/default/files/pd/cncost.pdf).
 1026 ———. 2017b. “National School Lunch Program: Participation and Lunches Served”
 1027 [https://www.fns.usda.gov/sites/default/files/pd/](https://www.fns.usda.gov/sites/default/files/pd/slsummar.pdf)
 1028 [slsummar.pdf](https://www.fns.usda.gov/sites/default/files/pd/slsummar.pdf).
 1029 Walker, Brian, Crawford S. Holling, Stephen R. Carpenter, and Ann Kinzig. 2004.
 1030 “Resilience, Adaptability and Transformability in Social-Ecological Systems.” *Ecology*
 1031 *and Society* 9(2): 5–13.
 1032 Wood-Wright, Natalie. 2016. “New U.S. Dietary Guidelines Ignore Broad Support
 1033 for Food Sustainability.” [https://hub.jhu.edu/2016/03/11/dietary-guidelines-sustain-](https://hub.jhu.edu/2016/03/11/dietary-guidelines-sustainability-survey/)
 1034 [ability-survey/](https://hub.jhu.edu/2016/03/11/dietary-guidelines-sustainability-survey/).
 1035 Woodward-Lopez, Gail, Janice Kao, Kristin Kiesel, Markell Lewis Miller, Maria Boyle,
 1036 Soledad Drago-Ferguson, Ellen Braff-Guajardo, and Patricia Crawford. 2014. “Is
 1037 Scratch-cooking a Cost-effective Way to Prepare Healthy School Meals with U.S.
 1038 Department of Agriculture Foods?” *Journal of the Academy of Nutrition and Dietetics*
 1039 114(9): 1349–58.
 1040 World Food Programme. 2011. “Feed Minds, Change Lives: School Feeding, the
 1041 Millennium Development Goals and Girls’ Empowerment.” [http://www.un.org/en/](http://www.un.org/en/ecosoc/innovfair2011/docs/wfp.pdf)
 1042 [ecosoc/innovfair2011/docs/wfp.pdf](http://www.un.org/en/ecosoc/innovfair2011/docs/wfp.pdf).
 1043 ———. 2016. “Home Grown School Meals.” [https://www.wfp.org/our-work/our-](https://www.wfp.org/our-work/our-programmes/school-meals/home-grown-school-meals)
 1044 [programmes/school-meals/home-grown-school-meals](https://www.wfp.org/our-work/our-programmes/school-meals/home-grown-school-meals).
 1045
 1046
 1047
 1048
 1049
 1050
 1051
 1052
 1053
 1054
 1055
 1056