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Antoine Gros's *Bonaparte Visitant les Pestiférés de Jaffa*: Propaganda or a Medical Illustration?

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Abstract

In September 1804 the French painter Antoine-Jean Gros first exhibited the painting *Bonaparte visitant les pestiférés de Jaffa*, illustrating Bonaparte touching the bubo of a plague-stricken soldier in Jaffa hospital during the Egyptian campaign. Today, this work is interpreted as blatant propaganda. However, the use of primary sources to reconstruct how people experienced illness in the past is essential. In this work, for the first time we propose a primarily medical interpretation of Gros's painting. According to medicine prior to the "germ theory", fear was considered a moral affection negatively influencing both the contagion and the outcome of plague. Therefore, holding back the fear was the best way to prevent the plague. French medical officers acted accordingly, providing encouraging examples to the soldiers. Especially, the medical officer Desgenettes voluntarily exposed himself to the risk of contagion, inoculating himself with a contaminated lancet. Napoleon's act of touching the bubo depicted by Gros in the painting provided soldiers with another encouraging demonstration of genuine therapeutic value, considering the medicine of the time. It seems, therefore, plausible to conclude that Gros faithfully represented a situation imbued with medical meaning, fully understandable by the public.

Key words: Napoleon Bonaparte - Antoine Gros - Plague - Role of fear on contagion

Background

In his most famous painting, *Bonaparte visitant les pestiférés de Jaffa* (Bonaparte Visiting the Plague Victims of Jaffa)[1] (Fig. 1), the French painter Antoine-Jean Gros (1771-1835) illustrated a celebrated episode that occurred during the French campaign in Egypt and Syria (1798-1801), namely the visit of the *général en chef*, Napoleon Bonaparte (1769-1821), to the pest house in Jaffa. In a crowded hospital room, several plague-stricken French soldiers are portrayed lying naked on the floor in different positions, while another is being cured by a Turkish physician. At the extreme right corner, a young French surgeon, himself sick but still wearing his uniform, in a gesture of humanity holds a dying soldier on his knees. On the left, a group of soldiers is receiving bread distributed by two Turks. At the center of scene, the moment of highest tension and drama take places: Bonaparte, surrounded by his own staff and medical officers, touches the bubo of a sick soldier. Walter Friedlander considered this painting "Gros's most famous painting and perhaps the only one of which the reputation still persists"[2].

We know from a letter dated "Paris, 19 nivôse an XIII" (9 janvier 1805) and addressed by Napoleon to Martin-Roch-Xavier Estève, *trésorier générale de la couronne*, that Gros's painting was "ordonné par S. M. l'Impératrice, sans en avoir fixé le prix, ce

Fig. 1. *Bonaparte visitant les pestiférés de Jaffa* (1804), by Antoine-Jean Gros (the photographic reproduction is taken from Wikipedia Commons and is therefore to be considered in the public domain).

qu'il ne faudrait jamais faire"[3]. Napoleon ordered Estève to pay "la somme de 16,000 francs, qui ne satisfera pas l'amour-propre de cet artiste", since Gros expected the much higher price paid in 1802 for the painting *Phèdre* by Pierre-Narcisse Guérin[4]. Exhibited first in the public Salon of 1804, this huge canvas (more than five by seven meters) achieved an extraordinary success[5]. It did also obtain an honorable mention in the *Classe de beaux-arts* at the *Prix decennaux* of 1810.

When did the Jaffa episode actually happen?

From primary sources, we know that the plague epidemic broke out during the Syrian expedition at the siege of Jaffa (March 3-7, 1799), brought in by some sick soldiers belonging to the 2nd light *demi-brigade* of Kleber's division coming from Damietta[6]. As far as the date of Napoleon's visit to the plague victims, however, there is some degree of uncertainty in modern literature. Grigsby[7] reported that the event took place on March 21st, 1799, whereas Hibbott[8] generically indicated March 1799. Other authors believe that there were two distinct visits. According to Harris[9], the first occurred on March 21st and the second on May 27th, 1799, whereas for Kramer[10] the first took place on March 11th, 1799, and the second during the retreat from St. Jean d'Acre southwards.

The troubles in identifying the precise date originate from the fact that the French army passed by Jaffa twice, the first time during the advance into Syria and the second time during the retreat to Egypt. Napoleon's most important primary source, the *Correspondance*[11], does not report the episode, which is not mentioned also in the official *Relation* of Louis Alexandre Berthier (1753-1815), *chef de l'état major générale de l'Armée d'Orient*[12].

There are, however, two first-hand testimonies, which are divergent from each other. René-Nicolas Dufriche, baron Desgenettes (1762-1837), the chief doctor to the French army in Egypt[13], put Napoleon's visit to plague victims during the siege of Jaffa in March: "Le 21 [Ventose an VII][14] le général en chef, suivi de son état-major, vint visiter les hôpitaux... Le général parcourut les deux hôpitaux, parla à presque tous les militaires et s'occupa plus d'une heure et demie de tous les détails d'une bonne et prompte organisation; se trouvant dans une chambre étroite et très encombrée, il aida à soulever le cadavre hideux d'un soldat dont les habits en lambeaux étoient souillés par l'ouverture d'un bubon abscédé. Aprè savoir essayé sans affectation de reconduire le général en chef vers la porte, je lui fisent endre qu'un plus long séjour devenoit beaucoup plus qu'inutile. Cette conduite n'a pas empêché que l'on ait souvent murmuré dans l'armée sur ce que je ne m'étois pas opposé plus formellement à la visite si prolongée du général en chef: ceux-là le connoissent bien peu qui croient qu'il est des moyens faciles pour changer ses résolutions ou l'intimider par quelques dangers"[15].

Desgenettes' testimony is confirmed by the detailed souvenirs of Colonel Chalbrand, who also recorded Bonaparte's visit after the capture of Jaffa in March[16].
On the other hand, according to Louis Antoine Fauvelet de Bourrienne (1769-1834), Napoleon's private secretary, the visit of Napoleon to the hospital in Jaffa took place during the retreat of the French army from the besieged St. Jean d'Acre[17]. The retreat began on the 20th of May (*premier prairial*), and Jaffa was reached on May 24th. Bourienne wrote that le "27 mai... le général en chef s'y rendit de sa tente avec Berthier, quelques médecins et chirurgiens, son état-major ordinaire; je l'accompagnai... Bonaparte se rendit a l'hôpital: il y avait des amputes, des blessés, beacoup the soldats affligés d'ophtalmie... et des pestiférés. Le lits de ceux-ci étaitn à droite en entrant dans la premiere salle: je marchais à coté du général"[18](see). Desgennetes did not make any reference to a possible visit of Napoleon to Jaffa's hospital on May 27th, 1799[19].
We do have, however, a report of the Egypt Campaign dictated by Napoleon himself to General Henri Gatien Bértrand during the exile in St. Helene. In this work Napoleon reported that, after the capture of Jaffa in March, "il alla lui-meme à l'hòpital, sa présence y porta la consolation; il fit opérer plusieurs malades devant lui, on perça les bubons pour faciliter la crise; il toucha ceux qui paraissaient étre les plus découragés, afin de leur prouver qu'ils n'avaient qu'une maladie ordinaire et non contagieuse"[20]. The precise day was not specified. On the other hand, no mention was made about an additional visit of Napoleon to the hospital on May 27th. In fact, this day was spent by Napoleon discussing with Desgenettes and Dominique Larrey (1766-1842), chief surgeon of the *Armée de l'Orient*, about the fate of sick soldiers in the hospital, after the *aide-de-camp* Lavallette had reported that several of them were unable to follow the retreat of the Army[21]. Finally, in the official report of the jury of the *Prix décennaux* it is clearly stated that Napoleon visited the hospital in Jaffa "apres le siége de la ville de Jaffa, qui fut prise d'assaut"[22]. Additional evidence that Bonaparte's only visit took place in Jaffa on March 11th, 1799 is shown in Figure 2, illustrating a brightly colored print realized in 1835 by the artist Jean-Baptiste Thiébault (1809-1839) for the *Imagerie d'Épinal* after the painting of Gros. The caption to the image, clearly based on the testimony of Desgenettes, reports the date of March 11th, 1799. This date is finally confirmed by Marie Roch Louis Reybaud, a French politician who between 1830 and 1836 wrote a monumental work in ten volumes on the Egyptian Campaign[23]. Alltogether, these evidences clearly support the conclusion that Napoleon's visit to the plague hospital of Jaffa occurred on March 11th, 1799.

The concept of fear as a provoking factor for plague in 18th and 19th century medicine

It might seem somewhat strange that Gros (or Napoleon) opted for illustrating in the most important painting dedicated to the Egyptian Campaign not a military event, but instead a medical facet. The French art historian Justine Tripier le Franc (1805-1883) defined this painting of "conception hardie", because it was dedicated "au souve-

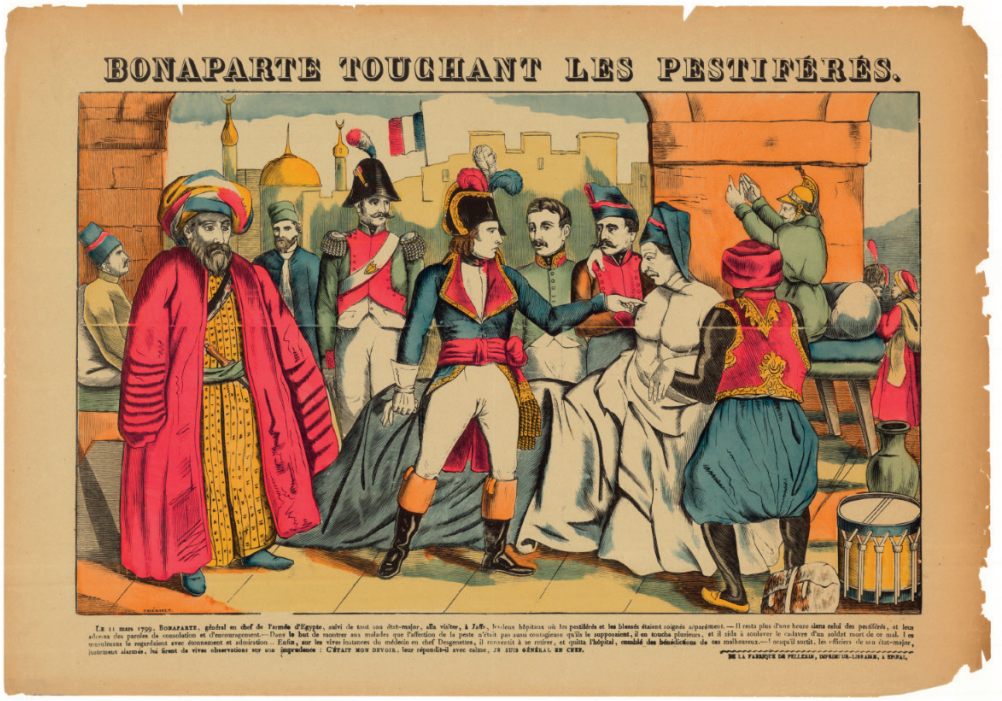

Fig. 2. *Image d'Epinal* after the painting of Antoine Gros representing the visit of General Bonaparte to the plague hospital of Jaffa. The author was Jean-Baptiste Thièbault, and it was published by Jean-Charles Pellerin in 1835 (personal copy of E. D.). The caption reports that the visit occurred on March 11, 1799.

nir d'un des plus émouvants et plus sympathiques événements de cette campagne... Bonaparte touchant de ses mains les pustules des pestiférés"[24]. Today, the painting is generally interpreted as "blatant propaganda"[25], aiming both at presenting Napoleon as the new *Roi thaumaturge* and at denying the rumors circulating about the possible euthanasia of sick French soldiers at Jaffa[26]. However, sometimes this interpretation seems itself propaganda, the result of a prejudicial and one-dimensional reading of the painting, which could have a more understandable and justifiable medical meaning.

At the beginning of nineteenth century, the bacterial etiology of plague was far from being established. Infectious diseases were explained by miasmatic theories. A plurality of factors, among which there were "facteurs psychologique tels que la "nostalgie", la "mélancholie" et la peur de morir"[27], were believed to condition the contagion as well as the effects of infectious diseases. In particular, the damage to morale caused by the fear of dying was considered a prominent negative prognostic factor, favoring a destructive evolution of plague. Below are some medical primary sources that prove this point.

In 1714, Lodovico Antonio Muratori (1672-1750), Modenese clergyman and father of Italian historiography, was among the first to write a *Treatise on plague,* in which he clearly stated that "if there is a time in which Constancy of mind, Intrepidity and Courage are necessary, that of Plague is certainly, and more than the others, such. I

said it and I repeat it: according to the conclusions of all the wisest Doctors, one of the great safeguards from plague is not being Afraid of Plague"[28]. Muratori went on to give a mechanistic explanation of the role of fear, as well as of remedies counteracting fear, according the humoral theories of the time: "Courage, Happiness, Tranquillity of the Soul, keeping in a healthy balance, and without alterations, the Spirits and Humors of the body, somehow close the way even to the external Poison of the Pestilence."

A few decades later, in the entry on "Peste" in Denis Diderot's *Encyclopédie* the causes of plague were distinguished in "internes & externes... Les internes sont la corruption du sang & des autres humors, les passions, le chagrin & la crainte de la part de l'ame"[29]. The prognosis too was influenced by the fear of dying: "L'essentielle est de ne point s'effrayer en tems de peste: la mort epargne ce qui la meprisent & poursuit ce qui en ont peur."

At the beginning of the eighteenth century the French chemist Louis-Bernard Guyton-Morveau tried to give a mechanistic explanation of the role of factors such as habit, privations or excesses, and bad regimens on infectious diseases. They did not act on the contagious miasmas but instead on organs, producing a disturbance of the animal economy that he called "pre-disposition." He wrote: "The nature of the pre-disposing causes is a matter of indifference, the effect is the same; it is always some diminution of the vital force that renders the resistance unequal, and the action of the poison efficacious. This pre-disposition may take its rise from a moral affection. At all times the sight of multitudes, a prey to death and terror, has been reckoned a pre-disposing cause from which even the strongest minds have been unable to defend themselves. Hence it is, that those who have treated of the means of preservation from plague, and of arresting its progress, have so strongly recommended chearfulness and amusement...and, in short, the avoiding of everything that might augment the terror of the people"[30].

In a later book written for the benefit of the citizens of the Tuscan city of Livorno, where the plague had broken down, it was written that "every spectacle or funeral sign must be removed and prevented, because this only increases the sadness and terror that always produces very fatal effects in times of plague. The effect of fear is well known to predispose bodies to the plague, yellow fever, and other contagious diseases, and to increase their malignancy. Courage and fearlessness are of great help in these frightening crises"[31]. Interestingly, to strengthen this point the anonymous author of this booklet quoted the entry "Plague" of the previously mentioned *Encyclopédie*. Later, in 1821 it was the Italian physician Giuseppe Passeri who emphasized the concept that "fear is one of the most powerful predisposing causes to easily contract the contagion and to make it deadly"[32].

As far as the English medical literature is concerned, at the end of the eighteenth century in his worldwide diffused work *First lines of the practice of Physic*, the most famous Scottish physician William Cullen (1712-1790) wrote that "the causes which,

concurring with contagion, render plague more certainly active, are cold, fear, and full living... Against fear, the mind is to be fortified as well as possible, by inspiring a favourable idea of the power of preservative means; by destroying the opinion of the incurable nature of the disease; by occupying men's minds with business or labour; and by avoiding all object of fear, as funerals, passing bells, and any notice of the death of particular friends"[33].

In 1829, it was the turn of the Irish physician Richard Robert Madden to write that "this is one of the many proofs I have had of the influence of the mind over this disease. In no other complaint is this influence so marked. The man who is apprehensive of contagion is always the first to take this disease; fear is the predisposing cause of plague"[34].

Finally, in 1840 in his monograph on plague, the French physician Antoine Clot (1793-1868) listed "Causes morales" among the "causes determinants" of plague, asserting that "la terreur qui'nspire la peste aux Francs est telle, qu'elle a occasionné le développement de la maladie chez des personnes qu'on venait d'informer de la mort d'un voisin, d'un ami, d'un parent"[35]. Clot also tried to give a mechanistic explanation to the negative influence of fear on plague: "On sait quelle influence exerce la peur sur le tube digestif. Souvent aussi la maladie s'est déclarée à la suite d'une peine morale un peu vive"[36].

A very interesting discussion of fear as a factor promoting plague could be found in the 1795 edition of the English translation of Titus Lucretius Carus' (98/94-50/55 BC) sixth book of *De rerum natura* (6.1138-1286), dealing with the plague of Athens[37]. This edition was printed by the British editor Robert Anderson (1750-1830), he himself a physician and a surgeon, who commented Lucretius' verses, writing: "What Lucretius says here afford us an opportunity to make the following inquiry: WHETER FEAR PROMOTES AND PROPAGATES A PLAGUE. Costernation and dejection of mind are never beneficial, not even in heatlh; but they are prejudicial in all diseases, and worst of all in a plague... These, then are the effects that fear and imagination produce in the body they seize on: and if an infectious pestilential air meet with a body thus ill-disposed already, that body will soon imbibe the contagion and fall sick of the disease."

The concept of *affection morale* as a negative prognostic factor for plague was diffused even outside the medical world. In 1828, Antoine Claire Thibaudeau, a French politician member of the Council of State, wrote that "Il était prouvé que ce fléau devenait plus dangereux quand l'imagination était frappée. Des hommes habitués à braver à chaque instant la mort dans les combats, succombaient à la seule pensée qu'elle pouvait les frapper dans leur lit. Il fallait donc guérir le moral du soldat; c'était aussi l'opinion du médecin en chef Desgenettes, et en général des gens de l'art; elle était fondée sur l'expérience"[38]. Furthermore, in 1831 the anonymous author of a history of plague in Constantinople published in a literary magazine, making reference to Madden's work could write that "the results of my inquiries into

the history of plague at Constantinople would certainly go to confirm the remarks of Mr. Madden: "In no other complaint is this influence of mind so marked. The man who is apprehensive of contagion is always the first to take this disease; fear is the predisposing cause of plague"[39].

The concept of the pathogenetic role of fear on contagion and evolution of plague was hard to die in medical literature. A most important work was published in 1841 by the French physician Jean-Baptiste Descuret[40], who traced back the origin of many diseases to the excesses of passions that commanded the soul, among them fear which he defined "puissants auxiliaire de la peste". The book experienced an overwhelming success. The same concepts were still present in a work published at the end on nineteenth century by the French physician Charles Féré on the relation existing between emotions and infections[41].

The French Army medical staff dealing with plague during the Egyptian campaign

Larrey shared this view on plague. In his *Relation historique et chirurgicale* of the Egyptian Campaign, he clearly affirmed: "J'ai remarque que l'affection morale aggravait cette maladie, en facilitait aussi le développement chez les personnes qui en possédaient le germe, et la fesait contracter par les causes les plus légères"[42].

Napoleon shared Larrey's opinion. During his exile in St. Helene, discussing what would be "le meilleur préservatif contre le peste...l'Empereur soutenait qu'elle se prenait par l'aspiration aussi bien que par le contact: il disait que son plus grand danger et sa plus grande propagation étaient dans le crainte; son siege principal dans l'imagination: en Égypte, tout ceux dont l'imagination était frappée pèrissaient. La defense la plus sure, le remede le plus efficace, c'etatit le courage moral. Lui, Napoléon, avait impunément touché, disait-il, des pestiférés à Jaffa, et sauvé beaucoup de monde, en trompant les soldats pendant plus de deux moins sur la nature du mal: ce n'etait pas la peste, leur avait on-dit, mais une fièvre à bubons. De plus, il avait observé que le meilleur moyen den preservé l'armée, avait été de la mettre en marche et de lui donner beaucoup de mouvement: la distraction et la fatigue s'étaient trouvées les meilleur préservatifs"[43].

For this very reason, Desgenettes decided not to use anymore the term *plague*: "Cependant...comme j n'étois pas du tout coinvancu de la communication très facile de la maladie, sur la quelle on se livroit à toutes les exagération de la frayeur, je pris un parti. Sachant combien le prestige des dénominations, influe souvent vicieusement sur les tétes humaines, je me refusai à jamais prononcer le mot de *peste*. Je crus devoir dans cette circonstance traiter l'armée entiere comme un malade qu'il est presque inutil et souvent fort dangereux d'éclairer sur la maladie quande elle est très critique. Je communiquai cette détermination au chef de l'etat-major-général, qui, indépendamment de l'attachement particulier dont il m'honoroit, me sembla devoir être par sa place le dépositaire des motif politiques qui dirigeoient ma conduite"[44]. Thibaudau

confirmed the concept expressed by Desgenettes: "Voyant la fâcheuse influence que le prestige des dénominations exerçait sur les esprits, il crut devoir traiter l'armée comme un malade qu'il est presque toujours inutile et souvent dangereux d'éclairer sur la nature de sa maladie; il se concerta avec le général en chef, pourque le mot *peste* ne fut plus prononcé, et on l'appela *maladie*, épidémie ou *fièvre accompagnée de bubons*"[45]. It is remarkable that much later Desgenettes' approach of concealing the name of plague was still mentioned by Féré as an example of fear acting as an influencing factor of contagious diseases[46].

The Italian surgeon Paolo Assalini, who participated to the Egyptian Campaign and later became one of the chief surgeons of the Consular Guards, reported that this terminological confusion originated, at least in part, from the difficulties of medical officers in diagnosing the disease as true plague: "Not meeting with all the characteristics symptoms of the plague, the medical officers of the army of the east called it the *fever with buboes*... A great number called it the prevailing disease"[47]. In any event, Assalini himself "preferred to call it the *epidemic fever*", again because he could not "make use of the denomination of the *plague*, a name full of terror, and often more mortal than the disease itself"[48].

According to the comte de Lavallette, *aide-de-camp* of Napoleon, the conduct of Desgenettes was very successful: "Son opinion et ses raisonnemens calmaient un peu les soldats"[49]. To corroborate his words by example Desgenettes added "la démonstrations la plus eclatante à ses raisonnemens en s'inoculant la peste: au milieu de l'hôpital, devant tous les malades, il fit pénétrer une lancette dans le bubon d'un pestiféré, et se fit une blessure sur la côté gauche. Cette action, d'autant plus courageuse qu'il a avoué depuis que la maladie acait les caracteres de la peste, fit l'admiration de toute l'armée, et lui assure, dans la postérité, une gloire durable"[50]. This risky act is confirmed by Berthier's official *Relation* of the Campaign[51], as well as by Assalini[52] and other sources[53]. True to say, Desgenettes' act was not one of foolhardiness. Even if he did not doubt that plague was a contagious disease, he believed that the transmission of contagion was depending on conditions not yet fully understood. For example, Desgenettes doubted that the disease was transmitted by saliva, since he had been drinking from the glass used by a sick soldier only an hour before his death[54].

Eventually, the appeal to moral courage made by French physicians to reduce the severity of plague became a double-edged sword. In fact, these reassuring reasonings "avaient l'inconvenient de disposer les esprits à éloigner les précautions indispensables dans una maladie contagieuse"[55]. "Le soldat, tandis qu'imbu de l'opinion qui fut d'abord répandue, que cette maladie n'était pas pestilentielle, il n'hesitait pas, dans le besoin, de se emparer et de se couvrir des effets de ses compagnons morts de la peste: le germe pestilentiel ne tardait pasa lors à se développer chez ces individus, qui subissaient souvent le meme sort"[56].

Is Gros's painting historically grounded?

In his *Histoire de Napoleon,* Thibaudeau allegedly wrote that Napoleon touched "un pestiféré, en lui disant: *Vous voyez bien que cela n'est rien...* ", adding that "ce trait inspirà, dans la suite, à Gros, son beau tableau des *Pestiférés de Jaffa*"[57]. The historical truth of this episode seems questionable. It was not reported by Desgenettes as already described, and it was explicitly negated by Bourienne, who wrote: "J'affirme ne l'avoir pas vu toucher un pestiféré. Et, pourquoi'en, aurait-il touché? ils étaient au dernier période de la maladie. Aucun ne disait mot. Bonaparte savait bien qu'il n'était pas à l'abri de la contagion"[58].

However, it does not really matter if Napoleon really touched the bubo of a sick soldier. Based on testimonials reported above, it is beyond doubt that the young *général en chef* had close contacts with plague-stricken soldiers. Assalini's account added further evidence: "The Commander in Chief, Bonaparte, great in every emergency, braved, on several occasions, the dangers of the contagion. I have seen him in the hospitals at Jaffa, inspecting the wards, and talking familiarly with the soldiers attacked by the epidemic fever and buboes"[59].

The French physician Ledoux-Lebard already argued convincingly in favour of the historical accuracy of the painting[60]. Gros developed his final painting through drawings and sketches after having consulted the witnesses of the scene, particularly Desgenettes[61], who was depicted behind and to the left of Napoleon, partly masked by him, in the attempt to restrain Napoleon's arm from touching the bubo. That is why, when he began to put his ideas on paper, Gros made an early drawing of Napoleon helping to lift a plague victim[62]. This sketch was the visual translation of Desgenettes' words "il ([Napoleon] aida à soulever le cadavre hideux d'un soldat". For the last version of the painting, Gros abandoned this image much closer to the reality of facts, in favor of the final one representing Bonaparte touching the bubo in the soldier's armpit, which was both "a potent gesture of almost reckless courage"[63], but also a more direct reference to plague, of which the *bubo* is the pathognomonic lesion.

In addition to those already reported by Ledoux-Lebard, there are a few other authentic details in Gros's painting suggesting precise historical documentation. The first concerns the ramparts of Jaffa. In the background, behind the arcades of the room in which the scene is developing, it is possible to see the fortified walls of the city. This detail would confirm that the visit of Napoleon took place on March 11th, 1799, since all primary sources reported unanimously that the walls of Jaffa were mined and destroyed on May 26.

Furthermore, three of the sick soldiers painted by Gros wear a two-horn hat with the number 18 (two of them) or 32[64]. The numbers indicate the unit they belong to, the 18^{e} *demi brigade* and the 32^{e} *de ligne*, respectively. Both these units participated in the storming of Jaffa, being part of the division commanded by General Louise André

Bon. In his *Memoires,* Desgenettes published a letter dated 15 Ventose by which the chief of brigade Darmagnac, commandant of the 32e *de ligne,* warned Napoleon that "the surgeon Saint-Ours had cured in Jaffa a grenadier of the 32e *de ligne* and another of the 18e *demi brigade*, both died with all the symptoms of plague"[65].

Another accurate detail concerns the presence in the room of an officer with a band on his eyes because of ophtalmia. Egyptian ophtalmia was one of the major diseases which afflicted the French army during the campaign. In his *Histoire médicale de l'Armée d'Orient,* Desgenettes made extensive reference to this disease, and while still in Cairo Larrey wrote a *Mémoire* on this disease[66]. In his memories, Bourrienne reported that in the hospital room visited by Napoleon "il y avait des amputés, des blessés, beaucoup de soldats affligés de la ophtalmie qui poussaient des lamentable cris"[67].

Finally, on the right, Gros depicted a kneeling plague victim whose bubo was being cleaned up by an oriental wearing a turban. In his memories, Assalini reported the presence in Jaffa of "a native who had the reputation of being an excellent physician for the plague... This man opened the buboes indiscriminately... He used no precaution whatsoever to preserve himself... When he had opened the buboes, with his bistoury, he took a bit of lint to wipe it after which he placed it between his forehead and his turban"[68]. Desgenettes confirmed Assalini's words: "On a trouvé a Jaffa un homme du pays qui nous rend beaucoup de services par cela seul qu'il ne redoute pas la maladie; c'est un chretien très exercé dans ce genre, et qui est aussi fataliste que le musulmans; il fait les opérations ordonnées et les pansements nécessaires sous la direction de l'un de nos chirurgien employé a l'hôpital, du service duquel est charge en chef le citoyen Assalini, chirurgien de premier classe distingue dans l'armee"[69].

This abundance of credible details in Gros's painting does not surprise at all. Though Gros was a disciple of neoclassical painter Jacques Louis David, he is considered a precursor of lifelike strongly influencing both Theodore Géricault and Eugene Delacroix[70]. Géricault, whose work is well known for his verisimilitude, "ressentait de l'adoration pour Gros; il n'en parlait qu'avec enthousiasme et respect... Géricault devait beaucoup aux exemples de Gros"[71]. In the article dedicated to Gros, also Delacroix, the greatest French Romantic painter, acknowledged that "Gros a osé faire de vraies morts, de vrais fiévreuses"[72]. This lifelike aspect had already been remarked in the report of the jury of *Prix décennaux*: "L'artiste a consacré l'autre partie du tableaux à exprimer les symptômes et les effets cruels de la peste du Levant. Un malade, etendu sur la terre, s'arraches les cheveux et tout ses membres contractés annoncent l'excès de ses souffrances. On voit sur le traits de celui qui se soulève pour regarder Bonaparte, qu'il sort d'un semblable accès. Un troisieme rest immobile, la tète appuyé sur le mains, er parait insensible à tout ce qui passe autour de lui"[73]. Correctly, Kramer wrote that Gros's painting "was a scene of physical suffering... painstakingly depicting each horrifying stage of the plague's afflictions"[74].

Conclusions

The French physycian Maximilien Isidore Simon wrote that "Les épidémies sont le champ de bataille des Médecins"[75]. At Jaffa, the French army was simultaneously fighting on two different battlefields, in the military one with real bullets, in the medical other by means of examples of courage. The sharing by Napoleon of the dangers of contagion by having close contacts with sick soldiers had identical meaning of Desgenettes' self-inoculating or drinking the water of his fellow plague-stricken comrades. In the words of James Mackness, "Medical heroism rivalled military heroism. Courage gives birth to courage"[76]. Desgenettes and Napoleon gave soldiers a reassuring example, which had the practical value of reducing the virulence of plague. Assalini hit it perfectly when he said: "His [Napoleon] conduct produced the best effect, not only on the spirit of the sick, but of the whole army. This heroic example encouraged at the same time the hospital attendants, whom the progress of the disease, and the fear of contagion had alarmed considerably"[77].

Healing the moral of soldiers from theirs "affection morale," that was the purpose of Bonaparte's gesture depicted by Gros. The will to demonstrate that one should not be afraid of contagion is explicit, since for touching the bubo Napoleon even took off the glove, while behind him an officer brings a handkerchief to his mouth in an instinctive gesture of defense. This message was unambiguous for the public looking at the painting. This is clear from the sober report of the jury of the *Prix décennaux*: "Le général en chef Bonaparte, voulant detruire le prétexte de dècouragement qu'un sentiment exagéré de crainte pour cette maladie pouvait faire naitre dans l'armée, et prouver que ses effets étaient moins terribles que l'effroi qu'ils causaient, visita l'hôpital des péstiféres de Jaffa... Pour éloigner davantage l'idée d'une contagion subite et incurable, il fit ouvrir devant lui quelques tumeurs pestilentielle, et en toucha plusieurs... Il donna le premier exemple d'un genre de courage... qui fit depuis des imiteurs"[78]. As pointed out by Walter Friedlander, the heroic tone of the painting added to "the ghasty subject and its gothic setting" was also in line with "a certain kind of emotional tone that had already become prominent in the literature and art of France and England"[79], and that prelude to the romanticism of Delacroix.

And that example has been imitated since then. In fact, the modern counterparts to Gros's painting are the photographs illustrating identical gestures of equal significance made by modern characters. The most obvious example is that of Lady Diana Spencer (1961-1997), during the several visits she made to AIDS patients. Diana became known as the "brave princess" because she shook hands with many AIDS patients. Her photo (Figure 3, A) was published in the front page of every newspaper in the UK and around the world, changing the perception of AIDS. The same reassuring meaning ought to be attributed to the kiss that the Italian immunologist Fernando Aiuti (1935-2019) gave on December 2, 1991 to an HIV-positive patient. This photo too went around the world (Figure 3, B). These actions demonstrated that HIV infec-


Fig. 3.a April 25, 1991. Princess Diana shakes hands with an AIDS patient at the hospital of the Federal University of Rio de Janeiro during a five-day official visit to Brazil with Prince Charles (image: Getty).
Fig. 3.b The kiss of Fernando Aiuti to his AIDS patient (image: Wikipedia).

tion did not make people dangerous, and that it was still possible to have physical contact with AIDS patients.

Today, the etiological role of psychological factors on infectious diseases is no longer believed. However, the new field of psychoneuroimmunology has developed, aiming at clarify the relationship between psychological factor and physical illness[80]. A role for immunoendocrine alterations in infectious diseases has been discussed, and it has been concluded that, for example, immunoendocrine alterations may play a detrimental role in human tuberculosis, as well as in other infectious diseases[81].

Based on these arguments, therefore, the interpretation of the painting of Gros as a lifelike representation of a medical approach to plague seems plausible. In the interest of the army Napoleon rose to the challenges of the epidemic. Heartening soldiers by means of example was not a simple act of encouragement, an *exemplum virtutis*, but had a genuine therapeutic value.

Bibliography and notes

General Bibliography

AB, Prospetto sulla origine, Natura, e caratteri della peste, de' contagj della febbre gialla di America e della malattia attualmente dominante nella città di Livorno. Lucca: Marescandoli; 1804. pp. 68-69.

Ader J-J, Résume géneral de l'histoire militaire des Français. par campagne. Expédition d'Égypte et de Syrie. Paris: Ambroise Dupont et Roret Editeurs; 1826. pp. 150-151.

Anderson R, A Complete Edition of the Poets of Great Britain. London: Iohn & Arthur Arch.; 1795. Vol. 13, pp. 684-685.

Assalini P, Observations on the disease called the plague. New York: T. & J. Swords; 1806. p. 16.

Berthier A, Relation des campagnes du Généreal Bonaparte en Égypte et en Syrie. Milan: Imprimerie rue Neuve; 1799.

Bertrand HG, Campagnes d'Egypte et de Syrie 1798-1799: mémoires pour servirà l'histoire de Napoléon, dictés par lui-même à Sainte Hélène et publiés per le général Bertrand. Paris: Au comptoir des imprimeurs; 1847. p. 52.
Bottasso O, Morales-Montor J, Neuroimmunomodulation during infectious diseases: mechanisms, causes and consequences for the host. Neuroimmunomodulation 2009;16: 65-67.
CMF, A story of the plague at Constantinople. Museum of Foreign Literature, Science and Art 1831;XIX:472-476.
Chalbrand (colonel), Les Francais en Égypte ou Souvenirs des Campaignes d'Égypte et de Syrie par un officer de l'expédition, recuilles par Juste-Jean-Étienne Roy. Tours: A. Mame et cie, Imprimeurs-Libraires; 1855. pp. 163-164.
Chamans AM, comte de Lavallette, Mémoires et souvenirs du Comte Lavallette. Paris: H. Fourniere Jeune; 1831. Tome premier, p. 320.
Clot A-B, De la peste observée en Égypte; Recherches et Considérations sur cette Maladie. Paris: Fortin, Masson et Cie; 1840. p. 10.
Cohen S, Herbert TB, Health psychology: psychological factors and physical disease from the perspective of human psychoneuroimmunology. Ann. Rev. Psychol. 1996;47: 113-142.
Correspondance de Napoleon Ier publiée par ordre del l'Empereur Napoleon III. Paris: Imprimerie impériale; 1852. Tome X, p. 137.
Correspondance de Napoleon Ier publiée par ordre del l'Empereur Napoleon III. Paris: Henri Plon, Jean Dumain; 1860. Tome V.
Cullen W, First lines of the Practice of Physic. Edinburgh: C. Elliot; London: T. Cadell; 1784. Vol. II, pp. 211-212.
Delacroix E, Gros. Revue des deux mondes 1848;23:649-673.
Descuret J-B, La médecine des passions, ou les passions considérées dans leurs rapports avec les maladies, les lois, et la religion. Paris: Bechet, 1841. p. 432.
Desgenettes R-ND, Histoire médicale de l'Armée d'Orient par le médecin en chef R. Desgenettes. Paris: Chez Croullebois et Chez Bossange; 1802. pp. 49-50.
Encyclopédie ou Dictionnaire raisonné des sciences des arts et des métiers. Neufchastel: chez Samuel Faulches; 1765. Tome XII, pp. 452-458.
Fauvelet de Bourrienne LA, Mémoires de M. de Bourrienne, ministre d'état. Paris: Chez Ladvocate; 1829. Tome II, p. 255.
Féré C, Emotions and infections. The popular science monthly 1894;XIV:342-346.
Friedlander W, David to Delacroix, Cambridge (Mass.): Harvard University Press; 1952, p. 62.
Grigsby DG, Contagion, and Colonization in Gros's Plague-stricken of Jaffa (1804). Representations 1995;51:1-46.
Guyton-Morveau L-B, A treatise on the means of purifying infected air, of preventing contagion, and arresting its progress. London: T. Hurst, Paternoster-Row; 1802. pp. 185-186.
Harris JC, Napoleon Bonaparte Visiting the Plague-Stricken at Jaffa. Arch. Gen. Psychiatry 2006;63:482-483.
Hibbott Y, "Bonaparte Visiting the Plague-stricken at Jaffa" by Antoine Jean Gros (1771-1835). Brit. Med. J. 1969;1:501-502.
Kramer M, What "Bonaparte Visiting the Plague-Stricken in Jaffa" Teaches About Our Own Plague-Stricken Time. Mosaic Magazine 2020; April 21.
Kronenberg L, Atlantic Brief Lives: a Biographical companion to the Arts. Boston: Little, Brown and Company; 1971. p. 341. Larrey D-J, Mémoire sur l'ophtalmie régnante en Egypte. Kaire: Imprimerie Nationale; 1801.

Landon CP, Recueil des ouvrages de peinture, sculpture, architecture, gravure, citès dans le rapport du jury sur le prix décennaux. Paris: Firmin Didot; 1810. pp. 21-23.
Larrey DJ, Relation historique et chirurgicale de l'expédition de l'Armée d'Orient en Egypte et en Syrie. Paris: Chez Demounville et Soeurs; 1803. p. 136.
Las Cases C, Mémorial de Sainte-Hélène. Bruxelles: H. Remy; 1822. Tome II, p. 255-256.
Ledoux-Lebard G, Le tableau de Gros: Les pestiférés de Jaffa. Souvenir Napoléonienne 1970;255:24-25.
Mackness J, The moral aspects of medical life, consisting of the 'Akesios' of Professor K.F.H. Marx. London: John Churchill; 1846. p. 254.
Madden RR, Travels in Turkey, Egypt, Nubia and Palestine, in 1824, 1825, 1826 and 1827. London: Henry Colburn; 1829. Vol. I, pp. 262-263.
Muratori LA, Del governo della peste e delle maniere di guardarsene. Modena: Bartolomeo Soliani; 1714. p. 328-329.
Pariset E, Eloge du Baron Desgenettes. Paris: J-B Bailliere; 1838. p. 144.
Passeri G, Della peste col ragguaglio della peste di Tunisi avvenuta negli anni 1818, 1819, 1820. Firenze: Jacopo Balatresi; 1821. p. 51.
Prodger M, Battle lines - the tortured genius of Antoine-Jean Gros. Apollo The International Art Magazine 2019;13 september. Online version at https://www.apollo-magazine.com/antoine-jean-gros-frawings-louvre/.
Reybaud L, Histoire scientifique et militaire de l'expédition française in Égypte. Paris: A-J Denain; 1831. Tome IV, p. 350.
Simon M, Déontologie Médicale, ou, Des devoirs et des droits des médecins dans l'état actule de la civilization. Paris: J-B Bailliere; 1845. p. 252.
Thibaudau AC, Histoire générale de Napoléon Bonaparte. Paris: Ponthieu et comp.; 1828. Tome 2, p. 174.
Tripier Le Franc J, Histoire de la vie et de la mort du baron Gros le grand peintre. Paris: chez Jules Martin et chez J. Baur; 1880.
Véron L, Mémoires d'un bourgeois de Paris. Paris: Gabriel de Gonet éditeur; 1853. Tome premier, p. 235.
Zaugg R, Graf A, Guerres napoléoniennes, savoir medicaux, anthropologie raciale: le médecin militaire Antonio Savaresi entre Égypte, Caraïbes, et Italie. In: Zaugg R, Guerre, maladie, empire. Toulouse: Méridiennes; 2017. pp. 17-43.

1. Tripier Le Franc J, Histoire de la vie et de la mort du baron Gros le grand peintre. Paris: chez Jules Martin et chez J. Baur; 1880.
2. Friedlander W, David to Delacroix, Cambridge (Mass.): Harvard University Press; 1952. p. 62, see pp. 60-66 for a modern detailed historical-artistic examination.
3. Correspondance de Napoleon Ier publiée par ordre del l'Empereur Napoleon III. Paris: Imprimerie impériale; 1852. Tome X, p. 137. Tripier Le Franc reported that Napoleon directly charged Gros the painting, after casually meeting him at the Louvre Museum. Bonaparte did not know that Vivant Denon (1747-1825), the then Director of Louvre, had already asked Pierre Guerin to depict this subject. When Guerin learnt this, he declined the previous commission, see Tripier Le Franc, p. 205. Guerin's painting was paid 24.000 francs, see Laveissière S, Lentz T, Napoléon et le Louvre. Paris: Fayard-Musée du Louvre; 2004. p. 244.
4. Guerin's painting was paid 24.000 francs, see Laveissière S, Lentz T, Napoléon et le Louvre. Paris: Fayard-Musée du Louvre; 2004. p. 244.

5. The painting was the n. 224 of the catalogue, and the full title was Bonaparte, général en chéf de l'Armée d'Orient, au moment où il touche une tumeur pestilentielle, en visitant l'hôpital de Jaffa, see Tripier Le Franc, 1880, p. 208. Alternative short titles are La peste de Jaffa and Les pestiférés de Jaffa. The painting is currently visible in the Louvre.
6. Chamans AM, comte de Lavallette, Mémoires et souvenirs du Comte Lavallette. Paris: H. Fourniere Jeune; 1831. Tome premier, p. 320.
7. Grigsby DG, Contagion, and Colonization in Gros's Plague-stricken of Jaffa (1804). Representations 1995;51:1-46.
8. Hibbott Y, "Bonaparte Visiting the Plague-stricken at Jaffa" by Antoine Jean Gros (1771-1835). Brit. Med. J. 1969;1:501-502
9. Harris JC, Napoleon Bonaparte Visiting the Plague-Stricken at Jaffa. Arch. Gen. Psychiatry 2006;63:482-483.
10. Kramer M, What "Bonaparte Visiting the Plague-Stricken in Jaffa" Teaches About Our Own Plague-Stricken Time. Mosaic Magazine 2020; April 21.
11. Correspondance de Napoleon Ier publiée par ordre del l'Empereur Napoleon III. Paris: Henri Plon, Jean Dumain;1860. Tome V.
12. Berthier A, Relation des campagnes du Généreal Bonaparte en Égypte et en Syrie. Milan: Imprimerie rue Neuve; 1799.
13. For Desgenettes, see Etienne Pariset, Éloge du Baron R. Desgenettes, lu à la seance publique annuelle de l'Académie royale de médecine du 4 septembre 1838, Mémoires de l'Academie de Médecine, Paris: J-B. Bailliere, tome II, pp. 111-140
14. It is necessary to remember that in Desgenettes' relation the dates are indicate according to the revolutionary calendar. Therefore, "21 Ventose an VII", corresponds to March 11th, 1799. This is why Grigsby and Harris erroneously indicated March 21, 1799.
15. Desgenettes R-ND, Histoire médicale de l'Armée d'Orient par le médecin en chef R. Desgenettes. Paris: Chez Croullebois et Chez Bossange; 1802. pp. 49-50.
16. Chalbrand (colonel), Les Francais en Égypte ou Souvenirs des Campaignes d'Égypte et de Syrie par un officer de l'expédition, recuilles par Juste-Jean-Étienne Roy. Tours: A. Mame et cie, Imprimeurs-Libraires; 1855. pp. 163-164.
17. Fauvelet de Bourrienne LA, Mémoires de M. de Bourrienne, ministre d'état. Paris: Chez Ladvocate; 1829. Tome II, p. 255.
18. Fauvelet de Bourrienne LA, Ref. 17. p. 256.
19. Desgenettes R-ND, Ref. 15. pp. 98-100.
20. Bertrand HG, Campagnes d'Egypte et de Syrie 1798-1799: mémoires pour servir à l'histoire de Napoléon, dictés par lui-même à Sainte Hélène et publiés per le général Bertrand. Paris: Au comptoir des imprimeurs; 1847. p. 52.
21. Chamans, comte de Lavallette, Ref. 6. pp. 324-325.
22. Landon CP, Recueil des ouvrages de peinture, sculpture, architecture, gravure, citès dans le rapport du jury sur le prix décennaux. Paris: Firmin Didot; 1810. pp. 21-23.
23. Reybaud L, Histoire scientifique et militaire de l'expédition française in Égypte. Paris: A-J Denain; 1831. Tome IV, p. 350.
24. Tripier Le Franc J, Ref. 1. p. 206.
25. Kramer M, Ref. 10.
26. Harris JC, Ref. 9.
27. Zaugg R, Graf A, Guerres napoléoniennes, savoir medicaux, anthropologie raciale: le médecin militaire Antonio Savaresi entre Égypte, Caraïbes, et Italie. In: Zaugg R, Guerre, maladie, empire. Toulouse: Méridiennes; 2017. pp. 17-43.

28. Muratori LA, Del governo della peste e delle maniere di guardarsene. Modena: Bartolomeo Soliani; 1714. p. 328-329, "Se c'è un tempo, in cui sia necessaria la Costanza dell'Animo, l'Intrepidezza e il Coraggio: quel della Peste è sicuramente, e più degli altri, tale. L'ho detto e il torno a ripetere: secondo la conclusione di tutti i più saggi Medici, e di qualunque Pratico di si funeste occasioni, uno dei grandi Preservativi della peste è il non avere Paura della Peste. Il Coraggio, l'Allegria, la Tranquillità dell'Animo, tenendo in un sano equilibrio, e senza alterazione, gli Spiriti e gli Umori del Corpo, tengono serrato in qualche guisa il passo anche al Veleno esterno della Pestilenza".
29. Encyclopédie ou Dictionnaire raisonné des sciences des arts et des métiers. Neufchastel: chez Samuel Faulches; 1765. Tome XII, pp. 452-458.
30. Guyton-Morveau LB, A treatise on the means of purifying infected air, of preventing contagion, and arresting its progress. London: T. Hurst, Paternoster-Row; 1802. pp. 185-186. English translation from the French edition of 1801, pp. 217-218.
31. A B, Prospetto sulla origine, Natura, e caratteri della peste, de'contagj della febbre gialla di America e della malattia attualmente dominante nella città di Livorno. Lucca: Marescandoli; 1804. pp. 68-69, "si deve rimuovere, e impedire ogni spettacolo o segno funebre, perché ciò non fa che aumentare la mestizia, e il terrore che in tempi di peste produce sempre fatalissimi effetti. È molto noto l'effetto della paura per predisporre i corpi alla Peste, alla febbre gialla, e ad altre malattie contagiose, e per accrescere la loro malignità. Il coraggio e l'intrepidezza è di grande aiuto in queste spaventevoli crisi."
32. Passeri G, Della peste col ragguaglio della peste di Tunisi avvenuta negli anni 1818, 1819, 1820. Firenze: Jacopo Balatresi; 1821. p. 51, "la paura è una delle più potenti cause predisponenti a fare facilmente contrarre il contagio e a renderlo micidiale."
33. Cullen W, First lines of the Practice of Physic. Edinburgh: C. Elliot; London: T. Cadell; 1784. Vol. II, pp. 211-212. This was the fourth edition of the work, published first in two volumes in 1779-1783.
34. Madden RR, Travels in Turkey, Egypt, Nubia and Palestine, in 1824, 1825, 1826 and 1827. London: Henry Colburn; 1829. Vol. I, pp. 262-263.
35. Clot A-B, De la peste observée en Égypte; Recherches et Considérations sur cette Maladie. Paris: Fortin, Masson et Cie; 1840. p. 10. Clot, a graduate of the Montpellier medical school, transferred in 1825 transferred to Egypt, where he established the Army Medical School and made direct observations on the plague. He is also known as Clot-Bey, because in 1832 received this prestigious title from the Viceroy of Egypt. For a biography, see Gerard N. Burrow, Clot-Bey: Founder of Western Medical Practice in Egypt, The Yale Journal of Biology and Medicine, 1975;48:251-257.
36.."We know what influence fear has on the digestive tract. Often also the illness has declared itself following a somewhat severe moral pain."
37. Anderson R, A Complete Edition of the Poets of Great Britain. London: Iohn & Arthur Arch.; 1795. Vol. 13, pp. 684-685.
38. Thibaudau AC, Histoire générale de Napoléon Bonaparte. Paris: Ponthieu et comp.; 1828. Tome 2, p. 174.
39. CMF, A story of the plague at Constantinople. Museum of Foreign Literature, Science and Art 1831;XIX:472-476. The article was widely diffused, being printed in the New monthly magazine and literary Journal, London: Henry Colburn and Richard Bentley; 1831. part II, pp. 166-172, and later reprinted in Historical Cabinet, New Haven: L. H. Young; 1835. pp. 458-468.

40. Descuret JB, La médecine des passions, ou les passions considérées dans leurs rapports avec les maladies, les lois, et la religion. Paris: Bechet;1841. p. 432.
41. Féré C, Emotions and infections. The popular science monthly 1894;XIV:342-346.
42. Larrey DJ, Relation historique et chirurgicale de l'expédition de l'Armée d'Orient en Egypte et en Syrie. Paris: Chez Demounville et Soeurs; 1803. p. 136.
43. Las Cases C, Mémorial de Sainte-Hélène. Bruxelles: H. Remy; 1822. Tome II, p. 255-256. Kramer M, Ref. 10, wrote that Napoleon's opinions were "obviously nonsense". This is true for the actual medicine knowledge, but not for nineteenth-century medicine, as demonstrated here.
44. Desgenettes R-ND, Ref. 15. p. 51.
45. Thibaudau AC, Ref. 38. p. 175. "Seeing the unfortunate influence that the prestige of denominations exerted on people's minds, he believed he had to treat the army like a sick person who it is almost always useless and often dangerous to shed light on the nature of his illness; he consulted with the general in chief, so that the word plague was no longer pronounced, and it was called disease, epidemic or fever accompanied by buboes." Kramer M, Ref. 10, calls the use of alternative terms to indicate plague an "evasive language", suggesting a parallel with the description of COVID-19 as "little more than flu" at the beginning of the COVID-19 pandemic in 2020. However, from both Desgenettes' and Larrey's medical memories it is more than clear that there was no attempt was to diminish the severity of the disease. Avoidance of the name "peste" was considered a necessary preventive measure because this term was deemed a factor influencing per se the spread of contagion and the evolution of the disease.
46. Féré C, Ref 41. p. 342.
47. Assalini P, Observations on the disease called the plague. New York: T. & J. Swords; 1806. p. 16.
48. *Ibid.*
49. Chamans AM, comte de Lavallette, Ref. 6. pp. 320-321.
50. *Ibid.*
51. Berthier A, ref. 12, p. 85.
52. Assalini P, Ref. 47. pp. 21-22.
53. Ader J-J, Résume géneral de l'histoire militaire des Français. par campagne. Expédition d'Égypte et de Syrie. Paris: Ambroise Dupont et Roret Editeurs; 1826. pp. 150-151.
54. Desgenettes R-ND, Ref. 15. p. 89.
55. Chamans AM, comte de Lavallette, Ref. 6. p. 320-321.
56. Larrey DJ, Ref. 42. p. 137.
57. Thibaudau AC, Ref. 38. pp. 163-164.
58. Fauvelet de Bourrienne, Ref. 17. p. 256.
59. Assalini P, Ref. 47. p. 22.
60. Ledoux-Lebard G, Le tableau de Gros: Les pestiférés de Jaffa. Souvenir Napoléonienne 1970;255:24-25,p. 24
61. Pariset E, Eloge du Baron Desgenettes. Paris: J-B Bailliere; 1838. p. 144.
62. This drawing has been shown in a Louvre's exhibition on Gros held on June 27th-September 30th, 2019. Tripier Le Franc (Ref. 1. p. 206) wrote that this preliminary sketch was made by Gros "sous le dictée du directeur génerae du musées", Dominique Vivant Denon (1747-1825), who had told Gros "comment s'était réellement passée la scéne et loui en donna tous les details".

63. Prodger M, Battle lines - the tortured genius of Antoine-Jean Gros. Apollo The International Art Magazine 2019;13 september. Online version at https://www.apollo-magazine.com/antoine-jean-gros-frawings-louvre/.
64. The soldier whose hat bears the number 32 is the one who leans on the sick one touched by Napoleon. The other two soldiers wearing the number 18 on their hat are more difficult to spot. One is kneeling between Bonaparte and the soldier touched, in front of Desgenettes, and with his hand he gestures to push Napoleon away. The other one is depicted on the far left, right in front of the two-color column, belonging to the group of soldiers receiving bread from the Turks.
65. Desgenettes R-ND, Ref. 15. pp. 45-46.
66. Larrey DJ, Mémoire sur l'ophtalmie régnante en Egypte. Kaire: Imprimerie Nationale; 1801.
67. Fauvelet de Bourrienne, Ref. 17. p. 256.
68. Assalini P, Ref. 47. p. 20.
69. Desgenettes RND, Ref. 15. p. 67.
70. Kronenberg L, Atlantic Brief Lives: a Biographical companion to the Arts. Boston: Little, Brown and Company; 1971. p. 341
71. Véron L, Mémoires d'un bourgeois de Paris. Paris: Gabriel de Gonet éditeur; 1853. Tome premier, p. 235.
72. Delacroix E, Gros. Revue des deux mondes 1848;23:649-673.
73. Landon CP, Ref. 22. p. 23.
74. Kramer M, Ref. 10.
75. Simon M, Déontologie Médicale, ou, Des devoirs et des droits des médecins dans l'état actule de la civilization. Paris: J-B Bailliere; 1845. p. 252.
76. Mackness J, The moral aspects of medical life, consisting of the 'Akesios' of Professor K.F.H. Marx. London: John Churchill; 1846. p. 254. In 1844 the German physician Karl Friedrich Heinrich Marx wrote Akesios: Blicke in Die ethischenBeziehungen der Medecin, a pamphlet dedicated to ethic in medicine and consisting of twelve letters sent to deceased Doctors. Desgenettes was one of the Doctors to whom Marx addressed a letter. Akesios was translated in English by Mackness, who added a short biographical notice to each letter.
77. Assalini P, Ref. 47. p. 22.
78. Landon CP, Ref. 22. p. 22.
79. Friedlander W, Ref. 2. p. 63.
80. Cohen S, Herbert TB, Health psychology: psychological factors and physical disease from the perspective of human psychoneuroimmunology. Ann. Rev. Psychol. 1996;47:113-142.
81. Bottasso O, Morales-Montor J, Neuroimmunomodulation during infectious diseases: mechanisms, causes and consequences for the host. Neuroimmunomodulation 2009;16:65-67.