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an Andrews, former editor Saveur Magazir

In 1274, the most famous of medieval travelers, the Venetian Marco Polo, embarked on a voyage of discovery to the unknown lands of the East. Twenty-four years later he returned to Venice with fabulous stories about exotic places that became the major source of information about the East during the Renaissance. Legend has it that among the marvelous things he encountered in China was macaroni and that he introduced it to Europe--but legend it is. The real story of macaroni is a complex one and, appropriately, as slippery as a wet noodle. The complicated story of macaroni-the generic term for all dried alimentary pastes cooked in broth or water, also called pasta or noodles--will be set out as an inquiry into the meaning, origin, and importance of this food, as well as of two other important products also made from hard wheat--couscous and hardtack.<sup>1</sup>

## Macaroni

The invention of macaroni (what the Italians call pasta secca and which specifies dried--versus fresh, pasta fresca--pasta) has been attributed to the Etruscans, the Chinese, the Greeks, and the Romans, as well as the Arabs. I will try to lay out the history of macaroni as best we know it. But first we must ask what macaroni is and why it is important. The way the term macaroni is used by scholars is determined by the kind of wheat used to make it. The mystery over the origin of macaroni is clouded by the fact that food writers traditionally have failed to discuss and distinguish the varieties of wheat.<sup>2</sup> Establishing the locale or era for the origin of macaroni hinges on identifying not its particular shapes, nor that it is made of flour and water, but the kind of wheat used to make it. If mixing wheat flour and water together and stretching the dough into threads is what is meant by pasta, macaroni, or noodles, that definition tells us nothing; it is not historically heuristic. The reason scholars are interested in the origin of macaroni is that the answer can contribute to a better understanding of the role a new food played in subsequent political and economic developments. Ascribing the word macaroni to an alimentary paste made from soft wheat, as many food writers do when discussing the history of macaroni, is incorrect. That filiform, round, cylindrical, or sheet dough products made from a mixture of water and the flour from cereal grains existed for a very long time is not in question.<sup>3</sup> That fact is not of interest to historians. After all, some Middle Eastern flatbreads are made of wheat flour and water and rolled out as thin as lasagne. What is historically important about the invention of macaroni, the sine qua non of its definition, is that it is made with a particular type of wheat flour, Triticum durum Desf. (now designated Triticum turgidum var. durum). This wheat, which apparently evolved through cultivation from emmer wheat in an as yet undetermined location (Abyssinia has been suggested), is mixed with liquid to form an alimentary paste that is dried, then stored for long periods of time and cooked by boiling or (less commonly) steaming in or over water or broth. This particular kind of wheat, commonly known as hard wheat, semolina, or durum wheat, is unique because of its high gluten and low moisture content, which distinguishes it in a significant way from soft wheat or bread wheat (Triticum aestivum), the major wheat known by the ancient Greeks and Romans. These characteristics of hard wheat are important because, first, it prevents the stretching and breakage of pasta during the curing and drying process and, second, because it maintains its texture and taste better during the cooking process than does soft wheat.<sup>4</sup>

Before I go further, let me add a proviso about our talk about wheat. This discussion of wheat is based on the distinction between hard wheat (Triticum turgidum var. durum) and soft wheat or bread wheat (Triticum aestivum). In Roman times, and through the medieval era, flour was of much poorer quality than today. It was not thoroughly cleaned, and with the primitive milling technology that existed right up to the beginning of the modern era (c. 1700) the grain was coarsely ground. Sieves also had not improved over time, and even first grade flour was much coarser than what we think of as good breadmaking flour. Medieval milling technology was unable to grind hard wheat flour fine enough for bread baking, therefore wheat bread was made from soft wheat, also called bread wheat. This medieval hard wheat flour was used for other purposes, such as porridges, and in the invention of new foods such as macaroni, couscous, and hardtack.

(Right: Tacuinum Sanitatis, Casanatense Library, late 14th century, making pasta)

But as any modern baker knows, today there are many varieties of wheat, including wheat blends, that can be used for bread baking. All-purpose flour is a blend of soft and hard wheat to which nutrients have been added. Today's bread flour can be made from both soft and hard wheat.

Did the Etruscans, Chinese, Greeks, Romans, or Arabs know about hard wheat? And if they did, did they invent any macaroni-like foods to take advantage of it? Before we can even begin to look at who invented macaroni, we must examine research concerning hard wheat. Knowledge of the literature of cytogenetics, molecular archeology, paleobotany, and agricultural history is essential in being able to talk intelligently about the origins of hard wheat



and hard wheat food products such as macaroni. Robert Sallares explored this question in what is probably the fullest and most informed account of the grains of the ancient world, The Ecology of the Ancient Greek World, published in 1991. Sallares discusses the first appearance of hard wheat (*Triticum turgidum* var. *durum*), which he places in very ancient times, and argues that modern methods of molecular archeology can distinguish between soft wheat (*T. aestivum*) and hard wheat. But Professor Andrew M. Watson examined the sources that Sallares cites and points out that none of them actually support this claim. In fact, it is impossible to determine whether carbonized grains and rachis internodes of free threshing wheat are hard wheat or soft wheat.<sup>5</sup>

Professors Daniel Zohary, Maria Hopf, and W. van Zeist, cytogeneticists and paleobotanists cited by Sallares, do offer a theory about the first appearance of hard wheat, one based not on the identification of archeological remains but on deduction. Although taxonomists classify emmer as a hard wheat, the wheat designated as Triticum turgidum var. durum developed as a mutation from emmer. It is known that soft wheat (T. aestivum) is the result of hybridization of cultivated emmer (T. dicoccum) and a wild grass, Aegilops squarrosa. Zohary argues, convincingly, that this hybridization could not have occurred until sedentary agriculture using emmer had spread into the zones where A. squarrosa grew wild. He dates this occurrence somewhere around 6000 to 5000 B.C. He concludes that all of the earlier finds of naked wheat--and there are a number of these-must be of hard wheat, which is thus the more ancient grain. (Naked wheats are wheats where threshing releases the naked kernals of grain, in contrast to hulled wheats, where the product of threshing are spikelets not grains.) Zohary's deduction is based on the information currently available about the spread of agriculture in the Near East and on the present-day distribution of A. squarrosa. Andrew Watson argues that, in fact, we must assume that current hypotheses about the timing of the spread of agriculture in the Near East are at best tentative and likely to be overturned by future excavations; and it can in no way be supposed that the ancient distribution of A. squarrosa was the same as that of today. $\frac{6}{2}$ 

Professor Andrew Watson's book Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques, 700-1100, published in 1983, discusses the rise and spread of hard wheat. Watson was struck by the apparent absence in ancient writings on agriculture and natural history of any clear description of hard wheat. As these sources discuss grains in great detail, this omission is truly remarkable. Sallares addresses this by pointing out that second-century Greek physician Galen speaks of a type of wheat whose grain was particularly heavy, hard, and "vitreous." He thinks this must be hard wheat. Watson believes it could also be soft wheat which, when grown in hot, dry places, produces grains with the characteristics described by Galen. Watson also points out that in a recent discussion of the grains described in Roman literature, Professor Renzo Landi, an agronomist at the University of Florence, has found nothing which seems to refer to hard wheat.<sup>Z</sup>

Another factor influencing Watson's judgment on this matter is the absence in ancient literature of any description of the more obvious uses of hard wheat. With the kind of milling equipment available to the ancients, it would have been impossible to obtain a fine flour from the grains of hard wheat and thus virtually impossible to make bread from hard wheat. The obvious alternative uses for hard wheat are porridges, couscous, and pasta secca.<sup>8</sup> According to the ancient writers, porridges were made from other grains, and there is no mention whatever of dishes resembling couscous or of pasta secca. As best we can tell from the latest results of molecular archeology, the Romans and Greeks did not know hard wheat and therefore did not invent macaroni.<sup>9</sup>

Is it so important to know who invented macaroni and when? I believe it is because the invention of macaroni was not only of culinary interest but also historically important for three reasons. First, the perennial famines of the times could be reduced and controlled because dried pasta was a food with a very long shelf-life. Second, governments and speculators could warehouse food supplies for long periods of time to counteract years of low production and to offset inflation caused by high prices and demand. Third, a plentiful supply of hard wheat (especially in the form of hardtack, but also pasta secca) allowed longer sea voyages, opening up an age of exploration.





So who invented macaroni? The invention of macaroni has also been attributed to the Etruscans, the pre-Roman civilization of the Italian peninsula. The Italian culinary authority Massimo Alberini's claim that the Etruscans knew pasta secca, repeated by many authors, is now known to be false. He claimed that the painted stucco reliefs in the Tomba dei Rilievi at Cerveteri (Caere) show a table used to make the pasta dough, known as the spianatora (rolling out table) in Roman dialect, a rolling pin, knives, and even a little indented pasta wheel that cut crinkly-edged lasagne. Archeologists say that nothing of the sort is shown.<sup>10</sup> Furthermore, as I've mentioned, there is no evidence to suggest that the Etruscans grew hard wheat.

Let's turn to China. Did Marco Polo bring macaroni back from China? Did he bring back a hard wheat dried pasta? No, he didn't. Although he encountered wheat in China what he actually brought back was another food from

another country. In the kingdom of Fansur, on the western coast of Sumatra, Marco Polo encountered a food made from the starchy flour of the fruit of either the breadfruit tree (*Artocarpus*) altilis syn. A. communis) or the sago tree (Metroxylon laevis syn. M. rumphii). He tells us in his diaries that the flour obtained from the tree is made into lagana (or lasagne) in strips and that its taste resembles that of barley.<sup>11</sup>

We know Marco Polo didn't discover macaroni in the Far East for two reasons. First, it is clear that he is already familiar with lasagne and vermicelli and other pastas from his descriptions of the various alimentary pastes he encounters in the East. Furthermore, whenever he encounters wheat in the form of vermicelli or lasagne (undoubtedly soft wheat) he makes no mention of the most unique properties of hard wheat--namely its long shelf life when made into various food products and its gluten content. In Peking (Beijing), he encountered a pasta made from wheat in Peking and tells us that the Chinese make it into *lasagne* and other kinds of pastas. $\frac{12}{12}$  In comparison, the twelfth century Chinese traveler Chau Ju-kua, while traveling in Spain before the birth of Marco Polo, notes that the wheat of Muslim Spain is kept in silos and does not spoil for ten years. This would hardly be notable if the Chinese knew of hard wheat.<sup>13</sup> Second, when Marco Polo describes the dough that people have long taken to be macaroni, he uses the words vermicelli, lasagne, and lagana. Lagana was not a word the Chinese or Sumatrans used, but was a word with which he was already familiar. In fact, Marco Polo was already familiar with pasta secca in Italy before setting out on his journey. Lagana was a Medieval Latin word that meant either a kind of thin crepe or a sheet of dough. This word *lagana* is, in fact, proposed as the etymological root of *lasagne*, which it very well could be. Even today lagana is a word used in Calabria in southern Italy to mean a wide tagliatelle. Lagana may have been lasagne but was it macaroni--that is, pasta secca, the dried pasta made from hard wheat (*Triticum turgidum* var. *durum*) that is the defining element of what constitutes macaroni?<sup>14</sup>

(Pasta making, Bartolomeo Scappi, 1570)

Many food writers do not answer that question. ignoring the distinctions between wheat types, and simply see in the existence of the word *lagana* the proof that the Romans invented macaroni. They claim that the Medieval Latin word lagana referred to a pasta secca invented by the Romans. The medieval *lagana* is related, they say, to the classical Latin word *laganum*, which they also take to mean the *pasta* secca known as lasagne. But an examination of the works of Horace, Celsus, Apicius, and Petronius, where the classical Latin words laganum or lasanum appear in various forms, shows that it does not mean pasta secca. The Latin word laganum is derived from the Greek lasanon, a word that can refer to a chamber pot, a cooking pot, a kind of trivet, or a large minced cake made with flour and oil. $\frac{15}{15}$  The Greek use of the word lasanon appears in Hesychius to mean a kind of focaccia made of wheat and oil. In the Latin descriptions of laganum it seems to refer to a kind of cake or crepe made of flour and oil that is deep-fried, not boiled, or a kind of marmite in which it perhaps was fried.<sup>16</sup> In Calabria it also has come to mean, through the Latin, pasta sheets in which you roll torta or pasticcio.<sup>17</sup> More important, we know



that as early as mid-fourteenth-century Sicily, laganum was a dough fried in oil and called crispella in the vernacular, while lagana was bread boiled in water and also called lasagni or maccharruni.18 The fact that *lagana* can be a flat dough product and is derived from a Greek word has led some people to claim the ancient Greeks as the inventors of macaroni.

Did the ancient Greeks or Romans invent macaroni and did they know of hard wheat? It does not appear so. The classical tracta, a dough product taken by some writers to be macaroni, mentioned in the Roman writer Apicius' cookbook was not pasta secca.<sup>19</sup> Classical Greek descriptions of tracta make it seem to be a dried dough product, perhaps a kind of biscuit.



(Photo: Spaghetti vendors in Naples, late 19th or early 20th century)

Today, macaroni popularly refers to a tubular pasta three to five inches in length, but before the sixteenth century, macaroni meant not only pasta secca but also boiled bread. In fact, in the fourteenth century, the Sicilian lexicographer Angelo Senisio defined maccheroni as panis lixis in aqua (bread boiled in water), which is a description identical to the medieval Arab tharid (page 000) that might be the root of one of the medieval Arabic words for macaroni itriya. Macaroni also once meant what we today call gnocchi. This sense was used in 1570, when the Renaissance chef Bartolomeo Scappi described making macaroni. He said that after you knead the dough you "faccianosi i gnocchi ciot maccaroni" (make gnocchi, that is, macaroni).<sup>20</sup>

The origin of macaroni lies not with the Etruscans, Greeks, Romans, or Chinese, but apparently with the Arabs. The earliest evidence of a true macaroni occurs at the juncture of medieval Sicilian, Italian, and Arab cultures.<sup>21</sup> The history of macaroni in Italy and Sicily is early indeed. An item on the dinner menu of the kitchen of the bishop of Luni in a document from August 17, 1188, mentions a food that might be macaroni. It doesn't specify what type of pasta nor how it is cooked.<sup>22</sup> Another unclear reference to what might be pasta secca is mentioned in a Genoese notary document of a woolmaker in 1244, who writes about "pasta made into strings."<sup>23</sup> A clearer reference to macaroni, used to mean pasta secca and not gnocchi or boiled bread, is in another Genoese notary document of a soldier named Ponzio Bastono dated 1279, whose inventory includes a barixella una plena de maccaronis (a chest full of macaroni), while one of the earliest mentions of vermicelli, meaning pasta secca, is found in a Pisan document from February 13, 1284, where a baker hires a helper in faciendis et vendendis vermicellis (in making and selling vermicelli).<sup>24</sup> Early recipes for vermicelli, such as the one in the anonymous fourteenth-century Tuscan cookery manuscript, Libro della cocina, appear to be Arab influenced, as the recipe calls for a sauce of almond milk, sugar, and saffron with the boiled vermicelli.<sup>25</sup>

Sicily is another locus for the early appearance of macaroni. Italian cookery works of the fourteenth century also mention pasta secca by the generic name of tria, derived from the Arabic word itriya. This was the word used to mean vermicelli by al-Idrisi, the Arab court geographer of the Norman king of Sicily, Roger II, in his book completed in 1154, nearly one hundred and fifty years years before Marco Polo (died c. 1323) returned from China.<sup>26</sup> This twelfth-century Sicilian pasta, the earliest clear reference we have to pasta secca, was exported to Calabria, and commercial contracts from Genoa between 1157 and 1160 recorded by the notary Giovanni Scriba show large imports of Sicilian pasta.<sup>27</sup> There are two other interesting descriptions of macaroni in fourteenth-century and fifteenth-century Sicily from other sources. In the first, two Jesuit fathers tell us of the life of Guglielmo Cuffitella, some centuries after his death in 1404. He was born in Sicily and was known as William the Hermit and was beatified by Pope Paul III in 1537. In their description of his life they mention macaroni and lasagne: Invitaverat Guillelmum aliquando compater suus Guiccionius ad aposuerat maccarones seu lagana cum pastillis (William is asked whether he like macaroni or lasagne pie). Although they are contemporaries, the lagana in this text refers to sheets of pasta secca that are boiled in water, unlike in Senisio, where they are fried in oil. In the second, Nicolo Valle complied a Sicilian-Latin dictionary in the late fifteenth century that was eventually published in 1510. He described macaroni (maccarone) being boiled and its shape as round, similiar to the Tunisian muhammas.<sup>28</sup> Boccaccio (1313 - 1375) mentions macaroni and ravioli in the Decameron in the mid-fourteenth century as do numerous other sources.<sup>29</sup>

The word itriya has a long history in Near Eastern languages. It derives originally from the Greek word *itrion* via the Aramaic, a word meaning a thin cake or a thin, unleavened, dough product before the Christian era. In the fourteenth century dictionary of the lexicographer al-Firuzabadi (1329 - died circa 1414), the Mukhtar al-qamus, itriya is said to refer to a pastalike thread made from flour and almost certainly made from hard wheat  $\frac{30}{2}$ ; and the word is also used to designate a kind of pasta secca in the thirteenth-century cookery book of al-Baghdadi (written in 1226), the Kitab wasf al-atoma al-muotada, and in the medical treatise of Ibn Butlan (died c. 1068), the famed Taqwim al-sihha, translated into Latin as the Tacuinum sanitatis.<sup>31</sup> Although Ibn Butlan wrote in the eleventh century, his manuscript was constantly revised until the fourteenth century. The first clear pictorial depictions of macaroni are in the Vienna, Paris, and Rome manuscripts of the Tacuinum. In the Vienna and Rome manuscripts, it is called trij and in the Paris manuscript it is called *formentini*. In all these illustrations the pasta depicted looks like fettuccine or tagliatelle.<sup>32</sup>

*Itriya* also appears in the dictionaries of ninth-century lexicographer Ishu Bar Ali (flourished ninth century) and al-Jawhari (died c. 1002-3) and although it is clear that the word referred to pasta, it is not clear if this pasta was made from hard wheat.<sup>33</sup> It is quite hard to distinguish hard wheat in descriptions from medieval Arabic since there is no exact word that means hard wheat, although there are many words for wheat.<sup>34</sup> Bar Ali describes a pasta that resembles a cloth, which might have been similar to lasagne, while al-Jawhari states that it is a sort of food similar to *hibriya*, or hairs (flakes, perhaps).<sup>35</sup> Both of these might have been made from soft wheat,



but it seems to the economic historian Professor Andrew Watson that these sources tell of early experimentation to make *pasta secca* from hard wheat. $\frac{36}{2}$ 

By the fifteenth century, macaroni was a commonly known, if not commonly eaten, food in Italy. In a Tuscan recipe from 1417, the merchant Saminiato de Ricci casually mentions the making of lasagne and macaroni (*a fare lasangnie e maccheroni*).<sup>37</sup> In fact, by the early sixteenth century macaroni is common enough in Italy that Teofilo Folengo (1491-1544) can launch a literary style known as the *ars macaronica*, the macaronic way--a mixing of Mantuan patois, Latin, and Italian-denoting something gross, crude, and rustic, like macaroni made with "flour and water and mixed with cheese and butter."<sup>38</sup>

Lasagne is thought to be one of the earliest forms of *pasta secca*. An intriguing line on the history of lasagne has been proposed by several scholars. They suggest that lasagne may be derived from the Arabic word *lawzinaj*, a medieval Arabic word that denotes a thin cake of pastry, usually made with almonds. This cake was cut into ribbons, quadrangles, and rhomboids. It has been described as

a food like *qata i*, a kind of pastry made from both soft and hard wheat and almond oil. <sup>39</sup> There are many medieval recipes for *lawzinaj*, such as the one in the dietetic manual of Ibn Jazla (known as Gege in Latin), a Baghdad physician (d. 1100), called *Kitab al-minhaj al-bayan fima yasta miluhu al-insan*, which was translated into Latin as the *Liber de ferculis et condimentis* (Book of dishes and seasonings). He writes that *lawzinaj* is finer than *qata i* and more quickly digested, but less nutritious. It is made with ground almonds and sugar and melted with rose water until a kind of dough is formed from which the *lawzinaj* is made. That both proposed etymologies for lasagne, one from the vulgar Latin and the other from medieval Arabic, seem to be some kind of fried cr*i*pe or cake leads me to believe that the circle of culinary borrowing is a lot more familiar than the proponents of either argument admit.<sup>40</sup>

The first written Italian lasagne recipe is found in an anonymous fourteenth-century cookery manuscript from the Angevin court in Naples, called *Liber de coquina* (Book of cooking). The sheets of lasagne are boiled and layered with ground spices and grated cheese in a bowl or trencher. In these medieval recipes "spices" can mean salt and pepper or sugar or some combination such as salt, pepper, cinnamon, cloves, nutmeg, and often saffron.<sup>41</sup> We also know that by the late 1370s, lasagne was being layered with cheese as it is today through a rather macabre description by Marchione di Coppo Stefani, who wrote that the corpses of the victims of the Black Death some thirty years before in Florence were layered in open pits like "lasagne."<sup>42</sup>

An Italian scholar, Luigi Sada, who has also authored several cookbooks, speculates that this early experimentation with hard wheat was found among nomadic Arabs who needed a transportable food that would not spoil.<sup>43</sup> I don't agree entirely with this line of thinking, but it does raise an interesting question: Was macaroni invented to solve the problem of food supply for people on the move? Rather than nomads, perhaps the inventor of macaroni was some unknown Arab general of military logistics who had the responsibility of feeding the large and rapidly moving armies of early Islam across the arid reaches of North Africa and the Middle East. In any case, it seems that macaroni may have been a wheat product invented to replace or improve on the then common barley products, such as the typical poor man's food, *sawiq*. *Sawiq* was a dried barley product used on long journeys that was reconstituted with water or milk when required. In affluent households *sawiq* was made with fine wheat sweetened with sugar and other ingredients such as pomegranate seeds. A hard wheat macaroni may have been invented to provide a better-tasting food for people on the move, as well as for rich urban dwellers.

The very first macaroni products were likely to have been little balls of pasta, which were easily storable and could cook quickly in a region that lacked firewood and therefore the ability to keep fires going for a long time. This new food was also likely to be made to resemble other grain foods Arabs were already familiar with, such as millet, barley, and rice. As far as extruded pastas go, like our contemporary tubular macaroni, their history before the twentieth century is for the most part unknown.

Spain is also a locus for the early history of macaroni. Ahmad ibn Muhammad al-Razi (888?-955?), the Arab geographer, describes the existence of hard wheat in Toledo saying that, "The air [of Toledo] is excellent and grain stays a long time without changing."<sup>44</sup> Although it's true that the Roman writer Varro (116 B.C.-27? B.C.) also described wheat in the same manner, as being storable for fifty years, al-Razi's description can only be a description of hard wheat because his comment is not an isolated observation; it is repeated by other observers during the same period.<sup>45</sup>



(Left: Toasted pasta balls, known as *muhammas* in Tunisia, *maghribiyya* in Lebanon, *burkukis* in Algeria)

In the anonymous thirteenth-century Hispano-Muslim cookbook Kitab al-tabikh fi al- Maghrib wa�l-Andalus, we find some of the earliest references to macaroni. We are told that there are three ways of making it. It can be "made round like a coriander seed," "thin with the thinness of kaghit [sheet of paper] and which is woman's food," and "lengthened in the mode of wheat" [fidawsh, vermicelli].46 The coriander seed-type appears to be a form of pasta secca, called maccarone in fifteenth century Sicily, that later became known as *maghribiyya* in Syria, also known as the name of a dish, and the *muhammas* of Tunisia and the burkukis of Algeria. The one with the thinness of kaghit sounds much like lasagne. "It is cooked with zucchini, aromatics and fat; and then there is the kind like gataif [sic]." This *qataif* is the *qata if* mentioned above, a kind of pastry made from both soft and hard wheat and almond oil. Interestingly, the *Kitab al-tabikh* instructs the cook to cook fidawsh in the same manner as you would macaroni (itriya). From the word al-fidawsh came the Spanish word for spaghetti, fideos, as well as similar words in other Iberian and northern Italian dialects.<sup>47</sup> The Kitab al-tabikh gives a recipe for macaroni:

Take shoulder, leg, breast and loin and some fat. Cut it up and put in a stewpot with salt, onion, black pepper, dry coriander and olive oil. Cook on a moderate heat until ripe. Immediately remove from the stewpot and clarify the sauce. Return to the pot and add butter, softened fat and sweet oil, bring to a boil and add the *fidawsh*, boiling furiously. Sprinkle with cinnamon and ginger and serve.<sup>48</sup>

By the fourteenth century, two Catalan works, the anonymous cookbook *Libre de sent sov* and a medical treatise by Arnold of Vilanova, both speak of *aletria*, a word derived from the same Arabic word *itriya*.<sup>49</sup> In the Catalan works, as with the early Italian cookery books, *aletria*, or macaroni, is boiled with almond milk.<sup>50</sup> Arnold of Vilanova has a recipe for "*alatria*," about which he says "*et idem iudicium est de tri, quod vulgariter dicitur alatria*" (it is the same as *tri* [*fideus*], which the common people call *alatria*).<sup>51</sup>

## (Photo: Sophia Loren with plate of macaroni)

The word *macaroni* has an unknown etymology. The word's first appearance is from the mid-eleventh century in Naples where it is used to mean something crude or a person who is an idiot. At some point around the twelfth or thirteenth century it came to mean pasta secca, although the more familiar word tria or trij continued to be used it Italy.<sup>52</sup> In Arabic-speaking countries, the word for macaroni during this period of time was either rishta (or erishte in Turkish), from the Persian word for "threads," or itriya, as well as a few other words mentioned above. The fourteenth-century Arab traveler Ibn Batutta described the rishta he encountered in Anatolia as a kind of shu ayriya, a word that even today means vermicelli. Italian dictionaries admit the word macaroni's (maccherone) obscure origin, suggesting as one possible derivation the Greek word makaria, meaning food of the blessed. The suggestion that the word macaroni comes from the Greek may have its origins with the travel diaries of Ortensio Landi (1512-1553), a doctor from Modena who wrote



about macaroni in Sicily and described it as having the name of the beatified (*il nome dal beatificare*). $\frac{53}{2}$  Another suggestion is that the word derives from *maccare*, a now archaic verb meaning "to knead."

Arabic dictionaries usually tell us that the word *macaroni* is a loan-word from Italian. On the other hand, Khmaïs Ouled-Abdessayed, a doctoral candidate in Arabic linguistics at the University of Tunis, suggests some circumstantial evidence that the word may derive from the Arabic. A very old form of *pasta secca*, still known today in Tunisia as *duwayda*, meaning "inch- worm," is a kind of vernicelli broken into one-inch lengths. By taking the two ends of a strand of fresh *duwayda* and attaching them, they are called *qaran*, coming from the Arabic verb *qarana*, "to attach," whose past participle is *ma-qrun*. This would have been a pasta shape identical to the contemporary Italian *anellini*. Once the ends of the *duwayda* are attached, they are referred to by the participial adjective *maq(a)runa*, possibly giving us the word "macaroni."<sup>54</sup> Intriguing as this suggestion is, unfortunately I have never come across written evidence of such a pasta existing in medieval Tunisia, so we must withhold our judgment about this etymology. But we do know that *duwayda* was typically eaten with chicken on 'Ashura, the tenth day of the Muslim month of Muharram, sacred to the Shi'is because Husayn, the son the Ali, the Prophet Muhammad's faithful follower and the fourth caliph, was martyred on this day at Karbala in Iraq.<sup>55</sup>

The evidence is clear that by the fourteenth century, macaroni is well known. In Sicily, there are documents from 1371 saying that the prices of *maccaroni* and *lasagne* in Palermo are triple that of bread, and bourgeois households usually have a *sbriga*, a wooden instrument for beating, kneading, and compacting the pasta dough.<sup>56</sup> So much of the early history of macaroni focuses on Sicily. We don't know if that is where it was invented, but we do know that it was a food mostly eaten by the privileged aristocracy and by the Jewish population. One historian, Professor Maurice Aymard, suggests that Sicilian Jews inherited the culinary practices of Arab-Norman Sicily, and this accounts for the prominent role that the manufacturing of macaroni had in Sicily. Macaroni was common in Sicily by the fifteenth century, but not too common among the common people. Our evidence for its being common comes from the tax collector who taxed vernicelli, *maccaruni*, *cuscuso*, lasagne, *tagliarini* and *tutti le cosi fini di semola* (all fine things made of semolina) in block. By 1597, *vivande di pasta* (pasta food) was divided into dry pasta (*pasta secca or axutta*) and fresh pasta (*bagnata*).<sup>57</sup> By the late eighteenth century macaroni was the food of the common people in Italy

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## The History of Macaroni: Footnotes

1. Couscous is also the name of a preparation of steamed grains other than that made of hard wheat.

2. Virtually all food writers have made this mistake and omission, including serious researchers such as Perry, Charles. "The Oldest Mediterranean Noodle: A Cautionary Tale," *Petits Propos Culinaire*. 9 (October 1981a). pp. 42-45.

3. Montanari, Massimo. "Note sur l'histoire des pâtes en Italie," *Médiévales. Langue, textes, histoire*. vols. 16-17 (1989). pp. 61-64.

4. Dick, J. W. and R.R. Matsuo. "Durum Wheat and Pasta Products," in *Wheat: Chemistry and Technology*.
Y. Pomeranz, ed. 3rd ed. St. Paul: American Association of Cereal Chemists, Inc., 1988. vol. 2. p. 523.

5. Sallares, Robert. *The Ecology of Ancient Greek* World. London: Gerald Duckworth, 1991. Professor Andrew Watson, e-mail correspondence with the author, June 9, 1997; Sallares says on p. 318 that "the most recent research, employing more sophisticated techniques, focusing on more distinctive spikelet fragments rather than on the grains themselves, and employing electron microscopes, has concluded that it is possible to differentiate bread wheat and durum wheat and that the progenitors of both had evolved by c. 5000 B.C." In support of this statement he gives four references. In fact, none of the references cited gives any support whatever to this statement. Sallares uses W. van Zeist, "Macroscopic traces of food plants in south-western Asia," Philosophical Transactions of the *Royal Society*, B 275 (1976), pp. 27-41, who states, on the contrary, that "in summary one must conclude that it seems impossible to determine whether carbonized grains and rachis internodes of free threshing wheat are of T. durum [hard wheat] or T. aestivum [bread wheat]." Sallares also cites J. R. Harlan, who stresses the virtual impossibility of distinguishing the carbonized remains of the two but hopes that "the real story will some day be unravelled." (see J. R. Harlan, "The Early History of Wheat; Earliest Traces to the Sack of Rome," in L. T. Evan and W. J. Peacock, eds. *Wheat Science: today* and tomorrow (Cambridge, 1981), p.6. Sallares's third reference D. Zohary,"The Origin of Cultivated Cereals and Pulses in the Middle East," Chromosomes Today, 4 (1973), pp. 307-21 is completely agnostic about the identification of archeological finds of naked wheats, and D. Zohary and M. Hopf, *Domestication of Plants in* the Old World (Oxford, 1988) who Sallares cites, using pages 44-45 do not discuss naked wheats on the pages mentioned. Although he tells us that the suitability of durum wheat for making pasta rests on its gliadin: gluten ration (glieden: glutanin in Sallares) among its proteins, and that naked tetraploid wheats existed in classical Greece, there is a conspicuous absence in classical sources of pasta-type foods and Sallares believes that given the state of the classical Greek culinary arts, it seems unlikely that they had durum wheat but just didn't think of inventing pasta (p. 319). Given this statement, he then goes on to claim that (p. 320) Pliny's alica is a semolina-based food, a kind of groats, saying that semolina particles called aphairema in the Campanian dialect of Greek were preferred for its manufacture, and it was similiar to bulgur. But Sallares also says that Pliny said it could be made with any kind of wheat but mainly emmer. Watson, Andrew M. Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques, 700-1100. Cambridge: Cambridge University Press, 1983, p. 157 n. 3 is unequivocal in stating that it is wrong to claim that *alica* mentioned in classical texts is hard wheat. Sallares still has not shown that durum wheat is widespread or actually used in pasta products, outside of simply saying that tetraploid wheats existed.

6. Professor Andrew Watson, e-mail correspondance with the author, June 9, 1997.

7. Renzo Landi, "Le coltivazioni agrarie in Italia dalla prehistoria agli splendori dell'Imperio Romano," in *L'alimentazione nell'antichitá* (Parma, 1985), pp. 51-77.

8. Watson was also influenced by Jane M. Renfrew's book, *Paleoethnobotany*, published in 1973, which seemed to represent the most up-to-date scholarship of the time. Renfrew saw no botanical evidence of hard wheat before late Roman times. Another influence on Watson was the writings of Professor Hans Helbaek, who, using the most sophisticated techniques available, did not identify any hard wheat in the remains he analysed from many dozens of prehistoric and ancient sites.

9. In the end, none of this is a settled matter at the time of this writing. Even Robert Sallares, in a recent work, takes a contrary point of view than the one he argued for in his book on the ecology of ancient Greece by admitting that "it is still a matter of debate whether ancient Greeks and Romans cultivated mainly durum wheat, from which pasta is now made, or the bread wheat generally used to make bread today"; Robert Sallares, "Molecular Archeology and Ancient History," in John Wilkins, David Harvey, and Mike Dobson, eds., *Food in Antiquity* (Exeter: Exeter University Press, 1996), p. 95.

10. Alberini, Massimo with recipes compiled by Anna Martini. *Pasta & Pizza*. Elisabeth Evans, trans. New York: St. Martin's, 1977, p. 16; Professor Phyllis Pray Bober, Leslie Clark Professor Emeritus in Humanities and Classical and Near Eastern Archeology and Art History, Bryn Mawr College, Philadelphia, conversation with the author, December 1993. Also see Mingazzini, Paolino. "Gli antichi conoscevano i maccheroni?" *Archeologia Classica*. vol. 6 (1954). pp. 292- 294.

11. Polo, Marco, *Milione. Le divisament dou monde*, Gabriella Ronchi, ed. Milan: Arnoldo Mondadori, 1982; Ramusio, Giovanni Batista, *Navigazioni e viaggi. I milleni*. Turin: G. Einaudi: 1978-88, vol. 3, p. 264; Polo, Marco Polo, *The Travels of Marco Polo: The Complete Yule- Cordier Edition*. New York: Dover, 1993, vol. 2, p. 305. I do not accept the recent revisionist history of Marco Polo by Frances Wood, "Did Marco Polo Go to China?" who argued that Marco Polo never made it to China. The anomalies she points out have long been a focus of learned debate and I believe are adequately addressed by scholars especially Sir Henry Yule in his annotated edition of Marco Polo's travels.

12. Ramusio 1978-88, vol. 3, p. 186; Polo 1993, vol. 1 p. 438 n. 4, called "vermicelli" there rather than the correct *in lasagne*.

13. Polo 1982; Polo 1993, vol. 2, p. 305; Chau Ju-kua, *His Work on the Chinese and Arab Trade in the twelfth and thirteenth Centuries, entitled Chu-fan-chi*. Friedrich Hirth and W.W. Rockhill, eds and trans. St. Petersburg: Imperial Academy of Sciences, 1911, p. 142. This in itself is not entirely conclusive because at least one classical author, Varro, mentions that wheat in Spain can be kept for fifty years, but also says so can millet be kept for 100 years; cf. Varro, *On Agriculture*, I. Ivii.

14. Hard wheat used to be designated *Triticum durum* Desf., but is currently designated *Triticum turgidum* var. *durum*; Dick, J. W. and R.R. Matsuo, "Durum Wheat and Pasta Products," in *Wheat: Chemistry and Technology.*Y. Pomeranz, ed. 3rd ed. St. Paul: American Association of Cereal Chemists, Inc., 1988. vol. 2, p. 508.

15. Petronius, *Satriycon*, 41: 9, *Ab hoc ferculo Trimalco ad lasanum surrexit* (he was going to the bathroom).

16. The word as used in Horace, *Satires*, 1, 6, 115; Celsus, 2, 22, 1, and Apicius' recipe *patina Apiciana*, cited by André, Jacques, *L'Alimentation et la cuisine a Rome*. Paris: Les Belles Lettres, 1981, p. 211 as being a general word designating minced or stretched dough, a kind of crépe that is often deep-fried in oil. Also see, for the Greek, Chantraine, Pierre. *Dictionnaire étymologique de la langue grecque*. Paris: Klincksieck, 1968-80. 4 vols, p. 64, where *lasanon* is a large minced cake cooked with flour and oil ("LXX et grec posterieur cit. d'Aristophanes," *Assemblée* 843 in Ath. 110a); Sereni, Emilio. "Note di storia dell'alimentazione nel Mezzogiorno. I Napoletani da "mangiafoglia" a "mangiamaccheroni'," *Cronache Meriodionali*, no. 5 anno V. (May 1958), pp. 359-61.

17. Dorsa, Vincenzo, *La tradizione greco-latina nei dialetti della Calabria Citeriore*. Cosenza: Migliaccio, 1876, p. 44.

18. This was confirmed by Uguccione da Pisa, a grammarian whose manuscript *Derivazioni* was used to comment on Senisio, the fourteenth-century Sicilian lexicographer's Declarus, see Marinoni, A., ed. *Dal* 

Declarus *di A. Senisio: I vocaboli siciliani*. Collezione di testi siciliani dei secoli XIV e XV 6. Palermo: Centro di Studi Filologici e Linguistici Siciliani, 1955, pp. 79, 150v, 84, 163v, 175-76. On the similarities and uses of a bread-pasta concurrence, see the <u>comments on *tharid*</u>.

19. Perry, Charles, "What was Tracta?" *Petits Propos Culinaires*, 12 (1982). pp. 37-39; Hill, Stephen and Anthony Bryer, "Byzantine Porridge: *Tracta, Trachanás,* and *Tarhana*," in John Wilkins, David Harvey & Mike Dobson, eds., *Food in Antiquity*, Exeter: University of Exeter Press, 1995, pp. 44-54.

20. Marinoni 1955, p. 84; Scappi, Bartolomeo, Opera *[dell'arte del cucinare]*, Testi Antichi di Gastronomia 12. Sala Bolognese: Arnaldo Forni Editore, 1981. [Originally published in Venice in 1570], bk. 3, cap. CCLV.

 See Montanari, Massimo, Alimentazione e cultura nel medioevo, Bari: Laterza, 1994, p. 140; Watson, Andrew M., "The Arab Agricultural Revolution and Its Diffusion, 700-1100," Journal of Economic History, vol.
 no. 1 (March 1974), pp. 8-35; Watson, op. cit., 1983; Watson, Andrew M., "A Medieval Green Revolution: New Crops and Farming Techniques in the Early Islamic World," in A. L. Udovitch, ed. The Islamic Middle East, 700-1900: Studies in Economic and Social History, Princeton Studies on the Near East. Princeton, NJ: The Darwin Press, 1981, pp. 29-58; Alessio, Giovanni, "Storia linguistica di un antico cibo rituale: 'i maccheroni'," Atti della Accademia Pontaniana, nuova serie vol. VIII. (1958-59), pp. 261-80.

22. The document is an *ordo cocarie domini episcopi Lunensis*; Balletto, Laura, "Dieta e Gastronomia nel Medioevo Genovese," *Saggi e Documenti VII.* vol.2. Civico Istituto Colombiano 9. Genoa: Civico Istituto Columbiano, 1986, p. 50.

23. Lopez, R., "Chi ha inventato gli spaghetti?" R. Lopez, ed., *Su e giù per la storia di Genova*. no. 20, Genoa: Collana storica di fonti e studi, 1975, pp. 381-83; Alberini, Massimo, *Maccheroni e Spaghetti: Storia letteratura aneddoti 1244-1994*, Casale Monferrato: Piemme, 1994, pp. 35-36.

24. Herlihy, David, *Pisa in the Early Renaissance: A Study of Urban Growth.* Port Washington: Kennikat, 1973, p. 39 n. 15.

25. Guerrini, O., *Frammento di un libro di cucina del sec. XIV edito nel dì delle nozze carducci- gnaccarini*, Bologna: Nicola Zanichelli, 1887, no. 33.

26. This universal geography is called *Nuz'hat almushtaq* and was written by al-Idrisi under the patronage of Roger II, and for this reason is also known as the *Kitab al-Rujari* or *Book of Roger*; see Amari, Michele, ed., *Biblioteca arabo-sicula*, versione italiana, Torino: Ermanno Loescher, vol. 1, pp. 35-42.

27. Mantovano, Giuseppe, *La cucina italiana: origine, storia e segreti*. Rome: Newton Compton, 1985.

28. Acta Sanctorum Aprilis [Acta de B. Guillelmo Eremitae], Henschenio, Godefrido and Daniele Papebrochio, Antwerp: Michaelem Cnobarum, 1675, vol. 9 (tome 1) p. 383. The two priests, Godefrido Henschenio and Daniele Papebrochio, wrote their account of William the Hermit several centuries later. Also see Du Cange, Dominus, Glossarium mediae et infimae latinitatis (Niort, 1883-87) (5) p. 159. Marinoni, A., ed., Dal Declarus di A. Senisio: I vocaboli siciliani. Collezione di testi siciliani dei secoli XIV e XV 6, Palermo: Centro di Studi Filologici e Linguistici Siciliani, 1955, pp. 84, 79. Valle, Nicolo', Vallilium: primo dizionaro siculo-latino del XVI secolo. Palermo: Librarie Siciliane, 1990 [originally published in 1510]: maccarone hic pastillus li uel globulus. li aglobo farine dilactato deide lixo ca seus super infunditur. Cor.co.

29. Alessio, *op. cit.*, 1958-59, pp. 263-64; Boccaccio, Giovanni [1313-1375], *The Decameron*. G.H. McWilliam, trans. London: Penguin, 1972, (VIII) 3.

30. Watson, *op. cit.*, 1983, p. 22 citing al-Firuzabadi [1329- c. 1414], *Mukhtar al-qamus* (Cairo, 1963), p. 383.

31. Arberry, A. J. trans., "A Baghdad Cookery Book," *Islamic Culture*. vol XIII no. 1 (January 1939), p. 45. Ibn Butlan's *Taqwim al-sihha* was composed in Arabic in the eleventh century, translated into Latin under the auspices of King Manfred of Sicily in the thirteenth century, but, unfortunately, frequently revised until the fourteenth century.

32. The illustrations are reproduced in The Medieval Health Handbook: *Tacuinum Sanitatis*, Luisa Cogliati Arano, ed. Oscar Ratti and Adele Westbrook, trans. New York: George Braziller, 1976, plates XLII, 232, 233.

33. Watson, *op. cit.*, 1983, p. 158 n. 23 citing al-Jawhari [d. c. 1010], *Taj al-lugha wa sihah al- 'arabiya*, 2 vols. (Bulaq, 1865).

34. *Ibid.*, pp. 20-23. Today there are words for hard wheat in Arabic and Berber, such as the name *tourki* in

the Fezzan and *amekkaoui* in the Haggar of the Sahara, see Erroux, J., *Les blés des oasis Sahariennes*, Algiers: Université d'Alger, Institut de Recherches Sahariennes, n.d., p. 25.

35. Cited in Sereni, *op. cit.*, 1958, no. 5, p. 364 without a source. Bar 'Ali's dictionary appears to give a Syriac equivalent of the Arabic *itriya* (root: t-r-y). His work is not easily accessible, but see Bar 'Ali, *Syrisch arabische Glossen*, Georg Hoffman, ed. Kiel, 1874 a copy of which is in the University of California, Los Angeles research library and the New York Public Library which is unfortunately missing volume 2.

36. Watson, *op. cit.*, 1983, p. 158 n. 23. Several scholars have incorrectly placed the first codification of *pasta secca* in the ninth century. Professors Massimo Montanari and Giuseppe Mantovano cite the so-called ninth-century cookbook of Ibn al-Mibrad as describing a "dish common between the old Bedouin tribes and the Berbers," namely *pasta secca*. Both scholars have made a mistake: Ibn al-Mibrad is the pseudonym of Yusuf b. Hasan ad-Dimashqi who wrote in the sixteenth century A. D. which is the ninth century A. H. (year of the hegira in the Islamic calendar), see Montanari, *op. cit.*, 1989, p. 61; Mantovano, *op. cit.*, p. 285.

37. Balletto, op. cit., p. 56.

38. Messedaglia, Luigi, *Vita e costume della rinascenza in Merlin Cocai*. Medioevo e Umanesimo 14. Padua: Antenore, 1974, vol. 2, pp. 175ff.

39. Dozy, R., *Supplément aux dictionnaires arabes*, Leyden: Brill, 1881 [reprinted Beirut: Librarie du Liban, 1991], vol. 2, p. 557 where *lawzinaj* (L-w-z-y-n-j) is a food like "ktaief" (i.e. *qata'if*) made with almond oil. Dozy's sources are al-Aghani, *Alii Ispahanensis Liber Cantilenarum magnus*, Ioanne Godofredo Ludovico Kosegarten, ed. (Greifswalde, 1840), vol. 1, pp. 61, 10 and Bar Ali, *Syrisch arabische Glossen*, Georg Hoffman, ed. (Kiel, 1874).

40. Rodinson, Maxime, "On the Etymology of 'Losange,'" Charles Perry, trans. *Petits Propos Culinaire*, vol. 23 (July 1986), p. 16; Vollenweider, Alice, "Der Einfluss der italienischen auf die französische Kochkunst im Spiegel der Sprache," *Vox Romanica: Annales Helvetici explorandis linguis romanicis destinati*, vol. 22, no. 2 (July-December 1963), pp. 440-43.

41. See Wright, Clifford A., *Lasagne*, Boston: Little, Brown, 1995, p. 6.

42. "And then more bodies were put on top of them, with a little more dirt over those; they put layer on layer just like one puts layers of cheese in a lasagna." Marchione di Coppo Stefani was born in Florence in 1336 and he wrote his Florentine Chronicle in the late 1370s and early 1380s. "Rubric 643: Concerning A Mortality In The City Of Florence In Which Many People," died *Cronaca fiorentina. Rerum Italicarum Scriptores*, vol. 30, Niccolo Rodolico, ed. Citta di Castello: 1903-13 in Plague and Public Health in Renaissance Europe,

http://jefferson.village.virginia.edu/osheim/intro.html.

43. Mantovano, op. cit., p. 285.

44. al-Razi, Ahmad ibn Muhammad [888?-955?]. "*La Description de l'Espagne* d'Ahmad al-Razi," E. Lévi-Provençal, trans. *Al-Andalus*, vol. XVIII, (1953), p. 82 quoted in Watson, *op. cit.*, 1983, p. 21. This al-Razi is not the famous doctor known as Rhazes in the West.

45. Varro, On Agriculture, I.57.

46. *Kitab al-tabikh fi al-Maghrib wal-Andalus*, A. Huici Miranda, ed. *Revista del Instituto de Estudios Islamicos en Madrid*. IX-X, Arabic section, (1961-62), pp. 12-256 [in Arabic]. Also see *Traduccion española de un manuscrito anónimo del siglo XIII sobre la cocina hispano-magribi*. Ambrosio Huici Miranda, trans. Madrid: Maestre, 1966 although the translation is not accurate.

47. Such as *fidelli, sfidelli* and *fidellini*, see Corominas, Joan, "Mots catalans d'origen arabic," *Bulleti de dialectolgia catalana*, vol. 24 (1936), pp. 1-81 and Corominas, Joan, *Diccionario critico-etimológico de la castellana*, Berne, 1954-57, 4 vols. Also see Garulo, Teresa, *Los Arabismos en il lexico Andaluz*, Madrid: Instituto Hispano-Arabe de Cultura, 1983, p. 224, where the entry for *fideo* is related to *zarcillo*, either a vine tendril, a dropped earing, or a hoop of a barrel, the point twisted and tender vine shoot. The word comes from the verb "to bud" derived from the Arabic *fad*, "to grow, to expand." The word appears in Ibn al-Jatib; see Simonet, D. Francisco Javier, *Glosario de voces ibéricas y latinas usadas entre los mozárabes*. Beirut: Librarie du Liban, 1975. [Originally published in 1888].

48. Traduccion, op. cit., p. 207.

49. Arnau de Vilanova [Arnold of Vilanova], *Obres catalanes*, vol. 2: *Escrits mèdics*. Barcelona: Barcino, 1947, pp. 135, 137; *Libre de sent soví*, Rudolf Grewe, ed. Barcelona: Editorial Barcino, 1979, pp. 182, 184.

50. Lladonosa i Giró, Josep, *La Cocina medieval*, Barcelona: Editorial Laia, 1984, p. 95.

51. Arnau de Vilanova, *op. cit.*, vol. 2, pp. 135 n. 3; 135-6. *Tria* is the same as *alatria*. Arnold of Vilanova's recipe for pasta which is both cooked in oil or water: *De forment, e de farines, e de tot menjar quis fa de pasta frita ho cuyt en aygua. Ffoment cuyt no deu hom soven mengar, per ço cor moltipica e engenera en lo ventre los vermens qui son apetatz lombrics, e, encara, engenera apilacions, e fa disposicio e hordonament a aver peres ho arenes en la vexigua e en los royons. Açò* 

matex fa[n] farines fetes de farina de forment e tota res qui sia fet de pasta frita ho cuyta en aygua. That this is probably a hard wheat pasta is indicated by his use of the word *semola*.

52. Alessio, op. cit., 1958-59; Sereni, op. cit., 1958. Exactly when this occurs is unknown. The attribution of the origin of pasta secca to the Arabs has been questioned with a cautionary note by Montanari, Alimentazione, op. cit., p. 141. Citing Rosenberger, he notes that the very notion of pasta seems absent from Arabic gastronomy. It seems that Montanari has misread Rosenberger, who appears to make exactly the opposite claim, Rosenberger, B., "Les pâtes dans le monde Musulman," Médiévales. Langue, textes, histoire, vols. 16-17 (1989), p. 87. Rosenberger focuses on medieval Arab words for varieties of pasta appearing in the sources, overlooking instances of pasta secca in contemporary Arab cookery, Wright, Clifford A. "The Discovery and Dispersal of Hard Wheat (Triticum durum) and its Inventions: Pasta and Couscous and their Varieties in Tunisia," paper delivered at the Sixth Oldways International Symposium, "Tunisia: The Splendors and Traditions of its Cuisines and Culture." Djerba, Sousse, and Tunis. December 4 to December 10, 1993.

53. Faccioli, Emilio, ed., *L'arte della cucina in Italia: Libri di ricette e trattati sulla civilità della tavola dal XIV al XIX secolo*, Turin: Giulio Einaudi, 1987, p. 277, who called the etymology "fanciful."

54. This section is derived from Wright, Clifford A., "Cucina Arabo-Sicula and Maccharruni," Al- Mashaq: Studia Arabo-Islamica Mediterranea, vol. 9 (1996-97), pp. 151-77.

55. Brunschvig, Robert, *La Berbérie Orientale sous les Hafsides: des origines à la fin du XVe siecle*, Publications de l'Institut d'Études Orientales d'Alger VIII, Paris: Adrien-Maisonneuve, 1947, vol. 2, p. 272; in Tuareg, a language of the Ahaggar, *duwayda* was known as *eddouida* and *talia* (from "*Italia*" or tagliatelle) both mean vermicelli, de Foucauld, Le Père Charles, *Dictionnaire Touareg-Français: dialecte de l'Ahaggar, Paris:* Imprimerie Nationale De France, 1951, vol. 1, p. 223.

56. Also spelled *isbriga* or *ysbriga*. Aymard, Maurice and Henri Bresc, "Nourritures et consommation en Sicile entre XIVe et XVIIIe siècle," *Mélanges de l'École Française de Rome: Moyen ge-Temps Moderness*, tome 87 n. 2. (1975), p. 541; The vermicelli of Trapani in thesixteenth century was 50 percent more expensive than in Palermo, Bautier, A.M., "Pain et pâtisserie dans les textes médiévaux latins antérieurs au XIIIé siecle," *Manger et boire au Moyen Âge*, Actes du Colloque de Nice, n. 27, vol. 1: *Aliments et Société*, Centre d'Études

Médiévales deNice: Centre National de la Recherche Scientifique, Les Belles Lettres, 1984, p. 41.

57. Aymard and Bresc, *op. cit.*, pp. 541; 542; Bautier, *op. cot.*, p. 41.