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Food Policy with Endogenous Preferences: Theory and Evidence

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Contributed presentation at the 60th AARES Annual Conference,
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Food Policy with Endogenous Preferences: Theory and Evidence

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Junk Food Nation: Consumer Pull or Industry Push?

- Diet-related chronic disease has become a global epidemic...
- ...but consumers care about more than just long-term health.
- Should we just **let consumers choose**?

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- Both history and behavioural sciences suggest health *is* primary objective in human dietary choice.
- If consumers subject to either
 - ① universal human psychology, *or*
 - ② imperfect information about nutritional qualities of foods(or both) then **multiple equilibria** exist.
 - This implies that powerful producers can manipulate market outcomes...
 - ...and that “letting consumers choose” might really mean letting the food industry choose!

Evolution, Dietary Choice, & the McDonald's Equilibrium

Like all foraging animals, humans are genetically endowed with **subjective beliefs** about indicators of nutritional quality:

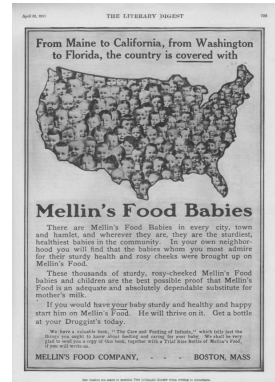
- sugar/salt/glutamate indicate valuable micronutrients
- bitter/sour indicate foodborne poisons/pathogens
- postingestive nausea indicates foodborne poisons/pathogens
- foods consumed by peers/parents are nutritious, safe to eat
- foods consumed in the past (without illness) are safe to eat

Children (and adults) choose foods *as if* they care only about health.

Today, technology has outstripped evolution:
product formulation and promotion generate mismatch.

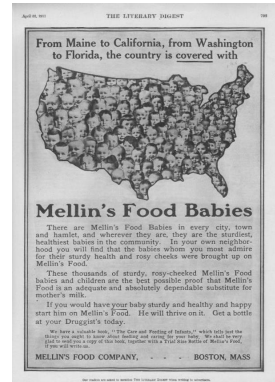
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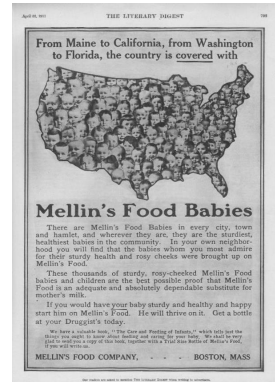
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- **1930s:** Vitamins now quantifiable in food. Processing shown to degrade vitamins.
Producers turn to fortification.



Hidden Qualities Revealed

- Early history of proprietary infant foods is **not an anomaly**. Typical pattern follows:
 - 1 Novel food product/process **widely adopted**, promoted as healthier/safer than traditional food.
 - 2 **Decades pass** before scientific consensus identifies dangers.
 - 3 Industry obfuscates. **Years pass** before legislation/technology solve the problem.
- Examples: canning, pasteurization, white flour, refined sugar, trans-fats



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- Emerging issues: glycemic effects, proprietary flavour chemicals, missing microbes, GMOs, emerging micronutrients...?



Lemons Equilibrium as Strategic Objective?

- Consumers rational but information about product quality costly. Preference for quality varies across consumers.
- Sequential search, optimal stopping rule.
- High quality products can be efficiently produced by any small producer (competitive market, zero profit).
- Low quality products are most efficiently produced at scale (monopolistic).
- Market share of low quality product depends on parameters of consumer's search problem (cost of search, perceived product qualities, etc.)

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- **A: Obfuscate.**

Obesity: Who to Blame?

- Industrialisation of U.S. food supply coincided with advent of modern public relations industry.
Methods include: advertising, co-opting “opinion leaders,” media messaging, funding scientific research, “astroturf” organisations, undercover operatives...

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- A contemporary example can be found in the food industry’s consistent 3-part messaging around the obesity epidemic:
 - 1 **count calories**
“it’s not about what you eat, it’s about how much you eat!”
 - 2 **exercise more**
“people get fat because they’re lazy!”
 - 3 **let consumers choose**
“people value taste, not health” “nanny state!” “food police!”
- Left unmentioned: Products designed to stimulate appetite, little support for exercise as cause of epidemic, consumers face informational constraints (exacerbated by this very message!).

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- General principles:
 - transparency
 - fraud prevention
 - precautionary principle
 - facilitate *informed* consumer choice...
 - ...by providing simple yes/no decision rules