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USE AND ABUSE OF BEESWAX IN THE EARLY MODERN AGE

TWO APOLOGUES AND A TASTE

APOLOGUE ONE

20 March 1578

The eleventh hour

The Castel Vecchio of Ferrara

At the apothecary shop of Alberto and Benedetto da Signa

The day is coming to an end.

Engrossed in thought, *Messer* Benedetto walks over to the window of his *studiolo*. He gazes at its thick, opaque quarrels: a shroud streaked by drops of condensation trickling down the lead came, like rivulets of Our Lord's blood oozing from the crown of thorns.

The light enters at a low angle on this late afternoon of a winter that doesn't seem to want to end. The apothecary turns around, the heels of his boots rapping lightly on the old floorboards, and he crosses his arms as he observes the space where he has spent his entire life, from the time he started working.

He observes his *officio* overflowing with books of secrets, simples and medicines; cabinets chock-full of all sorts of spices; counters crammed with alembics, scales, burners, braziers, mortars and pestles; beams bristling with nails, racks and hooks holding ladles, graters, scissors, sieves and mallets. The shelves of the walnut sideboards groan under the weight of vases and flasks arranged in alphabetical order: *acqua di castel venere, acqua rosata, acoro, agarico, allume, aloé, ambra, amido, ammoniaca, anacardi, anici stellati, antimonio, argento vecchio, arsenico, asa fetida, bambace filato, bdellio, belzuar, biacca, bitume giudaico, blatte di bisanzio, cocomero asinino...*¹

Nearby, his father Alberto shivers in his heavy old-fashioned doublet of black velvet, curses the cold and old age, and tosses an alder log onto the fire, fanning it using bellows adorned with the elegant profile of an Italian pointer, Cardinal Luigi d'Este's favourite breed.

Darkness falls on the apothecary shop of His Most Serene Highness Alfonso II d'Este, Lord of Ferrara, Modena and Reggio, which the Da Signa family has honourably run since 1513, the year their grandfather Giacomo arrived from faraway Tuscany to serve the dukes Alfonso I and Ercole II, assisted by sons, sons-in-law and grandchildren.

1. Castel Venere water, rosewater, calamus, agaric, alum, aloe, amber, starch, ammonia, cashews, star anise, antimony, old silver, arsenic, asafoetida, cotton wool, bdellium, belzuar, white lead, brimstone, Byzantine cockroaches, squirting cucumber.

Benedetto sighs before the dance of the flickering orange flames, banters with his father, intent on checking the list of preparations for the ducal stables and the court infirmary, and then walks over to an ebony cabinet inlaid with ivory and nacre.

The black-and-white cabinet of Germanic facture was given to him by the duke's second wife, the late Barbara of Austria, who died of tuberculosis in 1572, on the 19th of September, after years of asking the apothecary – day and night – for ‘angelic pills in order to bear children, tablets to treat hot and cold migraines, syrups against the melancholic humour, fragrant waters to make the complexion as beautiful and polished as a mirror, ointments to eliminate fire from the chest, balsams to cleanse the eyes of all spots and poultices for the memory’.

The apothecary is pensive, for his last meeting with the ducal *spenditore*,² Messer Percino Visdomini, alarmed him: the ducal court has a large number of mouths to feed – more than 350 – and rumours abound that the duke is planning to wed Princess Margherita Gonzaga, his third marriage. A happy event, to be sure, which perhaps will finally give the forty-eight-year-old duke the heir he so desires and avert the risk that Ferrara, a papal fief, will be transferred to its legitimate owner, but, at the same time, it would enormously complicate the preparation of the budgets for the following year.

Benedetto is not worried about the calculation of the winter and summer *ordinari di grassa*³ – he knows that four tons of tallow candles are purchased annually – but by the estimate of the large quantity of beeswax, divided into various categories: ‘unprocessed local wax, local wax made into wind torches, candles large and small, white wax made into *doppieri*, *cavicchi*, squat candles, tapers and small wind torches’, not to mention the ‘squat red candles for Mass and for the tables of the duke, the magnificent *scalchi* – the court officials responsible for banquets – and their pages, the various yellow and green types’ and the considerable amount of sealing wax used by the offices of the Ducal Chamber and the Chancellery.

As every high-ranking *spenditore* knows, weddings and funerals redouble the needs of the courts of the Great Princes. However, prices rose astronomically after the terrible plague epidemic of 1575–77, which decimated the Italian population and increased the income of wax producers tenfold, for departure from this dark vale of tears is always illumined by hundreds of candles, torches and the paired candles known as *doppieri*.

Moreover, the ducal finances are in desperate straits, as they never recovered from the earthquakes that, starting in 1570, gutted Ferrara and made each building shaky and unsafe, forcing the dapper Este courtiers to camp out like gypsies in the gardens of La Castellina, in pavilions with a Bedouin air.

Prudence is a must even for an apothecary as expert as the last of the Da Signa family, because beeswax is required not only for the tapers, wind torches and *doppieri* that light the dining rooms, the chambers and the chapel of the duke and duchess, but is also used in large quantities by nearly all the offices of the court.

2. Bursar.

3. The *ordinari di grassa* established the amounts of commodities each courtier was eligible to receive: salt, salted meat, oil, candles, and large and small brooms.

At the court apothecary shop, it is the key ingredient for countless preparations: medicines, creams, pastilles, ointments, cosmetics and remedies for humans and animals alike. At the *Guardaroba*, it is used to polish furniture and floors, shine shoes and boots, and prepare colours and dye fabrics; at the *Guardarobetta*, to make toy soldiers and animals and dolls so young princes and princesses can play; at the *Credenza*, to make the gold services and silverware gleam and to model the artificial fruits and flowers that adorn the ducal tables in winter; at the *Cancelleria*, to seal correspondence; at the *Armeria*, to lubricate weapons and armour; at the *Spenderia*, to waterproof cordage, vats and baskets; in the cellars, to seal barrels and bottles, jars and flasks; in the *Stalle*, to soften saddles and harnesses; at the *Magistranze*, *Zecca* and *Fonderia*, to model prototypes and moulds for minting coins and casting cannons, statues and bells, without overlooking its use in the field of construction and engineering, entrusted to the officials and masters of the offices of the *Munizioni e Fabbriche*, of the *Marinarezza*, and so on.

There are thus many good reasons to carefully examine the last contract stipulated with the Venetian wholesalers, who, from time immemorial, have supplied the Este court. Since they are seven- or nine-year agreements, it is best to check the terms of supply and send a letter to verify that they have not changed as a result of the exceptional events of the past few months.

The ducal official thus opens his cabinet and gazes at a bronze figurine depicting Meleager thrusting his spear into the heart of the Calydonian boar. He fingers the murderous shaft and pulls it towards him, as if it were the trigger of a gun. It hits home: there is an audible click and a spring is released, opening one side of the back panel. Familiar smells waft from the set of secret drawers holding ink, paper, notebooks, stamps and variously titled registers: *memoriale della speziaria*, *squarzo dei medicinali del signor Principe*, *speziaria dell'anno*, *Confetture*, *Farmacia ducale*, *Libro entrata de la speziaria* and many more.

Benedetto slowly peruses the titles penned on the vellum spines, being careful not to prick his fingers on the rusty buckles of the leather straps binding the largest volumes. He is looking for the register of contracts, and asks his father to bring over a light.

Alberto comes to his son's aid, handing him a large candle of green wax, the same kind that burns on the reading tables of conventual libraries and illuminates the transfigured faces of heretics as they whirl about in their satanic sabbaths.

The glowing wick brightens the depths of the cabinet, behind the last row of burnished columns. Benedetto spies the register and pulls it out. He takes a few steps back, places it on a writing table and carefully loosens the softly knotted string around it. Lastly, he pulls out the small attached index and runs his finger down the list of rubricated surnames of the ducal purveyors that, for centuries, have served the House of His Most Serene Highness: always Venetians like Piero Gottardi, the highly esteemed supplier of white wax, the queen of waxes made using secret processes handed down from father to son, generation after generation.

Benedetto must write to him immediately, because spring is around the corner and production will soon be in full swing.

APOLOGUE TWO

10 April 1578

The eighth hour

Along the Rio di Canaregio in Venice

In front of the garden of Piero Gottardi's wax shop

The sun shines warmly in the early afternoon of a fine spring day.

Piero Gottardi walks quickly, whistling cheerfully as he fingers the coarse paper of the letter he has just received from Ferrara bearing the signature of Benedetto da Signa, the apothecary of the Duke of Ferrara and one of his best customers.

Piero has enjoyed a large repast and drunk a great deal; the sun's rays caress him and, even in the shade of the tallest edifice, the air is sweet, like the taste of victory. His invention of filtering the *sporchezzo* of white and yellow wax bleached in Venice works beautifully, but he must protect this secret from foreign spies and his competitors' prying eyes, because, in the capital of La Serenissima alone, there are more than twenty wax producers with *orti* outside in which to lay out their wax.

Masegno after *masegno*, flagstone after flagstone, his legs carry him to the entrance to the *orto* of his wax shop, on the opposite side of the *fondamenta*. Both doors are open and, from a distance, they look like eyes staring fixedly at the water, their white-and-green irises standing out against the crimson enclosing wall and encircling the dark pupils: two workers busy unloading faggots of wood from a boat moored to a wooden post.

As soon as they notice their employer, they mumble something to the boatman, who, with brusque stroke of the oar, turns the *caorlina* around and glides up to Piero, ferrying him back to the shop in less than no time.

Mindful of his father's words – 'remember, little Piero, that only one thing gets bigger in someone else's hands' – Gottardi swiftly glances towards the end of his property and the entrance to the woodshed under the pergola by the well.

He checks that the apprentices have properly stacked the faggots of soft and hard wood, poplar logs and chestnut roots used to stoke the burners – insatiable devourers of embers – holding the earthenware pots in which the wax is boiled for days to bleach it.

Everything is in order there as well as in the storage area, filled with barrels, bales, crates, bags and heaps of virgin wax. The wax flakes look like jewels, gold nuggets and straw-coloured amber with the seductive scents of distant lands: Circassia, the Barbary Coast, the Morea, Walachia, Podolia, Cyrenaica, Moldavia, Hungary, Albania, Muscovy...

In a clumsy attempt to glean information about Gottardi's prodigious filtering method, the boatman asks him how white wax is produced. The inscrutable Gottardi decides to spin out the description until he wears the man out, dissembling to avoid revealing anything that might jeopardize his business. 'The best waxes come from the Balkans, the Caucasus, all the Russias, North Africa and other kingdoms of the Great Turk. At the end of summer, when the honey has been collected and the sea is not as treacherous, the *caïques* set sail for Constantinople or Greece, where the wax is deposited in the warehouses of Pera, Nauplion or

Modon, heaped up like intoxicating debris. From there, it is shipped to Ragusa, Ancona and Venice, broken up and placed in barrels, stuffed into sacks or stacked in crates as blocks, in order to take up the least possible amount of space.

'To assess its quality, one must carefully examine the colour. The finest is yellow: the lighter it is, the better, and the darker, the worse. The scent is also important. If it smells bad, rotten or mouldy, one must be wary, because this means that perhaps pieces of tallow were added to make it go further, for everyone knows about the tricks of peasants and the cunning of the merchants of the Levant.

'When it reaches Venice, the virgin wax is cleaned and finely crushed, either with iron grates or mortars with a hand crank, in order to remove the largest impurities, such as dead worker bees, bits of propolis, scraps from the frames, splinters of wood, mouse hairs, bits of burlap from the sacks, flies that drowned in the honey, and much more.

'Once it has been crushed and cleaned, it is placed in earthenware pots – wider than they are deep, like the kind our wives use to cook octopus and pork ribs – and covered with seawater, adding two handfuls of alum and saltpetre.

'Then the pots are put on cooking surfaces heated with embers taken by the shovelful from a small furnace and raked over to distribute them evenly.

'When it starts to boil, it must be left to simmer for a while, about the time it would take to cook a piece of tender beef or an old hen. At this point, the pots must be removed from the flame and left to cool on a marble surface.

'After this first cooking phase, the liquid wax solidifies as the temperature drops, bringing to the top any impurities, which must be removed by rasping the surface with files of different sizes.

'Once this has been done, it is boiled again with fresh seawater, alum and saltpetre several times, until no traces of impurities remain. When it is finally as white as God's own beard, it is boiled one last time. At this point, my masters step in – this is no job for an apprentice or worker, of course – with earthenware lids that have a small handle on top matched on the inside by a short cylindrical protuberance.

'The lids are kept in cold water and when the molten wax bubbles up as it boils, the masters plunge them into it so it sticks to form a thin disc with a hole in the middle, and it looks like nacre or *cotizzi* of crystal.

'This procedure must be repeated until all the wax is gone. At this point, the *sporchezzo* from the boiling process is tossed into the canal [Piero smiles inwardly, thinking, 'Ah! But I'm the only one who knows how to exploit it!'], while the discs, which some call *girelle*, are left outdoors for a few days to whiten.

'They are then strung like pearls on stout cords used for clotheslines and left out in the sun – being sure to wet them every so often – as well as the moonlight, which cools them with dew, until the end of May, because after that the heat melts them.'

When Piero comes to the end of his short sermon, he realizes that his less-than-vigilant listener has stopped watching his lips, for he is rapt by the magical vision before him.

Thousands of discs, as white as clouds scuttling across the spring sky, are caressed by the Borin wind that gently shakes the cords suspended over the emerald grass, and they seem to

blend in with the snowy peaks of Mount Grappa and Mount Pasubio reflected in the lagoon.

Stroking his beard, Piero invites the brigade to enjoy a glass of water inside the wax shop. The men walk several dozen metres past the expanse of discs to reach a pergola identical to the one with the woodshed, the well and the deposit of virgin wax.

Sheltered from sun and rain are immense wooden boxes filled with ivory discs, wheelbarrows, baskets of different sizes, wooden receptacles, hanks of cord, trestles and planks, stacks of cartons and all kinds of tools, set alongside crates, parcels and barrels of processed wax ready to be shipped to every corner of the globe.

The pergola, set solidly on stout wooden beams, rises four metres above the roof of a rather tall one-storey building whose façade of red bricks, veined with yellow and mineralized by the efflorescence of saltpetre, is punctuated by a series of small windows close to the roof.

The foursome enters through an old wooden door and is suddenly inside a huge room resembling the kitchen of a large inn, with dozens of burbling pots overseen by men sweating from every pore, as if they had tertian fever. The group crosses the room silently and enters another room, brighter but not as hot, where other workers are filling moulds used to make candles of every colour, length, shape and diameter.

TASTE⁴

1. Prologue

Beeswax is a mixture of more than 300 substances secreted by the wax glands of worker bees; after glutting themselves on honey – the ratio of honey consumed to wax produced is 10 to 1 – these creatures secrete it in the form of tiny flakes.

Each flake weighs an average of 0.6 to 0.8 milligrams.

To make a kilogram of wax, it takes approximately 1,250,000 flakes, corresponding to the secretions of around 150,000 bees.

To secrete a kilogram of wax, the bees must consume approximately 10 kilograms of honey.

To produce 10 kilograms of honey, they must gather about 30 kilograms of nectar.

To gather 30 kilograms of nectar, they must complete about 600,000 flights.

To form a full load on each flight, they must suck the nectar of approximately 100 flowers, covering about 2.5 kilometres at an average speed of 24 kilometres per hour.

4. I am grateful to Luca Molà for the reports from the archives and valuable information on the wax-production processes used in Venice, and to Marino Quaranta for his generous consultation on bees and for carefully checking the calculations.

In other words, bees must suck approximately 60 million flowers and travel about 1.5 million kilometres – equivalent to circling the globe 37.5 times – to produce a single kilogram of beeswax.

Whenever we light an ordinary smooth candle that is 20 centimetres long and weighs 50 grams, the work of 7,500 bees goes up in smoke: the product of 30,000 flights, 75,000 kilometres of travel and the nectar of 3,000,000 flowers.

If we consider that the use of beeswax has been documented since the fifth millennium BC⁵ and that, since then, the physiological conditions of its production have changed enormously, we can easily grasp why, over the course of history, so much praise has been lavished on this golden substance that becomes malleable at 32 °C and melts at 60.

It is as precious as it is ambiguous in its duality, for wax – poised between a solid and liquid state – fluctuates between presence and absence, strength and weakness, will and obedience, virtue and vice, memory and oblivion, death and resurrection.

2. *'The light is God, the wax is man, Christ is both'*⁶

When we think of wax, we often associate it with the image of one or more candles lit in the darkness of night or the gloom of a church.⁷

Nevertheless, since the remotest of times the use of beeswax for domestic illumination was limited to the wealthiest classes and the most solemn occasions, due to its high cost. In most cases, lighting needs were satisfied with cheaper alternatives, from lamps burning olive, linseed or walnut oil to substitutes made from horse, sheep and bovine tallow.

In reality, its utilization for lighting is based on its liturgical use. The link between bees, wax and ritual and celebratory functions, be they secular or religious, goes back to the dawn of time, but it is undeniable that Catholic theology offered compelling arguments on the origins and aetiology of this relationship, since 'wax [...] is now (1557) very necessary for many things, chiefly adornment and sacrifice in the service of God and his Saints in his churches and on his altars'.⁸

5. See *L'abeille, l'homme, le miel et la cire*, exh. cat. (Paris, Musée national des arts et traditions populaires, 23 October 1981–19 April 1982), ed. G. Collomb (Paris, 1981); M. Schönfeld and J. Gisbier, *Cerea et Cereus. Von den Wachsen, deren Gebrauch und Anwendung in der Geschichte und ihrer Rolle bei der Entwicklung von Handwerk, Kunst und Technik* (Leipzig, 1986); M. Beretta, 'Usi scientifici della cera nell'antichità', in *Quaderni Storici*, 2009, xlv, 1 (monographic issue, *Oggetti di scienza*, ed. F. Favino), pp. 15–34.

6. C. Musso, *Il quarto libro delle prediche del reverendissimo mons. Cornelio Musso, vescovo di Bitonto. Con due tavole, l'una de' capitoli, l'altra delle cose più notabili. Di nuovo poste in luce; e messovi le lor materie per alfabeto, con le postille nel margine; l'autorità della Sacra Scrittura, e con diligenza corrette, per beneficio de gli studiosi* (Venice: Giovanni e Gio). Paolo Gioliti de Ferrari, 1579, p. 138: 'Il lume è Iddio, la cera è l'huomo, Christo è l'uno & l'altro'.

7. C. Vincent, *Fiat lux. Lumière et luminaires dans la vie religieuse du XIII^e au début du XVI^e siècle* (Paris, 2004).

8. G. A. Herrera, *Libro di agricultura utilissimo, tratto da diversi autori. Novamente venuto a luce, dalla spagnuola nell'italiana lingua trasportato* (Venice: Michele Tramezzino, 1557), p. 228v: 'la cera [...] hora (1557) è molto necessaria per molte cose, & principalmente per ornamento, & sacrificij in servizio di Dio, & di suoi Santi nelle sue chiese, & altari.'

After all, the Fathers of the Church considered the bee an exemplary animal, an airborne monument to catechesis, a sweet concentrate of Christian virtue, for, as the Reverend Paolo Morigia observed in 1569, ‘the bee is small [...] and, from it, we learn the virtue of humility; it is very attentive and loyal [...] and we learn to eschew sloth and be faithful to the works imposed upon us; it holds honey in its mouth [...] giving us the example of ever keeping sweet words in ours; in its flock, it resembles the rest [...] and from this conformity we learn to live a charitable life and not to rise above others; it obeys its master [...] and this is an effective lesson that we should not always be desirous of things and that, instead, we should remain humbly silent and obedient; it bears a stinger [...] and this teaches us to be ever fearful of God; while remaining chaste, it generates [...] and so, too, by living chastely we must spiritually generate and bear children; it feeds on flowers [...] and we too must feed and nourish our souls with the flowers of the holy lessons of the Sacred Scriptures, saintly prayer, sweet meditation; it builds its house with six sides [...] and we are taught to build our house in Heaven by wisely performing the six works of Mercy; it flies swiftly [...] so let us too be advised always to hasten to Heaven with the flight of holy works.’⁹

These virtues are transitively extended to wax, which, if unrefined and properly worked, is as white as divine light, as pure as virginity, as malleable as clay modelled by the hands of the Creator, and as sweet as love, fragrant with beatitude, inflamed by the fire of the Holy Spirit and humble in its fragility.

It is the ideal material to lend physical form, fleeting as it might be, to the needs of devotional languages and the circumstances of liturgical practices – good or evil, divine or diabolical – and regardless of whether it made into *ex votos* or funeral masks, commemorative busts or baptismal candles, gigantic *dopiferi* or the paschal *Agnus Dei*. And then there are the figurines some women used to evoke ‘lovers who have abandoned them, and since they are unable to win them back, they try to kill them with iron or poison’.¹⁰ These figures consti-

9. P. Morigia, *La Seconda parte dello stato religioso, et via spirituale del r.p.f. Paolo Moriggia Milanese, dell'ordine de' Gesuati di san Girolamo, divisa in due libri: nella quale si contengono molte fruttuose ammonizioni, & bellissimi ammaestramenti, non solo alli Religiosi, ma etiandio a ciaschedun fedel Cristiano, non meno utili che necessarij* (Venice: Pietro da Fino, 1569), pp. 161–62: ‘l’ape è piccola [...] e da quella impariamo la virtù dell’humiltà; è molto attenta e fedele [...] e impariamo a fuggire la pigritia, & essere fedeli nelle opere imposteci; tiene il miele nella bocca sua [...] per questo habbiamo esempio di haver sempre nella bocca nostra parole dolci; nel suo gregge è conforme alle altre [...] e da questa sua conformità impariamo la vita caritevole e non alzarsi sopra gli altri; è soggetta alla sua maestra [...] da qui habbiamo efficace ammaestramento di non esser di testa, anzi di starsi humilmente queto, & soggetto sotto l’ubbedientia; porta il pungente rostro [...] di qui impariamo di non mai scordarsi del timor dei Dio; rimanendosi casta genera [...] così parimente noi vivendo castamente dobbiamo generare e partorire spiritualmente i figliuoli; si pasce di fiori [...] e noi dobbiamo pascere e nodrire l’anima nostra con i fiori delle sante lettioni delle sacre scritture, della santa oratione, della dolce meditationi; fa la sua casa con sei facciate [...] siamo ammaestrati di fabricare la nostra casa in Cielo con operare accortamente le sei opere della Misericordia; è veloce nel suo volare [...] siamo ammoniti di sempre correre al Cielo col volo delle sante opere.’

10. O. Landi, *Commentario delle piu notabili, et mostruose cose d’Italia, et altri luoghi, di lingua aramea in italiana tradotto, nel qual s’impara, et prendesi istremo piacere. Vi si è poi aggiunto un breve catalogo delli inventori delle cose, che si mangiano, et si beveno, novamente ritrovato, et da m. Anonymo di utopia composto, s.e., s.s., 1548, p. 29: ‘gli amanti disviati dal loro amore et non potendoli rivocare li ammazzano o con ferro o con veleno.’*

tuted the male counterpart of the lewd *babes* that, immortalized in various *modi*,¹¹ aroused countless young and no-so-young gentlemen.

Getting back to more virtuous uses, however, the devotional success of wax artefacts can readily be grasped. As Vincenzo Bonardo wrote, for St Gregory wax meant ‘the humanity of Christ, as pure and unblemished as that which was always without sin; and the honey in the wax represents the Divinity of the Word, in our humanity that he took assumed’.¹² Cornelio Mussi, Bishop of Bitonto, was even clearer on this when he asserted: ‘The light is God, the wax is man, Christ is both; he is God and man; he is light and wax; he is light that illuminates and wax that suffers; he is light that remains, never going out; he is wax that melts and ends in death, like us mortals.’¹³

These were not empty words. The list of objects used in liturgical services and places of worship is enormous, from torches *da soma* to candles *da figliocci*, candles for the poor, *cassetta* types, *quadroni* for vigils and candles for the dead: each festivity, rite, class and wallet required the proper waxen paraphernalia that the devout could purchase from haberdashers, apothecaries¹⁴ and even religious institutions.¹⁵

3. ‘Wax is the artefact of the Apothecary and Alchemist’¹⁶

Given its manifold virtues, it is unsurprising that wax was used in devotional milieus as well as those akin to it, starting with the medical, paramedical and pharmacological fields. Wax had infinite applications in medicine and countless therapeutic virtues, regardless of whether it was used pure or blended with other miraculous substances. Since it is soluble, it was ubiquitous in pharmacopoeia between the fifteenth and seventeenth centuries, and was

11. The reference is to Giulio Romano’s famous series of pornographic drawings known as *I Modi*, also called *The Sixteen Pleasures*, reproduced in Marcantonio Raimondi’s engravings, which began to circulate in Italy as of 1524. On this subject, see *I Modi. The Sixteen Pleasures. An Erotic Album of the Italian Renaissance*, ed. L. Lynne (Evanston, 1988) and B. Talvacchia, *Taking Positions. On the Erotic in Renaissance Culture* (Princeton, 1999).

12. V. Bonardo, *Discorso intorno all’origine, antichità, et virtù degli Agnus dei di cera benedetti, Di f. Vincentio Bonardo Romano, dell’ordine dei predicatori, maestro in Teologia* (Rome: Vincentio Accolti in Borgo, 1586), p. 23: ‘la cera significa l’umanità di Cristo che è tutta candida & pura come quella che sempre fu senza peccato. Et il miele che sta dentro la cera rappresenta la Divinità del Verbo, nell’umanità nostra, da lui assunta.’

13. Musso, *Il quarto libro*, op. cit., p. 138: ‘Il lume è Iddio, la cera è l’huomo, Christo è l’uno & l’altro; è Iddio & uomo; è lume & cera; è lume ad illuminare, è cera a patire; è lume a rimaner senza mai estinguersi; è cera a disfarsi & risolversi nella morte come noi altri mortali’.

14. On this subject, see J. Shaw and Welch, *Making and Marketing Medicine in Renaissance Florence* (Amsterdam, 2011), especially pp. 163–77.

15. Regarding Loreto, see M. Moroni’s excellent essay ‘Alcune note sulla produzione e sul commercio della cera in area adriatica tra basso Medioevo ed età moderna’ in *Proposte e ricerche*, 2009, 62: 7–23, and especially pp. 15–16.

16. T. Garzoni, *La piazza universale di tutte le professioni del mondo, nuovamente ristampata, & posta in luce da Thomaso Garzoni da Bagnacavallo. Con l’aggiunta d’alcune bellissime annotationi a discorso per discorso* (Venice: Gio. Battista Somasco, 1588), p. 509: ‘È la cera artificio da Speciale e da Alchimista [...] come dall’Api, se ne cavi la cera, onde poi tranno il nome i Ceraiuoli, che son quelli che cavano la cera, artificio da Speciale e da Alchimista, fra le qual cera è noto la levantina esser la migliore [...] et da essa procedono quelle belle cande, e torzi, che si comprano in Venetia’.

employed in a myriad of syrups and juleps, electuaries and pills, oils and ointments, plasters and poultices, laxatives and eyewashes.

If we peruse the pages of sixteenth-century treatises, we find it in Gerolamo Ruscelli's 'water to heal all kinds of wounds in only a few hours [...] with the most blessed power',¹⁷ Gabriele Fallopio's prodigious oil to 'heal all sorts of contusions even before bruising appears'¹⁸ and his 'miraculous pills for various maladies and epilepsy',¹⁹ which resembled the pastilles 'the size of a millet grain' devised by Pietro Andrea Mattioli to 'keep milk from drying up in the breasts of wet nurses'.²⁰

Likewise, according to Leonardo Fioravanti, wax was indispensable for medicating 'condylomas of the penis' and was blended with 'minium, ordinary honey, cow's butter, white wine and the blood of small young doves',²¹ while Pietro Bairo, inventor of the eponymous Dom Bairo l'Uvamaro, considered it the basic ingredient for the 'wormwood cataplasm' that could heal spleen ailments²² and that rivalled Konrad Gesner's 'Don't touch me' syrup, in which it was skilfully blended with 'mole powder, sulphur, tetterwort juice and aloe water' to treat 'all gouts and infirmities'.²³

Nevertheless, the duality of wax was also confirmed by the fact that, with the exact opposite effect of Gesner's 'Don't touch me' remedy, it could attract 'the husband or wife who hates companionship and flees': all one had to do was rub Giovanni Marinelli's ointments

17. G. Ruscelli, *De' secreti del reverendo don Alessio Piemontese divisi in quattro parti. Nuovamente ristampati e da molti errori espurgati. Con un'ottima regola per conservazione della vita umana, secondo molti eccellenti uomini, per tutto l'Anno. Ed una tavola copiosissima per ritrovare i rimedi con ogni facilità* (Venice: Stefano Orlandini, 1749 [first edition, 1557]), pp. 27–28: 'l'acqua per sanare ogni sorte di ferita in pochissime ore [...] di santissima virtù'.

18. G. Falloppio, *Secreti diversi et miracolosi, ne'quali si mostra la via facile di risanar tutte le infirmità del corpo umano; et etiandio s'insegna il modo di fare di molte altre cose, che a ciascuno sono veramente necessarie. Raccolti dall'ecc. Gabriele Falloppia, et da varie persone sperimentati* (Venice: Marco di Maria, 1563), pp. 20r-21v: 'sanare tutte le sorti di ammaccature, quando non hanno anco fatto marza'; 'it was made with 'new yellow and fragrant wax' ('cera nuova zalla, & odorifera') that was liquefied 'with wine, the ashes of olive pits and three ounces of liquid storax' ('con vino, cenere di ossi di olive e tre onze di storace liquido').

19. Ibid., ch. 446, pp. 214 r-v: 'pillole miracolose a diverse infirmità & per il mal caduco [...] & per epilentia'.

20. P. A. Mattioli, *I discorsi di M. Pietro And. Matthioli sanese, medico del sereniss. principe Ferdinando archiduca d'Austria & c. ne i sei libri di Pedacio Dioscoride Anazarbeo Della materia medicinale. I quai discorsi in diversi luoghi dall'auttore medesimo sono stati accresciuti di varie cose, con molte figure di piante, & d'animali nuovamente aggiunte* (Venice: Vincenzo Valgrisi, 1563), p. 255: 'proibiscono che non s'apprenda alle balie il latte nelle poppe'.

21. L. Fioravanti, *Secreti medicinali di m. Leonardo Fioravanti medico bolognese, divisi in tre libri. Nel primo insegna a conoscere varij, et diversi segni naturali, con molti secreti mirabili nella medicina, et chirurgia. Nel secondo dimostra il modo de far varij, et diversi medicamenti. Nel terzo si tratta dell'alchimia dell'huomo, et dell'alchimia minerale, materia molto utilissima a ciascheduno* (Venice: Lodovico Avanzo, 1561), pp. 39v–40r: 'minio, miele comune, burro di vacca, vino bianco, et sangue di penne di colombini giovani'.

22. P. Bairo, *Secreti medicinali di M. Pietro Bairo da Turino, già medico di Carlo 2. duca di Savoia. Nei quali si contengono i rimedij che si possono usar in tutte l'infirmità che vengono all'huomo, cominciando da capelli fino alla pianta de piedi. Con nuova giunta posta nel fine. Et questo libro per l'utilità sua si chiama Vieni Meco* (Venice: Nicolò Tebaldini, 1602), p. 151.

23. K. Gesner, *Tesaurus di Eunomo Filatro de rimedi secreti. Libro fisico et medicinale, & in parte chimico & economico, cerca'l preparare i rimedi, & sapori diuersi, sommamente necessario a tutti i medici, & speciali. Tradotto di latino in volgar, per M. Pietro Lauro* (Venice: Gio. Battista Bonfadio, 1588), p. 88v.

on 'the testicles, penis, kidneys and vulva [and it would] work marvellously [...] and delight the woman, who will then love you more than she loves herself'.²⁴

Yet this bewitching balsam could not compete with the supernal powers of Floriano Canali's liniment, which could exorcise those on whom a 'spell or evil eye was cast'. Mentioned in the *Flagellum daemonum* and *Fustis daemonum* by the Reverend Father Fra Girolamo Menghi, these concoctions were prepared with 'choice light turpentine, new yellow and fatty wax, dragon's blood, sifted grape-vine ash and crushed glass'.²⁵ One might say that wax has the power to banish wax, given Tommaso Garzoni's observation that, for the satanic rites, those who had 'sworn to serve the Devil' would carry 'a candle of green wax that created a flickering dark flame, and they performed dances and sacrifices to the Devil'.²⁶

Aside from such properties, however, we should not belittle its ability to heal illnesses and afflictions that were only seemingly less serious – child's play, as it were – for, as we have learned from the likes of scholars from Burckhardt to Burke, during the Renaissance sociability reached such exceptional levels of sophistication that, in the name of politeness and nonchalance, even the slightest physical defect was revolting. Indeed, as Baldassar Castiglione recalled in Book Four of *The Courtier*: 'Hence, everyone strives to hide his natural defects, both of mind and body [...] for because [one] seems by nature's own testimony to have that defect as if it were a seal and token of his wickedness'.²⁷

Thus, it was not about satisfying fatuous vanities but a matter of laying down the milestones of the civilizing process later posited by Elias. These remedies were meant to comfort the souls of men, women and children who were otherwise persecuted by an adverse destiny: from cosmetics that took ten years off the most wrinkled skin to compounds to whiten teeth and fight halitosis, from Giovanni da Vigo's 'prodigious cure for pimples'²⁸ to Isabella Cor-

24. G. Marinelli, *Le medicine appartenenti alle infermità delle donne. Scritte per M. Giouanni Marinello, nuouamente da lui ampliate, & ricorrete: divise in tre libri* (Venice: Giovanni Valgriso al segno della Vittoria, 1574), pp. 34 r-v: 'i testicoli, la verga, le reni, et il pettinicchio, che opererà meravigliosamente [...] et diletta alla donna, et per conseguente vi ama più che se medesima'.

25. F. Canali, *De' secreti universali raccolti, et sperimentati da Florian Canale bresciano trattati noue. Ne' quali si hanno rimedii per tutte l'infirmità de corpi humani. Come anco de' cavalli, bovi, & cani. Con molti secreti appartenenti all'arte chemica, agricoltura, & caccie, come nell'indice alfabetico* (Venice: Pietro Bertano, 1613), p. 179 r: 'trementina chiara e eletta, cera nuova gialla e grassa, sangue di drago, cenere di vite setacciata e vetro pisto'.

26. T. Garzoni, *Il serraglio degli stupori del Mondo di Tomaso Garzoni da Bagnocavallo diviso in Diece Appartamenti, secondo i vari, & ammirabili Oggetti* (Venice: Ambrosio et Bartolomeo Dei fratelli, 1613), p. 761: 'una candela di cera verde, che faceva la fiamma sbava, et oscura et faceano le danze, e sacrificij al Diavolo'.

27. B. Castiglione, *Il libro del Cortegiano del Conte Baldessar Castiglione, nuouamente con diligenza revisto per M. Lodovico Dolce* (Venice: per Gabriel Giolito Ferrari, 1556), p. 340: 'ognuno si sforza di nascondere i difetti naturali, così dell'animo come ancora del corpo [...] perché pare che per testimonio della medesima natura l'uomo abbia quel difetto, quasi per un sigillo, & segno della sua malizia' (trans. Leonard Eckstein Opdycke, 1901).

28. Anyone interested in a 'hot' topic such as the social history of acne (and the psychological repercussions of its post-adolescent trauma) can find valuable information in the architexte by Giovanni da Vigo, *La pratica universale in chirugia di m. Giovanni di Vico Genovese. Di nuouo ristampata, & ricorretta. Appresso vi è un bellissimo Compendio, che tratta dell'istessa materia, composto per m. Mariano Santo Barolitano. Con due trattati di m. Giovanni Andrea della Croce, l'uno in materia delle ferite, l'altro del cavar l'armi, e le saette fuori dalla carne. Con alcuni instrumenti in disegno* (Venice: Fabio, & Agostino Zoppini fratelli, 1581), and

tese's wax for 'women's hair removal'²⁹ and its counterpart, Gerolamo Calestani's 'extraordinary hair ointment' that alleviated the angst of those suffering from baldness. This blend of 'new wax, woodbine, betony, sage, birthwort, turpentine, pine resin, ordinary and fir oil, gum and excellent wine' was touted for its ability to 'draw hair from the interior to the exterior, and strengthen, cleanse, root and weld them'.³⁰

Worth trying.

4. *A protean material*

The plasticity of wax, physically changeable yet constant, was also exalted in imitative processes that underscored its protean nature, for it could alchemically take on the semblance of more precious materials. It was a phase of Italian history in which, according to one writer, 'furnishings have reached the point of such excessive luxury that those used today [1584] in rural villages are worth far more than those used by our forebears, even the noblest, and by well-to-do citizens not all that long ago in capital cities [...] and new inventions and styles are sought every day'.³¹

Product imitation and social emulation went hand in hand, encouraging the circulation of goods and lifestyles that had been the privilege of the elite. Starting in the late fifteenth century, there was a proliferation of productions – reproductions might be a better term – catering to the demand for imitations, legal or illegal, that could satisfy emulative aspirations with copies, replicas, pastiches and fakes.³² In some cases, they were pure frauds; in others, innocent models; and yet others, examples of bravura capable of hoodwinking even the most sophisticated connoisseur.

particularly 'Della cura del foruncolo', ch. ii, pp. 416 ff.

29. I. Cortese, *I segreti della signora Isabella Cortese. Ne' quali si contengono cose minerali, medicinali, arteficiose, & alchimiche. Et molte de l'arte profumatoria, appartenenti a ogni gran signora. Con altri bellissimoi segreti aggiunti* (Venice: Giovanni Bariletto, 1565), pp. 161–62: *Il modo della ceretta, che quando la vorrai operare scaldala, metti sopra i peli e tiragli via» Cap. 123; the depilatory wax had to be prepared strictly with beeswax, the fresh marrow of a deer haunch, Chios turpentine, liquid fir resin and lentisk oil.*

30. G. Calestani, *Osservationi di Girolamo Calestani parmigiano nel comporre gli antidoti, et medicamenti, che piu si costumano in Italia all'uso della medicina, secondo il parere de' Medici antichi, e moderni esaminate. Con l'ordine di comporre et fare diversi conditi, et col modi di conservarli* (Venice: Francesco Senese, 1562), p. 399: *'cera nuova, matrisilva, betonica, salvia, aristolochia, trementina, ragia di pino, olio comune e abietino, gomma e vino ottimo [...] [capace di attirare] dalla parte interiore alla esteriore e conforta, netta, incarna e salda'.*

31. S. Antoniano, *Tre libri dell'educatione christiana dei figliuoli, scritti da M. Siluio Antoniano, ad istanza di monsig. illustriss. cardinale di S. Prassede, arcivescouo di Milano* (Verona: Sebastiano dalle Donne, & Girolamo Stringari, compagni, 1584), in the edition reprinted in 1821 in Milan by Giuseppe Pogliani, ii, p. 27: *'le suppellettili sono giunte a tanto eccessivo lusso, che quelle che oggidì [1584] si usano nelle ville, oltrepassano assai in valore quelle che i nostri maggiori, anche de' più nobili, e benestanti cittadini, adoperavano, non sono già molti anni, nelle città capitali [...] e si studj ogni giorno per ritrovare nuove invenzioni e foggie'.*

32. See M. Ferretti, 'Falsi e tradizione artistica', in *Storia dell'arte italiana*, vol. X, *Conservazione, falso, restauro*, ed. F. Zeri (Turin, 1981), pp. 118–98; and L. Puppi, 'Copie, falsi, pastiches. Riflessioni preliminari intorno al mercato dell'arte come economia del gusto', in *Tra committenza e collezionismo. Studi sul mercato dell'arte nell'Italia settentrionale durante l'età moderna*, ed. E. M. Dal Pozzolo and L. Tedoldi (Vicenza, 2003), pp. 23–34.

Regardless of their intent, these practices found an ideal accomplice in wax, ever ready to vanish without a trace, destroying the evidence of the crime or scam at the pressure of a fingertip, regardless of whether it involved medals, coins, gemstones, pearls, ambers, fruit and flowers, votive sculptures or crockery, lewd statues or innocent jokes.

The taciturn sanctity of devotional uses coexisted with the amusing effrontery of the most sinful and worldly uses, as we can gather from the practical joke played in Mantua on the hapless Curzio Picchena in May 1619, when the Medici's starving agent was forced to complain, 'I never thought or feared I would die of hunger until now, and the Lady Princess [Maria Gonzaga] continues to play a thousand pranks on me with fake food, which I find in every corner of my chamber to torment me, but on the feast of St John the Baptist [24 June] I won't be taken in by delicious early figs'.³³ We can compare this with the less modest prank orchestrated in Milan in January 1575, when 'Contessa Deidamia Vistarina had a party at her house, attended by all the most important ladies of this city [...], and, while everyone was dancing, those ladies were shown a male member made of wax so life-like it made them laugh immensely, and each one wondered what so funny'.³⁴

Producers thus plied their creativity in the constant quest for *artifitio* and *imitatio*, finding wax to be the ideal medium as it could acquire – and promptly lose – the guise of any substance (glass, porcelain, pearl, coral, lacquer, enamel, resin, prized marble, gemstones, earthenware, gesso) and was often fashioned using casts and moulds.³⁵

In some cases, such as those described by Andrea Daninos, they were masterpieces destined to last for centuries, whereas, in others, the pretence was overt and explicit, as wax was perfect to make any model, get an idea, examine a form and estimate a value. This occurred not only for the most important works, but also smaller undertakings. When Cosimo I de' Medici, the newly appointed Grand Duke of Tuscany, decided to buy a string of 200 pearls that had belonged to Don Giovanni Manrich, the first thing he asked his Madrid-based ambassador, Leonardo de' Nobili, to do was to send him 'a small white wax model of the same size and with the same hole from which to judge if Your Lordship has shown good judgement'.³⁶

33. In ASFI, Archivio Mediceo del Principato, no. 2950, letter of 3 May 1619 (kindly granted by The Medici Archive Project): *'Io non ho mai pensato et temuto di morirmi di fame se non questa volta, et la S.r Principessa [Maria Gonzaga] non cessa di farmi mille burle con vivandi finti che mi trovo ad ogni tratto in camera per bene tormentarmi, ma questo San Giovanni ve l'ho giurata a quei buoni fichi et marzolini'.*

34. In ASFI, Archivio Mediceo del Principato, no. 3254, letter of 26 January 1575 (kindly granted by The Medici Archive Project): *'la Contessa Deidamia Vistarina fece fare in casa sua una festa, dove andorno tutte le principali signore di questa città [...] et mentre si ballava fu mostrato a quelle signore un membro virile fornito di cera, che si conformava tanto al naturale ch'elle si missero in tanto ridere che ogniuno s'accorse c'havevano di novo'.*

35. See Moroni, op. cit., p. 15; and J. Von Schlosser, 'History of Portraiture in Wax', trans. J. M. Loughridge, in *Ephemeral Bodies: Wax Sculpture and the Human Figure*, ed. R. Panzanelli (Los Angeles, 2008), pp. 251, 267.

36. In ASFI, Archivio Mediceo del Principato, no. 4901, letter of 28 August 1570 (kindly granted by The Medici Archive Project): *'un modelletto di cera bianca della grandezza et buco dalla quale si potrà giudicare se V.S. harà havuto buon giuditio'.*

This practice, far more common than one might think and employed for a number of purposes I barely touched on in the first apologue (faithfully based on archival sources), contributed decisively to differentiating and enriching the production range of a variety of categories of household goods.

These objects were always ready to be used and reused, in a thrilling and infinite rebus of allusions – broken down and reassembled, dead and resurrected – oscillating between the illusory futility of the pranks described here and the magical utility of the gilding beloved by Benvenuto Cellini,³⁷ Giovanni Maria Bonardo's medicaments to heal plant grafts,³⁸ the sealants praised by Giovanni Rucellai,³⁹ and the wondrous adhesives prepared by Timoteo Rosello to glue wood, stone and earthenware vases.⁴⁰

5. Production: uses and abuses

The production process for Venetian white wax described in the second apologue is not the fruit of a lively literary imagination, but a faithful recapitulation of the numerous illustrations found in an array of coeval printed and archival sources. While it is true that, as Pietro Andrea Mattioli maintained, 'the best wax is one that is not very yellow, is not too fatty, and is pure and fragrant, smelling much like honey, those from Pontus and Crete being the best',⁴¹ it is equally true that, in Venice during the same period, the aforesaid Piero Gottardi,

37. B. Cellini *Due trattati uno intorno alle otto principali arti dell'oreficeria. L'altro in materia dell'arte della scultura; dove si veggono infiniti segreti nel lavorar le figure di marmo, & nel gettarle di bronzo. Composti da M. Benvenuto Cellini scultore fiorentino* (Florence: for Valente Panizzij, & Marco Peri, 1568), p. 41v: 'To make a colour for gilding that is quite deep and to make gilding wax, take five ounces of new wax, half an ounce of red chalk and the same amount of Roman vitriol, three pennyweights of Spanish copper, [...] half an ounce of verdigris and three pennyweights of borax' ('Per fare un colore per le dorature che sieno abbondantemente cariche, et per far cera per dorare, tolgasi cinqu'once di cera nuova, matita rossa mezz'uncia, altrettanto Vetriuolo Romano, tre danar di ferretto di Spagna, cioè il peso d'un Ducato, [...], Verderame mezz'uncia, et tre danari di borace').

38. G. M. Bonardo, *Le Ricchezze dell'agricoltura. Dell'illustre sig. Giovan Maria Bonardo fratreggiano, ... Nelle quali sotto brevità si danno molti novi ammaestramenti, per accrescere le rendite de' campi, e insieme bellissimi segreti, si in materia di piantar, & inestare alberi, e viti, come di vini, & aceti, e come si fanno le colombe ... e medesimamente alcuni ricordi per chi tiene fattori ... mandate in luce da Luigi Grotto cieco d'Hadria* (Venice: Fabio & Agostino Fratelli, 1586), pp. 15r ff.

39. 'E con la cera fusile, e tenace / In turar con grand'arte ad uno ad uno / I fori, e le fessure, d'onde il Sole / Aspirar possa vapor caldi, o 'l vento / il freddo Boreal, che l'onda indura'; in *Le Api di Messer Giovanni Rucellai gentiluomo fiorentino, le quali compose in Roma l'anno 1524, essendo quivi Castellano di Castel Sant'Angelo*, p. 249, cited in L. Alamanni, *La coltivazione di Luigi Alamanni e Le api di Giovanni Rucellai con annotazioni del dottor Giuseppe Bianchini da Prato sopra La coltivazione e di Roberto Titi sopra Le api* (Milan: dalla Società tipografica de' Classici Italiani, contrada di S. Margherita, 1804), new edition *La coltivazione del sig. Luigi Alamanni, & Le api del s. Giovanni Rucellai gentiluomini fiorentini. Con aggiunta delli Epigrammi del medesimo Alamanni. Et di alcune Brevi annotazioni sopra le api. Non più stampata* (Florence: for Filippo Giunti, 1590).

40. See T. Rosello, *Della summa de' secreti uniuersali in ogni materia. Parte prima. Di don Timotheo Rossello, si per huomini & donne, di alto ingegno, come ancora per medici, & ogni sorte di artefici industriosi, & a ogni persona virtuosa accomodate* (Venice: for Giovanni Bariletto, 1565), pp. 139–40.

41. Mattioli, op. cit., 'Della Cera', ch. lxxv, p. 255: 'la elettissima Cera è quella che mediocrementemente gialleggia, non troppo grassa, pura, & odorifera, con alquanto d'odore di mele e lodasi per la migliore la Pontica, & quella di Creta'.

the main character in the second apologue, invented a renowned procedure to extract wax from the 'sporchezza water from the white and yellow wax bleached in this city'.⁴²

In this regard, there is little to add to what I have already said in the two introductory apologues, except for recalling that there was also an impressive production of local wax thanks to Italy's sophisticated apiculture,⁴³ its geographical extent, which was favoured by the large number of large lay and ecclesiastical properties on which it was practiced intensively, and the great demand for wax items, fuelled by the incalculable number of churches, religious institutions and aristocratic residences that dotted the peninsula.

The demands of these bottomless pits could not even begin to be satisfied by the wax recycled by church institutions, which would regularly melt down or sell drippings and candle stubs, following rather specific regulations.⁴⁴ A look at the *Conclusioni de nuovi statuti sopra li Torchi, et altri lavori, et compositioni di cera*, approved in Florence on 24 July 1556,⁴⁵ suffices to illustrate the importance of regulating the use of wax that had been re-melted and revived.

In the Medici capital, this practice was permitted only for the production of 'candles for the poor, the lower classes and commoners, and in any other shape or form, not intending open-work or hammered types from ten pounds up in any weight that is legal, as it is customary to employ only used, good, clean and commercial-grade wax as a base [for the candle]'.⁴⁶

This was no trifling matter, as coeval production had remarkable economic, employment and fiscal impacts. Based on the figures Domenico Sella calculated for Venice,⁴⁷ on 5 March 1591 the city had 23 *orti per biancheggiar le cere*, but, by 14 November 1622, there were 30

42. In ASVE, Collegio, Risposte di dentro, filza 7: 43, 6 July 1581, Piero Gotardo advised: 'Con notabilissima spesa [...] ho fatto uno edificio di cavar con l'acqua del sporchezza della cera bianca et zalla che si bianchiza in questa città, et ridotto in tal perfettione che ove si gettava via per il più esso sporchezza, poi che con altri modi se ne cavava poco utile, vendendosi anco quello £. 15 in 16 il cento, che hora se ne cava cinquanta et sessanta per cento di cera, et vendesi ducati 14 il cento, con beneficio universale et delli datii [...], poi che quello si gettava via et hora si spaccia per di fuori. Et perché fu sempre instituto di VS di conceder a quelli che hanno con le loro spese et vigilie ritrovato alcuna nuova invention privilegio, che altri non godessero le sue fatiche et spese.' He likewise beseeched that, for a number of years he and his heirs be protected, so that no one in Venice and its territories be allowed to 'obtain wax from said sporchezza using the same procedure as mine without a license, at the penalty of losing their buildings and at the pleasure of Your Lordship' ('cavar cera de ditto sporchezza con simile edificio come è il mio [...] sia a Venezia sia nei suoi domini, senza licenza; pena perdita edifici e a piacere VS').

43. We must note just how early coeval treatises appeared: the first text by Rucellai, cited in note 39, was published in 1524, *La coltivazione di Luigi Alamanni al christianissimo re Francesco I* was printed in Florence by Bernardo di Giunti, on 28 February 1546, and Roberto Titi's *Annotazioni sopra le api* is dated 1590 (*La coltivazione del sig. Luigi Alamanni, & Le api del s. Giovanni Rucellai gentiluomini fiorentini. Con aggiunta delli Epigrammi del medesimo Alamanni. Et di alcune Brevi annotazioni sopra le api. Non più stampata* (Florence: for Filippo Giunti, 1590)).

44. See Shaw and Welch, op. cit., pp. 171–75.

45. In *Ricettario Fiorentino, ordini, provisioni, capitoli, statuti et additioni attenenti alli medici, spetiali et altri compresi sotto l'Arte, et Università de Medici, Spetiali, et Merciai di Firenze* (Florence: printed by Giunti, 1574), pp. 280–84.

46. Ibid., p. 280v: 'ceri da piveri, popoli et communi, et di qualunque altra maniera, o forma, non intendendo li traforati, ne i bocciati da libbre dieci in su in ogni peso sia lecito, come se li conviene mettere per disotto solamente per l'imposto cera usata, buona, netta et mercantile'.

47. D. Sella, *Commerci e industrie a Venezia nel secolo XVII* (Venice–Rome, 1961), p. 57.

registered wax shops, annually producing nearly 700 tons of refined wax made into torches and candles.

Considering the great commercial value of these productions, it is easy to understand why various financiers and entrepreneurs were so keen on introducing such works to other Italian states. On 25 May 1582, the Florentine nobleman Raimondo Mannelli proposed to the Grand Duke of Tuscany that he be allowed to install in Livorno – at his own expense – ‘a bleachery to turn yellow waxes white as they do in Venice and Ragusa, and of the same quality and beauty, and it will produce enough for the entire state’.⁴⁸ By 7 October 1583, Mannelli’s manufactory was fully operative,⁴⁹ demonstrating the sector’s strategic side and the interest garnered by these production projects.

Nevertheless, not all states managed to achieve the same goal⁵⁰ (although, in the early seventeenth century, the Gonzaga established a monopoly for the collection of yellow wax⁵¹). For example, nearly a century later the bookkeeping officials at the Farnese court in Parma registered the details of a contract signed on 1 February 1663 by *Messer* Giuseppe Francesco Filiodoni, the steward of His Most Serene Highness, and *Messer* Pomponio Frotti, grocer of Parma, in which the latter agreed to ‘supply the below-listed items for a whole year at the service of the Most Serene House, which must be of good and excellent quality, and, should they not, to provide them at his own expense, and the goods must be in part from Venice and in part from other countries, as he sees fit: wax of all qualities from Venice for 35 soldi paid by weight and in Parma currency’.⁵²

Competition was fierce and demand high, as a result of which the methods – bordering on fraud – devised to make up for the dearth of beeswax did not always suffice. Such

48. In ASFI, Auditore delle Riformagioni, filza 14: fasc. 1, 25 May 1582, *Supplica di Raimondo Mannelli per concessione per le cere bianche*: ‘una biancheria per ridurre le cere gialle in bianche a modo di Venetia e Raugia, et della medesima bontà e bellezza, e ne torrà a fare quella quantità che possa bastare per il consumo del suo stato’; the petition also requested the ‘*facultà che quando saranno bianche le dette cere gialle a Livorno, calculato il lor costo con tutte le spese e cali sino ridotte bianche, poterle vendere scudi quattro il cento delle libbre di più che costeranno a detta biancheria le cere gialle*’.

49. In ASFI, Auditore delle Riformagioni, filza 14: fasc. 59, 7 October 1583; Raimondo Mannelli and Lorenzo Campana petitioned the Grand Duke that they be granted ‘that the processed or unprocessed waxes that are bleached in Livorno and that then go to Florence or remain in Pisa or other states of Your Serene Majesty pay just once the same tax that would be paid if they came from Venice, and that the yellow wax that arrives by land and by sea may go without any other tax to the bastion [Livorno] to be bleached’ (‘*che le cere sode o lavorate che inbianchano a Livorno e che poi vanno a Firenze o che restino in Pisa o in altri stati di V.A.S. paghino una volta tanto l’istessa gabella che pagherebbono se le venissero di Venetia, e che le cere gialle che l’venghono per terre e per mare possino andare senza altra gabella in sul bastione a biancheggiarsi*’).

50. Moroni, op. cit., p. 11 n. 24, cites a Venetian source asserting that as of 1626 ‘orti to bleach wax’ had been set up in Milan, Mantua, Bologna, Ancona, the Kingdom of Naples and elsewhere.

51. See in ASMN, Archivio Gonzaga, Finanze, no. 3188, H. XXVII., *Privativa della raccolta delle cere gialle* 1617–71.

52. In ASPR, Mastri farnesiani, no. 576, *Libro de’ precii diversi, 1611–1710*, fol. 135: ‘*dar le qui sottoscritte robbe per un anno intiero per servizio della Serenissima Casa, quali devono esser di quella bontà et eccelle, e quando non le avesse di tal sorta si contenta che sieno pienamente a sue spese e non avendo aggiustato fra li suoi signor Filiodoni, e lui medesimo nelli sotto notati prezzi, e le robbe che darà devono esser parte di Venezia, e parte poi d’altri Paesi come più se le accomoderà: cera di Venezia d’ogni qualità a soldi 35 pagate a peso e monete di Parma.*’

inventions guaranteed miraculous increases by blending in other animal fats with which the more expert *spenditori* were familiar, as they were accustomed to purchasing large numbers of tallow candles in the best months.⁵³

Tallow burnt faster and was easier to light, but had the unpleasant smell of combusted fat and provided less light. Nevertheless, it cost much less, as a result of which numerous methods were developed to increase the weight of yellow wax – the most prized – and bleach it. First, mutton tallow was prepared by boiling it in water, cooling it and boiling it again in *acqua magistrale* (a preparation of ash, quicklime and alum), and then purifying it once more in water. Pine resin or Spanish tar was prepared separately, boiling or reducing it to a powder. Then the tallow was heated and the pine resin incorporated, and the mixture was put through a sieve. Virgin yellow wax was then melted and blended with the tallow–resin mixture, and heated honey was added. This *segreto* yielded a honeyed wax vaunting an excellent colour and outstanding duration, with a weight increase of twenty-five per cent and various scent and colour options,⁵⁴ thus satisfying the whims of many.

The fact is that few of the living could afford the heady companionship of beeswax, a luxury that, as a rule, accompanied men and women only on their final journey towards death.

53. See the example in Fusoritto da Narni, *Il maestro di Casa di Cesare Pandini. Ragionamento del Cavalier Reale Fusoritto da Narni, Trinciante con Cesare Pandini maestro di Casa, ne il Il Trinciante di M. Vincenzo Cervio, ampliato et ridotto a perfettione dal Cavalier Reale Fusoritto da Narni, già Trinciante dell’Ill.mo et Reverendissimo Signor Cardinale di Casa Farnese* (Venice: gli heredi di Giovanni Varisco, 1593), p. 635: ‘In January good oil is procured from Tivoli, Narni, Terni and Cesi [...] pulses can come from Sezze and Piperno, tallow candles from Spoleto, made of goat tallow; in April and May it is customary to procure wood from Ridetta, and in August straw [...]’ (‘*A genaro si fa provisione d’oglio buono a Tivoli, a Narni, a Terni, a Cesi [...] i legumi possono venire da Sezze e da Piperno, le candele di sego da Spoleto, che sono di sego di capra, l’aprile e il maggio si suol fare la provisione di legne a Ridetta, ad agosto de paglia [...]*’).

54. In ASMO, Archivio per Materie, Invenzioni, undated [16th century], *Segreto per aumentare e imbiancare la cera gialla*.

