



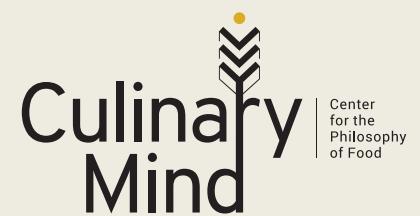
Towards a Logic of «Food Waste»

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Research Network

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Research center and academic network promoting philosophical thinking on food.
Based at University of Milan and established in 2017.

ABOUT US

PHILOSOPHY OF FOOD

Public discourses on food, eating and cooking are everywhere, but what is missing is a philosophical perspective. On the other hand, academic philosophy has mostly ignored questions related to food and eating except as regards the ethical and political issues. Culinary Mind aims to fulfil these gaps by contributing to public discourses on food from the philosophical point of view, and by focusing on philosophical issues related to food from the point of view of metaphysics, philosophy of mind, language, perception, aesthetics, and epistemology.

[GET IN TOUCH](#)

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Communicating Sustainability in the Food Domain

This Research

with Nicola Piras

nature food

Perspective <https://doi.org/10.1038/s43016-025-01167-2>

Semantic and philosophical approaches for advancing the identification and measurement of food waste

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 [Check for updates](#)

Many global food-waste frameworks do not account for multiple concurrent factors, such as culture, time, context and the aims of the stakeholders. Using the semantic tools developed in the philosophical fields of analytic metaphysics and analytic ontology, we propose a framework to explore and document the conceptual nuances of food waste. By discussing food waste from the positions of substantivalism, adjectivalism and adverbialism, we account for the breadth of food-waste contexts to improve representation and communication in technical settings dealing with identification and measurement, such as report writing and policy development.





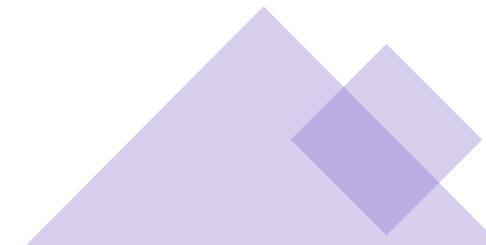
SEMANTIC MESSINESS

A curated list of how the expression 'food waste' and its cognates are currently used in English-speaking contexts

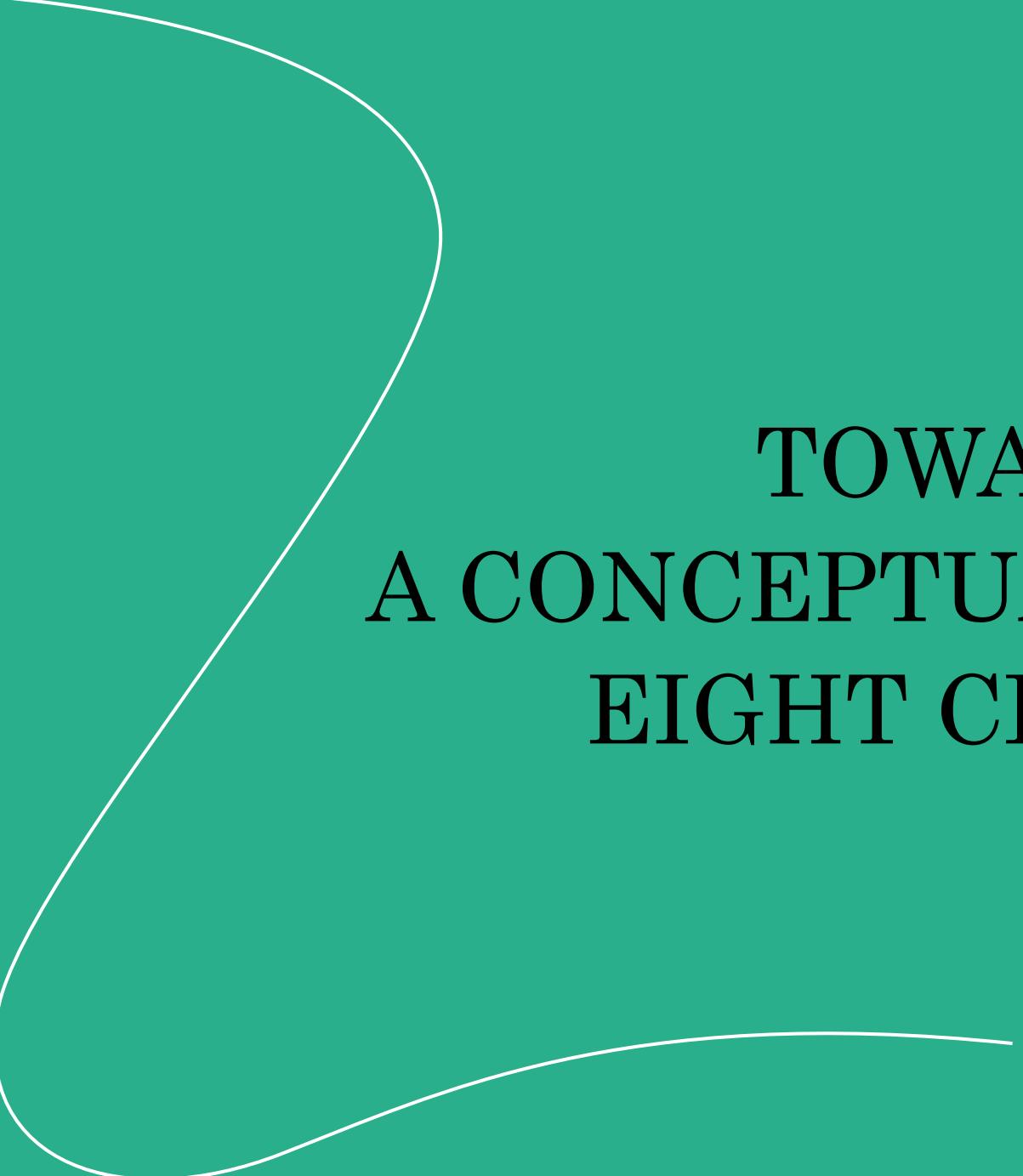
Keywords	Description
Dumpster divers	"While the concept of eating from dumpsters might turn the stomach, there is a rich history in New York of intrepid people transforming someone's trash into treasure." ³³
Accidents	"Mile 11 of Interstate 55, in Memphis, was sauced up. Concerned local newscasters, summoning all of their training, dispatched their reports on Tuesday after a tractor-trailer carrying jars of Alfredo sauce struck a median shortly before 5 p.m." ³⁴
Circularity	"At Frea, guests dine on handmade gnocchi with salsify (a root veggie sometimes called 'vegetable oyster' for its allegedly oysterish flavor) at tables made from reclaimed oak beams. The lampshades above the bar are made from mycelium, the threadlike part of a fungi. In the back is 'Gersi', the restaurant's affectionate nickname for their composting machine. Any leftover bits of food can be turned into compost within 24h, which is then delivered back to supplier farms." ³⁵
Prevention	"The only way to fight it is the complete eradication of infected trees and their surroundings as so far no treatment exists for the bacteria,' Andriukaitis, the EU Commissioner, said in an email to Olive Oil Times." ³⁶
Ideological mismatch	"I don't see meat as food anymore and it pretty much disgusts me, so when I'm alone I'd throw it away. I wouldn't eat a dead human if it got delivered to my house so why would I eat a dead animal." ³⁷
Nutritional mismatch	"I think that when you ask if you can bring a side dish, you should say that you have dietary restrictions and will not be able to eat the pizza so please may you bring a dish to share with everyone [...] don't waste it by putting it on your plate. And if anyone asks, say 'I can't eat pizza'." ³⁸
Heterogeneity of ends	"In 2019 during Art Basel Miami Beach, Maurizio Cattelan presented his 'Comedian'—a banana taped to the Perrotin Gallery wall with duct tape. It was created as an edition of 3. Two of them were sold for \$120 000, the third one was eaten by the artist David Datun [...] It was easy then to calculate that the part uneaten by David Datuna, the banana skin, was quite an expensive waste (\$40 000)." ³⁹
Cosmetics	"More than 100,000 tonnes of Queensland bananas go to waste every year because the fruit does not meet cosmetic retail standards." ⁴⁰

9	Misfits	"We work directly with farmers and makers to rescue organic produce and other grocery items that might otherwise go to waste, then deliver them to your door." ⁴¹
10	Human errors	"It can be easy to forget about items if they're tossed into the back of the fridge. Some people find it helpful to label foods in a way that puts expiration dates front and center. Make sure menu plans match expiration dates; it can be helpful to organize items so that those expiring soonest are on top and within easy reach." ⁴²
11	Junk food	"The average energy intake of most Australians is above that recommended for their age and activity levels. That means we have to eliminate excess energy consumption, and we could consider eating junk food as a form of food waste." ⁴³
12	Overeating	"The matter of fact is that excessive food consumption [...] contributes to over 10% of the total food that goes to 'waste'. ⁴⁴
13	Prestige	"An abundance of leftovers is reflective of the host's prestige and wealth." ⁴⁵
14	Surplus	"In the UK sushi chain K10, where the average product's retail price is two to three times its cost price; at the end of the day, it is cheaper to throw away two items than run out prematurely and lose a single sale." ⁴⁶
15	Exceptionality versus normality	"As overseas supplies became increasingly threatened by the war, there was a push towards home-grown produce and self-sufficiency. That need led to the creation of this pie, one of the most popular wartime recipes, which was named after the wartime Minister of Food. It's a root vegetable pie, including the infamous 'Doctor Carrot' and 'Potato Pete', blended with oats and topped with a potato crust." ⁴⁷
16	Epistemology	"It's a fact! Canadians waste food—especially fresh produce. With careful planning, and proper storage, families can save money and time [...] Apples ripen 10 times faster at room temperature. Store in a perforated bag in the crisper." ⁴⁸
17	Tools and facilities	"Cereal food loss and waste is also dominant in low-income regions, primarily due to poor agronomic practices and the lack of drying, winnowing and storage facilities." ⁴⁹
18	Best before	"Ottawa urged to look into best before date system in bid to reduce grocery waste." ⁵⁰
19	Non-humans	"Based on intrinsic bacterial characteristics and other external conditions, spoilage microbial organisms colonize and grow in specific food items at different stages in the food supply chain, which, in turn, leads to food loss and waste." ⁵¹

This selection includes newspapers, magazines, journals and media as examples of everyday communication.



Thus, there is no consensus on how much exactly goes to waste. According to Parfitt and colleagues, “Ranges between 10 and 40 percent of total global food production and as high as 50 percent are quoted, but on closer examination, these estimates all link back to the same limited primary datasets.”



TOWARDS A CONCEPTUAL SCHEME: EIGHT CRITERIA

1. Reversibility

A food waste definition should account for items that at a point of their cycle, may later become non-waste again.

2. Relationality

A food waste definition should account for items along with the specific relations that make those items food waste.

3. Possibility

A food waste definition should account for items considering also their likelihood to become waste.

4. Vagueness

A food waste definition should account for items whose status as “food waste” is sometimes undetermined.

5. Value- Sensitivity

A food waste definition should account for the value judgments involved in terming something as “food waste.”

6. Agentivity

A food waste definition should account for all the different kinds of agents related to the production of food waste who can be aware, unaware, identifiable, unidentifiable, human or non-human; who can have different beliefs, perspectives, and ends in regard to food waste.

7. Exceptionality

A food waste definition should account for those exceptional cases where food waste can change its meaning failing to apply to usual items.

8. Luck

A food waste definition should account for factors beyond human control which are not predictable and thus unavoidable.



THREE SEMANTIC PERSPECTIVES

1. SUBSTANTIVALISM

1. Uniqueness: if something is food waste, then it cannot be food, as food waste is no longer edible or may be harmful to health
2. Irreversibility: food that has become waste cannot be turned into food again

At the food-systems level, for example, crop over-production could be considered as a source of food loss or as a mechanism to strengthen food security. Substantivalism lacks the theoretical resources to report that the discarded good is loss only according to one of the two positions, because it is committed to a uniqueness assumption.

2. ADJECTIVALISM

 “Discussions of food waste should be reframed away from the concept of ‘waste.’ [...] Referring instead to ‘wasted food.’”

 => ‘Wasted’ stands for a property. But what kind of property? We do not typically *perceive* wastedness—we perceive, for example, food being rotten, which is not equivalent to wastedness.

3. ADVERBALISM

Adverbialism amends the language of the theory by introducing an ad hoc adverb, such as ‘wasting’, and replacing every occurrence of ‘waste’ with its adverbial counterpart, according to a specified translation schema.



DEVELOPING ADVERBIALISM: adverbial modifier

THREE OPTIONS

1. NOUN-MODIFIER: 'there is a **wasting banana** in the fridge'
2. PREDICATE-MODIFIER: 'there **wasting** is a banana in the fridge'
3. SENTENCIAL MODIFIER: '**wasting**, there is a banana in the fridge'

=> WORKING HYPOTHESIS: SENTENCIAL MODIFIER

ROADMAP: 1

Expressing the 8 criteria via a sentential modifier in first-order logic.

For instance, REVERSIBILITY obtains when:

“Wasting, Px” is true at time t1 & “It is not the case that: wasting, Px” is true at time t2

[with t2 occurring after t1]

ROADMAP: 2

Moving from: *conceptual schema in first-order logic*

to: *conceptual schema in domain ontology*

and eventually: **conceptual schema in OWL**

Grazie!

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