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Displayed Wounds, Encrypted Messages: Hyper-Realism and Imagination in Medical Moulages

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ABSTRACT

Moulages are three-dimensional colorful replicas of body parts with particular expressions of ailments. Historically, by operating a transition between illness and disease, moulages were a powerful tool in the consolidation of the medical specialty of dermatovenereology. Yet, moulages are not solely an objectification of biological processes suitable for medical teaching; they also activate non-medical cognitions and emotions about life, death, behavior, and morality that are rooted in the history of the art of wax modeling. Furthermore, they provide a window into a dense history of urban health and illness, sex, law enforcement, assistance, gender, class, and politics.

KEYWORDS

Anatomy; art; body; medical knowledge; skin; syphilis

As hyper-realistic, three-dimensional replicas of physical expressions of pathologies, medical moulages are fascinating objects that juxtapose art, science, crafts, medical knowledge, and a number of other outcomes of human creativity and social experience. Given these qualities, moulages are also prime empirical subjects through which to explore the intersections, articulations, and synergies between visual and medical anthropologies.

In this article, I make use of experimental and established scholarly encounters between visual and medical studies in order to analyze one particular collection of dermatological moulages. The collection was stored for decades in a room at Desterro Hospital—an old syphilis and dermatology hospital in the city of Lisbon, Portugal. We know now that most of the pieces were produced there in the 1930s and 1940s without any apparent connection to the main centers of moulage production elsewhere in Europe. By inquiring about the particular conditions in which these pieces were made, who was involved in the process, what they were used for, and what sort of cognitions they enhanced, I aim to address wider questions about the roles, functions, and meanings of medical moulages.

My central argument is that while moulages play an explicit and active role in shaping, stabilizing, and transmitting biomedical categories of disease, thereby contributing to the formation of medical specialties, they also have the implicit power to trigger non-medical cognitions and emotions that range from awe to fear, a quality that makes them a suitable device for transmitting moral messages, supporting existential reflections, and illustrating public health campaigns.

The argument draws on a combination of analytical streams. First, the one provided by the works that explore the role of vision in shaping knowledge, clinical or otherwise; those who have contributed to this include Berkowitz (2011), Daston and Galison (2007), Foucault (1973), Jordanova (1989), Kemp and Wallace (2000), to list just a few. The literature on the visualizations of skin pathologies provides the second set of references: Schnalke's landmark *Diseases in Wax* (1995) in English, Tilles and Wallach's article "Moulages en Dermatologie" (2002) in French, and a

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number of influential works in German and other languages give a comprehensive panorama of European dermatological moulage collections, the artists and physicians behind them, the social and cultural contexts in which they were produced, and the historical background of the art of moulage. Also of note is Reinarz and Siena's *Medical History of Skin* (2013).

I will articulate the findings and reflections of these works with a central discussion in medical anthropology: the distinction between the biomedical category of disease and the personal experience of illness (Good et al. 2010; Rosenberg 2002). As highly accurate and realistic representations of lesions disembodied from the subjects who experience them, moulages shift attention from the patients' personal and idiosyncratic experience and focus on the identifiable and patterned lesions that are taken as visual signs, or symptoms, of predefined disease categories. Moulages are therefore pivotal in establishing the supremacy of biomedical knowledge over other cognitions. They also actively promote the primacy of vision over senses like touch, smell, and hearing, the combination of which was once considered the gold standard for diagnosis in dermatology. Moulages provide a visual repertoire of symptoms that promote the stabilization of knowledge categories of disease, which in turn organize the transmission of knowledge, guide clinical interventions, have an impact on the personal experience of illness, and condition public and educational policies.

The emphasis on the role of moulages in shaping knowledge and influencing action evokes another stream of scholarship: the anthropological study of objects and things, especially the agency of objects (Gell 1998; Leach 2007; Morphy 2009). Moulages are indeed non-human entities with an enhanced potential to affect the human relational sphere. The agency of these haunting molds of deformed limbs and wounds can be assessed on the impact they cause in being viewed, possessed, and collected, and on the relations they create between those who manufacture them, those whose corporeal lesions are molded, and those who make the choices about what should be molded. The twin approach to the symmetrical geometries of human and non-human, as explored by scholars of objects and things inspired by Latour (1991), may however distract us from the underlying social asymmetries and the political and ideological circumstances in which moulages were produced and used. To address these issues, I have found the literature on the politics and practices of the anatomical wax modeling workshops (Maerker 2011; Messbarger 2010) particularly useful. It helps our understanding of how moulages, like the anatomical waxworks that came before them, embody complex relations and enmesh cognitions and politics, at once materializing a program of knowledge and a display of power.

The interpretive methods of art history support my last, yet central, point. I argue that dermatological moulages trigger broader cognitions about life and death than those encapsulated by biomedical knowledge. Although moulages materialize a hyper-realistic and selective objectification of nature with the explicit purpose of helping to improve biomedical knowledge and thus clinical action, they also embody a longer history of juxtaposed, non-medical messages that are embedded in the centuries-old art form of ceroplastics. Waxworks representing the body have a long history of use in European Christianity. Inscribed with messages about suffering, decay, disease, affliction, and redemption, these religious waxworks impose values upon the viewer that reflect the ideological and moral configurations of the time in which they were made. In sum, moulages are both ultra-realistic visual objectifications of medical knowledge *and* vehicles of historically dense embedded moral messages.

Models, molds, casts, and moulages

Originally a French word for molded objects, *moulage* is currently used for models of bodies and body parts or for the three-dimensional colored wax replicas of morphological symptoms in pathological anatomy. Body models vary from rough imitations of human or animal physical details in assorted materials including wax, papier-mâché, metal, wood, plaster, clay, plastic, and resin, to highly realistic and detailed waxworks (Ballestriero 2010; Düring and Poggesi 2006; Hallam 2016; Haviland and Parish 1970; Lanza et al. 1997; Maerker 2011; Messbarger 2010; Riva et al. 2010).

Specialists in ceroplastics link the art form to the old tradition of ex-votos of body parts made in wax, clay, stone, metals, and other materials that often abound at archeological sites (Ballestriero 2007).

Votos represent a millenary practice that has persisted in religious healing contexts until today. Sterling silver miniatures of organs are popular in contemporary Italy; they can be purchased in stores and are displayed at shrines such as the one that honors the physician-saint Giuseppe Moscati (1880–1927) (see Figure 1). Although less durable in the long run, wax votos still predominate in contemporary shrines in much of the world. Hundreds of wax limbs, heads, and organs are suspended from the ceiling in the famous Brazilian church of Our Lord of Bonfim in Bahia. Hundreds more are piled up next to the tomb of Dr. Sousa Martins (1843–1897), who is credited with a large number of cures, spiritual surgeries, and a variety of blessings, in Portugal (see Figure 1).¹

In contrast to these mass-produced votos, ceroplastic art emphasizes the details, particularities, and specificities of bodies. The art evolved into three major types, which I refer to as “ceroscapes”: (1) wax replicas of historical figures and contemporary famous characters, as in Madame Tussaud’s museums (Warner 1995); (2) the special collections of anatomical waxworks exhibited in *La Specola* in Florence, the *Poggi* in Bologna, the *Josephinum* in Vienna, and a few other places (Düring and Poggesi 2006; Lanza et al. 1997; Maerker 2011; Messbarger 2010; Riva et al. 2010); and (3) the subgenre of pathological anatomy moulages, in which dermatology predominates, which exist in special collections and museums in Paris, London, Vienna, Zurich, Dresden, Munich, and elsewhere (Bastos et al. 2014; Carreta 2016; Delicado and Bastos 2014; Hallam 2016; Ruggeri 2003; Schnalke 1995; Tilles 2002; Zampi et al. n.d.).²

Moulages and specimens exist side by side in anatomical collections and trigger similar visual experiences. However, specimens consist of preserved bodies, body parts, tissues, bones, muscles, organs, tumors, embryos, and so on, while moulages are manufactured replicas of any of these. Specimens can be preserved by different techniques: immersion in chemicals in glass jars, embalming, stuffing, or injection with resins, metals, and other plastinization materials. Extreme examples of early plastinizations include Honoré de Fragonard’s horse and horse rider, produced in the eighteenth century and now exhibited along with his other *écorchés* in the Veterinary Museum of Alford in the suburbs of Paris (Degueurce 2013) (see Figure 2). They anticipate by more than two centuries the horse and rider seen at the famous *Body Worlds* exhibition.³

The “anatomical machines” of the Prince of San Severo, produced by Palermo’s doctor Giuseppe Salerno under the direction of Raimondo di Sangro in Naples, were traditionally considered an early form of plastinization, but they are in fact a combination of natural skeletons and human-made vessels in wax and other materials.⁴ Conversely, the famous “Zummo’s head,” which for centuries was cited as an example of how far the mastery of wax could go, was in fact revealed by twentieth

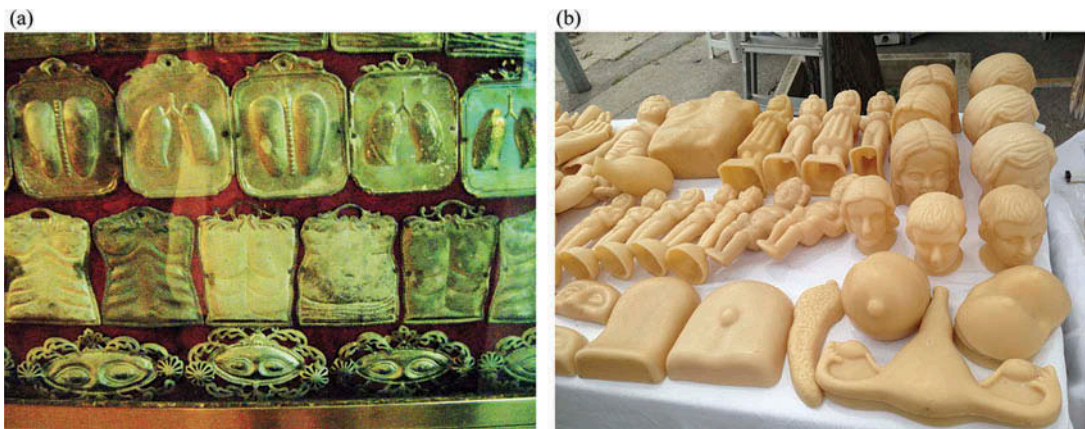


Figure 1. Miniatures of organs, bodies, and body parts found in healing-related shrines. 1a, silver votos near the shrine of Dr. Giuseppe Moscati in Naples, Italy (Photo C. Bastos, 2011); 1b, wax votos for sale near the tomb of Dr. Sousa Martins, Alhandra, Portugal. (Photo C. Bastos, 2016).

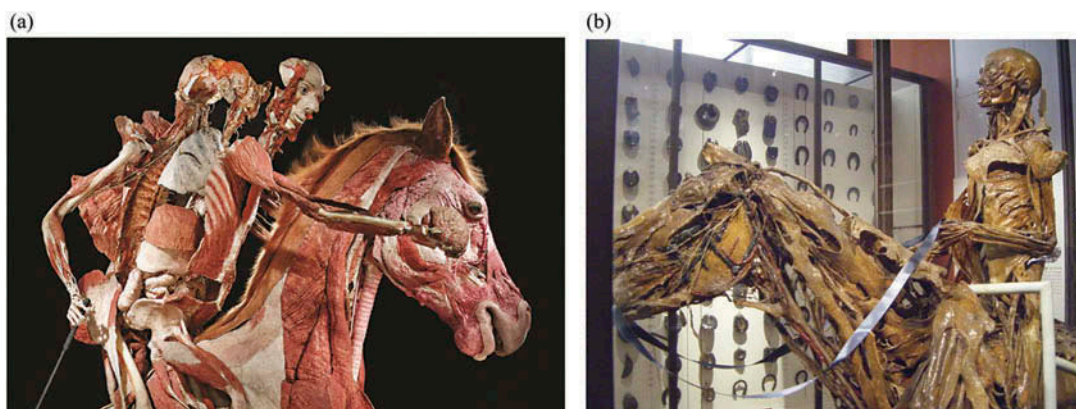


Figure 2. Recent and ancient body plastination. 2a, Gunther Von Hagens *The Rearing Horse With Rider - Body Worlds* (available at Pinterest); 2b, Honoré Fragonard, *Ecorchés (Horse and Horse Rider)*, Veterinary Museum, Alford, France (Photo C. Bastos, 2011).

century X-ray techniques to have been supported on an actual human skull (Düring and Poggesi 2006; Huraux 1997).

Moulages differ from specimens in that they replicate, rather than preserve, an original visual, three-dimensional, and colorful entity in non-decaying and durable materials. Moulages mimic every little detail of the specimen and are made to look more expressive than the original, just like the dermatological watercolors analyzed by Fend (2013) and the pathological and anatomical illustrations studied by Meli (2015) and Berkowitz (2011, 2015). They freeze a rare moment in time and crop a singularity from a whole. A popular way of exhibiting moulages is to encircle the piece with a white cloth halo that indicates its artificiality and is attached to a wooden panel (see Figure 3).



Figure 3. Moulage from the Desterro collection representing a syphilis-related primary lesion. (Photo Rosa Reis, 2011, reprinted with the permission of the photographer).

Others are presented in ways that mimic specimens: some of the English waxes molded by Joseph Towne are kept in glass jars like specimens and are nearly indistinguishable from them, tricking even the educated eyes of medical students.⁵

Despite the ontological differences between them, like plastinized body specimens, moulages are visual anatomical objectifications. They are not to be heard, touched, tasted or smelled, but to be seen. Stopping time and decay, they freeze and capture a point in the flow of life and turn it into a non-living object that provides a visual basis for the development of specialized knowledge. In the process, however, those objectified body parts, whether deformed or not, may trigger cognitions and emotions like disgust, horror, and fear.

The Desterro collection

The collection I analyze in this article consists of a peculiar set of moulages salvaged from the Desterro hospital in Lisbon in 2007, just before it was closed in a context of urban renewal and public hospital realignment. In the process of relocating the patients and services to other institutions, much of the old and obsolete equipment at the hospital was discarded. The moulages had been kept in one of the hospitals' rooms as a small dermatology collection, and only a few knew about them. The collection could easily have been discarded like others around Europe that were thrown away or given to candle makers (Schnalke 1995). Yet, through the intervention of medical art enthusiasts, Desterro's collection was rescued and moved to the nearby Capuchos hospital, where it is now properly stored and can be visited by medical students, researchers, and others. It is now the subject of books, articles, and websites and has even appeared as a reflexivity enhancer in an award-winning film on the trials of a person with AIDS (e.g. Bastos 2011; Pilão et al. n.d.; Pinto 2013).

The collection comprises 260 unsigned pieces of high artistic quality. Unlike some moulages that exist in Porto and are purchased replicas of Baretta, Desterro's are original pieces that were locally produced. They appear to have been executed by someone with full mastery of ceroplastics, either by someone who had a background in other visual arts or by someone trained elsewhere, as there is no known tradition of anatomical ceroplastic art in Portugal.⁶

Given that the literature on moulages is so emphatic about authorship and the role of prominent artists like Calamai, Tortori, and Ricci in Italy, Towne in England, Baretta and others in France, Elfinger and Henning in Austria, and many others (Marcato 2007; Nesi et al. 2009; Ruggeri 2003; Schnalke 1995; Tilles and Wallach 2002; Zampi et al. n.d.), the anonymity of Desterro's mouleur has led to various quests and speculations (Matos 2011). However, it also allows us to move away from a focus on authorship to concentrate on the objects themselves, explore what they represent, how they were used, what networks they established, and what social issues they embodied.

The Desterro moulages represent pathologies experienced by local patients, diagnosed by local doctors, and cast *in loco*. Many of them relate to syphilis: primary lesions, whether on the face, the torso, the extremities, or the genitals; secondary syphilis-related pox, deformed genitals, deformed mouths, gums, teeth; and the faces of infants whose lesions were attributed to hereditary syphilis, a category of diagnosis no longer in use. It is a haunting collection of dreadful visualizations of suffering that embody what was once the vocation of the hospital—the care of syphilis.

Most of the pieces (198 of them) were commissioned by Dr. Luiz Sá Penella, the head dermatologist of Desterro from 1933 to 1955. A smaller number (62)—presumably executed by the same artist—were ordered during the same period by his colleague from the dermatology section of Capuchos, Dr. Manuel Carreiro Carrasco, from his own patients (Matos 2011).⁷ The two sets were gathered together at Desterro in the late twentieth century. The pathologies they represent are identified by the labels attached to them, although some of the morbid categories have changed since they were made. Some of the pieces had an afterlife in dermatology journals, as they were photographed to illustrate case studies authored by Sá Penella, Carreiro Carrasco, and their colleagues in the late 1930s and 1940s (Bastos 2011:xviii-xxxii). Occasionally, by cross-examining retrieved clinical records, it is possible to access the name, age, residence, profession, and clinical history of the person whose lesion was cast, although we

have no direct trace of their experience and do not know if the patients were lured, convinced, persuaded, forced, or paid to endure the entire process of production of the negative three-dimensional cast after which the moulages were produced. Nor do we know if they were then observed by an artist who adjusted the color, tone, and finishing of the pieces. We do not know if the artist made the negative cast in plaster or wax, if he or she used gauze, cloth, or nothing to protect the patient's skin, or if he or she sang or told stories in order to entertain the patient while the cast was drying—like Baretta, who reputedly played music (Tilles and Wallach 2002). We do not know what kind of relationship the physician and artist had, whether it was hierarchical, egalitarian, collaborative, friendly, tense, and so forth. Recent research on the anatomical ceroplastic workshops in eighteenth century Tuscany shows that they were not idyllic settings where geniuses produced masterpieces, but battlegrounds marked by tension between artists and anatomists, conflicts involving access to resources, social acknowledgment, professional relevance, and, predictably, class and gender issues (Maerker 2011; Messbarger 2010). The literature on dermatological moulages, however, indicates that they were most often produced in peaceful collaborative environments involving the dermatologists and the mouleurs. We know less about their relationships with the men and women, sometimes children, whose body lesions were molded. We do not have any data on the relationships behind the molds of Desterro, so we shall focus on them as objects and as signifiers.

Medical moulages, dermatology, and syphilis

The art of representing pathologies in wax evolved in the nineteenth century in connection with diverse medical specialties: embryology, obstetrics, veterinary medicine, teratology, ophthalmology and, above all, dermatology (Hopwood 2002; Marcato 2007; Ruggeri 2003; Schnalke 1995; Zampi et al. n.d.). As Schnalke has argued, there is a dermatology nexus in moulages; whether or not related to syphilis and venereal disease, the expressiveness and extent of the skin as a showcase for symptoms makes it highly suited to the three-dimensional, realistic visualization provided by the moulage art form, and the wax and pigment technique of molding body parts achieved its apex in the field of dermatology.

Dermatological moulages became an established subgenre of wax molding and modeling in which the finest artistic skills were used to represent what are arguably the most dreadful visual presentations of clinical symptoms. Some artists totally dedicated themselves to the molding and intense coloring of specific presentations of rashes, tumors, scars, pox, pimples, lesions, decay, necrosis, and other lurid alterations of the skin. Indeed, Calamai was reported to have been fatally intoxicated by the poisonous pigments he employed when crafting the “Norwegian Leper.”⁸ Their artwork—negotiated with the physicians who ordered it and, to a lesser extent, with the people whose skin was at stake—was meant to portray the individual expression of the ailments lived by a particular person through his or her body. But it was also meant to objectify the presentation of those ailments as signs and symptoms of certain categories of disease: syphilis, smallpox, leprosy, lupus, and so forth. In that sense, moulages may be seen as a bridge between individual expressions of illness and general categories of disease. As Rosenberg (2002) and Fend (2013) have suggested for medical illustrations, and Engelmann (2016) for photographs, moulages are not mere visual derivatives of states of illness, but central devices in the making of disease categories, which ultimately surpassed the patients as the subjects of medical attention. In that sense, they are, like the artworks analyzed by Gell (1998), agents or objects with agency.

The history of medical knowledge about skin and venereal diseases can be followed through the moulages displayed in the main European collections. The largest, kept at St. Louis Hospital in Paris, contains thousands of works by Jules Baretta and other artists. Other impressive collections include Joseph Towne's at the Gordon Museum in London, Henning's at the Narrenturm in Vienna, and the different Italian authors at the Luigi Cataneo Anatomical Wax Model Museum in Bologna and the Museum of the Institute of Pathological Anatomy in Careggi-Florence. Hidden away in other hospital annexes, cellars, and attics, there are smaller collections—Desterro's among them—that have recently been brought to public attention.

Baretta's collection was pivotal in creating a niche for moulages in European dermatology. In 1889, the collection was presented to a distinguished audience of 210 dermatologists from 29 countries at the First International Conference of Dermatology, held at the St. Louis Hospital in Paris (Schnalke 1995; Tilles 2002). The famous dermatologist Moriz Kaposi was impressed with the display, recalling the walls lined with the "wax specimens of Baretta deserving their fame ... systematically organized and labeled in a clear manner" (quoted by Schnalke 1995:91). Kaposi continued to prefer moulages throughout his life, even when high-quality photography could have replaced them (Engelman 2016:264–265). Many of the delegates were exposed to moulages for the first time and went home convinced of their relevance as teaching and learning aids, as visual devices that helped stabilize the depiction of diseases. But these delegates were also perhaps enamored of moulages as objects of attention and collectibles, as indicators of prestige and knowledge. As Schnalke suggests, "many left Paris with the desire to build up moulage collections at their own clinics" (1995:91).

Among the delegates there was Dr. Zeferino Falcão from Coimbra, Portugal. Years later, in 1897, Dr. Thomaz de Mello Breyner, who would soon assume responsibility for the outpatient services at Desterro, also visited the St. Louis collection in Paris and wrote on his diary how impressed he was.⁹ Dermatological moulages were thus known from the beginning by the leading Portuguese syphilographers—as specialists on syphilis were known at the time. French replicas, actually Baretta's pieces, were purchased by medical schools in Porto, Lisbon, and Coimbra (Baptista et al. 2009). We do not know when local doctors started thinking of sponsoring and producing moulages of their own clinical cases, but we know they were part of a wide network of syphilographers, hospitals, patients, artists, and moulages from the very beginning.

The Desterro moulages and the medicalization of venereal conditions

As we shall see, the Desterro collection embodies the shift toward the medicalization of syphilis and skin ailments, the move from a moral/penal regime to a medical regime. The moulages are statements about Desterro as a biomedical center, a place of clinical intervention and of dermatological knowledge.

But as much as they are medical objects, the Desterro moulages also stand as a synecdoche for another aspect of the hospital, one that predated its existence as a biomedical center and coexisted with it for years. A history of urban life that interwove suffering, illness, skin, commercial sex, law enforcement, destitution, class- and gender-asymmetries revolved around Desterro. For centuries, the building accommodated various services, both religious and state sponsored, that helped the urban population. Its origins go back to a sixteenth century convent called Our Lady of Exile (*Desterro*), built by the monks of Alcobaça near a leprosarium that stood outside Lisbon's medieval walls. The compound later accommodated emergency wards—especially after the earthquake of 1755 and during the yellow fever epidemic of 1857—and military wards, as well as orphanages (Mora 2011).

After 1862, Desterro became primarily a place for people with syphilis, other venereal diseases, and some other skin ailments of unpleasant appearance, such as scabies and tinea. In that year, the sanitary police—who used to pick up potentially contagious prostitutes and lock them away in another compound (since turned into a mental hospital)—began sending arrested women to Desterro. There were two special infirmaries that served as centers of quarantine and detention. They were appropriately named after the biblical St Mary Magdalene and the more obscure St Mary of Egypt (*Egipcíaca*), a former Alexandrian prostitute who reportedly spent more than 40 years in the desert expiating her sins before achieving holy grace.

The prison infirmaries were an instrument of a sanitary regime that controlled syphilis by monitoring sex workers—the most vulnerable element of the chain of transmission—and locking them away when they were found to have venereal symptoms, a standard practice in many other geographies at the time (Manderson 1996). The regulatory regime was followed in the country in spite of opposition from the Catholic Church, which found it immoral and favored a total prohibition on prostitution. Regulation was sustained in the name of public health until there was a cure for syphilis.

Prostitution was only outlawed in Portugal in 1962, after the use of penicillin was firmly established. The sanitary police then lost its primary function, and the prison infirmaries were closed.

For a century, Desterro was both a detention center and a hospital; women were locked there until they were declared to be free of venereal symptoms. In its early years, it was more of a dumping ground for the vicious than a place of treatment for the sick. Doctors who served there at the time depicted its horrific conditions and acknowledged that it was more a prison than a hospital.¹⁰ Some physicians played an active role in turning this place of stigma into a place of treatment, care, and assistance, and in making it into a center of reference on syphilography and dermatology. By the end of the twentieth century, it was a place of clinical and surgical prestige and high-quality assistance. The moulages were both a product of and an intervening actor in the medicalization of Desterro.

Two physicians were key in that process of medicalization: Thomaz de Mello Breyner (1862–1933), the head of the Desterro's syphilis clinic from 1897 to 1933, and Luiz Sá Penella (1889–1955), the head of the dermatology division from 1933 to 1955. Both of them worked hard to match the standards of clinical dermatovenereology existing in other European countries. They corresponded and exchanged visits with the leading figures of the time, and they were fully up-to-date with the medical literature and treatments. As the hospital did not always have the resources to dispense the treatments with which they were familiar, these doctors also spent much of their time pleading for more support from the state and civil society for their patients.

Mello Breyner was appointed in 1897—the year that he saw the St. Louis Hospital moulages collection—to set up an outpatient clinic for venereal illnesses. In spite of the hospital's stigma, the aristocratic Breyner was able to draw on his social and cultural capital to attract charitable private donations of equipment and goods that would vastly improve the outpatient and inpatient services. He brought Desterro and its patients to the attention of the famous international syphilographers with whom he was connected, including Alfred Fournier (1832–1914), with whom Breyner had studied in Paris in 1892–93 right after graduating in Lisbon. Fournier was a central player in the anti-syphilis crusade and a key figure in the reinvigoration of the French School of Dermatology, which had temporarily lost ground to its German counterpart. Breyner's networks included specialists from both countries; in his early years of practice, he favored French colleagues, but later, particularly after 1910, when Paul Ehrlich and Sachahiro Hata developed in Germany the promising arsenic-based anti-syphilis drug Salvarsan, he turned increasingly to Germany. Salvarsan, also known as 606, was a major therapeutic breakthrough, and Breyner immediately adopted it in his clinic, as he later did with the improved version, 914, or Neosalvarsan. Both drugs would ultimately be set aside because of their side effects.

Breyner's successor Sá Penella was a progressive Germanophile who raised the treatment of syphilis and related illnesses to a higher standard of care. He also left much of his clinic to posterity by having his patients' lesions molded in wax. The lesions seen on the moulages that Sá Penella commissioned for Desterro outlived the people who experienced them and those who selected and cast them, as materializations of the invisible artists–physicians–patients nexus, or the frame that makes possible the development of new knowledge. In this, the moulages of Desterro, like their counterparts in the main European centers, helped to establish a repertoire of symptoms that had the potential to contribute to a wider atlas of dermatology. They contributed by representing idiosyncratic expressions of experiences of disease, rendering them visible, learnable, and transmissible knowledge. They operated the transition from the experience of illness to the expression of symptoms (Rosenberg 2002); in that, they were a central tool in establishing the biomedical character of Desterro. And yet, acknowledged or not, they also carried the memory of the stigma and suffering that surrounded the hospital.

The social life of a moulage collection

The moulages of Desterro were only produced in the 1930s and 1940s, and they did not move around much. In spite of the excitement that surrounded the potential of moulages as tools for teaching at the

1889 Parisian dermatology conference, the Desterro moulages were not used for medical teaching on a regular basis. Indeed, doctors who had been students or interns in the 1940s and 1950s, now in their nineties, do not recall the existence of the waxes.¹¹ The social life of the moulages as things turns out to be quite unremarkable: they probably spent most of their existence stored away, kept for future reference and for illustrating case studies as objectified mementos of singular presentations of illness and typified symptoms (see Figure 4). Rather than the teaching aids they are supposed to be, moulages might better be taken as collectible items (Moutu 2007) that also served the purpose of expanding knowledge in dermatovenereology. Yet there was a cosmopolitan second life for these stored three-dimensional waxes, transformed in two-dimensional photographs. Immobile, still, durable, visually expressive, mute and painless, moulages provided better models for photographs than actual patients with their pains, their suffering, their restlessness, and their rapidly changing symptoms.

It may seem odd that moulages circulated so little when so much effort had been put into them. Their production required time, resources, and a combination of personal experience of illness, clinical knowledge, and artistic skill that was framed by a set of power relations that made the whole endeavor viable: patients allowing themselves (or being forced) to be cast; one or more physicians choosing what to cast; one or more artists able to cast and finish the piece. As much as they were about lesions, symptoms, diagnosis, representations, techniques, and artistic skills, moulages were also about institutionalized relations and programs of power and knowledge—much like the anatomical waxworks made two centuries earlier in Tuscany (Düring and Poggesi 2006; Hallam 2016; Haviland and Parish 1970; Lanza et al. 1997; Maerker 2011; Messbarger 2010; Riva et al. 2010). The analysis of anatomical waxworks is most useful for our understanding of moulages; as discussed by Jordanova (1989), Kemp and Wallace (2000), and Maerker (2011), there is a tension between a spectacular potential for teaching and a quiet, still existence in which a variety of implicit meanings are embedded. Representing bodies and their layers of muscles, organs, vessels and bones, and resulting from the combined work of artists, anatomists, physicians, and surgeons, waxworks were, just like moulages would be, powerful visual objects. But what was that power and how was it used? Were they educational devices that replaced the smell and morbid touch of a dissection? Did they awe and mesmerize their viewers? Critical literature indicates that they may have had a limited use in medical teaching; they stood instead as a display of human ingenuity, art, and power. Waxworks may have been there predominantly to expose, fix, display, and establish knowledge in parallel with what was practiced in the dissecting rooms with real flesh-and-bone bodies. They were extravagant



Figure 4. Moulage representing a pre- and post-surgery configuration of a patient diagnosed with rhinophyma, considered unrelated to syphilis as his blood tests were negative. Later, the moulages were photographed in black and white to illustrate a dermatology article signed by José Roda, a colleague of Sá Penella. (Color photograph by Rosa Reis, 2011, reprinted with her permission).

visualizations that enhanced the development of medical knowledge. They were presented as durable, non-decaying, and odorless substitutes for real corpses, although the fact that the making of each of them required the use of several fast-decaying cadavers challenges the argument that they helped economize the use of corpses. Moreover, it is not entirely clear if the waxworks indeed replaced corpses in medical teaching or remained as displays of wonder, artistic skill, and political power. Austrian surgeons and physicians reportedly preferred to handle actual corpses and despised the exquisite and expensive anatomical models in wax ordered by Emperor Franz-Joseph from the Florentine workshops (Maerker 2011). Waxworks were also, and perhaps mostly, materializations of complex relations, displays of power, and repositories of cognitions.

Like anatomical waxes, moulages were displays of wonder and ingenuity while being presented as didactic objects. They were made for future uses, be that as a collection of trophies of exquisite visualization, a repertory for educational use, or a store of moments of illness that could be later photographed and used to illustrate scientific articles, debates, and knowledge in the making. Ultimately, they contributed to the establishment of biomedical knowledge over other cognitions.

Anatomical spectacles: The normal, the fantastic, and the monstrous

And yet, there is more to moulages than their existence as archetypal three-dimensional fixed objects, proxies for real-life patients with symptoms, ready to be photographed and printed in two dimensions to illustrate a journal article. They have the potential to induce a sort of disquiet by showing uncommon visualizations that can support a variety of feelings and thoughts that go way beyond medical knowledge. A similar point can be made for anatomical ceroplastics; whether representing configurations of pathologies or the idealized uncorrupted body, wax models have always been powerful visual tools that also serve to induce awe. The celebrated anatomical waxes of Clemente Susini and Ercole Leli are as known for the extraordinary accuracy with which they provide a perception of the inner parts of the human body as they are known for their symbolically loaded nicknames of Adam, Eve, and Venus (La Venerina) (see Figure 5).

Even more explicitly loaded with moral meanings are the waxworks of Gaetano Zummo, whose impressive realistic anatomical pieces and haunting scenes of human decay and corruption, in particular plague and syphilis, were rendered with the most precise anatomical details (see Figure 6). Many of them were also decorated with realism-enhancing materials like hair, pieces of cloth, necklaces, and other ornaments (Ballestriero 2010), creating a visual atmosphere ripe for multiple interpretations and juxtaposed messages (see Figure 5).

Moulages representing pathologies have a surplus of unsettling powers. The mixture of admiration and horror, wonder and repulsion, or *Schaulust* (Schnalke 1995), gives dermatological moulages their special quality. They are as fascinating for their hyper-realistic qualities, as they are horrible for what they represent. That combination makes them particularly suitable for inducing fear. The educational paradigm of flashing out powerful visual materializations of corrupted bodies as a means of discouraging the public from engaging in unhealthy behaviors is still used in public health, as seen in anti-smoking campaigns (Nichter and Cartwright 1991). In the late twentieth century, people with AIDS rejected the use of images of that kind in anti-HIV campaigns, arguing that they were more likely to alienate the target audience rather than persuade it. But in the early twentieth century, there were no such advocacy groups; doctors and educators were entitled to scare their patients and the public into treatment and prevention. The moulages of Desterro may well have been used for that purpose; they were kept in a room apart, maintaining a moral message about suffering as a consequence of “bad” behavior or, in Catholicism, as a punishment for sin. They may, as urban rumors have it, have been used as cautionary tales for the discouragement of risky sexual behaviors. Latent cognitions about sin could easily be mobilized by the sight of the displayed wounds and scars.

The display of spectacular bodies for purposes of awe and entertainment is an old tradition. Monstrosities and deformations lured the curiosity of medieval crowds and captured paying audiences.

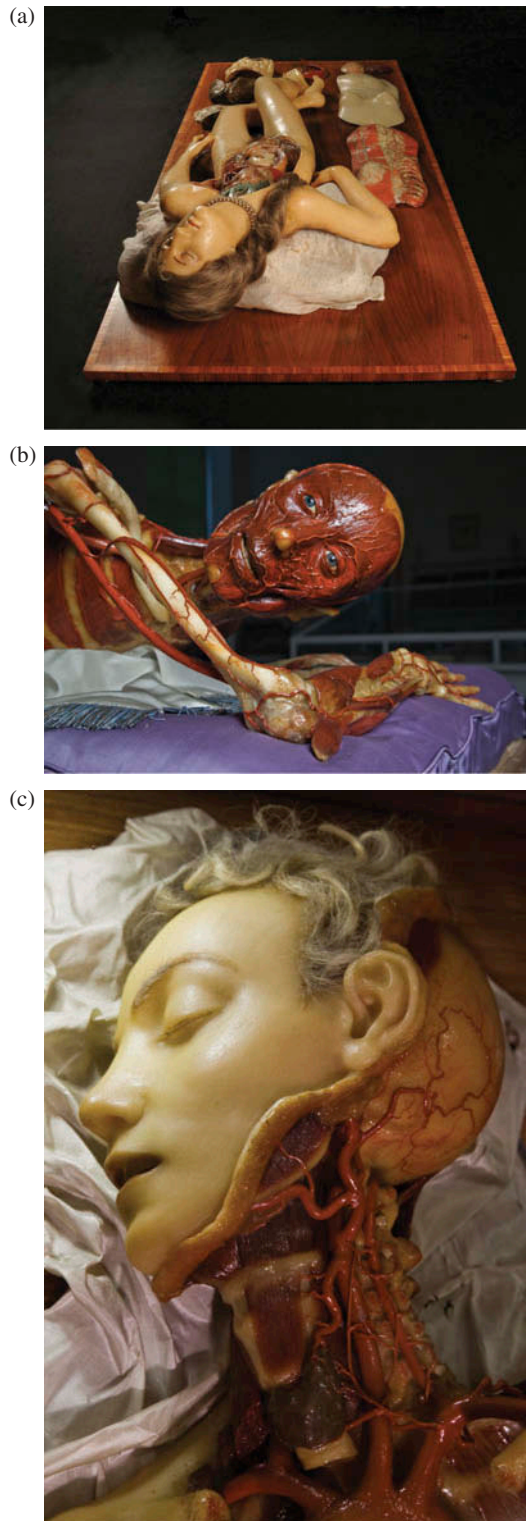


Figure 5. Ceroplastic expressiveness: the anatomical art of Clemente Susini. 5a, *La Venerina*, Palazzo Poggi, Sistema Museale di Ateneo – Università di Bologna, Italy (Courtesy of Alma Mater Studiorum - Università di Bologna, Sistema Museale di Ateneo, Museo di Palazzo Poggi); 5b, *Man*, Josephinum, Ethics, Collections and History of Medicine, MedUni Vienna, Austria. (Photo Alexander Ablogin); 5c, *Head and Neck*, Josephinum, Ethics, Collections and History of Medicine, MedUni Vienna, Austria. (Photo Alexander Ablogin).



Figure 6. Gaetano Zumbo, *La Sifilide (Syphilis)*, Museum of Natural History La Specola, Florence, Italy. (Photo furnished by Saulo Bambi, *La Specola*).

Travelling shows exhibited living persons or animals with anatomical oddities: Siamese twins, two-headed calves, the elephant man, the bearded woman, the giant, the dwarf, the human torso. Shows sometimes included jars with deformed stillborn animals and the abnormal products of nature, or spectacular moulages of pregnant wombs, inner organs, or syphilis-ridden genitals. Once cast from originals, some moulages were replicated in large numbers to be used in fairs and shows across Europe. Replicas of replicas, these simulacra of body parts and of disassembled bodies circulated around like relics, perhaps even travelling along the pilgrim routes, eventually gaining from routes and audiences what anthropologists have long known as *mana*, or, at least, gaining indexical power in the terms proposed by Gell (1998).

Some shows continued into the twentieth century, as exemplified by Todd Browning's controversial 1932 film *Freaks* (Smith 2011) and the Roca museum in Catalonia (Zarzoso and Pardo Tomas 2015). The Roca promoter combined magic lanterns, waxworks, and other items of wonder and awe in his show, claiming that his purpose was to educate the public in the prevention of sexually transmitted diseases by means of exhibiting the dreadful effects of syphilis.

The contemporary exhibitions *Bodies* and *Body Worlds* have been compared to the Victorian freak shows (Durbach 2012). By displaying plastinized bodies and body parts of actual human

beings, much like Honoré de Fragonard's eighteenth century experiments (see [Figure 3](#)), these life-death hybrid pieces have the potential to pack emotional and educational punch. These exhibitions have cashed in on the large numbers of people willing to pay for the experience. And curiosity about the exhibitions has only increased with the rumors and ethical debates swirling around the origins of the bodies on display, which are presented either as donations to science or as unclaimed corpses from imprecise locations (Desmond 2008; Durbach 2012; Hsu and Lincoln 2007; Schulte-Sasse 2006). The real body exhibitions may be on an unprecedented scale and make use of new techniques in body plastination, itself a breakthrough in tissue preservation, but the use of real body parts as art and celebration is no novelty. Its history can be traced in the head reduction and mummification of ancestors or enemies, the art of Fragonard and Salerno, the grotesque colonial paraphernalia of dried fingers and other body parts, and Marini's bizarre table of lacquered human organs and substances made for Napoleon III in 1866 and now kept in the Museum of Medical History in Paris.

The moulages examined in this article, with their old-fashioned looks and evident displacement in a world filled with sophisticated two- and three-dimensional digital imagery, do not belong to a blockbuster show, but their spectacular potential is still there. They continue to challenge audiences and curators, making them stand apart from other means of anatomical representations as attractive, repulsive, disquieting, generators of *Schaulust*. We do not know how many people they haunted in the past; how many times, if ever, they were used to persuade patients to get treatment; or were used to discourage audiences from engaging in acts that might expose them to syphilis. There are rumors about those usages, but no hard evidence. We do know, however, that when visitors approach the collection today, many take it as a cautionary tale, an exhibit of the unwanted consequences of inappropriate behavior, perhaps a reminder of the fragility of life. The collection made an appearance in a recent film about living with HIV and Hepatitis B; it stood there as a reflexivity enhancer, a reminder of the multiple possibilities of suffering in life, a *memento mori*, just like the macabre collections of artistically arranged bones and human remains in some Catholic monuments in Europe—the Cappucin tombs in Palermo, Sicily; the Fontanelle cemetery in Naples, Southern Italy; the bone chapel in Évora, Portugal; or the Ossuary in Sedlec, Czech Republic, among others.

Beyond objectification: The deadly messages inscribed in wax

In this concluding section, I address a missing link in the history of anatomical waxworks and moulages. Wax models did not stem solely from the tradition of *ex votos*, but they did inherit some of the qualities of the less well-known art of representing death and decay. That art has at least two components: the tradition of mortuary masks, which was a known means for preserving individuality beyond death; and the southern Italian tradition of “graveyard art”—the display of extreme suffering and morbid decay as a means to discipline the living (Huraux 1997).

Gaetano Zummo's famous three-dimensional representations of human suffering are a good example of quasi hallucinatory, scary, and yet realistic visions of human fragility that mark graveyard art. “Macabre” is the word used by Schnalke to describe Zummo's *The Pestilence, Syphilis, The Triumph of Time, the Five Stages of Decomposition* (Schnalke 1995:27). Syphilis was central in Zummo's art, whether it corresponded to the actual disease known later on as syphilis or was associated with a variety of other ailments (see [Figure 6](#)).

Among many early representations of syphilis, there is one particular waxwork that stands out. It is reportedly of syphilis, although it also epitomizes decay in general. It is referred to as *La Scandalosa* (see [Figure 7](#)), of an unknown artist, probably from Naples, where the piece is kept and is known, but hardly seen.¹² It depicts a woman with blisters on her agonized face, presenting a moral fable to her viewers by associating her dreadful appearance with her sinful condition. Medical art historians like Gennaro Rispoli question the representational value of *La Scandalosa*, when compared with the more accurate anatomical waxworks that were described by sources of the same period (Rispoli 2010:57). Rispoli considers the piece worthwhile for its religious piety rather than its accuracy.



Figure 7. Anonymous, *La Scandalosa*, Naples. Reproduced from the Gennaro Rispoli's *L'Ospedale del Reame: Gli Incurabili di Napoli* (vol. 2), with the author's permission.

La Scandalosa has however a special value for contemporary analytic purposes. I see it as a sort of Rosetta stone that allows the translation from one language to the other, a missing link between the macabre tradition of graveyard art and the objectification of pathological anatomy. The piece helps us grasp the multiple passages between realism and imagination, between accurate anatomical observations and the imagined pains of decay and decomposition, unifying both art forms in their role as *memento mori*, whether explicit or implicit.

As I have shown, wax models are not just vehicles that lend a visual materiality to elements of medical knowledge; they help shape knowledge by objectifying it. They were crucial in the medicalization of venereal disease, and served as instruments in the institutionalization of dermatology. But they also have other dimensions and functions as displays of wonder, as objects of artistic excellence, and as visualizations of the hidden components of the human body. They have a long history of allowing the encryption of moral messages—one that may not have been anticipated by the artists but that nonetheless had a predictable effect on the public—telling cautionary tales about what happens to the bodies of those who do not abide by the prevailing sanitary or moral principles.

Such confluences and juxtapositions make moulages the ultimate visual combination of science-based hyper-realism and archaic codifications of cultural messages. For that reason, they are also superb objects for further research at the convergence of medical and visual anthropology.

Notes

1. While Moscati was acknowledged as a saint by the Catholic Church and his cult was adopted as such with the creation of a special shrine in the church of Gesù Nuovo in Naples, Sousa Martins's widespread cult remains outside the church with a special, but not exclusive, connection to Kardecist Spiritism. The statue of him in

front of the old medical school is surrounded by engraved stones expressing thanks for graces obtained, and his tomb in his hometown, Alhandra, is inundated with votive offerings.

2. As part of a recent wave of interest in these matters, a small museum of morbid anatomy opened for a short time in Brooklyn, New York: <http://morbidanatomymuseum.org/>. See also the blog *Anatomías Urbanas*, <https://gabmusanablog.wordpress.com/>
3. For Fragonard, http://musee.vet-alfort.fr/web/Musee_Fragonard/154-les-ecorches.php; for *Body Worlds*, <http://www.bodyworlds.com/en.html>
4. <http://www.museosansevero.it/en/statues-and-anatomical-machines/anatomical-machines>.
5. William Edwards, Gordon Museum Director, personal communication, 2010.
6. The most prominent art historian José-Augusto França (personal communication, 2013) confirms that there is no such tradition in the country. The anonymous artist could have been from other artistic specialty, like decorative ceramics. The famous Paris mouler Jules Baretta had developed his decorative skills making fruits in papier-maché (Schnalke 1995; Tilles and Wallach 2002). Given that the Desterro moulages were produced between 1935 and 1945, a time when many central European refugees escaping Nazism found a temporary home in Portugal, and given that there is no distinct tradition of ceroplastic art there, it has also been suggested that the artist was a refugee from Germany or Austria who wanted to remain anonymous (Matos 2011).
7. There is at least one off-collection piece in Desterro signed but not dated; it used to belong to yet another dermatologist, Dr. Álvaro Lapa. The Tropical Medicine Institute, located in the western section of Lisbon, recently found and brought to public exhibit a series of moulages representing configurations of various tropical diseases. That set seems to have been produced by a less skilled artist, most likely at a later period.
8. Gabriela Nesi and Raffaella Santi, Museum of Anatomical Pathology, Careggi, Florence, personal communication, 2012.
9. Personal Diaries of Thomaz de Mello Breyner, Arquivo Nacional da Torre do Tombo, Lisbon, consulted with the permission of Breyner's great-grandson Xavier Andresen.
10. A 1934 obituary of Tomaz de Mello Breyner, Sá Penella reminds readers that Desterro was insalubrious when King D. Luis had visited in the nineteenth century; in the twentieth century, venereologist Augusto Monjardino described it as simultaneously a detention facility and a hospital.
11. Aureliano da Fonseca, senior dermatologist, Porto, interview, 2011. Fonseca was friends with Sá Penella and discarded the possibility that Sá Penella might have been himself the author of the Desterro moulages. Other senior physicians interviewed ignored the existence of moulages. Only those who worked at Desterro in later years knew about the collection.
12. Many people in Naples know about *La Scandalosa*, but few have seen it. Contemporary artist Lello Esposito evokes it along with other Neapolitan references like St. Gennaro or the Castel dell'Ovo. After many failed attempts, I learned that *La Scandalosa* is kept in the barely accessible building of the *Bianchi della Giustizia*, next to the *Ospedale degli Incurabili*. I thank Professor Gennaro Rispoli for his assistance in this quest.

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