Delectable Knowledge-How the Sense of Touch Illuminates the Ontological Status of AI-Recipes

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The ongoing digital transformation has significantly altered our access to cooking recipes, introducing AI-generated outputs from Large Language Models (LLMs). This paper examines the ontological status of such AI-generated recipes, arguing that neither *recipe platonism* nor *recipe constructivism* can fully account for them, as both rely on the existence of a prepared dish as a condition for validation. Yet, some AI-generated recipes are treated as successful, suggesting that their acceptance is not purely abstract, but rooted in embodied culinary knowledge. Drawing on Andrea Borghini's concept of *apprenticeship*, I argue that recognising a recipe involves both abstract cognition within a type-token framework and sensory engagement through cooking and tasting. This analysis is supported by insights from Alva Noë and Matthew Ratcliffe, who conceptualise perception not as passive reception, but as a skilled and bodily situated mode of interaction with the world. Perceiving, in this sense, becomes a form of doing and touch and taste play a crucial role in how we validate recipes through practice. By shifting the focus from *what is a recipe?* to *how do we recognise a recipe?*, I propose a broader account that accommodates both human and AI contributions. Ultimately, recipe validity is not merely a matter of cognitive classification, but an experiential process grounded in sensory interaction, highlighting cooking as a vital mode of understanding recipe ontology. | *Keywords: AI Authenticity, Culinary Epistemology, Embodied Knowledge, Multisensory Validity, Recipe Ontology*

1. Appetiser

The ongoing digital transformation has significantly altered our access to cooking recipes. Whereas just a few decades ago, people shared recipes in an analogue manner, we now live in an era of overwhelming recipe abundance. Modern cooks can choose from a variety of media that offer recipes tailored to their preferences, dietary habits, or available ingredients. For some time now,

we have also been able to generate tailored recipes using Large Language Models (LLMs) based on our prompts. As I aim to demonstrate, this development is not without consequences for our understanding of the concept of a *recipe*.

I begin by analysing two classical philosophical positions on the nature of recipes that are *recipe platonism*, which treats recipes as abstract entities that exist independently of any particular cooking event, and *recipe constructivism*, which understands recipes as emerging from human culinary practise. My thesis is that the ontological status of AI-generated recipes cannot be adequately represented using either the concept of *recipe platonism or recipe constructivism*. The reason for this is the absence of an exemplified dish, which, in the case of both mentioned concepts, provides the epistemological access to the ontology of a recipe. AI recipes, when freshly generated, cannot yet be validated through the preparation of a dish. Despite our lack of knowledge regarding the ontological status of AI-generated recipes, we still use some of these recipes as if they were real recipes. In order to go beyond this impasse, I draw on the work of Andrea Borghini how proposes a model of culinary *apprenticeship*. I argue that the decision to follow or reject an AI-generated recipe largely depends on these prior experiences with cooking and recipes. As I will demonstrate, this apprenticeship functions in two ways concerning AI-generated recipes. First, it allows us an abstract cognitive access to the possible ontological status of these recipes. This achievement can be described by the model of a type-token relationship. However, it may also happen that, based on its ingredients, I classify a generated recipe as belonging to the recipe type *Germknödel* (a kind of yeast dumplings), yet the recipe fails in practice. The dough is so runny that shaping the dumplings becomes impossible. In this case, I would still refer to an apprenticeship, but not on an abstract cognitive level, instead, it takes place on a sensory level. That the generated recipe is unsuitable for making *Germknödel* is something I perceive with my own hands while kneading the dough. I have learned how a yeast dough should feel during processing its firmness, its elasticity. I can sense whether too much butter has been added, preventing the dough from rising properly. I can feel whether the added liquid was too hot and has inhibited the yeast from working. All these sensory experiences form the basis of my knowledge regarding whether a generated recipe is invalid. I refer to this as sensory cognition. I argue therefor that our engagement with recipes depends not only on theoretical categorisation but on practical, embodied experience. Cooking is not merely the application of instructions; it is a process of sensorial testing and situated judgement. Here, insights from Alva Noë and Matthew Ratcliffe help to clarify how perception, touch, and memory contribute to the validation of recipes.

2. What Are Recipes in General?

"In a nutshell, a dish is the stuff, a recipe is the idea […]" This is how Andrea Borghini begins his philosophical examination of recipes in his 2015 paper *What is a Recipe?* He continues: "A recipe in first approximation comprises the array of repeatable aspects of a dish whose replication would deliver a dish of the same sort" (Borghini, 2015, p. 721f.). If one consults the Oxford English

Dictionary for the origin and meaning of the word *recipe*, it is described as a set of instructions for preparing or making a particular dish. Typically, this instruction includes a list of ingredients and their quantities. A recipe thus specifies what is taken (*recipere*) to create a specific dish. In everyday usage, when we refer to a recipe, we simultaneously refer to a particular dish that ideally results from following this specific set of instructions. One might assume that every dish has a corresponding set of instructions that led to its creation, meaning that the existence of a dish is inherently tied to the existence of a recipe.

At first glance, this seems not very plausible. Many of us occasionally find ourselves unable to do the much-needed weekly shopping, while our stomachs remind us it is time for dinner. In such moments, we might improvise with whatever ingredients are left in the fridge, mixing them in a pan and seasoning them with whatever spices are at hand. The dish turns out to be reasonably tasty and satisfies our hunger. The result of our spontaneous kitchen experiment is undoubtedly a dish. However, one might question whether it had a predefined recipe. Such cases, in which similar or even identical cooking instructions appear in different cultures, raise the question of the extent to which recipes are linked to human authorship or exist independently as recipes ideas (Hirvonen, 2022). I argue that our confusion on this matter arises because we have not yet separated the idea of a recipe from its documentation. By 'recipe documentation', I mean all possible ways of recording or transmitting a recipe, whether through books, videos, photo guides, podcasts, or other formats (Borghini, 2022). In the example of spontaneous leftover cooking, our meal is not necessarily a dish without a recipe; rather, we can say that the method of preparation and the ingredients we toked has not yet been documented. With this distinction between the recipe idea, the prepared dish, and the documentation of a recipe in mind, I will now examine how the relationship between these three entities is represented in different philosophical approaches to recipes.

3. Cooking with Concepts

Although public interest in collecting, exchanging, and trying out recipes remains high, the philosophical engagement with this subject has only recently begun. Within the ontology of recipes, two main approaches have emerged in an attempt to define what constitutes a recipe: *recipe platonism and recipe constructivism* (Borghini, 2015, 2022; Sacciaca, 2020; Hirvonen 2022). Both perspectives agree that recipes contain ingredients and instructions for preparing a specific dish. However, they differ significantly in their understanding of the relationship between recipes and the dishes they produce.

Let us consider a hypothetical example to illustrate how these ontological perspectives apply. Suppose a Neolithic farmer is milking her goats when a fire breaks out in the village. She rushes to help and forgets about the bowl of milk left in the sun. When she returns later in the afternoon, the milk has turned sour, and white curds have formed. Out of curiosity, she tastes the curds and

finds them palatable and more durable than fresh milk. In the following days, she repeats the process, sometimes leaving the milk longer in the sun, sometimes using different containers. Eventually, she records her findings on a stone tablet and shares them with others in the village. In this example, the produced dish is the cream cheese found in the milking bowl. It was created by exposing a bowl of fresh milk to the sun for a certain period. This process could be seen as the idea of a recipe for making cream cheese, which our hypothetical farmer later documented. One could then ask whether she should be regarded as the inventor or the discoverer of a recipe for cream cheese.

According to *recipe platonism*, recipes are eternal types, fundamentally defined by a list of ingredients and procedures, and they exist independently of the corresponding dish (Sciacca 2020). In this view, our hypothetical farmer would be seen as the discoverer of the cream cheese recipe. The existence of a recipe does not depend on anyone recognising it or documenting it; nor does it require the recipe to ever be instantiated as a dish. Dishes, in this framework, are simply instances of recipe ideas. By contrast,

> [t]he constructivist maintains that recipes are the outcome of a selection process ultimately guided by human fiat. […] I contend that the identity of recipes can be grasped only by being suitable acquainted with the dish that instantiate them, because of the impossibility to spell out recipes in details that would match a full-fledged dish. (Borghini, 2015, p. 724)

This perspective assumes a fundamental connection between recipes and prepared dishes. Unlike *recipe platonism, recipe constructivism* asserts that recipes cannot exist independently of their instantiation in a dish. From this constructivist standpoint, our hypothetical farmer would be seen as the inventor of the cream cheese recipe. Through her experimentation, she created cream cheese for the first time, refining the method and eventually documenting the recipe for communal use.

Let us briefly summarise the insights we have gained in the first part of this paper. We first examined what is commonly meant when we speak of a *recipe*. A recipe, specifically a cooking recipe, is a set of instructions for preparing a particular dish. Typically, it also includes the ingredients used and their proportions. Furthermore, we explored two philosophical positions concerning the ontological status of recipes. *Recipe platonism* considers a recipe primarily as an idea that exists independently of its actualisation as a dish or documentation. The existence of a recipe precedes the preparation of a meal, with cooked dishes regarded as instances of recipe ideas. Conversely, *recipe constructivism* asserts that recipes emerge from a long process of selection and experimentation with different ingredients and preparation methods. Their existence depends on our recognition of a cooked dish as such, leading us to perceive its preparation method as a recipe and apply it accordingly.

4. Recipes without Cooks or on the Ontological Status of IA-generated Recipes

In the next step, I will apply the two previously introduced approaches to what I call AI-generated recipes, recipe-like outcomes produced by Large Language

Models. At the beginning, I discussed the example of spontaneous leftover cooking. I concluded that even in this case, one could argue that the prepared dish had an underlying recipe, as confirmed by our engagement with *recipe platonism*. We now move from the familiar domain of human improvisation to the relatively novel practice of AI-assisted cooking. Here as I will argue, the boundaries of recipe identity and authorship are challenged in new and revealing ways. This shift raises the question whether the output form large language models can be considered as genuine recipes.

In most cases, an LLM provides a list of ingredients followed by instructions on how to process them. The key difference, compared to how I have previously presented recipes, is the absence of a prepared dish before an LLM generates an AI recipe. This prepared dish, however, is necessary within the constructivist position for the existence of a recipe. A recipe only develops through experimentation with ingredients and preparation methods, ultimately leading to a finished dish. Cooking integrates a recipe into our experiential world. Only by preparing, touching and tasting a dish a recipe could be assessed, accepted, or rejected. In the case of AI-generated recipes, this essential realm of experience and experimentation required by constructivism is absent.

Thus, *recipe platonism* could present a more suitable alternative for describing the ontological status of AI recipes. Unlike in constructivism, the existence of a recipe is not contingent on its realisation as a dish. Consequently, one could argue that AI recipes are nothing more than documented recipe ideas. Let us consider an example: Within 2023, recipes generated by the *Savey-Meal-Bot*, a chatbot run by the New Zealand supermarket *Pak 'n' Save*, made headlines, as reported by *The Guardian*. While some recipes were merely unappetising, such as a 'vegetable stir-fry with Oreo biscuits', others could pose health risks if prepared or consumed, including an 'aromatic water mix' or a 'rice surprise' containing bleach. As a result, the bot was updated with a warning, informing users that the generated recipes were not reviewed by humans and that the users should apply their own judgment before cooking (McClure, 2023). While the *Savey-Meal-Bot* illustrates the risks of unfiltered generation, a more systematic study conducted in the same year offers a more balanced picture of what AI systems like *ChatGPT* can and cannot do when it comes to recipe generation. This study suggests that LLMs such as *ChatGPT4* are capable of producing coherent and useful outputs when prompted with requests for established recipes – including classics such as *Osso Bucco* or chocolate chip cookies. The system also performed well when asked to adjust these recipes in light of specific dietary requirements, such as gluten-free or vegetarian diets. While these adaptations were not optimal in every instance, the results were consistently rated as satisfactory across all tested examples. At the same time, the authors emphasise a crucial point: the quality and reliability of the model's response depends to a large extent on how the prompt is phrased. (Değerli and Tatlisu, 2023)

These examples demonstrate that not everything generated by an LLM in recipe form automatically constitutes a documented recipe in the platonic

sense. Unlike constructivism, which rejects AI recipes due to the absence of a prepared dish, Platonism leads to an epistemic problem: we lack knowledge of whether the AI-generated instructional steps are based on actual recipe ideas. But is the fact that we cannot determine the ontological status of AI-generated recipes through either *recipe platonism or recipe constructivism* a problem specific to AI-generated ones?

When we hold a particular piece of writing that claims to be a recipe in our hands, we have, quite simply, no definite knowledge of whether it is in fact a genuine recipe, nor how it came into being. If we have a certain level of experience with ingredients and cooking techniques, we may be able to assess whether the described method is chemically and physically feasible. But whether it truly constitutes a recipe and whether this recipe has ever actually been prepared remains unknown. This is what I would call the epistemic uncertainty of recipes. While our discussion so far has focused on the ontological status of recipes in general it is important to consider how this uncertainty plays out differently depending on the origin of the recipe. In the case of AI-generated recipes, the lack of clear provenance raises a unique kind of epistemic and cultural ambiguity. But how does this compare to recipes found in traditional cookbooks, passed on through families, or shared within cultural communities?

We must consider that recipes do not typically fall into our hands like stray pieces of paper on the street, appearing at first glance to resemble cooking instructions. Rather, we usually browse through cookbooks, watch cooking programmes, listen to podcasts, or ask friends and relatives for a suitable recipe for next Sunday's brunch. The key difference with an AI-generated recipe is that, in the case of traditional sources (unless the cookbook itself was generated by AI) we assume that the recipe has already been tested, ideally by an expert in the culinary field, and that its authorship is known. We attribute to such a recipe a narrative and a cultural context in which it is embedded. We assume that the author is involved with their background and experience, that they have navigated both success and failure throughout the development of the recipe. Much like in debates on the authenticity of artworks, we may attribute to (cookbook) recipes a form of *personal expressive authenticity* or what Peter Kivy (1995) calls a *faithfulness to the performer's own self*. While we may not have comprehensive knowledge of the success of a given recipe, we have, at the very least, a justified trust that we are not merely holding an alleged recipe, but one whose validity is substantiated by the existence of a dish that has already been cooked. AI-generated recipes, by contrast, seem to lack all of this. They may appear structurally sound, and they may even yield delicious results when followed. Yet they appear to come from nowhere. It is precisely this lack of biographical and experiential embeddedness that deprives AI recipes of *personal expressive authenticity*. We assume they have not undergone a process of validation, nor do they carry any experiential grounding. Their authenticity may be of a purely *representational-expressive* nature (Holtgrave, 2024).

Therefore knowledge of a recipe's validity is contingent upon the existence of a prepared dish both in the platonist and in the constructivist view. Instead of asking what a recipe is and thereby questioning its ontology, we could also ask: how can I know that something resembling a cooking instruction is not actually a cooking instruction? Both platonism and constructivism seem to revolve around the question: *What underlies a prepared dish, or what is its origin – the idea of a recipe or human experimentation?* However, they fail to address the question: *how can I recognise that something is the documentation of a recipe?*

By expanding our perspective in this way, I believe we gain a new insight into recipes – one that no longer perceives AI-generated recipes as a disruptive element within the concept of a recipe, but instead enables us to develop a definition of recipes that explains why a particular list of ingredients constitutes a recipe, regardless of whether it was generated by AI or created by a human without AI assistance. Instead of choosing between two insufficient models, we might reframe the question altogether. What if recipe validity depends not on its origin or ontological status, but on how we interact with it? This leads us to a more practice-based, culturally embedded view of culinary knowledge which is shaped by experience, trust, and training. Andrea Borghini's notion of *apprenticeship* offers a compelling framework for this shift.

5. From Abstract Types to Embodied Testing

In order to understand why we nevertheless trat certain AI-generated recipes as valid, despite this epistemic ambiguity, we must look at how recipes are recognised through practise. I will first clarify what it means to treat something as a recipe and what conditions must be met. I will then demonstrate why we assume that some recipes fulfil these conditions while we refrain from following others. I attribute this to the conditions of success of recipes and the concept of *apprenticeship*, as Andrea Borghini suggests, in relation to cooking and our interaction with recipes. (Borghini, 2015, 2022) This enables us to recognise AI recipes as tokens of familiar recipe types. Therefore, to get knowledge about the ontological status of an IA recipe requires the sensual experience of cooking and eating.

5.1 Apprenticeship as a Criterion of Culinary Validity

Unlike fictional recipes, such as magical potions from the *Harry Potter* books, traditional recipes are often used with the intent of preparing a specific edible dish. Generally, one could say that a recipe is considered successful if it enables the preparation of a tasty and edible dish. From this perspective, it is understandable why one would not classify 'a rice surprise containing bleach' as a recipe. However, suppose someone intends to cause harm to another person through a specific dish. In that case, a recipe for preparing a meal with bleach would perfectly align with their intention. Would we not say this specific recipe is successful and therefore valid? To cite a less drastic example, we can turn to a German tradition practised in some regions during the carnival season – the baking of mustard-filled doughnuts (*Krapfen*). The reason

for this tradition is not that mustard-filled doughnuts are considered particularly delicious, but rather that it is seen as amusing when someone expecting a jam-filled doughnut instead bites into one filled with mustard. Would we not claim that a recipe for mustard-filled doughnuts is, in this case, a valid recipe, despite the fact that the result is, by conventional culinary standards, unpleasant?

Does the success of a recipe not lie more in the fact that it delivers what it promises in terms of ingredient selection and preparation method than producing a tasty and harmless meal? In the case of the mustard doughnut, the recipe would be valid if, at the end of the cooking process, one indeed produces a mustard-filled doughnut rather than for example a crêpe spread with mustard. I refer to this as the conditions of success of recipes.[1] We treat something as a recipe precisely when we assume that it will enable us to successfully prepare a specific dish. I believe we apply the same reasoning to AI-generated recipes. Those we choose to follow are assumed to fulfil these conditions. This assumption is based on our culinary knowledge and experience with recipes, which grants us a certain level of expertise and authority in assessing the validity of AI recipes. According to Borghini, this culturally shaped and continually expanding body of knowledge is acquired through a process of apprenticeship (Borghini, 2015).

This could be understood in two different ways, as I will show. On the first hand we could have an abstract cognitive apprenticeship to what we treat as a recipe. For example, we learn to classify food and cooking-related entities according to types and tokens (Borghini, 2022). A recipe type represents a general concept of a recipe. For instance, we normally categorise our daily meals into breakfast, lunch, and dinner. In this context, muesli, a cheese sandwich, or a croissant with pistachio cream could be considered recipe tokens of the 'breakfast' type. In contrast, travelling further east to Malaysia, a dish such as *dahl with dosai* would be classified as a breakfast token, whereas in Europe, it might be seen as lunch or dinner. The same principle applies to more specific recipe types. If I ask an LLM for a recipe for *Spaghetti Bolognese* and it includes the Indian spice mix *Rasam*, this AI-generated recipe might not be, in accordance to my personal apprenticeship, recognised as a token of the *Spaghetti Bolognese* recipe type. Depending on one's dietary habits and cultural background, an AI recipe replacing beef with lentils, thus offering a vegan variant, might also be evaluated differently. This concept also explains why users of the *Pak 'n' Save* chatbot did not suffer harm despite its potentially dangerous AI-generated recipes. Clearly, they were aware of the potential health risks or unappetising outcomes of following such instructions by using their abstract cognitive apprenticeship in accordance to their individual cooking intention.

Furthermore, our culinary knowledge and training provide another explanation for why we individually decide to follow some AI-generated

[1] Another perspective on recipes and the cooking process is offered by Valgenti (2014) in *Cooking as Interpretation* and Fox (2020) in *Making Sense of Recipes*, drawing on Ludwig Wittgenstein's *Lecture on Aesthetics*.

recipes while rejecting others, even in less obvious cases. However, it may also happen that seemingly valid recipes are generated, where we cannot unreservedly assume on a purely abstract cognitive level that they meet the success conditions. It may be that ingredients previously unknown to me are suggested, or that I am unfamiliar with the preparation method. Additionally, I might be unable to assess whether the proportion of ingredients, for example in a bread-baking recipe, will result in the desired dough consistency. If I have ruled out the possibility that the listed ingredients are harmful to health, my abstract cognitive access to the generated recipe is generally exhausted when I have never encountered the expected dish before. If our purely abstract cognitive access to the validity of a recipe initially seems exhausted, our experience with cooking and eating provides us with another way to gain knowledge about a recipe's validity. But what happens when abstract classification reaches its limits especially when a dish seems unfamiliar, or a method unknown? In such cases, we rely on another kind of knowledge: the kind that arises through our senses, through cooking, tasting, and touching. This embodied level of recipe recognition forms the focus of the next section. While following the instructions of a particular recipe, we gather sensory data. We feel the dough as we knead it in our hands. We smell the burnt cake. We taste the overly salty soup. We hear the crunchiness of a biscuit, and we see the artistry of a wedding cake. All these sensory inputs form the basis of our judgment as to whether a recipe, from which our cooked dish originates, is a valid recipe. In this process, as I will demonstrate, both taste and touch play a particularly significant role.

5.2 From Touching Dough to Recipe-Validation

While this type of recognition relies on shared concepts and training another layer of understanding emerges from sensory experience especially touch. Aristotle, in his *De Anima*, emphasises that touch is the most fundamental of all the senses. It constitutes the minimal and necessary sensory capacity for any living being. Whereas sight, hearing or smell are not shared by all forms of life, the capacity for touch defines what it means to be alive in an ontological sense. In his well-known passage (Aristotle, 2025, 414a8-14), Aristotle explains that nourishment, and by extension any form of culinary knowledge, is primary accessible through those qualities that are perceived by the sense of touch. These are warmth, coldness, dryness and moisture. Taste, in addition, according to Aristotle, is merely a specialised form of tactile perception, confined to the tongue. Eating, therefore, is not simply a physiological process for human beings. It is an epistemic cognitive act that begins in the experience of touch and a mark for our relationship to the world as embodied.

Why does Aristotle regard food as an outstanding object of perception for the tactile senses and how is this question related to our judgements about recipes? I aim gaining knowledge about our food primarily requires proximity to the perceived object. The most beautiful and appetising-looking cake in a shop window may turn out to be a wax model. The thought of "notions of underbrush, tilled soil and fungi over a core of crème de cassis, plum preserves and Indian spices with a waft of camphor" (*Chateau Mouton Rothschild 1er Cru*

2009, no date) in a 2009 Château Mouton Rothschild Premier Cru may fill me with delight until I realise that the wine in my purchased bottle is corked. I may hear the sound of perfectly frothed milk as it steams, only to taste that the milk has already gone sour.

It is precisely in the practical work and our experience with recipes that the ontological significance of the sense of touch becomes apparent. Only through kneading, cutting, stirring, or chewing do we come to recognise whether a recipe is truly valid. We do not judge correctness through sight or thought alone, but through a bodily learned sensitivity. We know a recipe is "wrong" not by inference, but through touch. This fundamental role of tactile experience in our relation to the world is supported not only by ancient theories of the soul, but also by modern phenomenological and epistemological approaches. In particular, Alva Noë, in his work *Action in Perception*, argues that perception should not be understood as the passive reception of sensory data, but as an active, bodily situated exploration of the world. Perception, as Noë puts it, is a skilled activity that depends on sensorimotor know-how – on a world access learned through bodily engagement, movement, and feedback (Noë, 2004, p. 228). Matthew Ratcliffe further develops this point by describing perception as a form of *reality-testing* grounded in bodily feedback, which he argues is structurally before other forms of sense experience (Ratcliffe, 2013, p. 2). Whereas Aristotle demonstrates that nourishment is only accessible through tactile qualities, Ratcliffe allows us to clarify that this tactile involvement is not merely an addition to a cognitive recipe analysis. Rather, our *being-touched-with-the-world* constitutes the very basis on which we experience a recipe as valid. In this sense, touch is the embodied verification of culinary knowledge. The classical hierarchy of the senses, as found for instance in Plato (Korsmayer, 2002), is thereby decisively overturned.

Let us assume I wish to prepare a brioche braid, just as I remember it from my childhood Easter holiday, made by my grandmother. I recall the ingredients and the method of preparation. I take flour and sugar, add lukewarm milk, and dissolve a piece of fresh yeast in it. I wait until bubbles begin to form and the yeast becomes active before I start kneading. I remember the movements my grandmother made when she kneaded the dough, and I try to imitate them. The dough becomes increasingly supple, and once it reaches a certain elasticity, I decide to let it rest before braiding and placing it in the oven to bake. Yet that familiar scent begins to fill my home. Even the finished dish reminds me of my grandmother's braid. However, only upon taking a bite do I realise that my brioche has a much firmer texture, and the aroma does not match my childhood memories. While I may have initially recognised my recipe as a token of the brioche braid type, it is only through touching and tasting that I discover it does not correspond to the *brioche-braid-recipe-of-my-grandmother* type.

This moment of discrepancy, where the braid seems visually correct, evokes the right memories, and even smells familiar, yet feels and tastes wrong, illustrates what we could describes as the active nature and bodily engagement

of perception. According to Noë perception is not the passive reception of sensory impression. Rather it is a skilled and bodily activity that draws upon sensorimotor knowledge (Noë, 2004). My recognition of the braid's failure does not result from abstract reasoning and cognition. It emerges trough bodily familiarity with the recipe as it was once enacted. The movements of the kneading, the resistance of the dough, and the elasticity I remember from my grandmother all form part of a learned bodily repertoire. This memory enables a kind of tacit knowing that only becomes available through action and embodiment. To mention Ratcliffe, our tactile experience in that moment when I first come in touch with my brioche braid is not merely an addition to perception. It is constitutive of our sense of the reality of this specific braid. Through touch, I realise that the brioche does not belong (Ratcliffe, 2013, 2018). It does not feel right. The firmness of the crumb and the resistance of the crust are not just sensory properties. They serve as reality tests through which the dish fails to embody the *Easter-brioche-braid-recipe-of-my-grandmother* type I was intended to reproduce.

Let us now imagine that I have prepared my brioche braid exactly as my grandmother once did. The result of my bakery is nearly identical in shape, colour, smell, taste and texture to her Easter braid. One might assume that this dish corresponds in every way to the *Easter-brioche-braid-recipe-of-my-grandmother* type. But now let us imagine that, even so, I do not wish to assign my Easter brioche to that type. It felt like something is missing. This is where psychology and *Gastrophysics* come into play. When we ask which dish perfectly exemplifies a given recipe, this question is not solely about the food itself or some objective inherent properties it may have. According to Charles Spence, we should therefore ask *What makes this particular dish perfect for me?* To answer this, the perfect instantiation of the *Easter-brioche-braid-recipe-of-my-grandmother* should not be reduced to food understood merely as substance that nourishes me. My perfect Easter brioche goes beyond. It is a multisensory experience. The entire atmosphere in which it is served – the colour of my grandmother's plate, the scent of the fresh flowers on the table, my grandfather playing the accordion, the feel of the old and rusty cake knife, or even the temperature in her garden – shapes my experience and therefore my judgement about the recipe's validity. (Spence, 2004, 2012, 2014)

In this sense, the recognition of a type-token relationship cannot rest solely on an abstract cognition. It is certainly possible, by simply reading a list of ingredients, to identify potentially harmful or implausible recipes based on my own experience and, unless I am intentionally seeking to poison someone, to choose not to cook them. However, if I have never actually used this recipe documentation – if no dish has yet come into being from it, and I have not encountered it through cutting, cooking, or kneading – then an epistemic lack remains. Whether a recipe is valid cannot be determined purely on paper. It must be experienced through full sensory engagement. Above all, it is our tactile perception, which, as Ratcliffe suggests, serves as a fundamental way of being touched with the reality. (Ratcliffe, 2008, 2013)

In this section, I have shown that neither constructivism nor platonism can fully account for the epistemic and ontological status of AI-generated recipes. While constructivism relies on realised dishes and platonism in contrast posits the existence of recipes as abstract entities that do not depend on having ever been prepared, tasted or physically realised, both concepts fail to explain why we treat certain AI outputs as valid recipes. I have argued that our trust in such recipes depends on culturally embedded knowledge and learned practises of classification and preparation. This knowledge manifests as both abstract cognitive reasoning and embodied sensory engagement. Ultimately, it is through these practises of apprenticeship and tactile perception that we judge whether something should be seen as a truly valid recipe.

6. Aftertaste

In concluding this inquiry, we return to the question that has tacitly guided each section: *what exactly allows us to treat something as a recipe*? Throughout this paper, I have argued that neither *recipe platonism nor constructivism* alone suffices to determine the ontological nor the epistemic status of AI-generated recipes. While platonism disconnects the recipe from the body, constructivism requires a realised dish. Yet the reality of culinary life reveals something more complex. We often treat recipes as valid even in the absence of a cooked dish or a known author. What accounts for this paradox?

One answer lies in our own capacities, our culinary knowledge, our sensory training, and our culturally shaped understanding of what recipes are and do. According to Borghini, we acquire this knowledge through a process of apprenticeship, both cognitive and sensual embodied. It is this apprenticeship that grants us the authority to assess whether a given recipe documentation, be it scribbled on a napkin, published in a cookbook, or generated by *ChatGPT*, can be trusted to yield something real, edible, and meaningful. Following this, the recipe becomes valid not by the authority of its source, but through the work and world of the one who interprets it. This is why AI-generated recipes are often said to lack authorship or expressive authenticity. And rightly so, if one assumes that expressive authenticity requires a unified subjectivity, a person with memory, intention, and sensory awareness. Claire Benn (2024) argues that writing gains authenticity by granting access to the writer's style, preferences, and personal world. A recipe, too, can carry this mark. Think of a grandmother's brioche or a friend's handwritten note for Sunday roast. But AI has no life. It has never touched a tomato, listened to the knock of a ripe watermelon, or inhaled the scent of freshly baked apple pie. It does not know what it generates. It simply predicts, based on patterns, what might resemble a recipe.

And yet, I would argue that something more subtle is at stake. The problem is not, as Mark Coeckelbergh suggests, that the algorithm becomes the artistic agent (Coeckelbergh, 2016, p. 286), displacing the human creator. Rather, the problem is that we still tend to misattribute authorship entirely, either to the machine or to no one at all. Instead, we should understand AI-generated recipes as the product of a human–machine interaction in which the human is

always the responsible agent. The recipe only becomes functional and meaningful if the human knows what to do with it. It is not the algorithm that validates the recipe. It is the user who, by prompting, selecting, adapting, and cooking, makes it real. To follow this line of thought is not to diminish the role of the machine, but to locate it appropriately. A large language model is not an author. It is a brush, a knife, a rolling pin, a tool that extends human creative capacities but does not replace the human as source of knowledge, judgement, or expression. To blame the LLM for a failed dish is like blaming the pan for burning dinner, or the pen for a poorly written poem. As Holtgrave (2024) puts it, "We would not say that the brush painted a bad picture just because we do not know how to use it." In this way, AI-generated recipes can be understood not as falsifications or illusions, but as opportunities for practice, trials that test and engage our culinary reasoning. Their validity is not given in the output but earned in the kitchen. Something went wrong? It went wrong in accordance with your apprenticeship. Something tasted right? Then your learned senses knew what to do. In either case, the success or failure of the recipe reflects not the machine's skill, but your own.

Finally, this brings us back to what recipes ultimately are. They are not static lists of instructions, but dynamic points of relation between bodies, knowledge, and materials. Mark Titmarsh (2017, p. 103) reminds us that creation is not mere manufacture but "a fine tuning between human and inhuman forces, between matter and will". A recipe lives in this tuning. It becomes real when a trained hand interprets it, when a cook hears the right crunch, smells the right balance, tastes the needed salt. That is why no recipe documentation, AI-generated or not, can ever fully transmit the tacit knowledge we gain by engaging with the world through our embodied presence. A recipe cannot tell you how a tomato should feel in your palm. It cannot describe the sound of a ripe watermelon when you knock on it. It cannot capture the moment you recognise the readiness of dough by the spring of its surface or the scent that tells you an apple pie is done. But you know it. And because you do, the recipe, however it came to you, becomes valid.

To cook, then, is not to obey. It is to recognise, to adapt, to feel. It is to engage with a recipe not as command but as possibility. And it is in this aftertaste, in the interplay of memory, knowledge, and touch, that the true authorship of every dish is found. In this sense to learn how to cook means to not have to be a slave of recipes (*Julia Child Quotes*, no date).

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