





This highly stylized painting by Carl von Steuben depicts Napoleon on his deathbed, surrounded by members of his court and household.

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Exhuming Bonaparte

Napoleon Bonaparte died in 1821, but the cause of his demise is still being debated. Experts continue to dig up—figuratively and even literally—facts about his final illness. A retired Dartmouth toxicologist who has long been fascinated with the French leader paints a picture of the puzzling case as if it were a modern clinicopathologic conference.

Robert E. Gosselin, Ph.D., M.D.

Both the patient and his last illness were extraordinary. Napoleon Bonaparte was unquestionably the most influential European of his generation. The emperor of France from 1804 to 1815, he is portrayed by some biographers as a champion of the people and by others as a despot. And though universally acknowledged as a military and administrative genius, his name is irrevocably linked to his final, disastrous battle at Waterloo.

Napoleon died 182 years ago—in exile on a rocky island in the South Atlantic, more than 1,000 miles off the African coast. Yet the historical record of his final years is so complete that it is possible to

In his final break with the British governor on the island of St. Helena, Sir Hudson Lowe, Napoleon pontificated: “Since your arrival here, we have experienced nothing but vexations. You vex us hourly.”



Sir Hudson Lowe—the British governor of St. Helena, where Napoleon lived out his final years.

conduct what today would be called a clinico-pathologic conference.

So picture a roomful of physicians who have gathered to discuss a postmortem case presented by one of their colleagues. This is a scene that happens in hospitals nationwide every day. The only difference in this instance is that the patient has been dead since 1821.

Chief Complaint

Napoleon experienced many distressing symptoms during his last illness, but his bitterest complaints concerned not his health but the conditions of his confinement.

For example, in his final break with the British governor on the island of St. Helena, Sir Hudson Lowe, Napoleon pontificated: “Since your arrival here, we have experienced nothing but vexations. You vex us hourly with your petty ways. You do not know how to conduct yourself toward men of honor; your soul is too vile. . . . In a few years the whole

Robert Gosselin, the author of this feature, has been a member of the DMS faculty since 1956 and was the founding chair of the Department of Pharmacology and Toxicology. He is now the Irene Heinz Given Professor Emeritus. Poisoning was one of several fields to which he devoted his career. He was the coauthor of a book known as the “bible” of poison control centers nationwide—Clinical Toxicology of Commercial Products, first published in 1957—as well as the founder of DHMC’s poison control center. Also an accomplished portrait artist, he has made many graphic contributions to DARTMOUTH MEDICINE over the years. This feature was adapted from an article that he wrote in 1968 for a predecessor magazine called the DMS Alumni Quarterly.

pack of you will be buried in the dust of oblivion. Or, if your names are remembered, it will be only on account of the indignity with which you have treated me. But the Emperor Napoleon will continue to be forever the subject, the ornament of history.”

Present Illness

The “present” illness did not begin until several months after Napoleon’s arrival on St. Helena. On December 10, 1815, he was moved from a small coastal cottage where he had been temporarily domiciled to a large, rather dilapidated house on a 1,500-acre estate known as Longwood. This land was on a plateau some 1,800 feet above sea level and thus was exposed to southeast trade winds, which meant it was hot and dry part of the year and cold and damp at other times. Napoleon, then 46 years old, was joined at Longwood by his court, consisting of three officers, a secretary, a doctor, their wives and children, and 14 servants—an entourage of about 30 people.

Napoleon never left Longwood alive. Shortly after his arrival, he became moody and complained of assorted aches and pains; insomnia alternated with drowsiness, diarrhea with constipation. He suffered headaches with increasing frequency and severity. His legs and feet became swollen and painful, and a rash appeared on them. At times his legs were so weak they collapsed under him. For a while, Napoleon believed he was suffering from gout.

Throughout 1816, these signs and symptoms came and went, alternating with brief periods when the patient was comfortable. Other difficulties soon appeared, however. Although his teeth seemed to be sound, a toothache was recorded on June 16. Later it became apparent that the toothache was due to a mouth inflammation diagnosed as scurvy. Pustules appeared on his lips as well as in his oral cavity. The emperor also suffered insatiable thirst, had some difficulty hearing, and was nauseated without actually vomiting. His legs continued to be weak and swollen, and even in periods of clement weather he felt cold and liked to sit bundled up near the fireplace. In December of 1816, he became jaundiced and had three severe attacks of involuntary spastic movements involving a transient loss of consciousness. But by early 1817, he seemed to improve, though his convalescence was slow and incomplete.

On September 25, 1817, an illness began that lasted almost a year. Napoleon’s private physician, Dr. Barry O’Meara, recorded many of the same complaints his patient had suffered earlier, as well as a swollen, palpable, and tender liver; a poor appetite; and periodic vomiting, sometimes accompanied by severe pain in the right abdomen. The

emperor also had attacks of fever, often sweating profusely in the early morning hours.

O'Meara was a 30-year-old Irish Protestant who had served as a British naval surgeon aboard the *H.M.S. Bellerophon*. This was the ship that Napoleon had boarded when he surrendered to the British in July of 1815, hoping to find political asylum in England. At that time, Dr. O'Meara treated members of Napoleon's party for seasickness and so pleased the emperor that Napoleon asked O'Meara to serve as his private physician on St. Helena. O'Meara did so, with the permission of the British authorities and without resigning his commission. Because of his ready wit and attractive personality, he soon became one of Napoleon's favorites. It is clear that he served as a double agent, keeping the British governor informed about activities at Longwood and telling Napoleon about the deliberations of the governor.

His medical reports, however, offended the governor for political reasons that will be explained later. O'Meara was ordered to leave Longwood in July of 1818 and was subsequently discharged from the service. Only twice thereafter, when his life was in severe jeopardy, did Napoleon allow himself to be examined by a British physician.

Without any medical attention at all, Napoleon's health improved steadily during the latter half of 1818, and he seemed to be on the way to full recovery. Late in December, however, he again became seriously ill with the same symptoms. On the night of January 16, 1819, he lost consciousness and seemed to be near death.

In desperation, the officers of his court called a British naval surgeon assigned to the fleet surrounding St. Helena. From January 17 to 22, Dr. John Stokoe cared for Napoleon and issued three medical bulletins. Because his diagnosis was the same as Dr. O'Meara's, and likewise politically unpalatable, he too incurred the wrath of the British governor. Stokoe's position became so intolerable that he finally refused to go to Longwood; even so, the governor arranged for him to be court-martialed on the most trivial of charges.

Again without a physician, Napoleon once more improved. By the latter half of 1819, he felt so well that he would get up at 4:00 a.m. and work until 10:00 a.m., supervising an extensive landscaping project at the estate, retiring indoors in midmorning only to escape the heat. He again was cheerful and pleasant, and except for a few brief episodes of indisposition this state of good health lasted for about 15 months.

But in September of 1820, his illness returned. Although his symptoms waxed and waned, his overall course thereafter was steadily downward.



Dr. Barry O'Meara—the first of three British physicians who treated Napoleon on St. Helena.

Dr. O'Meara recorded many of the same complaints his patient had suffered earlier, as well as a swollen, palpable, and tender liver; a poor appetite; periodic vomiting, and severe pain in the right abdomen.

Because of weariness and fatigue, he gradually restricted his daily rides around the estate, even though he and his new physician believed exercise was important. Eventually he abandoned even carriage rides in his phaeton. He went outside for the last time on March 18, 1821, having the day before suffered a severe relapse that marked the beginning of the terminal phase of his illness.

Before considering the findings of the physical examination and the course of events leading to the patient's death, let us examine his past medical history and family history for pertinent clues.

Past Medical History

It is clear that through extraordinary willpower, Napoleon conveyed the impression of having an iron constitution. His physical endurance was amazing. When he was in his forties, he could out-ride most men in their twenties. Nevertheless, even then he was far from free of medical complaints. The most troublesome of these problems were urinary—recurrent attacks of slow and painful urination and of heavy urinary sediment. These episodes have prompted various medical historians to diagnose gonorrhea or other venereal diseases. The possibility of urinary stones has also been entertained, but there is no record indicating that he ever passed a stone.

In 1966, Dr. W.D. Ayer noted that Napoleon's first well-documented attack of dysuria occurred at the Battle of Marengo in June of 1800, eight

An epilogue

By Alan Smithce

Napoleon: The very name evokes the pre-Revolutionary grandeur of imperial France. A bit of that glory may have rubbed off on DMS toxicologist Robert Gosselin, who has long applied his professional interest in poisoning to the case of the deposed French emperor.

The author of the adjacent feature (which was adapted from an article that he wrote in 1968 for a publication called the *DMS Alumni Quarterly*), Gosselin still follows the literature concerning Napoleon's death. And he even (here's the "bit of glory" part) was once invited to address an international conference on Napoleon's last illness. Therein lies a tale with a message about small-world connections and the worldwide reach of DMS publications.

A year after the 1968 publication of Gosselin's original article on Napoleon, he and his family were headed for Europe on the *S.S. France*, "one of the great liners that plowed the transatlantic route," recalls Gosselin. "Our ultimate destination was the University of Nijmegen in the Netherlands," where he was to spend a sabbatical from DMS. "On board one afternoon at the rail," Gosselin continues, "I fell into conversation with a Jesuit priest who, I later learned, was a professor of history at Georgetown. I asked him what he was going to be doing in Europe. He told me that he was heading for a conference in Paris . . . a several-day conference on Napoleon.

"So," Gosselin says, "I mentioned to him, rather casually, I think, that I had an interest in Napoleon's problems and illnesses on St. Helena. And he said, to me, 'Well, if you are interested in that, you should read an article written in some Dartmouth medical magazine about Napoleon's last illness.'" The priest said that he'd had a reprint of the article—about which "he then waxed rather eloquent," Gosselin recalls—but that he'd loaned it out and never gotten it back.

"I said nothing more," Gosselin continues, "but I could hardly wait to escape to my stateroom, where I looked through my briefcase and sure enough, I found a couple of reprints of my article. I autographed one to this Jesuit priest, whose name I no longer remember, and presented it to him at dinner that night." Sure enough, it was the same article the priest had been raving about at the rail that afternoon.

"Suddenly we were buddies," says Gosselin. The priest invited him, on the spot, to present his paper at the Paris conference and to be his guest there. It turned out the priest was an organizer of the conference and thus had the authority to invite anyone he wanted. "The thing he was most proud of," Gosselin remembers, "is the fact that President Charles de Gaulle was going to give the opening lecture."

As flattered as he was by the invitation, Gosselin felt compelled to decline it. "My French is very rudimentary," he explains, "and I'm sure that most or all of the presentations had to be in French. In any case, I had commitments to my family because we were going to travel around a bit and wind up at Nijmegen." However, he adds, "DARTMOUTH MEDICINE's precursor, the *Medical School Quarterly*, got to be known in Paris. I'm sure [the priest] had much to say to his conferees about it."



A detail from an 1803 portrait of Napoleon—note his fine physique and commanding presence.

months after he returned from his Egyptian campaign. Schistosomiasis is (and presumably was then) endemic in Egypt; many of Napoleon's troops suffered from "Egyptian hematuria," the cause of which was then unknown. Thus it is not improbable that the emperor was also a victim. Chronic infection with *Schistosoma haematobium* is certainly a plausible explanation for Napoleon's urinary problems and perhaps for the fact that he coughed up blood-streaked sputum in 1803. This diagnosis may also account for some of the postmortem findings, notably those in his bladder and lungs and perhaps those in his liver.

His urinary difficulties continued during the Russian campaign of 1812, his exile on Elba, and the "Hundred Days" period following his return from Elba. However, the detailed accounts of Napoleon's time on St. Helena rarely mention any urinary-tract symptoms. Schistosomiasis may have contributed to the emperor's distress there, but it was probably not the primary cause of his final illness or his death.

As a young man, Napoleon had been thin and wiry. Early portraits show him as having an admirable physique. A painting that dates from 1803 when he was France's first consul, for example, depicts a confident and slender 34-year-old.

During the next 10 years, however, especially after 1808, Napoleon steadily put on weight. A portrait dating from 1813 suggests that his corpulence may have been what is called girdle obesity—a distribution of the excess weight primarily in the abdominal and pelvic area. This and other doubtful evidence has led some medical historians to propose an unconvincing diagnosis of Fröhlich's syndrome, which is also known as adiposogenital dystrophy; this rare endocrine disorder hinders sexual maturation and is characterized by obesity and an androgynous figure.

Napoleon's trunk obesity persisted during his time on St. Helena, even though his final illness was chronic and debilitating and his face became thin and haggard. Yet despite the ravages of his illness, portraits from the last years of the emperor's life still show signs of the strength of character and the extraordinary personal charm that had so thoroughly captivated the thousands of men and women with whom he interacted during his career.

Family History

Relatively little information is available concerning the patient's family medical history. Napoleon had been told that his father died at age 39 from cirrhosis of the pylorus, the valve between the stomach and the intestine. Indeed, a report describing a postmortem examination of his father, Charles, ap-

pears to establish the cause of death as a scirrhous carcinoma in the pyloric region of the stomach.

Emperor Napoleon thus ordered that, after his own death, his pylorus be closely examined at autopsy and the findings be reported to his son.

Physical Examination

Taking only a few liberties, it is possible to present a thorough physical examination of the patient by drawing on the notes of Dr. Francesco Antommarchi, a 30-year-old Corsican who had trained in medicine at the Universities of Pisa and Florence. Recruited by Napoleon's family, he arrived on St. Helena in September of 1819 to serve as the emperor's personal physician.

The patient was a well-developed but obese white man suffering both acute and chronic disease. In his final illness, he appeared older than his 52 years. His temperature was recorded only once; on April 3, 1821, an oral temperature of 35°C (95°F) was noted. His skin was excessively pale and yellow, as were his conjunctivae. His legs and feet were cold and exhibited slight edema. A scaly rash covered his lower legs and feet. The hair on his head was thin and dry, and he had little body hair.

The patient had difficulty hearing, and his vision also appeared to be impaired, though his hypersensitivity to light prevented an adequate examination. His tongue was coated. His gums were soft and bled easily, and his teeth were loose. He had a nervous cough, but his lung fields were unremarkable. A somewhat rapid and irregular heartbeat was evident, though a regular pulse of 54 was recorded later. The patient's liver seemed to be extremely swollen—at least there was a large, very tender mass in the upper right quadrant of the abdomen, with pain that radiated to the shoulders. The rest of the abdominal examination was unremarkable. There were no hemorrhoidal tags—at least not according to the emperor's chief valet. It seems likely that a rectal examination was not done.

The patient reported epigastric pain, anorexia, and thirst. He also suffered from intermittent vomiting and alternating periods of diarrhea and constipation. Neurologically, the patient appeared quite drowsy but complained of insomnia. He exhibited some restlessness and a distinct tremor, as well as spasmodic contractions of his triceps. His weakness and exhaustion were profound, although he could walk a few steps from time to time.

Unfortunately, Dr. Antommarchi was not rewarded for the careful records that he left to posterity. In the most innocent of ways, he appears to have repeatedly annoyed his patient, and he never won his confidence. In fact, Antommarchi was one of the few members of the emperor's entourage not



An 1821 drawing done only two months before Napoleon's death—note his considerable girth.

Especially after 1808, Napoleon steadily put on weight. . . . His trunk obesity persisted during his time on St. Helena, even though his illness was chronic and debilitating and his face became thin and haggard.

generously rewarded in Napoleon's will. Although apparently a firm admirer of the emperor, he was subsequently rejected by the Bonapartists of Europe and thoroughly castigated by the British for his autopsy report. A victim of persecution and an object of suspicion, Antommarchi finally emigrated to Cuba and died there of yellow fever in 1838.

Clinical Course

There is significant conflict in the extant records regarding the events that occurred during the final phase of Napoleon's illness, beginning about March 18, 1821. That a crisis was approaching was abundantly clear. More vigorous attempts at therapy seemed to be indicated. However, to the distress of his fellow officers and his physician, Napoleon consistently refused medication. For example, he said to Antommarchi: "No, leave your nostrils alone; our lives are like fortresses where neither you nor I can see what is happening; don't let us hamper the defense. Nature's own means are worth more than all the contents of your chemists' shops." On another occasion, he referred to medicine as "*la science des assassins*."

Napoleon also refused to be bled, except on one occasion in 1819. On the other hand, he was a great believer in hot baths and took one whenever he felt poorly, sometimes in salt water carted up from the ocean in wooden kegs.

Nevertheless, a few months before his death, someone persuaded Napoleon to allow Dr. Antom-

Unfortunately, Dr. Antommarchi was not rewarded for the careful records that he left to posterity. In the most innocent of ways, he seems to have repeatedly annoyed his patient and never won his confidence.



Dr. Francesco Antommarchi—a Corsican physician who cared for Napoleon until just before his death.

marchi to administer a dose of tartar emetic. At 11:30 a.m. on March 22, 1821, the emperor received what was supposed to have been a quarter of a grain mixed in lemonade. This resulted in violent paroxysms of vomiting. When the dose was repeated the next day, the patient was seized by convulsions. On the following day, he refused to take any further medicine. There is some evidence that on the 26th or 27th, and perhaps thereafter, tartar emetic was again administered, this time without the patient's knowledge. When he learned of this, Napoleon assumed that Dr. Antommarchi was responsible and thoroughly castigated him.

Because of this loss of confidence, the emperor was persuaded to accept an English doctor as a consultant. The fourth and last of Napoleon's physicians on St. Helena, Dr. Archibald Arnott, entered the scene on April 1. The emperor was by that time bedridden and weakened as a result of persistent vomiting of "black bile"—probably blood. Arnott prescribed potions to be drunk every hour, but for 11 days the patient refused everything that was presented to him as medicine. Finally, on April 11, he was persuaded to take a sedative preparation, probably opium, and he slept well for the next two nights.

With this temporary amelioration of his symptoms, Napoleon began rewriting his will on April 13. He was aided in this labor by one of his two generals, the Comte de Montholon. With a tremendous effort, and in spite of his persistent symptoms,

the emperor spent a few hours each day working on his will and signed the last of many codicils on April 24. That very night his illness returned with full intensity. A blistering plaster was applied to his abdomen (a similar plaster had been applied to his arm earlier in the month).

By May 1, the emperor was extremely weak but still conscious. He had become quite deaf and was bothered by labored breathing, vomiting, and persistent hiccuping. His mind tended to wander and his conversation rambled.

On May 3, it was noted that he had had no bowel movement for three days. Dr. Arnott proposed that he be given either an enema or calomel, an oral purgative. Dr. Antommarchi stoutly resisted both suggestions. To settle the dilemma, a consultation was held with the two chief British medical officers on the island, Dr. Shortt and Dr. Mitchell. Though the Comte de Montholon refused to allow either of them to examine the patient, they did venture to support Dr. Arnott's opinion that calomel, while it would not save the patient's life, was nevertheless indicated. Ten grains were administered, and subsequently the patient passed several large black stools.

It was clear that the end was very near. During the night of May 4, the patient was unable to sleep because of hiccuping and fits of vomiting. At day-break the next morning he became comatose. He remained in a coma and was pronounced dead at 5:45 that evening, May 5, 1821.

Clinical Diagnosis

The diagnosis offered by three of the four physicians who examined Napoleon was chronic hepatitis. Why were the two British medical officers who dared to make this diagnosis cashiered from the service? Apparently the governor did not regard this as a politically acceptable diagnosis, since it was held then that hepatitis was caused by poor climate. The British government was sensitive to the charge that it was mistreating Napoleon by confining him to such a desolate place. Actually, the climate on St. Helena was (and is) not particularly bad. Its mean temperature of 16°C (61°F), and annual rainfall of 40 inches, make it somewhat drier and distinctly cooler than New Orleans. Undoubtedly poor sanitation rather than poor climate was responsible for the high mortality among the troops stationed on St. Helena.

Mindful of what had happened to Drs. O'Meara and Stokoe, Dr. Arnott refused to entertain a diagnosis of hepatitis. His recorded opinion was that Napoleon suffered from a stomach ulcer. Because of the way his father had died, the emperor himself believed that he had "cirrhosis of the pylorus." In

the light of present-day knowledge, it appears that each of these ideas may be correct—and yet neither would be considered an etiological diagnosis as we understand the term today.

Anatomical Diagnosis

Now let us consider the autopsy findings. A post-mortem examination was performed by Dr. Antommarchi the day after the patient's death; it was witnessed by seven British medical officers, various members of Napoleon's establishment, and a British major general. Antommarchi's report describes pleural adhesions over the left lung, a few ounces of fluid in each pleural cavity, and some pitted scars in the upper lobe of the left lung (presumably representing old tuberculosis, but possibly the pseudo-tubercles of old schistosomiasis).

The spleen was enlarged and the liver enlarged, hardened, and distinctly congested. The left lobe of the liver was adhered to the diaphragm and the stomach. The stomach was partly filled with a foul black liquid. Antommarchi wrote: "Having removed the said liquid I observed a very extensive cancerous ulcer occupying the stomach and extending from the cardiac orifice to about an inch from the pylorus." Near the pylorus, this lesion had ulcerated through the stomach wall and was contained only by adhesions to the liver. Some gravel was found in the bladder, and there were many "red spots" scattered over its mucosal surface.

The British medical officers wrote a separate report. They stated: "The internal surface of the stomach to nearly its whole extent was a mass of cancerous tissue or cirrhus portions advancing to cancer; this was particularly noticed near the pylorus." A significant point of disagreement concerned the liver, which, according to the British officers, had "no unhealthy appearance." Their report also emphasized the amount of fat on the internal organs and the abdominal wall—probably to suggest that Napoleon had fared well on St. Helena.

In accordance with his wishes, Napoleon's hair was then cut off and strands were distributed as keepsakes to the various members of his establishment. The body was sealed in several tin and mahogany coffins, one contained within the other, and buried not far from Longwood in a masonry vault shaded by weeping willows in the Valley of the Geranium.

In 1840, Napoleon was exhumed on the order of the French government. When the coffin was opened, those present were astonished at the remarkable preservation of the corpse, especially considering the fact that the body had not been embalmed. A sketch based on eyewitness reports suggests that the toes were better preserved than the



Dr. Archibald Arnott—an English doctor who attended to the emperor for his final two months.

Mindful of the political problems Drs. O'Meara and Stokoe had encountered, Dr. Arnott refused to entertain a diagnosis of hepatitis. His recorded opinion was that Napoleon suffered from a stomach ulcer.

boots. The remains were then brought to France, where they now rest in the Hôtel des Invalides on the banks of the Seine in Paris.

The two autopsy reports would not be considered satisfactory today. No microscopic examination was performed, since it was not the practice of that day to do one. Most history books state that Napoleon died of cancer of the stomach, presumably adenocarcinoma, but certainly that is not what Dr. Antommarchi meant and he was the only experienced anatomical pathologist present. In subsequent years, he insisted that the gastric lesion he observed was entirely inflammatory in nature, and most medical historians now agree.

Then what *was* the cause of these lesions and what *was* the basis for Napoleon's long illness? It is difficult to accept that cancer of the stomach could have been responsible for his fluctuating signs and symptoms over a five-year period. A remarkably long list of possible diagnoses has been suggested over the years—malaria, epilepsy, tuberculosis, brucellosis, syphilis, schistosomiasis, amebiasis, uremia with dropsy, and autointoxication due to constipation, to name but a few of them.

Laboratory Diagnosis

After studying the record for many years, a Swedish dentist named Sten Forshufvud concluded in the early 1960s that acute and chronic arsenic poisoning explained the course of Napoleon's entire illness—with the exception of the last several weeks,

Louis Marchand was a reliable and discreet servant, and he had a warm and affectionate relationship with the emperor. He also kept extensive notes that contradict testimony by one member of Napoleon's court.



Louis Marchand—Napoleon's chief valet, one of 14 servants in the emperor's St. Helena household.

when he believes the emperor also suffered from antimony poisoning as a result of too much tartar emetic and from mercury poisoning as a result of too much calomel.

Forshufvud explained his hypothesis in a 1961 book titled *Who Killed Napoleon?* He later obtained some reputedly authentic hair—one of the strands that had been cut from Napoleon's head the day after his death. This piece of hair was analyzed for arsenic by a process called neutron activation analysis, at the British Atomic Energy Establishment in Harwell (an amusing historical irony). The results, which were published in 1962 in the journal *Nature*, showed that the hair contained more than 10 parts per million of arsenic—well over 10 times the normal value. Other specimens of Napoleon's hair, since located in other parts of Europe, have also been proven to contain arsenic.

Furthermore, the arsenic was shown to have an unusual distribution along the 12-centimeter length of the strand of hair—with a peak in the middle four centimeters and much lower levels in the four centimeters on either end. Arsenic is incorporated into the keratin of the hair shaft at its root, and hair grows from the root at a rate of about one centimeter a month. This suggests that the highest levels of arsenic were found in the hair formed between September 1820 and January 1821.

Certainly the “laboratory diagnosis” based on this evidence would be arsenic poisoning. The cause of Napoleon's death is still being debated by

medical historians, but in my opinion that is the most tenable of all the diagnoses that have been offered to account for his last illness.

Addendum

And so ends this clinicopathologic conference, but on a very unsatisfactory note. How did the arsenic get into Napoleon's body? That he committed suicide by this slow and torturous method is a preposterous thought. That he was accidentally poisoned is unlikely, although it would be instructive to know more about Longwood's drinking water, said to have been carted daily from a picturesque stream in the Valley of the Geranium by two Chinese servants. There is nothing in the record to suggest that this was a treatment-related illness; as far as can be determined from medical books of that day, arsenic was not a medication advised for internal use. The only remaining possibility is a criminal poisoning. If that is what happened, since it led directly or indirectly to the victim's death, it has to be regarded as murder.

There is no doubt whom the emperor believed to be his mortal enemy. In his last will he wrote: “My death is premature. I have been assassinated by the English oligopoly and their hired murderer. The English people will not be long in avenging me.” But this charge must not be taken too seriously; certainly history has not done so. In fact, Napoleon did not think he was being poisoned. He regarded his shortened life span as being due to the bad climate on St. Helena, the petty restrictions of Governor Lowe, and the supposedly inadequate opportunities for exercise.

Indeed, although Lowe was difficult, suspicious, and even paranoid, it is most unlikely that he engineered Napoleon's murder. The primary reason is that he had no motive. As long as Napoleon was alive, Lowe was a very important person. Napoleon served as an invaluable hostage with which the British government could coerce the French monarchy. But Napoleon was right when he predicted that his treatment by St. Helena's governor would be avenged—at least by history—because Lowe died bitter and impoverished.

The murderer had to be someone with ready access to Longwood, probably someone on intimate terms with the emperor. Thus only the members of Napoleon's court and the servants can be regarded as serious suspects. Let us examine a few key individuals and evidence that may implicate or exonerate each of them.

General Henri Gratien Bertrand was a military engineer who became a brigadier general at age 27. When Napoleon's entourage reached St. Helena, Bertrand was 42 years old and bore the title grand

marshall of the imperial palace. He had distinguished himself in long service with Napoleon's armies, and his devotion to the emperor was never seriously doubted. A very honest person himself, he apparently only vaguely suspected the intrigues practiced by many others at Longwood.

The Comte de Las Cases was 49 when Napoleon went into exile. He was the emperor's secretary and held the court rank of chamberlain. Intelligent, mature, and experienced in many fields (for example, he was the only court member of the establishment who spoke fluent English), he soon became Napoleon's favorite companion and was consequently unpopular with the other members of the court. On St. Helena, Las Cases was troubled with abdominal pain, weakness, insomnia, and headaches, but he was more concerned about his 14-year-old son, who developed violent palpitations and fainting spells. Apparently out of concern for the boy's health, he deliberately broke a key British injunction in order to engineer his and his family's deportation in November of 1816. He did, however, remain faithful to Napoleon, and his writings did much to foster the Napoleonic cult that spread throughout Europe.

General Gourgaud was an artillery officer and one of Napoleon's two aides-de-camp on St. Helena. His military record was excellent, and he sustained a wound in action at Smolensk. At Longwood, this 32-year-old bachelor proved to be moody, vain, outspoken, and extremely jealous. He suffered periodically from inflammations of the mouth, diarrhea, insomnia, headache, and depression. During outbreaks, he, like Napoleon, tended to behave irascibly, and the two clashed on more than one occasion. Because of Gourgaud's poor health, the emperor allowed him to resign from the service in February of 1818, and he left St. Helena the following month.

Louis Marchand, Napoleon's chief valet, joined the imperial service in 1811. He was 24 when the St. Helena exile began. A reliable and discreet servant, Marchand had a warm and affectionate relationship with the emperor. He proved to be a competent amateur watercolorist and made several useful sketches of the Longwood estate. He also kept extensive notes for the eventual edification of his daughter. These notes, which were not published until 1955, confirm some of Antommarchi's discredited observations and contradict some of Montholon's testimony.

The Comte de Montholon was Dr. Forshufvud's chief suspect. Napoleon's other aide-de-camp, Montholon was perhaps the only person to have the emperor's complete confidence during the last few months of his life. And with the possible ex-



The Comte de Montholon—one of Napoleon's aides-de-camp and a prime suspect in the poisoning.

The Comte de Montholon was also a confirmed braggart and compulsive liar. Because he served as the manager of the Longwood estate, the servants quickly became aware of his tendency to falsify.

ception of Marchand, no one had as good an opportunity as Montholon to poison the emperor. Montholon's background included a ragged military career and a record of strong royalist sentiments. Because he was eager to return eventually to France, one might have expected Montholon to be concerned on St. Helena about his reception by the Bourbon monarchy. It is perhaps significant that on this score he seemed to have been more casual than the other members of the imperial court.

Montholon was also a confirmed braggart and compulsive liar. Because he served as the manager of the Longwood estate, the servants quickly became aware of his tendency to falsify. On St. Helena, he schemed first against Las Cases, then against Gourgaud, and finally against Bertrand. It is reasonably clear that, with his wife as an ally, he was successful at this game of intrigue. Although the emperor was not entirely deceived by these machinations, he became more and more dependent on the couple as his confidence in other members of his household was progressively undermined. In Napoleon's final will of April 1821 (which he dictated to Montholon), he left two million francs to Montholon, half a million to Bertrand, and only four thousand to Marchand—whereas in an August 1819 will, Bertrand had been awarded more than twice the sum specified for Montholon.

It is tempting to speculate on a motive for this presumptive crime. Perhaps because of the Com-
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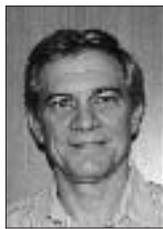
Good Manners, a book that he coauthored.

John Morse, Ed.D., a clinical associate and instructor of psychiatry, received the 2002 Thomas Carroll Award from the Northeast Chapter of the Association for the Education and Rehabilitation of the Blind and Visually Impaired.

Edward Bresnick, Ph.D., an adjunct professor of biochemistry, was the recipient of a 2003 Award in Excellence from the Pharmaceutical Research and Manufacturers of America (PhRMA) Foundation, presented at the Society of Toxicology annual meeting.

Rutilio Fratti, Ph.D., a research associate in biochemistry, received a Helen Hay Whitney Fellowship, one of 21 research fellowships awarded annually nationwide for post-doctoral training in the biomedical sciences.

Robert Drake, M.D., Ph.D., the Andrew Thomson Professor of Psychiatry, as well as a



professor of community and family medicine and the director of the New Hampshire-Dartmouth Psychiatric Research Center, recently received the Carl A. Taube Award from the American Public Health Association in recognition of his distinguished contributions to the field of mental health services research.

Elizabeth Bassett, a fourth-year medical student, was selected as the DMS 2002-03 Rolf C. Syvertsen Fellow, while five other fourth-year students—**Amy Madden**, **Katherine O'Donnell**, **Jennifer Plant**, **Blair Seidler**, and **Adrienne Williams**—were chosen as Syvertsen Scholars. The awards are made annually in honor of former DMS Dean Rolf C. Syvertsen and recognize both academic excellence and community service.

Ethan Kohn, a graduate student in pharmacology and toxicology, recently received a Scholar in Training Award to attend the national meeting of the American Association of Cancer Research.

Aleksandar Stojanovic, a graduate student in pharmacology and toxicology, has received a PhRMA Foundation Predoctoral Fellowship in Pharmacology and Toxicology.

Marie Bakitas, A.R.N.P., a nurse practitioner in palliative care, was recently honored with two awards—the national Certified Hospice and Palliative Nurse of the Year Award and the Clinical Nurse Research Award of the Department of Defense. ■

End-of-life care at Dartmouth-Hitchcock

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Dartmouth Medical School also offers several electives, such as “The Healer’s Art” and “Literature in Medicine,” that deal with death and dying and other aspects of the emotional side of medicine. And under the auspices of a Schweitzer Fellowship, Kristen Thornton, a DMS ’05, is organizing a hospice experience for medical students.

In addition, Fanciullo and the palliative-care team are continually educating students, residents, and other health-care providers through daily interactions as well as through formal presentations. Anesthesia residents do a rotation in palliative care and some internal medicine residents choose palliative care as an elective.

A variety of research initiatives are under way, too. Dartmouth’s Center for Psycho-oncology Research conducts studies and offers counseling to cancer patients. Critical-care specialist Thomas Prendergast, M.D., received a faculty scholars award in 1999 from the Project on Death in America to develop a curriculum on end-of-life care in an intensive care unit (ICU). His research on the withdrawal of life support in an ICU was recently published in the *Journal of the American Medical Association*.

And in February of 2003, internist Elliott Fisher, M.D., M.P.H., reported in the *Annals of Internal Medicine* that regions that provide more aggressive (and therefore expensive) end-of-life care do not achieve any better patient outcomes than do regions that spend less (see page 3 in this issue for more about this study).

On the clinical front, DHMC has an interdisciplinary palliative-care team that includes physicians and nurses who are board-certified in palliative medicine; a pain management specialist; a hospice/home-health liaison; a social worker/case manager; a psychiatrist; a psychologist; and a pastoral caregiver. Among services they provide are:

- Advanced, multidisciplinary treatment options for pain and symptom management, addressing patients’ spiritual, social, and emotional needs.
- A 24-hour on-call service for providers caring for patients facing end-of-life issues.
- An inpatient consultation service that can respond quickly to the needs of acutely ill patients, helping to alleviate pain and other uncontrolled symptoms and assisting patients and family members in making complex decisions.
- An outpatient palliative-care clinic.
- Hospice home care.
- Family education to help patients’ relatives cope emotionally and to assist them in the medical treatment of their loved ones.
- Bereavement services to help survivors deal with pain and loss. ■

Exhuming Bonaparte

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tesse de Montholon’s coquettish behavior, several members of the Longwood establishment believe she made herself available to the emperor. In fact, it is not improbable that he was the father of the two daughters she bore on St. Helena (they were named Napoléone and Joséphine). It is also probable that her husband knew and thoroughly approved of the service she performed; Napoleon’s death was clearly not a crime of passion.

Forshufvud argued that Napoleon’s death was most likely a political assassination—carried out with meticulous control, over a

long period of time, in full view of innocent physicians in order to allay suspicion. If it was politically inspired, the crime must have been planned in Paris, not London, for the Bourbon monarchy had much more to lose than the English government had the emperor escaped and been restored to power.

Most likely the story is not yet finished. No medical case and no criminal case can be considered closed for all time. Whether one accepts or rejects the hypothesis that Napoleon was poisoned, the record of his last illness remains a puzzle to challenge present-day imagination and ingenuity. ■