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Embalming and the materiality of death (France, nineteenth century)

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Abstract : At the end of the 1830s, embalming became fashionable in France. Unlike traditional embalming reserved to the elites since the Middle Ages, the new, private form of embalming concerned ordinary people who could not bear seeing their passed beloved ones decompose and decay to dust. This rise went hand in hand with the multiplication of timeless plots allocation within ceme- teries created by the decree of 1804, on which families could build tombs destined to shelter their dead. Embalming hence belonged to the 'funeral transition' between the eighteenth and the nine- teenth century as described by R. Bertrand: the concern for the dead was not characterised by the concern for their soul but rather for the material remains. The cult of the dead focused on the grave in the nineteenth century: embalming was perhaps a necessary step within this materialisation: during a limited period of time, the certainty of having a fully preserved body under the grave was necessary in order to function as a place of memory and as a cornerstone of the cult of the dead.

Keywords : Embalming, history of death, cult of the dead, nineteenth-century, France

Between the end of the eighteenth century and the first half of the nineteenth century, the French funeral culture underwent profound changes. Régis Bertrand, heir of one the pioneers of the history of death in France, Michel Vovelle (1983),[1] has proposed the concept of 'funeral transition' (Bertrand, 2011) to characterise such change. It defined the time interval and mental process by which an old funeral regime is substituted by a new one, founded on different places, different rites and different relationships between the living and the dead.

Among these novelties, two are of particular interest. The first novelty is spatial:

1To the contrary of Philippe Ariès (1991) the huge synthesis of M. Vovelle has not been translated and remains little known to non-French speaking historians (cf, for instance, T. Laqueur, 2015). But he was read by Thomas A. Kselman (1993), and about the new cemeteries, Richard Etlin (1987).

the centre of this funeral system shifted from the church to the cemetery: it was henceforth there where funeral services found their conclusion and climax, and where mourning people went, later, in pilgrimage, to visit their dead. The second is material: the dead body, more than the soul, became the object and medium for a cult of the dead; for this reason, its integrity and location stability took a growing importance. This cult crystal- lised itself on the grave that both hosted the corpse and signalled its presence.

It is in this context that I wish to evoke a little-known aspect of the cult of the dead which developed in France since the 1830s and regressed at the end of the century: embalming (Carol, 2015). How to interpret this fashion which spread among the bourgeoisie? My hypothesis is that the romantic popularity of embalming constitutes a form of transition within the funeral transition, a necessary step in these changes which affected funeral materiality and spatiality.

From traditional embalming towards romantic embalming

Until the beginning of the nineteenth century, embalming remained in France as it was during the eighteenth century: a rare and unusual practice, expensive, complex and reserved to the social elite.

Before the French Revolution, only kings, princes and prelates were embalmed; (but) part of the nobility started to employ it by imitation. Apart from the case of the King at the end of the Middle Ages, whose long and complex funerary rite required the conservation of the body, the reasons why such treatment was applied to those privileged individuals remain a matter of debate among historians to this day. However, they most likely have to do with the traditional conservation of saints in the catholic religion.

The Revolution applied new political principles, and the concerned social fringe was displaced: ‘great men’ were henceforth revered with such privilege. After his death in 1791, a public autopsy of Mirabeau was performed as if he was a king, and he was embalmed before being carried to the Pantheon, a church transformed into a national necropolis by the authorities. The Empire prolonged such logic: Napoleon made his most valiant officers (i.e. Morland, Lannes) as well as senators embalmed. Projects of renowned mummies galleries emerged, which attendance would educate the living, especially the young generations (Robert le Jeune, 1801).

The techniques remained the same as in the past (Dionis, 1767): the body was eviscerated and emptied of its brain: the eyes were removed, all cavities were filled with powders and aromatic herbs, the fleshy parts were incised in various places to reach the bones, and ‘stuffed’ (sic) with the same desiccating and anti-putrid substances. The body was rubbed with balms, enveloped in several layers of bands impregnated with preserva- tives, and finally was confined in a sealed coffin. Although it is difficult to understand the logics at work in this treatment of the body, beyond that of the distinction, it can however be assumed that the goal pursued was to produce a dry artefact, rot-resistant, which would not turn into dust and completely disappear. However, this artefact was not destined to be

exposed and its dismemberment seemed the inevitable counterpart to eternal conservation.

Things changed during the first decades of the nineteenth century. Honorary embalming reserved to the elites persisted, but a new kind of request emerged and differentiated itself from the former on at least four points. First it was a private request, coming from the families that lost one of their own; often a child, a teenager, a young spouse, whose death seemed all the more unfair as child mortality was declining at that time (Guimard, 1809). Furthermore, such request was sentimental: it did not proceed from a desire to honour but from the incapacity to bear the decomposition of the cherished one. It also imposed new conditions on embalmers: the body had to be as little mutilated as possible, the face had to resemble the living. Indeed, it was a matter of being able to watch those rests from which one could not get separated from; mourning parents requested embalmers to place the deceased, once the operation finished, in a glass coffin, which some would keep until their own death.[2]

> 'The feeling guiding a family when it was determined to embalm one of its member, was completely different. It was sometimes pride, but more often affection, and even though when it was pride, it would be shrouded behind the mask of affection. One could not get separated from a cherished object, but rather rescue it from the tombstone's void to keep watching, talking to and loving it. One would be pleased to keep wishful thinking, reanimate through thought those insensitive remains, to awaken them with love, to return them the affective sensitivity of memories. Then, when the cold reason would take away with its hand of ice any wishful thinking, would still remain the immortal soul of the friend, the father, the mother or the lover, who listen from above, and look down at the earth with love. As a result, embalmers would often be imposed to not let the face covered, to not open it, to not separate any parts from the body, and finally to preserve the face, as much as possible, with the appearance of life' (Boitard, 1839, p. 316).

Just as the ancient one, modern embalming aims to perpetually preserve material remains of the deceased: but not at any price. Highly mutilating techniques were not suitable any more, and surgeons, chemists, anatomists and naturalists were intending their best to innovate even the smallest details, combining subtle incisions and pro- longed immersion in chemical solutions, at the price of tedious and uncertain operations.

That barrier vanished at the end of the 1830s; conservation techniques coming from anatomy were then transferred to the funeral sphere. The French pioneer was an industrial from Paris (self-taught chemist and pharmacist), Jean-Nicolas Gannal (1791–1852). At the beginning, Gannal was intending to meet the needs of the scientific community which wanted to have at its disposal and for as long as possible the corpses destined to the amphitheatre. Inspired by the work of the Italian researcher Tranchina presented to the public in 1835, he designed a new conservation technique. It consisted of

2Glass coffins, in order to keep the body at home and to create a kind of domestic mausoleum, seem to have been employed only for children or young people, and during a very short time at the beginning of the nineteenth century in France. It is difficult to interpret from a small number of cases, even if it reminds the staging of the relics, as well as the myth of the sleeping beauties such as Snow White. See Stéphanie Sauget (2017).

injecting conservatives via the carotid arteries and a syringe rather than treating the body from the exterior. Gannal was rewarded by both the Academy of Medicine and the Academy of Science which were funding and supervising his work. But since 1837, he changed perspective: he applied for an industrial patent ‘for indefinite conservation processes on corpses, or new mummification and embalming techniques destined to replace the different means employed for burial thus far’.

Why this turning point? Gannal felt the evolution of funeral sensibility and the demand of his contemporaries: it was necessary to preserve the body, but also to respect its integrity and keep the resemblance. In a book published in 1838, Histoire des embaumements et de la préparation des pièces d’anatomie (History of embalming and the preparation of anatomical parts), he presented such requirement as an anthropolo- gical fact, a form of invariant of humanity which he traced back to Egyptian Antiquity, in vogue at that time.

Gannal was not only an inventor, but also a businessman and a trader. The patent, which protects both the technique (the injection) and the preserving liquid (which composition remained secret, although derived from arsenic), guaranteed him a mono- poly position. As a matter of fact, he prosecuted those trying to imitate and compete with him, while publically condemning the cruelty of those still employing the old techniques, as in the embalming of the king Louis Philippe’s son, in 1842. He also ensured the success of his technique by relentless solicitations, to families, doctors and priests. Finally, he created a dealership network, the only authorized in the province to practise his method. His book was translated to English in 1840 and edited in the United States. The Gannal method was hence exported to the Americas and the Civil War would provide a fantastic opportunity to diffuse it (Trompette & Lemonnier, 2009).

The golden age of embalming

Success was met. Within a loosely binding legal framework, Gannal multiplied embalm- ing procedures: 5 in 1836, 16 in 1837, 25 in 1838, 20 in 1839; the year 1840 marked a change, with 108 treatments, then 86 in 1841, 105 in 1842 and again 105 in 1843. Since that date, however, embalming faced two setbacks (Carol, 2015).

The French medical profession actually organised a counteroffensive. On the one hand, doctors were worried about a monopoly which would exclude them from a potentially lucrative market; on the other hand, they were irritated by the ceaseless attacks of Gannal who was accusing them to be incompetent while forbidding them to use his technique. The physicians found a champion, Marchal de Calvi, who volunteered to defend his rights: practising ‘embalming in the Gannal way’ he was sued, with the support of his profession. The trial is the opportunity to see how embalming had become naturalised. Marchal defended the idea that human remains could not be considered as a commodity and emerge as an industry; their conservation being a legitimate right for all. According to him, embalming should not be taken away by a few as it benefits all

humanity. In order to convince the judges, Marchal compared Gannal to a surgeon who would refuse to share with his peers a new amputation technique, and hence take it away from patients (Marchal de Calvi, 1843). His demon- stration convinced: Gannal lost the trial, and the injection technique was released to the public domain; only the preserving liquid remained protected by the patent; but the use of arsenic was rapidly banned for forensic reasons.

In 1845–1846, Gannal lost another battle, scientific this time. To his own request, the Academy of Medicine proceeded to a comparative test between his method, based on a new secret formula, and that of a young competitor coming from the medical world, Jean-Pierre Sucquet. Two corpses embalmed by each contender were buried on 21 May 1845, then unearthed on 14 July 1846. The duel turned into defeat for Gannal: his subject had not resisted putrefaction, while that of Sucquet had (Poiseuille, 1847). There was therefore room for competitors: the number of proclaimed embalmers increased in the absence of professional regulations whereas Gannal's business stagnated. Doctors, surgeons, pharmacists, chemists and undertakers turned into embalmers in competition for customers.

But who are those men and women who request the embalmer's services? The account books[3] and lists presented in advertisements allow us to answer that ques- tion to some extent. They contained, without surprise, traditional customers such as the aristocratic elites or religious dignitaries where the logics of distinction still functioned. But embalming also penetrated the bourgeoisie of companies, liberal and intellectual professions: that of doctors, politics, artists, solicitors, lawyers or professors. It sometimes even reached lower social classes, when Gannal mentioned bailiffs, boarding school teachers or shopkeepers. During the middle of the century, the dream of keeping pristine the body of a loved-one had thus become an ideal; a costly ideal nonetheless, between 500 and 2000 francs, which made it inaccessible to the ordinary folks.

Whatever the price, advertisements always guaranteed the preservation period. The differences lied elsewhere: in the various degrees of sophistication that the services performed on the body. Competition between embalmers was crystallised on three aspects. The first was the respect of the body's integrity. The 'new' embalmers would take care of distancing themselves from the old and mutilating methods, in order to promote the modernity of their own procedures. They also intended to always improve on that particular aspect; incisions for the injection were reduced to the minimum, as hidden as possible: on the groin for example, instead of the neck. The second challenge was that of decency: embalming supposed in fact procedures that repelled the families. These were promised to be reduced to the strict minimum, and especially regarding undressing – even completely avoided – the deceased body (Carol, 2012b). Such con- cern was observed during the same period in the legal verification of the death, during which doctors tried to reconcile technique efficiency with the mourning's sensibility (Carol, 2014). In the 1860s, an embalmer even proposed to suppress the injection and make the preserving liquid absorbed by the mouth (Audigier, 1866). The third challenge was that of resemblance.

3Gannal accounts are conserved at the Municipal Library of Bordeaux.

The corpse had to resemble the deceased at his finest. Embalming also had to erase the marks of disease or agony and to beautify the dead, exactly as in the post-mortem photography – another funeral ritual that tried to con- serve the dead in a different way (Héran, 2002). Such a result was obtained by the use of cosmetics, dyes added to the injected liquid and even prosthetics (i.e. glass eye, wax), and by the staging of the dressed body, most of the time, frozen in an eternal sleep. Such ‘sleep’ was ambiguous: embalmers did not even agree with each other on the use of cosmetics. Sucquet was reproaching his competitor Gannal to be ‘heavy handed’ and to try to over-mimic life. According to the former, the deceased had to resemble, yet still had to look dead, without being repulsive (Carol, 2012a).

Materiality and spatiality

How to explain the emergence of the embalming demand at that time? What was sought exactly when one had a dead embalmed? Indeed, affection for the loved ones is insufficient to explain those new requirements.

Embalmers had their own answer: they used to justify their practice by two means. On one hand, embalming had a historical legitimacy: embalming had existed since antiquity, if it was only performed on rare occasions, it was because its knowledge and technique were being lost and its price had become prohibitive. On the other hand, embalming was morally legitimate: it was a duty the living owed to the dead, especially within the family. Unlike animals, humans take care of their dead; and the more refined a civilisation is, the more important the respect for the dead is. Embalming used to constitute its most achieved form: it conserved piously the remains and repaired the loss. In the end, embalmers have invented a form of ‘tradition’ to justify their practice (Sucquet, 1872). In reality, embalmers used to confuse two things: on the one hand, the family’s concern to provide decent funerals, to treat the corpse decently and on the other hand, the attachment to human remains, once they had been buried. Yet, both have not always gone hand in hand.

During centuries, the concern to bury in blessed ground was accompanied by a relative lack of interest regarding the conservation of the remains. In churchyards, these were destroyed by the ground or were subject to periodic exhumation, in order to make room for the new arrivals. Bones were then gathered in an ossuary where identification became impossible and thus remains became anonymous, irrespective of individual coherence. The most important was to save the soul of the deceased, to shorten its time in the purgatory via donations, prayers and masses. In France, only public figures disposed of an identified and durable grave, often within the church, marked by a slab or a funerary monument in a chapel. However, the living did not often come there to spend some time and meditate about the loss (Bertrand, 2011). From the moment the body had been properly buried, the place did not matter any more; nor did the body itself. Spatiality and materiality did not matter much in the relationships between the living and the dead.

The situation progressively changed, with the funeral transition, in a different political and sensitive context. The decree of 12 juin 1804 (23 prairial an 12) founded in France the contemporary cemetery (Bertrand & Carol, 2016). The State assigned it with two functions: a hygienist function and a commemorative function. The first was the most important: it was about creating a collective facility capable of consuming the corpses without risking to jeopardise the health of the living. The decree carefully regulated their location, the precise depth of the pits, their spacing and the tomb's rotation period (five years) in order to avoid ground saturation and dangerous miasma emanations. But the decree also authorised mourn- ing people to leave ephemeral distinctive signs on these temporary graves: it provided for the exceptional plots boon for the construction of durable graves, in order to honour the memory of philanthropists. It is known how the cemetery evolved during the nineteenth century, under the demand pressure: possession of a plot became very quickly a distinctive sign of a bourgeoisie greedy to remain as such in the long-term, and their number increased rapidly; even more so rapidly that mayors profited from the plot sales. The royal order of 1843 followed the movement and created a standardised system of plot attribution, which price varied according to the duration: 15, 30 years or permanent.

Unlike the initial biopolitical project,[4] users took over the cemetery. The multiplication of plots had transformed the necropolis, originally designed as sites for corpse consumption, into sites for conservation. It is hence the location of the grave which became the spatial centre of the cult of the dead. And this was only possible because it protected the remains whose material fate mattered to the extent that people were trying to control it in the future as long as possible.

What is the role of embalming in this process? The two movements are linked, including chronologically; the embalming vogue was contemporary of the rise of plots. Moreover, contemporaries used to highlight in their advertisements the conver- gence of objectives:

> 'We are far from advising its use in all circumstances; we would not understand, for example, the advantage of resorting to it if the body, embalmed and sealed between poorly-joined pinewood planks, would be put in the ground (. . .) we understand even less the families monuments, vaults and graves, without preservation of the bodies. Indeed, without embalming, what could be the use for such mass of stone, marble or granite? What would it hold after a few years? Any funeral monument which would not have been proceeded by embalming (. . .), would be a non-sense, or simply the manifestation of the family's vanity more concerned to display its own prosperity than affected by sincere grief. Thus, embalming and family graves are two inseparable considerations in our eyes' (Very, 1842, p. 20).

In reality, embalming, plots and coffins are the three faces of such need, almost neurotic in its conservative impulse: coffins, increasingly sophisticated, became at the same time protections against exterior ravages and casket to protect the corpses from corruption.

4Seen as a governance through the bodies (Michel Foucault).

Embalming also took another meaning within other body conservation practices: the last portraits (masks, funeral photographs) fixed the image of the deceased (Héran, 2002); private reliquaries used to depict the locks of its hair... However, unlike those illustrative or metonymic processes, embalming achieved the ideal of preservation in the most literal and material sense.

The convergence is such that Gannal's first projects planned different treatments for the bodies depending on their destinations. In an confidential report addressed in 1842 to the Prefect of the Seine and the Commissioner of Police of Paris (the order fixing the duration of plots attribution was not signed yet), the embalmer reminded that Parisian cemeteries produced harmful emissions, and that space could be insufficient; he therefore proposed three injection modes. Traditional embalming would be destined to bodies placed within lifelong or temporary plots for 50 years. A 'temporary preservation' injection would be performed on corpses buried within purchased plots for twelve years minimum. Regarding corpses destined to mass graves, Gannal simply proposed to perform a 'dissolution injection'. The dissolution injection would hasten the destruction of the body while avoiding putrefaction, its dangers and horrors: 'Whatever the time at which bodies are visited, it remains odourless, of similar aspect; only it softens and resorbs to water' (Gannal, 1842). This proposition calls for two comments. On the one hand, the so-called imperative of material conservation of the body depended on the durability of its location; it disappeared when the grave was provisional. On the other hand, this imperative was experienced according to social standards, hence creating a two-tier cemetery: for the wealthy, a place of preservation more or less complete; for the penniless, a place of consumption – as planned by the decree of 1804. However, Gannal's proposition was not implemented and embalming continued to develop.

Embalming in the funeral tradition

The history of embalming in France follows a curious chronology. A century after its invention, it almost fell into disuse whereas it thrived in the United States. When Jacques Marette decided to learn it in the 1960s, he was forced to go to England and to the United States, from where he brought back what would henceforth be called, thanatopraxia (Marette, 1999). It is easier to describe embalming abandonment than to explain it. Its decline took several forms. On one hand, in the 1870s, its practice was restricted to a limited social fringe; the landslide had not occurred, the small bourgeoisie was standing apart and embalmers were disputing each other in a shrinking market. In Paris, it reached a maximum of a hundred operations per year at the beginning of the twentieth century. Moreover, its meaning became honorary again: were embalmed great men, public figures, or those who considered themselves as such. It was more about distinction than affection. In addition, technical promises were not fulfilled; the growing number of self-proclaimed embalmers was accompanied with a deterioration of services and the multiplication of disappointing failures. Legal constrains were stronger: families had to request an official authorisation in order to embalm their dead. Finally, Pasteurism imposed more stringent

technical standards.

Next to prestigious embalming, increasingly expensive and complex, developed a temporary type of embalming, openly promoted by traders. It was about treating the corpses which were about to travel to reach their last abode, or simply to allow them to hold until their funerals. Embalming was hence a practical complement of corpse's exhibition and of the 'visit' to the dead; it permitted to delay funerals and allowed sufficient time for the family to gather. It also permitted to fight against the alteration of the body, unbearable to the relatives, but also to neutralise the toxicity of the corpse. It was hence a pragmatic goal. In embalmers' registers, those 'temporary' injections were more frequent at the end of the century, and one can think they constituted the bulk of the undertakers' work. Some traders used to even propose customers products or devices for rental in order to disinfect corpses at home.

Eternity is therefore, less and less, the horizon of embalming. Wanting to keep the body of a relative, especially nearby, seemed unhealthy, in every sense of the word. How to explain such disenchantment of the embalmed body in the chronology of the funeral transition? I hypothesise that embalming marked a transition between two systems of relationship between the living and the dead. It would be a transition from the pre-Revolution, ancient system where neither the body nor the grave acted as a reminder of the dead, to a modern system where, according to Jean-Didier Urbain, the grave sufficed to signal the bodily presence of the dead and constituted the sole support of its cult (Urbain, 1978). Between the two, the body, during a brief time, crystallised the anxiety of the loss, dissolution and forgetfulness. The best mean to ward it off was to place rot-proof corpses into eternal monuments. Romantic embalming carried on as long as the materialistic presence of the body was necessary to give meaning to the grave, as long as it had to shelter it, literally not metaphori- cally. Gradually, the bodies became useless to the cult which had developed around the grave. So, during a limited period of time,a short transitional period during the great funeral transition, the certainty of having a fully preserved body under the grave seemed necessary in order to function as a place of memory and as the cornerstone of the cult of the dead.

Nowadays, embalming has little in common with nineteenth century embalming (Lemonnier, 2011). Legally speaking, it is only required in the case of corpses transportation; yet, more than half of corpses receive thanatopraxia cares dispensed by qualified and supervised professionals. These treatments do not aim for eternal preservation: besides, the law forbids it. Decomposition is suspended by chemical injection until the funerals; according to the thanatopractors, grieving is morally more 'comfortable' in front of a body purged of any repulsive scars. The materiality of the body is not a quality to preserve any more, but rather an obstacle needed to be overcome, and, for the matter, the kin rarely asked the embalmer for details about the preservation period. Moreover, the growing success of embalming goes hand in hand with that of cremation. It does not make the body disappear, but transforms it so that its appearance has vanished and what subsists is a mere material residue without any resemblance to the living. Ashes are not always buried, and their dispersion, although supervised in nowa- days French legislation, weakens again its tenuous materiality. Far from the incorruptible body sheltered under its

slab, it is hence on multiple and discontinued materialities that the cult of the dead now relies.

Notes on contributor

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References

Ariès, P. (1991). *The Hour of Our Death*. First edition in France: *L'homme devant la mort*, 1977. Oxford: Oxford University Press.

Audigier. (1866). *Embaumement des corps. Nouveau système Audigier, consacré par des expérimentations publiques et des rapports officiels. Brevets d'invention et de perfectionnement SGDG en France et à l'étranger*. Paris: Schiller.

Bertrand, R. (2011). *'La transition funéraire en France. Une rapide synthèse', Mort et mémoire*. Marseille: La Thune, p. 21–56.

Bertrand, R., & Carol, A. (ed.). (2016). *Aux origines des cimetières contemporains*. Aix-en-Provence: PUP.

Boitard. (1839). *Nouveau manuel du naturaliste préparateur, ou l'art d'empailler les animaux, de conserver les végétaux et les minéraux, de préparer les pièces d'anatomie normale et pathologique; suivi d'un traité des embaumemens* (new edition). Paris: Manuels Roret.

Carol, A. (2012a). Faire un beau cadavre: Difficultés techniques et ambiguïtés esthétiques de l'embaumement au XIXe siècle. In H. Guy, A. Jeanjean, A. Richier, A. Schmitt, I. Sénépart, N. Weydert, (Eds.). *Rencontre autour du cadavre* (pp. 139–145). Marseille: GAAF.

Carol, A. (2012b). Pudeurs et manipulations médicales du cadavre. *Histoire, médecine et santé*, 1, 63–76.

Carol, A. (2014). Le médecin des morts à Paris au XIXe siècle. *Annales de démographie historique*, 1, 153–180.

Carol, A. (2015). *L'embaumement. Une passion romantique*. Ceyrezieu: Champ Vallon.

Dionis, P. (1767). *Cours d'opérations de chirurgie, démontrées au Jardin Royal* (8th ed.). Paris: V^{ve} d'Houri.

Etlin, R. (1987). *The architecture of death. The transformation of the cemetery in 18th century Paris*. Cambridge & London: MIT Press.

Gannal, J.-N. (1842). *Mémoire adressé à M. le Préfet de la Seine et à M. le préfet de police pour l'application d'un nouveau système d'inhumation dans les cimetières de Paris*, Paris: Terzuolo.

Guimard, J.-B. (1809, août 12). Coup d'œil chimico-pharmaceutique sur les moyens de prévenir la putréfaction des substances animales et spécialement sur les embaumemens. *Thèse Ecole de pharmacie de Montpellier*.

Héran, E. (ed.). (2002). *Le dernier portrait*. Paris: Réunion des musées nationaux.

Kselman, T. A. (1993). *Death and the afterlife in modern France*. Princeton: Princeton University Press.

Laqueur, T. (2015). *The work of the dead*. Princeton: Princeton University Press.

Lemonnier, M. (2011). *Thanatopraxie et thanatopracteurs. Étude ethno-historique des pratiques d'embaumement en France*. Berlin: Éditions Universitaires Européennes.

Marchal (de Calvi). (1843). *La question de l'embaumement*. Paris: Baillière.

Marette, J. (1999). *Mémoires d'un embaumeur*. Le Cherche-Midi: Paris.

Poiseuille. (1847). *Rapport sur divers modes d'embaumement présentés par MM. Dupré, Gannal et Sucquet,… Rapport fait à l'Académie de médecine, le 16 mars 1847*. Paris: Baillière.

Robert le Jeune. (1801). *Essai sur la mégalanthropogénésie, ou l'Art de fabriquer les grands hommes*. Paris: Debray.

Sauget, S. (2017). *Le cercueil de verre ou l'imaginaire de la dernière demeure*. Mémoire d'HDR, Aix- Marseille Université.

Sucquet, J.-P. (1872). *De l'embaumement chez les anciens et chez les modernes et des études pour la conservation de l'anatomie*. Paris: Delahaye.

Trompette, P., & Lemonnier, M. (2009). Funeral embalming: The transformation of a medical innovation. *Science Studies*, 22(2), 9–30.

Urbain, J.-D. (1978). *La société de conservation. Étude sémiologique des cimetières d'Occident.* Paris: Payot.

Véry, J. (1842). *Notice sur les embaumements. Procédés de M. Gannal*. Paris: Terzuolo.

Vovelle, M. (1983). *La mort et l'Occident de 1300 à nos jours* [Death and the West from 1300 to nowadays]. Paris: Gallimard.