





#### INTERNATIONAL EDITION

March 2023 / N. 357

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Monthly Magazine Reg. n. 4049 - 29-5-1956 Tribunale di Milano

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#### L'ACCADEMIA ITALIANA DELLA CUCINA

È STATA FONDATA NEL 1953 DA ORIO VERGANI E DA LUIGI BERTETT, DINO BUZZATI TRAVERSO, CESARE CHIODI, GIANNINO CITTERIO, ERNESTO DONÀ DALLE ROSE, MICHELE GUIDO FRANCI, GIANNI MAZZOCCHI BASTONI, ARNOLDO MONDADORI, ATTILIO NAVA, ARTURO ORVIETO, SEVERINO PAGANI, ALDO PASSANTE, GIAN LUIGI PONTI, GIÒ PONTI, DINO VILLANI, EDOARDO VISCONTI DI MODRONE, CON MASSIMO ALBERINI E VINCENZO BUONASSISI.



**On the cover:** graphic elaboration of *Almond Blossoms* (1890) by Vincent van Gogh; Van Gogh Museum, Amsterdam

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# **The History of Italian Cuisine in Comics** *translated into 8 languages*

# A message to the world in the year of our seventieth anniversary.

his issue of Civiltà della Tavola displays, on its inside cover, a delightful image of the book History of Italian Cuisine in Comics translated into 8 languages: English, French, German, Spanish, Portuguese, Chinese, Japanese and Arabic. In its own right, this photo of the translated covers bears witness to this book's success. Support from the Italian Foreign Ministry (MAECI) has been crucial to the completion of this complex translation project, rendered particularly difficult both by the characters' use of language and the limits imposed by predetermined speech bubbles and text boxes. Thanks to this lengthy, painstaking task, we were finally able to publish this work, which will now be available worldwide. Several hundred copies of the English version have been printed for distribution in the Anglosphere; the other translations will be available in e-book format. We will soon provide simple instructions to read the book using a smart phone, tablet or PC. Through the Foreign Ministry, it will also be available in all our Embassies, Consulates and Italian Cultural Institutes and other cultural organisations.

### A tool to bring young people closer to our country's culture and history

**by Paolo Petroni** *President of the Academy* 

tool this book is for bringing youngsters closer to our country's culture and history. With support and patronage from its municipality, one of our Delegations launched a truly inspired initiative: all its fifth-year primary school pupils were given the book and produced illustrated research projects on local culinary traditions and simple historical topics, aided by their teachers.

Over 100 attentive and evidently interested pupils attended the book's presentation and correctly answered the many questions that followed, themselves posing many intelligent and relevant queries.

### Academicians invite young people to learn about our roots

This touching experience demonstrates that even at a young age, Italian culinary history can spark strong interest and exert a decisive influence during one's formative years. Of course, these classes included several pupils from other countries, who gained insight about Italian family life by means other than traditional teaching subjects.

This example should encourage all Academicians to teach their children and grandchildren about our history and roots through the cartoons in this book: an excellent start for the Academicians of tomorrow.



**This, too, is a way to celebrate our 70<sup>th</sup> anniversary!** I recently had the chance to witness what an extraordinary

# Frying with hot air

**By Roberto Zottar** *Gorizia Delegate* 

"Air fryers" are all the rage, but do they really work? o be honest, these appliances, despite their name, **don't fry at all, because without fats, we can neither fry** nor even remotely simulate its effect; but this doesn't make them useless. Indeed, their very name could be cramping their style. The two years of the pandemic have been crucial to their success: confinement indoors has allowed home cooks, eager to prepare crunchy food with little or no oil, to discover **the versatility of these ma-**

chines. The popularity achieved by air fryers is reminiscent of the microwave's ascent in the '70s. Part of that success is indubitably due to their space-saving compactness and simple design, encouraging people to favour them over conventional and microwave ovens to heat frozen food and revitalise leftovers. Promotion by 'influencers' have also made air fryers familiar to a younger public, particularly on TikTok, the most popular video app among





16-24-year-olds, where videos demonstrating unexpected uses of air fryers are vastly popular. There are now **2.6 billion views for the hashtag #airfryer** on TikTok, and 700 million for #airfryerrecipes.

#### What's new is the brilliant marketing idea of 'rebranding' the name

Air fryers are not a recent invention: shops have carried them for over twenty years. What's new is the brilliant marketing idea to 'rebrand' their name. Rather than Frittolosa ('FastFry'), as one rather unsuccessful precursor was called in the early 2000s, they are now called 'air fryers', or translated literally into Italian, friggitrici ad aria. The name - in a clever marketing move - promises fatfree frying; but this is, alas, a lot of hot air. Yet this is by no means a useless machine; it's just that its name makes us dream of frying fatlessly. This 'non-fryer' is essentially a small countertop convection oven, designed to simulate frying without immersing food in oil, and contains very effective heating elements and a fan to circulate hot air, just like a high-intensity ventilated oven.

The heated air cooks foods that would otherwise be immersed in oil: **the heat vector is not oil but the very air that completely surrounds the food**, cooking it evenly. Temperatures can reach 230°C depending on the model. Oil must not be poured into such ovens, as it may burn. Cooking times are 20% lower than with conventional ovens, again depending on the model and type of food.

### Air will never succeed in heating the surface of a food exactly like fat would

Air, even if heated aggressively and circulated by a fan, will never be able to heat the surface of a food as fat would. Aubergines can quickly demonstrate this. An aubergine (with excess water removed) is utterly different when fried conventionally or in an 'air fryer': hot air dries food, while fat seals moisture inside, inevitably producing a different flavour. If instead we cover food in oil before cooking it in an air fryer, we simply cause the oil to be absorbed and then heated: this may be similar to frying but will not reduce our fat consumption. This is what happens with some precooked frozen foods, which are already covered in oil: for instance, frozen chips, which are in fact precooked and then blast-chilled to -30 °C, turn out perfectly when cooked in an air fryer.

Real frying, in any case, requires very hot liquid fat which surrounds food and cooks it very rapidly. To qualify as frying, the result must be characterised by only superficial dehydration which renders the food crunchy on the outside but moist on the inside. We must remember, however, that the less oil is absorbed during frying, the more delicious the result. If insufficient oil is used, upon contact with cold food it will cool down enough to be absorbed: thus, to avoid excessively oily fried food, we must use abundant oil and a sufficiently high temperature, at least 160°.

### The original idea was to reheat American soldiers' frozen meals

The ancestor of air fryers was invented by **William Maxson**, a former military man who **designed a 'Whirlwind Oven'** to heat military meals during deployments: microwave ovens didn't exist yet, and he invented **a multi-layered oven with a fan to blow hot air over food**. Rather than burning some parts of the



frozen food while the inside remained cold, this oven **had a system for uniformly heating food**, and was **used on aeroplanes for heating soldiers' meals** during the Second World War. However, it never gained a foothold in the domestic market, mostly because it was relatively large and cumbersome. Later, microwave ovens became enormously successful and people forgot 'air-frying' techniques, which were only rediscovered recently.

Such an appliance can, however, offer pleasant surprises when playing to its strengths. It is, indeed, an oven, but with important differences from a standard one: its smallness allows very rapid heating and reduces energy consumption and cooking time.

#### Which foods are suitable?

Which foods are suitable? The best results are obtained with **naturally fatty foods**, such as certain parts of a **chicken** or frozen foods such as **chips or croquettes**. In other cases, it might be useful to spray the surface of the food somewhat generously with oil and refrain from using the device at full capacity, leaving space for the hot air to reach all around each piece of food evenly. Cooking merely battered foods is inadvis**able** as the batter might not stand up to the hot air current; a breadcrumb layer over the batter would protect it. A pizza cannot be cooked from scratch. but can be reheated, in such ovens. Chicken drumsticks and thighs can be prepared flawlessly, with sublimely crispy skin and juicy, fat-drained flesh. Meatballs or small fish or molluscs can be cooked on a high, guick setting; 'twice-cooked' foods which are cooked before being baked, such as thick steaks, hamburgers or roast potatoes, are also suitable. Raw frozen pastries are ideal candidates for fast baking: in 18 minutes we can have a café-worthy breakfast.

Air fryers and convection ovens are similar, as we have seen: the first, however, are far smaller, attaining the necessary temperature long before cavernous conventional ovens, and also cooking more swiftly. This obviously limits portions considerably.



#### How to choose an air fryer

How to choose an air fryer? Several models are available, differing according to energy class, functions and capacity. A medium 4-litre basket will serve 2-3 people. Models which reach 200°C as quickly as possible are advisable, despite their higher energy consumption: like standard ovens, air fryers must be pre-heated, and a powerful machine does this in 2-3 minutes. Finding a good compromise between performance and energy consumption is crucial for selecting the product which best fits one's needs. Most air fryers have a temperature selector and a timer, permitting precise cooking: if possible, choose a digital, rather than an analogue, version. Recently, even 'air fryer steamers', which allow both steaming and 'air frying', have appeared, as have sprayable oil bottles;



but still, they're all selling hot air!

# The metaverse in the kitchen

**by Elisabetta Cocito** *Turin Academician* 

## A virtual world superimposed on the real one.

t's another world! And not figuratively, as our amazed grandparents exclaimed when witnessing newfangled gadgets beyond their ken. Today we really can enter another world: the metaverse, a virtual world superimposed on the real world, running parallel to it and **allowing participation in many activities without being physically present**.

In this virtual dimension, people can also interact through an avatar: an image selected as a user's alter ego, which can be identified as the user and participate in virtual activities. This abstract individual connecting the natural world and its parallel metaverse created for science fiction and video games is finding more and more uses in the social and work spheres, and is even making inroads into the gastrosphere.

Avatars can visit restaurants and watch food being prepared, but cannot taste it

Avatars can explore their surroundings, visit restaurants, view images of food,



watch it being prepared and admire its aesthetics, but will nonetheless remain famished since (luckily, I add) we cannot yet eat or drink what we virtually 'taste' in the metaverse: these activities remain shackled to the real world. We cannot teleport food yet.

Many companies and even some chefs have shown interest in this new interaction method, perceiving its potential, partially because it is becoming ever harder to distinguish simulation from life. Thanks to the alliance between the real and the virtual, anything is possible - or nearly so. Unable to taste virtual food, we can choose another method: accentuating flavour perception by tasting real food in that unreal dimension. An example: tasting mushrooms while our avatar is in a forest where abundant mushrooms exude their fragrance. Experiments involving real and imaginary food combinations have detected enhanced perception of aromas and appreciation for food via this method. Emotional involvement seems important in this: why then wouldn't chefs 'play' with these new toys?

#### A digital laboratory can let users virtually observe production processes

Another use of such immersive technology has given rise to a project whereby a noted cured meat producer, collaborating with specialists in the field, has 'constructed' a digital laboratory whose users can virtually observe every stage of production, interacting with food producers. Direct interaction with producers fosters trust and transparency. If such experiences expand, they could facilitate a direct relationship with producers, cutting out middlemen and shortening 'food chains'. The longed-for 'farm to table' model widely cited by small businesses could thus become commonplace.

Back to restaurants: though we can't yet eat virtually, the metaverse could win over customers and keep them loyal.



Some important chefs are already cautiously testing this method of inviting customers into a restaurant's world: there are games with meals or dishes as the prizes, and virtual restaurant tours allowing users to buy ingredients, create recipes and prepare food under a chef's guidance. Cooks could be trained virtually, and so on. According to promoters, the metaverse represents a chance to promote and gain even more appreciation for Italian products worldwide. One could learn about a food's production, history and interesting features while tasting it.

### Perhaps, at least for a while, we should keep our feet planted on the ground

All pros; no cons? Perhaps. A study of home life suggests that before too long, domestic kitchens may disappear: seated comfortably, we will order food which will be delivered by drones, and all our activities, including play, will be performed while stationary. This would save time, but how severely would it erode our happiness? If some would consider this a utopia, a coveted goal, for others it may be a distortion of the present, a vision of a lonely future. Over the centuries, sharing meals has remained a constant, facilitating friendship, courtship, contracts, diplomacy, and far more simply, joy, cheer, cathartic laughter and invigorating discussions. Let's not lose this.

A final consideration: **the term 'avatar' comes from Hinduism** and means a deity's earthly incarnation; our avatars ascend from the earthly plane to another, unearthly realm. It might be wise for us to keep our feet, at least for a while, firmly planted on the ground.

**Elisabetta Cocito** 



# **Umami: the fifth flavour**

#### by Enrico Maggi

Syracuse Academician

A familiar, 'friendly' flavour even before birth.

n 1908, at what was then Tokyo Imperial University, professor **Kikunae Ikeda** discovered receptors for a taste other than the four known at the time: umami. Starting from the theory that nature 'does not play dice' and that humans have evolved over millennia, let us introduce the concept of umami by considering taste and its primordial function. Food was once merely a necessity for survival and not a means of pleasure. **The ability to analyse our food through taste** has aided survival, allowing us to avoid risky foods and favour nourishing ones. In evolutionary terms, perceiving the sourness of acids in unripe fruit or decomposing food, or the bitterness of alkaloids, **has protected our species from poisons, intoxicants** and other health risks. Instead, **sweet and salty** flavours identify foods rich in energy or the minerals which maintain fluid balance.

### What role does umami play?

If on the one hand bitterness and sourness indicate risk, while sweetness and saltiness mean opportunity, what is the function of umami? **Receptors for this fifth flavour tell us that we are consuming proteins**, macronutrients fundamental to our bodies, and **other substances crucial for neurological functions**. These substances **stimulate the secretion of thick saliva**, also involved in the tasting process, and of gastric juices. The term 'umami' combines the Japanese adjective umai (flavoursome or delightful) and the term mi (essence). The principal vehicles of umami (glutamate, inosinate and guanylate) exist in varying quantities in different foods; their concentration increases through ageing and fermentation. Meat is composed chiefly of proteins with long amino acid chains. However, proteins do not bring many organoleptic benefits until ageing or curing break those long chains of amino acids, which, no longer aggregated, are known scientifically as 'free amino acids'. It is in this 'free' state that amino acids express themselves. Glutamate and aspartate convey umami, while other amino acids may give meat a sweet (glycine and alanine) or bitter (valine or leucine) flavour. So the taste of meat increases with ageing, which breaks proteins up, liberating the glutamate which confers umami. This phenomenon is found in cured meats and aged cheeses, but also



in sauces including soya, miso and kabayaki, and colatura di alici ('anchovy drippings') and similar fish sauces used by chefs.

Umami plays an important role for us even before our birth. High concentrations of glutamate are present in human **milk**: it has even been found in amniotic fluid. This makes umami a familiar, 'friendly'flavour to us even before we are born.

#### Recent studies have even found umami receptors in our stomachs

Our digestive tract contains numerous taste receptors. The tongue, by virtue of its role as a food selection organ, is peppered with taste receptors. The most important flavour detectors are taste buds, containing three types of gustatory cells extending from the apex to the base of the buds. Taste buds are located on papillae. Umami is recognised by gustatory cells of type II (which also detect sweetness and bitterness). When receptors in gustatory cells receive the umami bearer glutamate, that informa-



tion rapidly travels to the brain, and we perceive an umami flavour.

Recent studies have even found umami receptors in our stomachs. Upon intercepting glutamate, which conveys umami flavour, they communicate this information to the brain, which prepares the stomach for protein digestion. Historically, umami has played an increasing role during the development of advanced societies and their culinary traditions. Many condiments for making food more flavoursome and appetising have been created by different civilisations. The discovery of umami as a basic taste and glutamate as a substance that activates its receptors has launched monosodium

glutamate as a flavour enhancer used in the food industry.

Umami is a flavour that "spreads over the tongue, covering it". Unlike sweetness or saltiness, detected more intensely on the tip of the tongue, umami is perceived all over it.

Though the salty and sour tastes of table salt and tartaric acid swiftly vanish, umami persists for several minutes in the mouth. While sourness triggers salivation, it has been demonstrated that umami stimulates prolonged salivary secretion. The consistency of saliva also changes according to flavour: thinner for sourness, and more viscous for umami.

#### Enrico Maggi

