

Melons and Modernity: Dreams, Science, and Manure

Paolo Savoia

Università di Bologna
paolo.savoia3@unibo.it

/ Abstract

Melons were among the most desired and the most dangerous fruits in early modern Europe. Dreamed about by René Descartes in one of the most famous dreams in the history of European culture, they came from messy procedures happening below the surface of the cultivated soil. Present in all major dietetic books, melons were treated with suspicion due to their moistness, which was believed to bring about putrefaction in the stomach, but they were also the object of a careful aesthetics of the table, and a valuable commercial item. Melons were the object of special cultivation techniques, consisting in complex “artificial” procedures involving the use of manure and mud. By focusing on 16th and 17th century books of agronomy, dream interpretation, public health decrees and consultations, natural magic, and Ulisse Aldrovandi’s information-gathering practices, this article argues that melons were at the center of both cosmological symbology and practical experimentation, a combination that was central to the developments of the “scientific revolution.”

I meloni sono stati tra i frutti più desiderati e pericolosi nell’Europa della prima età moderna. Sognati da René Descartes in uno dei sogni più celebri della cultura europea, i meloni derivavano da complicati processi che avvenivano sotto la superficie del suolo coltivato. Presenti in tutti i principali testi di dietetica, i meloni erano visti con sospetto a causa della loro umidità, che si credeva potesse causare putrefazione nello stomaco; questi, però, erano anche oggetto di un’attenta estetica della tavola e una merce di valore. I meloni erano oggetto di speciali tecniche di coltivazione che consistevano in complesse procedure “artificiali” che prevedevano l’uso di letame e fango. Concentrandosi sui testi di agronomia del sedicesimo e diciassettesimo secolo, sull’interpretazione dei sogni, sui decreti e i consulti di salute pubblica, sulla magia naturale e sulla maniera in cui Ulisse Aldrovandi raccoglieva informazioni, questo articolo afferma che i meloni erano al centro sia della simbologia cosmologica che della sperimentazione pratica, una combinazione che è stata centrale negli sviluppi della “rivoluzione scientifica”.

/ Keywords

Agronomy; Dreams; Scientific revolution; Melons; Food.

1. Dreaming Melons

René Descartes had three dreams during the night of Saint Martin, November 10, 1619. He wrote them down in a notebook, which has been lost, but his first biographer, Adrien Baillet, saw it and took note of the noted dreams, also translating them from Latin into French.¹ At that time, Descartes and his biographer could refer to a vast literature of radical life-changing moments or decisions announced or revealed by dreams, so this dream narrative is different from a spontaneous, psychoanalytic account of one's dreams. Here is how the dream narrative unfolds. Descartes sees terrible ghosts and tries to chase them away. Suddenly, he feels a weakness or a pain in his right side; a great wind comes, and Descartes feels carried away on his left side. The wind blows and he tries to find refuge in a chapel to pray, but he realizes he saw a man whom he seems to know. Thrown against the wall by the wind, he hears someone saying that he has to look for a certain Mr. N who has something important to give him. Descartes believes that this object is a melon (*un melon*) from a faraway country.

A lot of speculation and interpretations have been made around this dream and this melon: the result of drinking too much wine; Descartes' fear of his homosexual inclinations or sexual desire in a moment of solitude and loneliness (Freud)²; a symbol of the solitary life (Descartes himself); the feeling of being betrayed by a friend, perhaps his Dutch mentor Isaac Beeckman; etc. Recently, Susana Gomez has argued that the dreams are entirely a literary fiction, and that the fruit might not be a melon at all, but an apple, therefore signifying "the temptation to embrace the knowledge of tradition"³ – i.e. of the Schools, of Aristotle, etc.

This article does not claim the final word on this difficult Cartesian matter. I will suggest a plausible interpretation of Descartes' melon, but the focus of this article is melons, not Descartes. Besides all the symbolic meanings of fruits and melons in particular, this paper deals with a more down-to-earth set of features associated with melons: the complex way it was cultivated and the desires and fears surrounding its cultivation through artificial heating and nourishment of the soil. In a way, I wish to follow nothing less than Francis Bacon's advice, but perhaps in a different way that he intended. In *De dignitate et augmentis scientiarum* he wrote that by analyz-

¹ Adrien Baillet, *La Vie de Monsieur Descartes* (Paris: Daniel Horthemels, 1691), I, 81–2; also, in Descartes, *Oeuvres*, ed. Ch. Adam and Paul Tannery, 11 vols. (Paris, 1964–1974), X, 179–90.

² Maxime Leroy, *Descartes, le philosophe au masque* (Paris: Les Editions Rieder, 1929); Sigmund Freud, "Some Dreams of Descartes': A Letter to Maxime Leroy," in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, ed. James Strachey (London: Hogarth Press, 1953–74), XXI, 197–204.

³ Susana Gómez López, "Enthusiasm and Platonic furor in the Origins of Cartesian Science: The Olympian Dreams," *Early Science and Medicine* 25 (2020): 507–35. For a complete overview see John R. Cole, *The Olympian Dreams and the Youthful Rebellion of René Descartes* (Chicago: The University of Chicago Press, 1992). See also: Alan Gabbey and Robert E. Hall, "The Melon and the Dictionary: Reflections on Descartes' Dreams," *Journal of the History of Ideas* 59 (1998): 651–68; Édouard Mehl, *Descartes en Allemagne, 1619–1620: Le Contexte allemand de l'élaboration de la science cartésienne* (Strasbourg: Presses Universitaires de Strasbourg, 2019).

ing “narratives of sorceries, witchcrafts, charms, dreams, divinations, and the like ... a useful light can be gained ... for the further disclosing of the secrets of nature.”⁴ Dreamed melons are here a point of departure to discuss the secrets – so to speak – of history rather than nature.

Melons were among the most desired and the most dangerous fruits in early modern Europe. In fact, part of the difficulties in identifying Descartes’ exact dreamt fruit is due to the fact that melon – and cucurbits tout-court – nomenclature was extremely intricately in medieval and early modern Europe. Moreover, “sweet melons” of different kinds, among them the most common was the cantaloupe melon, appeared in Europe around the end of the 15th century, thus contributing to a change in attitude towards this specific kind of ripe cucurbit.⁵ Present in all major dietetics books, they were treated with suspicion due to their moistness, a quality that was believed to bring about putrefaction in the stomach. At the same time, melons were the object of desire for cooks and aristocratic families. Melons grew easily in southern Europe but were the object of special cultivation techniques in northern regions, consisting in complex “artificial” procedures involving the use of manure and mud. In times of plague, the cultivation of melons was restricted or prohibited due to its potential harmful feature of generating polluted airs and miasmas.

2. Dietetics, Cookery, and Commerce

The cultivation of melon represented one of the first examples of “forced horticulture” in early modern history, based on fertilization and artificial heating of the soil.⁶ For example, the Huguenot agronomist Olivier De Serres explained that in cold climates people let melons grow in the muck, “with no fear that the decomposition causes bad taste in the fruit.”⁷ Melons were generally considered a very dangerous foodstuff by many physicians, given their moist and cold nature, especially threatening for people who were not perfectly healthy. It is not clear whether Descartes had read Girolamo Cardano’s treatise on dream interpretation (originally published in 1562 and then in volume V of the *Opera Omnia* in 1585), but it is interesting to look at the symbolism of dreaming fruits, and melons in particular, in that book. Cardano grounded the interpretation of dreamt fruits into their color, maturity or

⁴ Francis Bacon, “De dignitate et augmentis scientiarum,” in *Works*, ed. James Spedding, Robert Leslie Ellis, and Douglas Devon Heath, 14 vols. (London: Longmans Green, 1870), 4/II, 296.

⁵ Harry S. Paris, Zohar Amar, and Efraim Lev, “Medieval Emergence of Sweet Melons, *Cucumis Melo (Cucurbitaceae)*,” *Annals of Botany* 110, no. 1 (2012): 23–33. On melon nomenclature in general see Ralf Nørnman and Jon Haarberg, *Nature and Language: A Semiotic Study of Cucurbits in Literature* (London: Routledge, 1980). The differences between ancient and new Renaissance melons for changing advice in medical dietetics are noted by Ravenna physician Girolamo Rossi, *Disputatio de melonibus* (Venezia: Giovanni Battista Bertoni, 1607).

⁶ Antonio Saltini, *Storia delle scienze agrarie. Venticinque secoli di pensiero agronomico* (Bologna: Edagricole, 1984), I, 454.

⁷ Olivier De Serres, *Le théâtre d’agriculture et ménagé des champs* (Paris: I. Metayer, 1600), quoted in Saltini, *Storia delle scienze agrarie*, I, 454.



Fig. 1. Cristoforo di Messiburgo, *Banchetti compositioni di vivande, et apparecchio generale* (Ferrara: Per Giovanni de Buglhat et Antonio Hucher Compagni, 1549). Banquet scene with a man holding a melon.

rotteness, and seasonality. Melons were explicitly mentioned as the object of dreams, along with olives, strawberries, apples, grapes, and a few more. Cardano firmly believed that “ripe melons predict diseases, unripe melons predict health.”⁸ Cardano’s oneiric semantic points out to the fact that ripe melons were moister and therefore more likely to undergo dangerous putrefaction processes in the eater’s stomach. In any case, the interpretation of dreamt melons had to do with medical dietetics, especially for the medically-trained Cardano.

Books of dietetics like the extremely popular *Tesoro della sanità* by the botanically savvy Roman physician Castor Durante (1586) recalled that melons were good to cool down the body in the Mediterranean summer, they stimulated urination and they woke up one’s appetite, but overall reasons for not eating them were more numerous and substantial than the reasons for eating them. Durante says that “they bring about wind and pain in the stomach ... they are difficult to digest, because they are cold, and they bring about choleric fluxes and vomit, and when they corrupt they generate malign fevers with petechia.”⁹ Therefore, physicians usually suggested an extremely moderate use of it by people of good health, generally tempered with warm and dry matches, for example red wine, old cheese, and salty foodstuffs. Scipione Mercurio’s 1603 book on “popular errors” advised eaters who cared both about their health and about the taste of melons that “[melons] must be eaten before dining ... always accompanied by salty things, since they are hot and dry and therefore these salty things marvelously put in check their frigidity and moistness; and therefore old ham and salted cheese ... after having eaten melon with the aforementioned things, one must drink 4 fingers of the best wine [...]”¹⁰

However, in a process of divergence between dietetics and gastronomy, since the Renaissance European cooks began to value melons more and more [Fig. 1]. The rumor that pope

⁸ Girolamo Cardano, *De somniorum synesiorum*, in *Opera omnia* (Lyon: Jean Antoine Huguetan, Marc Antoine Ravaud, 1663), V, 625: “Pepones maturi morbos, acerbi sanitatem praedicunt.” 12th-century Byzantine commentator of Aristotle Michael of Efesus reports a dream of a friend of his where he received a perfectly shaped melon with a scorpion tail by a woman who hurt him the following day; see Michele di Efeso, *Michaelis Ephesii in Parva naturalia commentaria*, in ed. Paulus Wendland, *Commentaria in Aristotelem Graeca XXIII.1* (Reimer: Berlin, 1903), 81, 4–9.

⁹ Castor Durante, *Il tesoro della sanità* (Venezia: Andrea Muschio, 1589), p. 200: “[Meloni & Peponi] fanno ventosità e dolori nel ventre ... & difficilmente si digeriscono, per la lor frigidità, & così eccitano vomito, & flussi colerici, & corrompendosi generano febri maligne con petecchie.” Leonardo Giachini, *In difesa, et lode del popone* (Firenze, Filippo Giunti, 1600), but written in 1527, opposed this tradition with a praise of melons. The 1600 opening letter specifically refers to Cardano, who agreed with traditional dietetics on this point; on Cardano’s opinion on melons see Nancy Siraisi, *The Clock and the Mirror: Girolamo Cardano and Renaissance Medicine* (Princeton: Princeton University Press, 1997), 74. On the social perception of melons in the Renaissance see Allen J. Grieco, “The Social Politics of Pre-Linnaean Botanical Classification,” *I Tatti Studies* 4 (1991): 131–49, especially 141–6; Tessa Storey, “The Lament of the Melons: Singing Preventive Health Advice in Early Modern Italy,” *Nuncius. Journal of the Material and Visual History of Science* 36, no. 2 (2021): 325–55.

¹⁰ Scipione Mercurio, *De gli errori popolari d’Italia libri sette* (Venezia: Battista Ciotti Senese, 1603), 334v: “Si deve mangiar il melone avanti pasto ... mangiandolo sempre con cose salate, le quali per esser calde e secche, a maraviglia raffrenano la frigidità, & humidità di quello: & perciò il presciutto vecchio, & cascio salato ... & doppio haver mangiato il melone con le predette cose salate, si deve bere 4 dita di vino ottimo.”

Paul II died after gorging on sweet melons in 1471, as reported by Bartolomeo Platina among others, was widespread; but it is also a sign that by the late 15th century melons were a desired presence on the tables of the rich. Platina also reports that the pope was very fond of a special soup prepared for him with melons by celebrity chef Martino da Como.¹¹

The so-called cantaloupe or sweet melons became extremely popular by the 16th century, as new varieties were introduced into Europe both from the New World and the Ottoman lands.¹² The southern French region of Cavaillon, for example, became famous for its melons, supposedly descending from melons coming from the east. Bartolomeo Scappi included a series of melon recipes in 1570, such as one melon cake made with melon pulp in a sauce thickened with egg and grated cheese, spiced with ginger and saffron, and served in a pastry paste – a typical Renaissance dish.¹³ In the meantime, gardeners, painters, and natural historians all over Europe began representing, each in its own genre, the cantaloupe or sweet melons in their works. By the beginning of the 17th century, large portions of southern French and Sicilian cultivated landscapes were reported as full of melons, whose commercial interest had become truly global and adapted to the new rotation and proto-intensive style of early capitalist agriculture. Here is how English traveler Thomas Coryat described his encounter with melons in Venice in the late 16th century:

Likewise they had another special commodity ... which is one of the most detectable dishes for a Sommer fruite of all Christendome, namely Muske melon [what is known as cantaloupe]. I wondered at the plenty of them; for there was such store brought into citie every morning and evening for the space of a moneth together ... that all the market places of the citie were furnished with them.¹⁴

Melons were especially exotic and desirable for northern Europeans, like Descartes, and a key fruit in the changing political and cultural geographies of European prestige and ways of living.

3. Cultivating Melons

But how melons were cultivated? We can get a glimpse at this by looking at one of the most popular agronomic Italian books of the 17th century, Vincenzo Tanara's *Economia del Cittadino in villa* (1644). Tanara admits that “the cultivation of melons is the most difficult” but it is also useful, since “these days” they are more and more fashionable, and “no one is happy with

¹¹ Bartolomeo Platina, *Liber de vita Christi ac omnium pontificum*, ed. G. Gaida, in *Rerum Italicarum, scriptores*, 2nd ser., vol. III.1 (Città di Castello, 1913–1932), 397; see Sylvia Lovegren, *Melon: A Global History* (London: Reaktion Books, 2016), 76–7.

¹² Jules Janick and Harry S. Paris, “The Cucurbit Images (1515–1518) of the Villa Farnesina, Rome,” *Annals of Botany* 97, no. 2 (2006): 165–76.

¹³ Bartolomeo Scappi, *Opera* (Roma, 1570), 354r–v.

¹⁴ Thomas Coryat, *Coryat's Crudities: Reprinted from the Edition of 1611* (London: W. Cater, 1776), I, 395.

only one or two melons on the table,” but many more.¹⁵ Gardeners are skilled in making them more perfumed and bigger by washing their seeds in rose water, and above all they prepare the soil with abundant manure the winter before planting the seeds. Tanara explains that the soil must be “fat” enough so that the quantity of manure will not be excessive, causing terrible smells and making the fruit too moist. In the whole section on melons, Tanara establishes a direct link between manure and (the dangerous) moistness of the fruit, suggesting that a delicate triangulation must take place between the nature of the soil, the quantity of manure, and the moistness of the fruit. Only in northern lands, laments Tanara, they need to add too much manure, since the climate is too cold for a more natural way of cultivating melons. It is better to use manure from goats and sheeps, since it makes the perfect fruit, much more than cows. Gardeners must dig large holes in the ground and in each of them they must put 6 to 8 seeds; if they are late, or if it is too cold, some gardeners also plant the seeds within vases of manure and then put them into the ground. Then melons grow up right on the surface, rising above a little bit with their abundant branches and leaves.¹⁶

The whole art and science of melon cultivation revolves around a delicate balance between surface and ground, manure and quality of the soil. Tanara’s book was very popular at the time, but certainly it was not on the forefront of farming experimentation and innovation, as it reflected the production of a nobleman enjoying life in the countryside. But by the late 16th century, fueled by the reorganization of classical and medieval botany, a new market-oriented and proto-capitalist agriculture had emerged, based on continuous rotation, alternation between agriculture and farming, and the beginning of massive cultivation of forage. In economic terms, the period was characterized by an essential tension between two “systems of agriculture”: one which was based on the transformation of work into capital; the other which consisted in the maximization of land exploitation.¹⁷ One of the most innovative books of the agricultural revolution of the late 16th century – more experimental than Tanara’s in the cultivation of vegetables, fruits, and trees – was Agostino Gallo’s *Le venti giornate dell’agricoltura* (final edition 1572). Authored by a landowner and market-oriented farmer from Brescia in the Venetian territory, the book has some interesting experimental practices to suggest its readers, who were people interested not only in farming but in botany too.

The putrefied wastes of wheat threshing, called “*bullaccio*,” “2-year well rotten” is for Gal-

¹⁵ Vincenzo Tanara, *L’economia del Cittadino in villa* (Venezia: Stefano Curti, 1674), 273: “la coltura è forse la più laboriosa, che habbia l’Hortolano ... essendosi l’uso di questi fatto più frequente di giorno in giorno, vediamo che l’huomo, non contentandosi d’un solo, o due Meloni in tavola...”

¹⁶ *Ibid.*, 273–4.

¹⁷ Marcel Mazoyer and Laurence Roudart, *A History of World Agriculture: From the Neolithic to the Current Crisis* (London: Earthscan, 2006), 313–53; Mauro Ambrosoli, *The Wild and the Sown: Botany and Agriculture in Western Europe, 1350–1850* (Cambridge: Cambridge University Press, 1997), 1–11.

lo the key ingredient to make melons grow faster.¹⁸ As recalled by Carlo Poni, Gallo's book is marked by an extraordinary development of the knowledge and practice related to fertilizers which combined with new techniques of rotation of the crops places Gallo at the forefront of the revolution of the 16th century.¹⁹ The typical vicious circle of early modern economy – increase in the cultivated land, leading to a decrease in livestock, leading to a decrease in quantity of manure, leading to impoverishment of the soil – was broken by the new farmers-entrepreneurs of the 16th century, who introduced new sources of fertilizers. Human wastes transported or stolen from the European cities entered a vast commercial system, together with several kinds of ashes coming from the wastes of the proto-industrial urban factories, vegetal wastes, etc.

According to Gallo, this *bullaccio* must be placed in a basket “three-finger high” and then the melon seeds must be planted there. Then another layer of *bullaccio*, another layer of seeds and so on. The basket must then be moved into an oven after bread has been baked, “since it remains lukewarm”; once the oven has been closed down, the basket must be left there for two days. When the farmer takes it out “he finds the seeds, which must be planted in the holes with said *bullaccio* placed in them, mixed with fat ground.”²⁰ But the most straightforward way of cultivating melons on a larger scale was to use “southern soil, or light soil, which are clean and well manured” with manure made with of sheep's, goat's or a bigger animal's dung.²¹ Gallo recalls that melons have traditionally been deemed unhealthy by the physicians, but they are better than *zatte*, an old variety of melons with a very lumpy rind, usually considered the sweetest and tastiest one.²² Melons' peel is good for horses, and “you can make fritters, marmalade and candies with it.”²³

4. A Most Dangerous and Fascinating Fruit

In general, it was very common that books aiming at giving rules on how to cultivate the best ornamental plants and flowers contained many different recipes and advice on “how to cultivate plants out of season” or on how to “change their color and shape”²⁴ But given the special

¹⁸ Agostino Gallo, *Le venti giornate dell'agricoltura* (Venezia: appresso Gioseffo Imberti, 1578), 153: “ben marcio di due anni.”

¹⁹ Carlo Poni, “Struttura, strategie e ambiguità delle Giornate,” in *Agostino Gallo nella cultura del Cinquecento*, ed. Maurizio Pegrari (Brescia: Edizioni del Moretto, 1988).

²⁰ Agostino Gallo, *Le venti giornate*, 153: “un canestro alto tre dita... ch'el calore resta alquanto tepido... si trovano nate le semenze, le quali si piantano nelle buche col detto *bullaccio* posto prima in fondo, mescolato però con alquanto di terra ben grassa.”

²¹ *Ibid.*, 107: “terreni ladini, o leggieri, che siano ben netti, & ben letamati.”

²² Valerio Ferrari, *Lessico botanico popolare della provincia di Cremona: dialettale, etimologico* (Cremona: Provincia di Cremona, 2016), 105.

²³ Gallo, *Le venti giornate*, 107: “sono ottime per confettare col mele, per compostare, & anco per mangiarle fritte.”

²⁴ Lucia Tongiorgi Tomasi, “Il giardino, l'orto e il frutteto: Le scienze orticole in Toscana nei disegni, tempere e incisioni dal XVI al XVIII secolo,” in *Flora e Pomona: l'orticoltura nei disegni e nelle incisioni dei secoli XVI-XIX*, ed. Lucia Tongiorgi Tomasi and Alessandro Tosi (Firenze: L.S. Olschki, 1990), 19.

way of cultivating melons by adding large quantities of manure, such procedures made them a particularly suspicious fruit in times of plague. Early modern Italian plague ordinances often targeted the commerce of specific food items, such as fish, melons, and bad wines. A consultation written by *Protomedici* Ulisse Aldrovandi and Giulio Cesare Aranzi for the government of Bologna during the plague epidemics of 1576 which detailed all the kinds of dangerous food items that must be banned from the city or strictly regulated, stated that: “All the corrupted fruits rotting and stinking such as pears, melons, and similar other fruits must be banned, as they are kept in their baskets for several days, that which causes them to simmer slowly; and particularly so during this warm weather.”²⁵ Interestingly enough, this public health consultation written by Aldrovandi highlights the famous naturalist’s role as public expert, which has never been thoroughly explored, apart from the well-known controversy on the preparation of theriac.²⁶ This intertwined path between natural history and public health, or environmental medicine, can be further appreciated by looking at Aldrovandi’s notes on melons in his paper monument *Pandechion epistemonicon*.²⁷ A reader of Gallo’s book on agronomy [Fig. 2], Aldrovandi piled up the notes on melons and produced an illustration in the new anatomical dissection-style of the “*melo pepones*” in his visual catalogue of plants and animals [Fig. 3]. In the *Pandechion*, Aldrovandi filled ten pages on “*melon*” and twelve pages on “*pepones*” (this is how the sweet melon, and above all the cantaloupe melon, were called), taken from sources ranging from Homeric poems to the Hippocratic corpus, from dietetic medical literature to farming manuals: a goldmine of information in the natural history of melons [Figs. 4-6].²⁸



Fig. 2. Agostino Gallo, *Le venti giornate dell'agricoltura* (Venezia: Gratioso Percaccino, 1569). Aldrovandi’s copy with ex-libris in the BUB.

²⁵ Biblioteca Universitaria di Bologna (BUB), Aldrovandi, ms. 21, volume III, ff. 499r–502r.

²⁶ Giuseppe Olmi, “Farmacopea antica e medicina moderna. La disputa sulla teriaca nel Cinquecento bolognese,” *Physis* 19 (1977): 197–246.

²⁷ BUB, Aldrovandi, ms. 105. On this monumental work see Fabian Kraemer, “Ulisse Aldrovandi’s *Pandechion Epistemonicon* and the Use of Paper Technology in Renaissance Natural History,” *Early Science and Medicine* 19 (2014): 398–423.

²⁸ BUB, Aldrovandi, ms. 105, vol. 83, ff. 55r–60r; vol. 84, ff. 120r–126r.



Fig. 3. BUB, Aldrovandi, ms. 124, Tavole, vol. III, c. 170.

Tommaso Tomei's scientific encyclopaedia, written for non-experts in the 1580s, mentions Carpocrates' opinion – a much-mythologized figure of a gnostic and libertine philosopher living in Alexandria in Egypt in the 2nd century. According to Carpocrates, writes Tomei, if placed in a room where bread has been freshly made, melons can spoil and contaminate it; just in the same way, melons “corrupt in the stomach” in less than an hour.²⁹ A quite precise reference to the fascination for artificiality of melon cultivation and the worry for the dangers of decomposition comes from a Bolognese decree on public health in times of plague, showing how widespread these feelings about the cultivation of melons were. This July 29, 1580, decree specifically dealt with the cultivation of melons in times of “suspicion.” The language employed by the officials of the Legate is worth noting:

We understand that some people, and maybe more than a few farmers of this land of Bologna, pushed by greed alone and thirst for money, cannot wait for the benefice of the weather and of nature, and for this reason they dare take down unripe melons from the plants, placing them into wooden or clay jars, or directly into the earth, and then burying them; they do this because they want them to ripe faster with the biggest damage and danger for the universal health of the whole city ... [the city government, in agreement with the Assunti di Sanità] prohibit and explicitly commands that in the future none of these farmers dare [do these things] ... under the punishment of 50 golden scudi, 3 blows, and if they are women 50 strokes of whip in public in the square.³⁰

The danger of artificially enhancing or treating nature is echoed in a passage from Tommaso Campanella's famous utopia *La città del Sole*, composed in the early years of the seventeenth century, where it ran across agriculture and cosmetics. After having said that agriculture – and agricultural knowledge – plays a fundamental role in the utopian society, Campanella specified that the city of the Sun's farmers “make little use of manure, claiming that it causes seeds to rot and shortens the life of plants, just as women who owe their beauty to cosmetics rather than to exercise bear sickly children.”³¹

²⁹ Tommaso Tomei, *Idea del Giardino del Mondo* (Bologna: Gio. Rossi, 1582), 26.

³⁰ Archivio di Stato di Bologna, Sanità, *Bandi Bolognesi sopra la peste*, n. 1: “Intendendosi, che alcuni, e forse non pochi Hortolani di questa Guardia, & Territorio di Bologna spinti da mera avaritia, & avidità del guadagno non potendo aspettare il beneficio del tempo, & della natura, ardiscono dispiccare dalle lor Piante li Meloni acerbi, sotterrandoli, & ponendoli in vasi di legno, o di terra, o nell'istesso terreno, o Locco, per più tosto violentemente maturarli in gravissimo danno, & pericolo della Sanità universale di tutta la Città... [il Senato in accordo con gli Assunti di sanità] proibisce, & espressamente ordina, & comanda, che per l'avenire non sia alcuno di detti Hortolani, o qual si voglia lara persona di si sia conditione, ardischi [fare queste cose]... sotto pena di cinquanta Scudi d'oro, & de tre tratti di corda, & se saranno Donne, di cinquanta Staffilate da darsi pubblicamente in Piazza.”

³¹ Tommaso Campanella, *The City of the Sun: A Poetical Dialogue*, trans. and ed. Daniel J. Donno (Berkeley: University of California Press, 1981), 83–5: “Poco usano letame all'orti e a' campi, dicendo che li semi diventano putridi e fan vita breve, come le donne imbellettate e non belle per esercizio fanno prole fiacca.”

In Giovanni Battista Della Porta's work, grafting and playing with seeds, plants, and fruits became a gate toward a consideration of the unbound transformative and challenging possibilities of agriculture. An example is given by the cultivation of melons:

In the same way it will happen with watermelons, or with melons, that is if in the summertime, when the seed is fresh, you will put their seed, the melon's seed, into the blood of a healthy man, the red blood of a mature man, as the more the warmer the blood the stronger it becomes; change it frequently, so that it does not rot, because it must be preserved in good state, and let it stay there for a week, then take the seed as you pull it out of the blood, and plant it in a fertile and well-fertilized hole in the ground.³²

Here, an interaction between humans and plants was made through the human blood that nourished the seed of melons. Once again, the bodies of nature, of fruits, and of humans not only share a similar structure but they can cross-breed and interact in numerous ways.

5. Farming and Experimental Science

Descartes' melon dream connects one of the heroes of the scientific revolution with the skills and knowledge of gardeners, farmers, and landowners, as well as with the descriptive efforts of natural history and the knowledge of medical dietetics. The surface and the underground of the soil were the scenery where experimentation with nature could, on the one hand, free itself from the orthodoxy of Galenic dietetics and, on the other hand, becoming partner with new phenomena such as intensive farming and a new gastronomy. In any case, such a special fruit, dreamed about by Descartes in one of the most famous dreams in the history of European culture, could come only from messy and dirty procedures happening just below the surface. While the complexion of melons gradually became more and more tamed – especially by combining it with wine or ham, appropriately dry and hot – in early modern gastronomy, its potential for rotting and decomposition remained a threat, especially in times of plague. Eating melons became safer, but cultivating them and storing them remained dangerous and the object of special practical knowledge.

An interesting culture of “philosophical gardening” in early modern England has recently been described, where the practical knowledge of master gardeners were one of the sources of the much more famous experimental philosophy which became the trademark of

³² Giovanni Battista Della Porta, *De i miracoli et maravigliosi effetti dalla natura prodotti* (Venezia: Ludovico Avanzi, 1560), 37v–38r: “Et similmente l'istesso de' cocomeri avverrà, se il seme suo, ovvero de' meloni, lo metterai la state, quando il seme è fresco, dentro del sangue dell'huomo sano, che sia huomo maturo, & sia di color rosso, perciocché è più caldo il suo sangue, e più gagliardo: muttalo spesso, che non si marcisca, che bisogna che si conservi buono senza marcire, lassavelo stare per una settimana, poi piglia il seme così come lo cavi del sangue, e farai le buche in terra che sia fertile, & bene spolverizzata.”



Fig. 7. Giovanna Garzoni, *Natura morta con popone su un piatto, uva e una chiocciola* (1642-51 ca.), Villa Medicea, Poggio a Caiano (MIBAC).

the Royal Society. Philosophical gardening was an experimental enterprise of manipulating seeds, plants, and grafts in order to improve nature's productivity and magnificence, and it was closely linked to the colonial enterprise of making the newly colonized American lands more productive.³³ This culture of artificially forcing nature and experimenting with nature in gardens was deeply embedded in Italian culture too, not only described in gardeners' manual, but also reflected in literary and scientific works, often under the name of "third nature."³⁴ In this case, nature was forced to produce melons in southern Europe that took the route of northern Europe and eventually of the colonies too. The cultivation of melons also seems to break the distinction between what has been described as a "dearth science" or "making shift" in local agricultural, horticultural communal contexts; and the linear and expansive colonial agriculture of the 17th century, focused on disregarding envi-

³³ Vera Keller, "A 'Wild Swing to Phantasy': The Philosophical Gardener and Emergent Experimental Philosophy in the Seventeenth-Century Atlantic World," *Isis* 112, no. 3 (2021): 507–30.

³⁴ Thomas E. Beck, "Gardens as a 'Third Nature': The Ancient Roots of a Renaissance Idea," *Studies in the History of Gardens & Designed Landscapes* 22, no. 4 (2002): 327–34.

ronments and natural contexts in favor of “artificial” cultivations.³⁵ Melons were cultivated in both scenarios, a truly *glocal* item.

If looked at from a more general and speculative point of view, farming practices and agronomic reflection might have had an important role in the “scientific revolution.” Historian Rolf-Peter Sieferle has interestingly suggested that the distinction between nature and artifice (or nature and culture) is neither specifically modern nor specifically western; on the contrary, it is a distinction which can be found in all cultures where agriculture has been developed. After all, from an etymological point of view “culture” comes from the Latin word indicating “cultivating the soil,” or the effort to take care and to govern complex ecological communities to one group’s advantage. All communities depending on farming for their living had the experience that this effort is something like an infinite work, that as soon as one stops or takes a break, “nature” regains the soil. The natural vs. artificial opposition could be a mirror of agrarian life: nature is what has always been there and that regenerates spontaneously; artifice, or culture, needs constant work and effort. But “nature” has also meant the wild, untamed, dangerous side of human civilizations: culture therefore is also the power to force humans into civilization. With the historical development of economies exploiting fossil sources of energy, this world of agrarian experience began to disappear. Agriculture ceased to be a central practice and began one sector of the general industrialization, just one among the others. Cheap and abundant energy, and the parallel mobilization of material resources, are historical phenomena that led to the loss of the basic experience according to which nature is what resists human work, artifice, and culture.³⁶ In the early modern period this clash between the natural and the artificial took the route of experimental science.

Going back to the case of melons, 16th and 17th century sources as diverse as plague regulations, books of agronomy, dietetics, cookery, natural history, and natural magic show that melons were at the center of both cosmological and technical fear and experimentation, and this combination was central to the developments of the “scientific revolution.” Giovanna Garzoni’s still life with melon and grapes seems to capture this ambiguity [Fig. 7]: the melon is here an inviting object of desire, moist and bright, yet at the same time the fly, or the insect – possibly alluding to spontaneous generation out of rotting fruits – reminds the viewer of this complex intertwining of fear, desire, and the cycle of putrefaction and rebirth.³⁷

³⁵ Ayesha Mukherjee, *Penury into Plenty: Dearth and the Making of Knowledge in Early Modern England* (New York: Routledge, 2015).

³⁶ Rolf-Peter Sieferle, “The Ends of Nature,” in *Environment Across Cultures*, ed. Eckart Ehlers and Carl Friedrich Gethmann (Berlin: Springer, 2003), 13–28.

³⁷ On this imagery of putrefaction and rebirth see Piero Camporesi, *La carne impassibile. Salvezza e salute fra Medioevo e Controriforma* (Milano: Garzanti, 1994).

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