The First Attempt at Resuscitation of the Presumed Dead: Tobacco Insufflation in the 18th Century

(History of Neurology)

Olivier Walusinski[1], Eelco F.M.Wijdicks[2]

[1] Lauréat de l'Académie de Médecine (Paris)

[2] Division of Neurocritical Care and Hospital Neurology, Mayo Clinic, Rochester, USA

Corresponding Author:

Olivier Walusinski, ORCID ID: https://orcid.org/0000-0001-6927-7946

E-mail address: walusinski@baillement.com

Abstract

For centuries, the feeling of powerlessness in the face of death could only be fought through miraculous intervention or an intercessor in contact with the divine, a saint, or the Holy Virgin, the only means of saving a life. Medicine was totally unconcerned with resuscitation, inconceivable at the time, but did focus on defining signs that confirmed death. However, in the middle of the 18th century, the preoccupation to try to resuscitate the drowned was born and recommendations to achieve it were gradually enacted in order to allow the rescuers to succeed. Among them, the rectal insufflation of tobacco smoke was the most surprising and yet the most widely used in addition to bloodletting. This article tells the story of the birth of this surprising method of care and of the materials invented to put it into action, placed in kits along the rivers and the lakes' shores.

Keywords: Resuscitation, Death determination, Resuscitating drowning victims, Tobacco intestinal insufflation, Fumigation kits.

Introduction

For centuries death was a settled fact. Resurrection was only found in Judea-Christian texts and an act of divinity. Resuscitation by man was thought to be inconceivable at the time. The main academic interest was on defining signs that confirmed death which would avoid the universally feared premature burial. Early work on the clinical criteria for death were found in *Lettres sur la certitude des signes de la mort* (letters on the certitude of the signs of death) by Antoine Louis (1723-1792) and published in 1752 (*Louis, 1752*), and was in response to the *Dissertation sur l'incertitude des signes de la mort* (dissertation on the incertitude of the signs of death) by Jakob-Benigus Winsløw (1669-1760) —this dissertation was translated from Latin by Jacques-Jean Bruhier d'Ablaincourt (1685-1756) in 1742 (*Winsløw,1742*).

Drowning generated more interest because it frequently involved children and spontaneous recoveries after rewarming —albeit rare —were known.

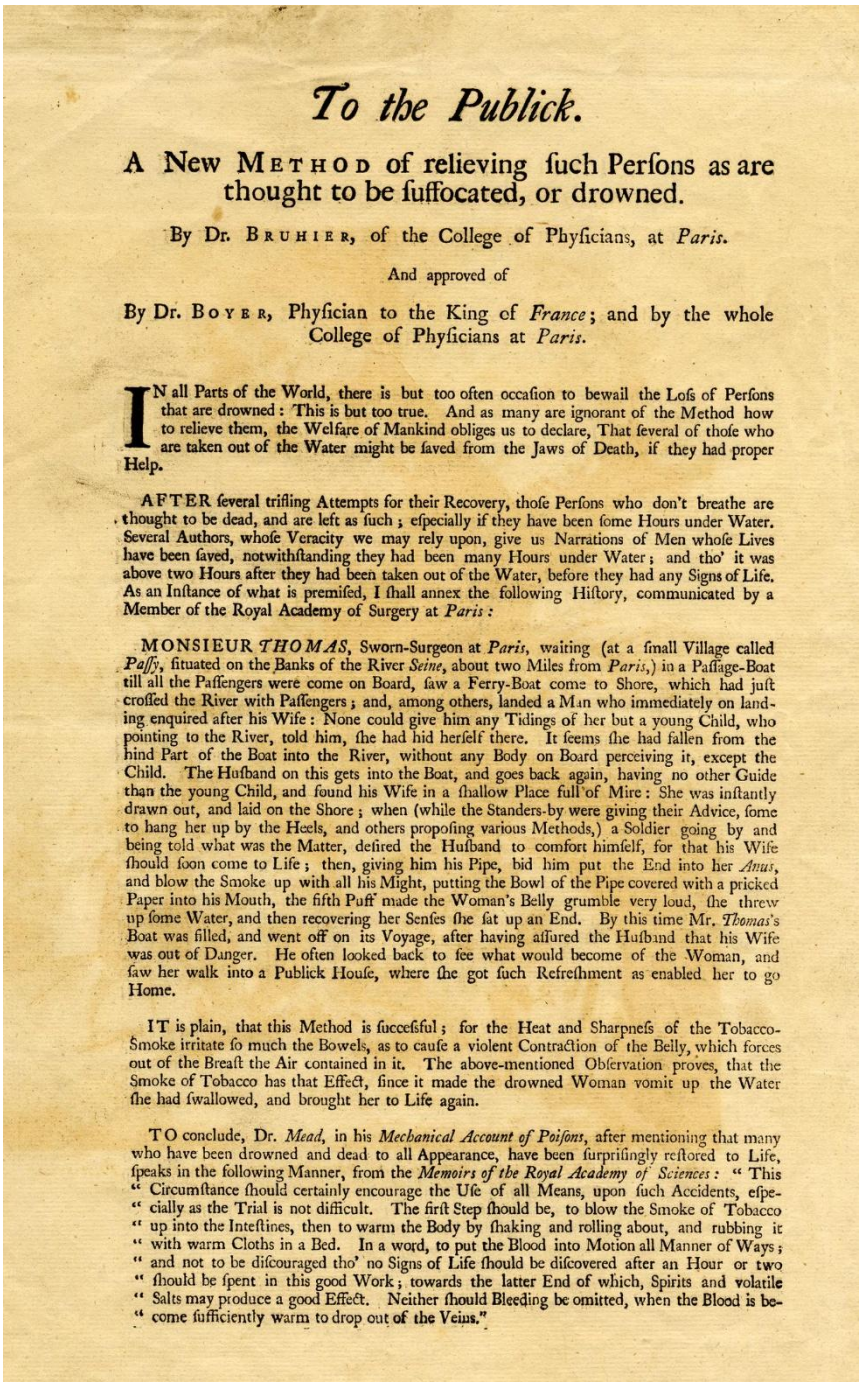
Upon the request of the *prévost des marchés de Paris,* a local elected official, in 1740, the Académie des Sciences commissioned René-Antoine Ferchault de Réaumur (1683-1757) to draft an *Avis pour donner du secours à ceux que l'on croit noyez* (opinion on coming to the aid of someone believed to have drowned) (*Réaumur and de Ferchault, 1740*). His opinion paper became a reference text until the start of the 19th century: His main premise was that rescue form the dead was feasible "It is not known, & love for the human race deems it should be known, that many of those rescued from the water who appear dead, could be saved from immediate death if they were given the necessary aid & for some time". Réaumur drew on the writings of Louis Bourguet (1678-1742), a naturalist philosopher from Neuchâtel with whom he regularly corresponded and who reported on his experience of saving a drowning victim in his journal *Le Mercure suisse* in 1727 (*Léchot and Huguenin, 2012*). Réaumur advised against hanging the drowning victim by their feet, while recommending they be rigorously shaken by all means available, undressed, and kept warm. He also recommended "pouring alcoholic spirits into their mouth", in the absence of which warm urine could be used "which appears to work well"; he also recommended tickling their nose "with the barbs of a feather". It was only after these measures that he recommended blowing warm air into their mouth, "but what may be best is to use a pipe to blow tobacco smoke into the intestines". As a last resort, a surgeon could be asked to make a laryngotracheal incision to blow air directly into the lungs essentially suggesting an emergency tracheostomy. Without corroborating evidence and no objective outcome measures these interventions could still be successfully applied at least two hours after the drowning.

In 1748, Bruhier d'Ablaincourt et Jean-Baptiste Boyer (1693-1768) drew on the ideas of Réaumur to draft a harangue that would make the means of resuscitating drowning victims known to the "public" of London (*Bruhler and Boyer, 1748*) (Figures 1 and 2). In 1767 a manuscript was published in Amsterdam, arguing in favour of creating societies around resuscitating drowning victims; curiously, it was published in a philosophical journal. It did not fail to mention how funding for these measures must consider the retribution of citizens who came to the aid of a victim (*Meijer and van Tongerlo, 1767*). This publication drove the creation of a Society devoted to the rescue of victims of near-drowning (*Ter Gelegenheid van het Oprechten de Maatschappij tot redding van Drenkelingen* (*Noortwyck et al., 1768*). This Dutch society set forth its recommendations: *Bericht wie man denenjenigen, welche man ersoffen zu seyn glaubet, Huelffreiche Hand leisten solle* (opinion on coming to the aid of those believed to have drowned). Various rescue societies were formed and had "fumigation kits" installed along the Thames, Seine, Rhine, and Meuse Rivers and other major waterways, and around

Lake Geneva. Intestinal insufflation rapidly became a preferred method and by using tobacco smoke.

Figure 1. *To the Publick. A New Method of relieving such Persons as are thought to be suffocated or drowned.* Engraving by John Fougeron, 1747 (© The British Museum, public domain).

In January 1759, the physician Antoine Isnard (1720-?) submitted to the Académie des Sciences of the city of Besançon his work compellingly entitled: *Le cri de l'humanité en faveur des personnes noyées, ou moyens faciles pour les rappeler à la vie* (humanity's cry to save the drowned, or easy means of resuscitating them) which was awarded the Prix des Arts (*Isnard, 1759*). However, a year later the *Journal de Médecine et de Chirurgie* published a far-reaching critical revision (*Isnard, 1760*). According to Isnard, "[the] circulation is stopped [making it necessary] to remove the blood flooding into the chest and brain and empty the lungs of the liquid breathed in". Bleeding the jugular was thus necessary but was always accompanied by purgatives, frictions, and "tobacco smoke introduced into the intestines by the anus or mouth, or a suppository of tobacco". Isnard supported this approach using examples of sailors thrown overboard who were saved by those who pulled them out of the water.



To the Publick.

A New METHOD of relieving ſuch Perſons as are thought to be ſuffocated, or drowned.

By Dr. BRUHIER, of the College of Phyſicians, at *Paris*.

And approved of

By Dr. BOYER, Phyſician to the King of *France*; and by the whole College of Phyſicians at *Paris*.

IN all Parts of the World, there is but too often occaſion to bewail the Loſs of Perſons that are drowned: This is but too true. And as many are ignorant of the Method how to relieve them, the Welfare of Mankind obliges us to declare, That ſeveral of thoſe who are taken out of the Water might be ſaved from the Jaws of Death, if they had proper Help.

AFTER ſeveral trifling Attempts for their Recovery, thoſe Perſons who don't breathe are thought to be dead, and are left as ſuch; eſpecially if they have been ſome Hours under Water. Several Authors, whoſe Veracity we may rely upon, give us Narrations of Men whoſe Lives have been ſaved, notwithſtanding they had been many Hours under Water; and tho' it was above two Hours after they had been taken out of the Water, before they had any Signs of Life. As an Inſtance of what is premiſed, I ſhall annex the following Hiſtory, communicated by a Member of the Royal Academy of Surgery at *Paris*:

MONSIEUR *THOMAS*, Sworn-Surgeon at *Paris*, waiting (at a ſmall Village called *Paſſy*, ſituated on the Banks of the River *Seine*, about two Miles from *Paris*,) in a Paſſage-Boat till all the Paſſengers were come on Board, ſaw a Ferry-Boat come to Shore, which had juſt croſſed the River with Paſſengers; and, among others, landed a Man who immediately on landing enquired after his Wife: None could give him any Tidings of her but a young Child, who pointing to the River, told him, ſhe had hid herſelf there. It ſeems ſhe had fallen from the hind Part of the Boat into the River, without any Body on Board perceiving it, except the Child. The Huſband on this gets into the Boat, and goes back again, having no other Guide than the young Child, and found his Wife in a ſhallow Place full of Mire: She was inſtantly drawn out, and laid on the Shore; when (while the Standers-by were giving their Advice, ſome to hang her up by the Heels, and others propoſing various Methods,) a Soldier going by and being told what was the Matter, deſired the Huſband to comfort himſelf, for that his Wife ſhould ſoon come to Life; then, giving him his Pipe, bid him put the End into her *Anus*, and blow the Smoke up with all his Might, putting the Bowl of the Pipe covered with a pricked Paper into his Mouth, the fifth Puff made the Woman's Belly grumble very loud, ſhe threw up ſome Water, and then recovering her Senſes ſhe ſat up an End. By this time Mr. *Thomas*'s Boat was filled, and went off on its Voyage, after having aſſured the Huſband that his Wife was out of Danger. He often looked back to ſee what would become of the Woman, and ſaw her walk into a Publick Houſe, where ſhe got ſuch Refreſhment as enabled her to go Home.

IT is plain, that this Method is ſucceſsful; for the Heat and Sharpneſs of the Tobacco-Smoke irritate ſo much the Bowels, as to cauſe a violent Contraction of the Belly, which forces out of the Breaſt the Air contained in it. The above-mentioned Obſervation proves, that the Smoke of Tobacco has that Effect, ſince it made the drowned Woman vomit up the Water ſhe had ſwallowed, and brought her to Life again.

TO conclude, Dr. *Mead*, in his *Mechanical Account of Poiſons*, after mentioning that many who have been drowned and dead to all Appearance, have been ſurpriſingly reſtored to Life, ſpeaks in the following Manner, from the *Memoirs of the Royal Academy of Sciences*: "This "Circumſtance ſhould certainly encourage the Uſe of all Means, upon ſuch Accidents, eſpe- "cially as the Trial is not difficult. The firſt Step ſhould be, to blow the Smoke of Tobacco "up into the Inteſtines, then to warm the Body by ſhaking and rolling about, and rubbing it "with warm Cloths in a Bed. In a word, to put the Blood into Motion all Manner of Ways; "and not to be diſcouraged tho' no Signs of Life ſhould be diſcovered after an Hour or two "ſhould be ſpent in this good Work; towards the latter End of which, Spirits and volatile "Salts may produce a good Effect. Neither ſhould Bleeding be omitted, when the Blood is be- "come ſufficiently warm to drop out of the Veins."

Figure 2. Text of Jacques-Jean Bruhier d'Ablaincourt (1685-1756) and Jean-Baptiste Boyer (1693-1768) accompanying the engraving in Figure 1, *To the Publick. A New Method of relieving such Persons as are thought to be suffocated, or drowned*, 1747 (© The British Museum, public domain).

In Paris, the local elected official Philippe Nicolas Pia (1721-1799) used the Amsterdam model to set up special places for resuscitating drowning victims in June 1772 (*Trépardoux, 1997*). Fifteen guard stations were organised along the banks of the Seine, each staffed by personnel of the Garde de Paris who had been provided with the necessary equipment and trained to

perform intestinal insufflations. These kits contained a cannula, a bellows, a spoon, rolls of tobacco, containers of emetic granules, brandy, bandages, a woollen cap, and equipment for bleeding (Figure 3) (*Pia, 1776*). In his biographer Trépardoux reported on his archives which documented an annual average of 75 resuscitated drownings in Paris. Nearly all of them were treated in the prescribed fashion; in most cases, they were taken to their homes. Pia noted that from July 1772 to March 1773, 23 of the 28 victims rescued "were resuscitated" and provided comparable data for the following years.

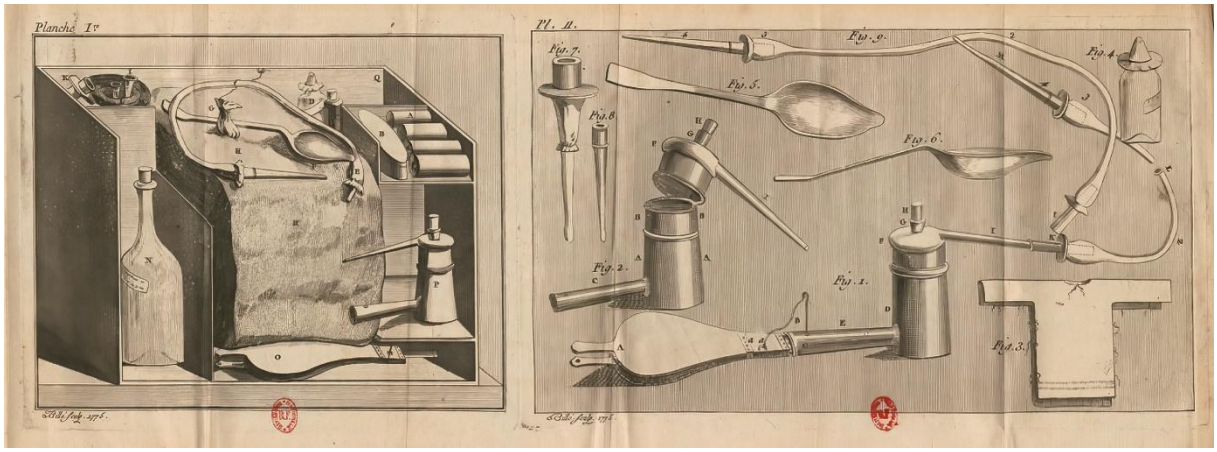


Figure 3. Aid kit designed by Ph. N. Pia in Paris in 1772 (Bibliothèque national de France/national library of France [BNF], public domain).

Abbot François Rozier (1734-1793) reported on the installation of the "new fumigatory kit" by the city of Paris which was to replace the bulky "storage kit". The latter was only found at the guard stations along the Seine, which could be some distance from the scene of the accident. For him, all asphyxia and sudden death victims, whatever the cause, must be treated in the same manner: "In all cases, the suspension of respiration, due to a lack of free & pure air, known to be absolutely necessary for this most vital function, causes spasmodic contraction in all muscles; the movements of the body are interrupted; and the blood vessels of the brain can no longer empty into those of the chest, causing a violent state of congestion and opilation in this primordial capacity" (*Rozier, 1775*) [*opilation* is a medical term from old French that refers to the obstruction of a natural passageway]. After the drowning victim was dried and rewarmed (Figure 4), Rozier advised blowing air into the nostrils and to prepare for the rectal insufflation of tobacco smoke: "The cannula B is inserted into the anus of the drowning victim; the end C of the hose D is then fitted to it and air is blown into the pipe by the second hose E, placed at the other end of this pipe" (Figure 5).

Figure 4. Intestinal insufflation, F. Rozier (1734-1793), 1775 (BNF, public domain).

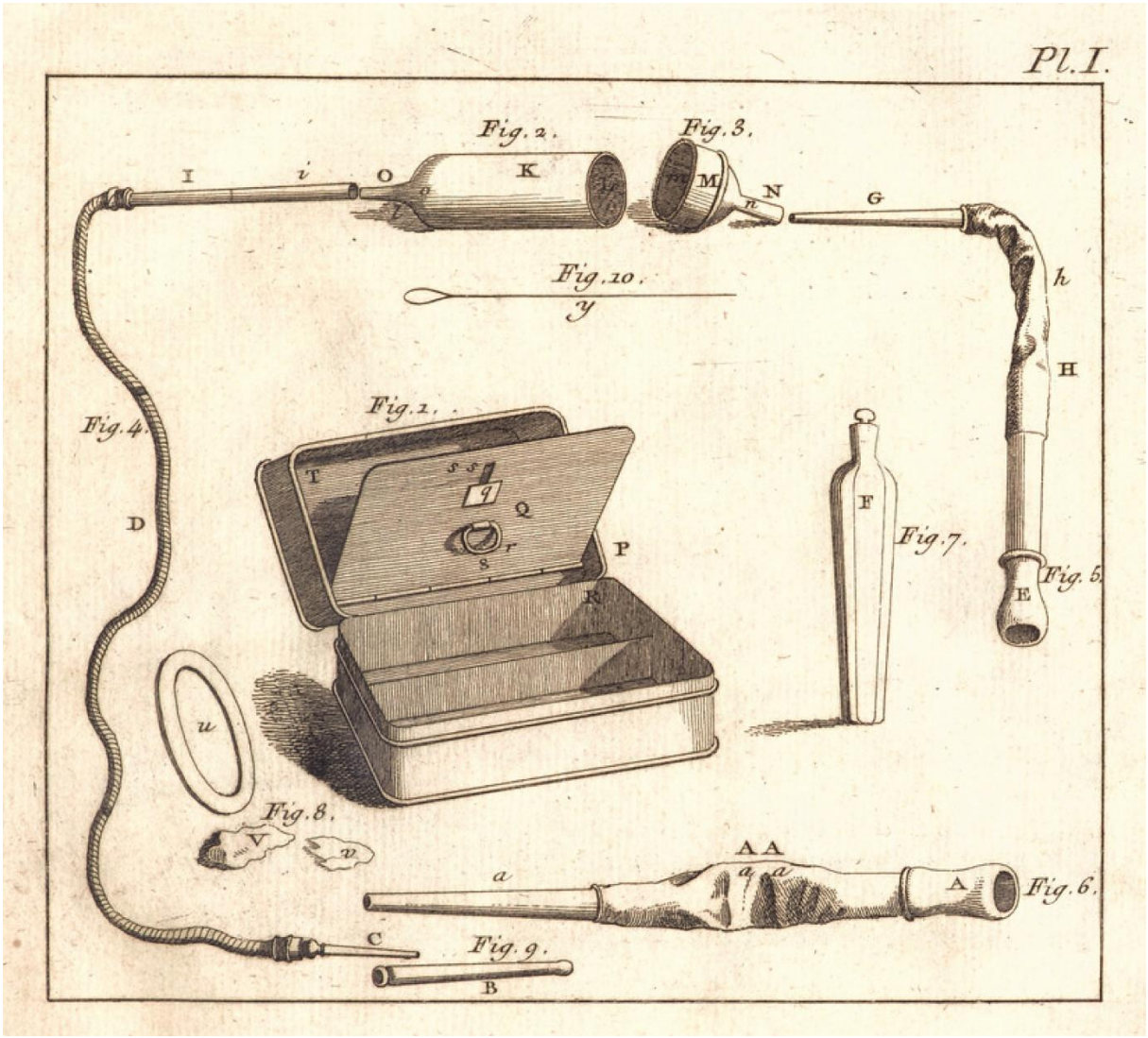


Figure 5. Fumigatory kit, F. Rozier, 1775 (BNF, public domain).

In Switzerland, Albrecht von Haller (1708-1777) in Bern wrote instructions in 1776 (von Haller, 1776). For him, the priority was to "create movement in the lungs, & remove the foam that in most cases prevents the victim from breathing". For this purpose, he advised a bellows fitted to a hose inserted into the throat: "A curved hose like the kind used in anatomy. . . & through this hose air is forcefully blown into the drowned lung". He went on to report on eight years of practice with this technique "to resuscitate a body that is already rigid". During this time, he found nothing more useful than "tobacco smoke enemas. . . . This enema is performed with an instrument resembling the tube of a tobacco pipe but that is flexible" (Figure 6). He advised blowing this smoke into the intestines for at least two hours; "the effect is often very slow". The appearance of colic rumbling was indicative of success, suggesting that the swelling of the lower abdomen pushed against the diaphragm to provoke the emptying of the respiratory pathways.

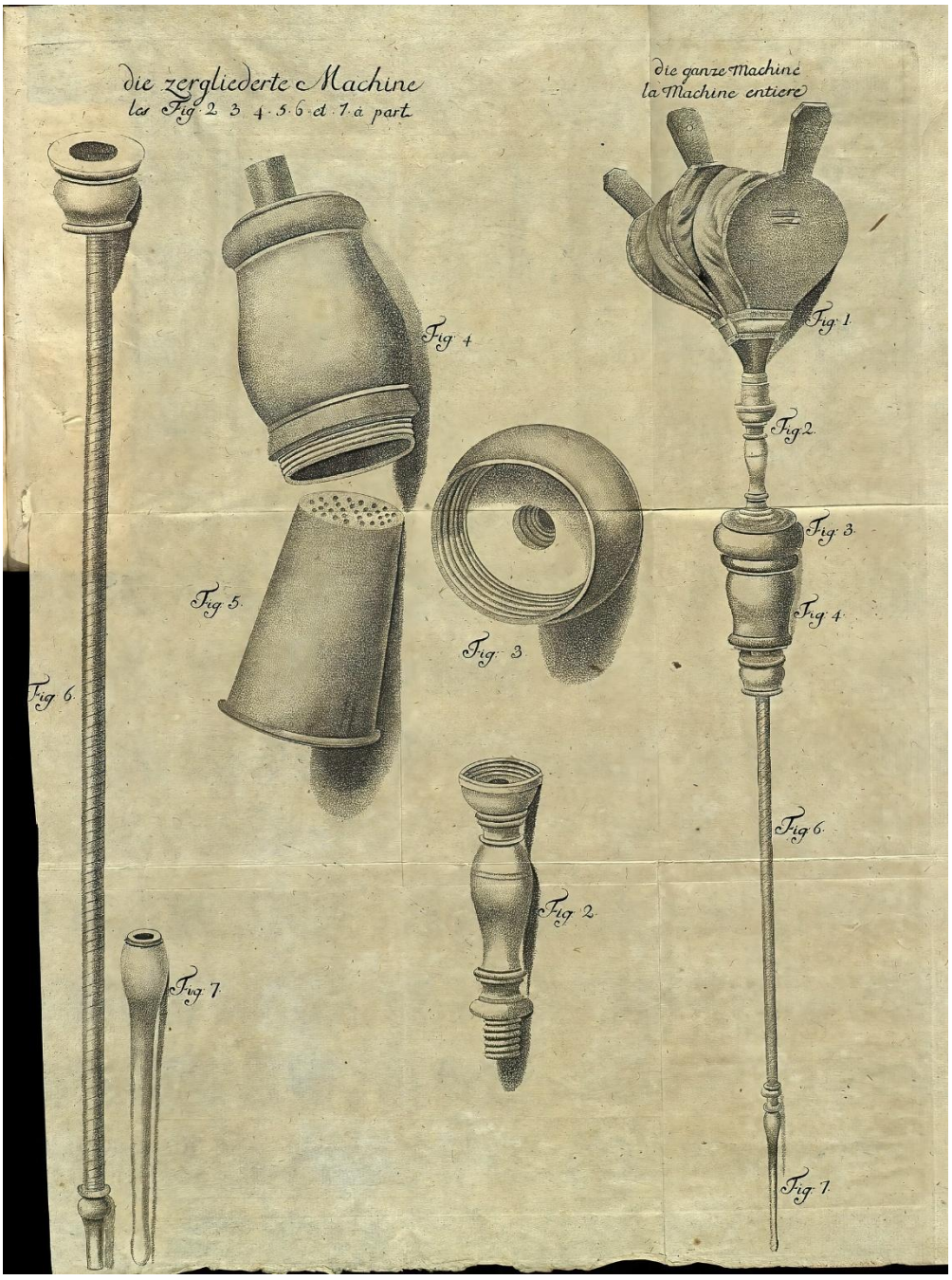


Figure 6. Instrumentation recommended by A. von Haller of Berne in 1776 (© Niedersächsische Staats und Universitätsbibliothek Göttingen/Göttingen state and university library, public domain).

Jacques Joseph Gardane (1726-1786), *docteur-régent* of the medical school in Montpellier authored numerous works on public hygiene. In 1783, he wrote a short work, at the request of the general elected officials of the Estates of Burgundy, entitled *Catéchisme sur les morts apparentes dites asphyxies ou instruction sur les manières de combattre les différentes espèces de morts apparentes mise à la portée du peuple* (catechism on apparent deaths considered to be due to asphyxia, or instruction on the ways of responding to various kinds of apparent death, made accessible to members of the public) (*Gardane, 1783*). This catechism opposed tracheotomy and bleeding and asserted that the "tobacco smoke enema" was the sole effective

remedy against asphyxia in drowning victims and the only means of revitalising thoracic ventilatory movements.

In 1795, the surgeon Jean-Baptiste Desgranges (1751-1831) from Lyon explained that the city of Morges, on Lake Geneva in Switzerland, acquired "a kit for aiding drowning victims that one of its inhabitants had the benevolence to have brought from London. The city council had it placed in a cabinet in the grand reception room of city hall; all physicians and surgeons have a key to use it as needed, & zealous persons of all stations can also use it" (*Desgranges, 1795*). The notion of first aid did not yet exist. In his brochure, Desgranges preferred the use of a nasal tube that could be fitted with a bellows to push air into the lungs. In lieu of a bellows, "a wind cannula" could be used orally. "After a few pumps of the bellows, animal insufflation can be used; since it is warm, human breath causes the aqueous cells to shrink and the fluid to be dispersed; it then reduces the fluid to the smallest volume & restores to the lungs the ability to empty themselves of this material cause". His discussion concludes with an inventory of the "storage kit" and useful principles for performing intestinal insufflation with tobacco smoke.

It took more than a full century for a rebuttal and it came with François Chaussier (1746-1828) who felt it was ineffective (*Chaussier, 1818*). He proposed replacing it with an enema of cooking salt. As early as 1807, to teach members of the public how to save drowning victims, he produced an illustrated lithograph, wishing to "appeal to the eyes. . . . This engraving can be found in Paris at the Chalcographie des monuments (engraving workshop), located at 100 rue du bac" (Chaussier, 1807). Unfortunately, the journal did not print the engraving. During 18th century, fumigatory kits gradually grew simpler and smaller, becoming portable cases containing a syringe and ivory rectal cannulas, a bellows, and "the tobacco pipe".

By 1773, 95 French cities had installed "storage kits" on the banks of the rivers that ran through them. In 1775, an ordinance of the minister Jean-Frédéric Phélypeaux (1701-1781), Count of Maurepas, required the provincial prefects to inform as many people as possible of "the measures necessary to resuscitate a drowning victim". In its Article XIX which governed the duties of the municipal police, the Order of 5 brumaire an IX (French revolutionary calendar, around 1800-01) delegated the selection of locations for these kits to police commissioners (*Brullard, 1977*). From that point on, the kits grew more numerous and varied. In 1875, on the bridges spanning the Seine and on the river boat pontoons, a sign marked "Aid to Drowning Victims" still recommended, in the last line, blowing tobacco smoke into the rectum (*André, 1911*).

Why a rectal insufflation of tobacco smoke?

The recommendation to blow tobacco smoke into the rectum may seem preposterous given the current pathophysiological knowledge. But for the 18th-century physician, this was a rational approach. In his *An essay concerning the effects of air on human bodies*, published in 1733, John Arbuthnot (1667-1735) asserted the existence of a vital principle in the air that could resuscitate a dying animal by an insufflation to the vena cava "and even to the intestines, by the anus" (*Arbuthnot, 1733*). Another example comes from Desgranges in 1795. For him, asphyxia by drowning produces "extreme inertia of the solids & fluids from which result all the phenomena that give the appearance of death". Insufflation was the remedy for combating this inertia. The aid kits contained the necessary equipment. The bellows could be fitted into nasal or oral cannula to blow fresh air into the lungs or introduce vapours believed to be stimulants, such as tobacco, into the lungs, stomach, or rectum. Could this be effective? At low doses,

nicotine seems to have a cardiotonic and hypertensor effect after its absorption by the gastric or rectal mucous membrane. It stimulates the adrenergic receptors in the rectal submucosa and has a cardiotonic effect after general diffusion.

The Swiss surgeon Pierre Fine (1760-1814) performed vivisection on dogs and autopsied drowning victims. He showed in 1800 that the insufflation of air into the lungs provided the most valuable aid to drowning victims. But he also noted that the abdominal viscera survive the longest after drowning and that acting on them could have a remote "sympathetic" effect: "[Drowning] calls for using internal remedies to stimulate irritability in the parts to which these remedies are applied and in others that are sympathetically linked to them". The colic dilation caused by intestinal insufflation was also supposed to reactivate the diaphragm. Fine thus recommended this practice in addition to blowing air into the lungs (*Fine, 1800*).

In the 1700s, a clyster was a piece of medical equipment widely used for introducing remedies into the organism. Tobacco insufflation had existed for several centuries to treat constipation or even intestinal occlusion (*Pumfrey et al., 1991*). Why not try this kind of treatment in a situation where there were few other options? Whatever the case, the notion of emergency care was slow to emerge. Treatment lasted several hours, always with the fear of burying someone alive. Mouth-to-mouth resuscitation would only come to be practised gradually, over the course of the 19th century (*Trubuhovich, 2006*). Meanwhile, intestinal insufflation silently disappeared from the recommendations, without there having been much criticism. But Antoine Portal (1742-1832) did write in 1805: "Introducing tobacco smoke into the rectum of drowning victims was advised using a fumigatory device. . . . We are not opposed to this, but we do not expect much efficacy from all these methods for resuscitating drowning victims" (*Portal, 1805*).

For Anton Serdeczny, the theory of vitalism, developed by the Montpellier School, influenced, among others, the authors of the *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers* (encyclopaedia or rational dictionary of the sciences, arts, and trades). It called for medicine to play a truly interventional role. However, the role of testimony and literary accounts went far beyond that of experimentation. Experimentation was often carried out in secret due to fear of political-religious backlash. Serdeczny posited a burlesque origin for intestinal insufflation. For example, in the 17th-century opera *Arlequin Phaeton,* a comic Asclepius resuscitated Phaeton by blowing air into his rear end with a bellows. Numerous smutty sayings originating in 16th-century carnivals referred to rectal insufflations to poke fun at physicians who, in miraculous accounts, brought the dead back to life. For Serdeczny, the character Jean Cornecul, whose name evokes both the backside and materials made of horn, played a role in many European cultures. Cornecul, a malicious peasant, sold gullible onlookers a bellows made of horn that could bring the dead back to life, a metaphor for credulity. We can thus ask whether 18th-century science unwittingly got trapped in a burlesque caricature of medicine (*Serdeczny, 2018*).

References

André H. Secours aux noyés. *Chronique médicale* 1911;18:306.

Arbuthnot J. *An essay concerning the effects of air on human bodies*. London: J. Tonson; 1733.

Bruhier JJ, Boyer JBN. *To the publick. A new method of relieving such persons as are thought to be suffocated, or drowned*. 1748. (Houghton Library, Harvard University: H 5441.75.02).

Brullard Ph. La réanimation respiratoire au XVIII[e] siècle. *Thèse Nantes* 1977NAN11271: impr Nantes; 1977.

Chaussier F. Secours aux noyés, estampe de 31 centimètres de large sur 26 de haut. *Journal de Médecine, chirurgie, pharmacie* 1807;13:77-78.

Chaussier F. *Contre poisons ou moyens reconnus les plus efficaces dans différents cas d'empoisonnement mis à la portée des personnes étrangères à l'art de guérir, suivis de l'indication des secours à donner aux noyés, aux asphyxiés* […]. Paris: chez l'auteur; 1818.

Desgranges JB. *Instruction sur les moyens d'administrer des secours aux personnes noyées ou asphyxiées pour les rappeler à la vie*. Lausanne: de l'Imprimerie de Louis Luguins; 1795.

Fine P. *De la submersion ou recherche sur l'asphyxie des noyés et sur la meilleure méthode de les secourir.* Paris: Crouillebois; An VIII, 1800.

Gardane JJ. *Catéchisme sur les morts apparentes dites asphyxies ou instruction sur les manières de combattre les différentes espèces de morts apparentes mise à la portée du peuple.* Dijon: chez A. M. Defay; 1783.

Haller von A. *Instruction pour conserver la vie aux personnes, qui ont eu le malheur de tomber dans l'eau ; d'être suffoquées, ou de s'étrangler, & pour les guérir.* Le tout composé & publié d'Ordre de l'Illustre Conseil de Santé de la Ville et République de Berne, 26 Juin 1776. Berne: imprimerie de Leurs Excellences; 1776.

Isnard A. *Le cri de l'humanité en faveur des personnes noyées, ou moyens faciles pour les rappeler à la vie.* Paris: chez Prault; 1759.

Isnard A. Du mémoire sur la manière la plus simple et la plus sûre de rappeler les noyés à la vie. *Journal de Médecine et de Chirurgie, Pharmacie* 1760;12:131-135.

Léchot T, Huguenin S. Les « noyés » du Mercure suisse: production et diffusion d'un savoir scientifique dans la première moitié du XVIII[e] siècle. In Léchot T, Pasche V. *Neuchâtel dans le concert des Lumières européennes*. Basel: Schwabe; 2012.

Louis A. *Lettres sur la certitude des signes de la mort, où l'on rassure les citoyens de la crainte d'être enterrés vivants avec des observations et des expériences sur les noyés.* Paris: chez Michel Lambert; 1752.

Meijer P, van Tongerlo K. *De filosoof.* Amsterdam: 24 août 1767; n°86.

Noortwyck C, de Clercq J, Vernede JS. *Histoire et Mémoires de la Société formée à Amsterdam en faveur des noyés.* Amsterdam: chez Pierre Meiijer; 1768.

Pia Ph-N. *Détail des succès de l'établissement que la ville de Paris a fait en faveur des personnes noyés et qui a été adopté dans diverses provinces de France (Année 1775, quatrième partie).* Paris: Chez Lottin; 1776.

Portal A. I*nstruction sur le traitement des asphyxiés par les gaz méphitiques ; des noyés ; des enfants qui paroissent morts en naissant; des personnes réduites à l'état d'asphyxie par le froid et par le chaud ; de celles qui ont été mordues par des animaux enragés ; de celles qui sont empoisonnées*. Paris: imprimerie royale; An XIII-1805.

Pumfrey S, Rosi PL, Slawinski M. *Science, culture and popular belief in Renaissance Europe*. Manchester: Manchester University Press; 1991.

Réaumur, Ferchault de, RA. *Avis pour donner du secours à ceux que l'on croit noyez*. Paris: de l'Imprimerie royale; 1740. (Bibliothèque nationale de France: http://catalogue.bnf.fr/ark:/12148/cb31184068x).

Rozier F. *Observations sur la physique, sur l'histoire naturelle et sur les arts: sur les asphixies ou morts apparentes & subites*. Paris: chez Ruault; Janvier 1775;5:30-47.

Serdeczny A. *Du tabac pour le mort. Une histoire de la réanimation*. Paris: Champ Vallon; 2018.

Trépardoux F. Philippe-Nicolas Pia (1721-1799) échevin de Paris, pionnier du secourisme en faveur des noyés. *Revue d'Histoire de la Pharmacie* 1997;45:257-268.

Trubuhovich RV. History of mouth-to-mouth rescue breathing. Part 2: the 18th century. *Crit Care Resusc*. 2006;8(2):157-71.

Winsløw JB. *Dissertation sur l'incertitude des signes de la mort et l'abus des enterrements et embaumements précipités.* Paris: chez Morel Le Jeune, Prault et Simon; 1742.

Specific Statements

Funding: The authors received no specific funding for this work.

Conflicts of Interest: The authors declare no conflicts of interest.

Provenance and peer review: Not commissioned; externally peer reviewed. Submitted: September 12, 206. Accepted: October 19, 2026.

Disclaimer

The content provided on The Charcot Journal website is for informational and educational purposes only. It is not intended as a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read on this site. The Charcot Journal and its contributors do not accept any responsibility for any loss which may arise from reliance on information contained on this site.

Terms and Conditions

Unless otherwise stated, all content is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0). You may share the content for non-commercial purposes, provided thar (a) proper attribution is given to the original authors and The Charcot Journal; (b) the content is not modified or adapted in any way. Commercial use and the creation of derivative works are not permitted without prior written permission from the copyright holder. Authors retain full copyright and may reuse their own work in any form, including for commercial purposes. The website may contain links to third-party websites. We are not responsible for the content or practices of these external sites. We reserve the right to update or modify these terms at any time without prior notice.