

A Royal Accident: Medical Authority and Political Dynamics in 1559

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FASCINATION WITH THE BRAIN has been long-standing in our culture. The brain's complexity, its cognitive role, its performance in terms of memory, and its reward system run our lives. And yet this organ is entirely alien to us; we are unaware of its automated mechanism, even though we depend on it for the construction of our self and for the sense of being "human." Consequently, one can appreciate how brain disease, trauma, and injury might thwart, or at the very least complicate, the way we perceive and interact with our surroundings, for as Roland Puccetti writes, "Where goes a brain, there goes a person."¹ This essay will examine our continuing cultural and scientific fascination with the brain by looking far back into the past at an instance in which an injury at a tournament made the issue of craniotomy a capital matter and in the process introduced new medical knowledge on the body's responses to head injuries. I will use the well-recorded case of Henri II of the house of Valois, king of France from 1547 to 1559, who had his right eye heavily damaged by the splinters of a broken lance during a joust. In the process, it was feared, he also suffered a brain contusion and concussion, although his scalp was not lacerated and there was no penetrating skull fracture.

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I would like to dedicate this essay to Kevin Brownlee, friend, mentor, colleague, guide, and academic advocate. More than thirty years ago he invited me to participate in a National Endowment for the Humanities summer seminar on Dante's *Divina Commedia* at Dartmouth College. That event, together with his unwavering support through the years, has changed my academic life, redirected my scholarly interests, and advanced my intellectual objectives. I salute him for his generosity, groundbreaking scholarship, and unfailing kindness. A first version of this essay was presented at a symposium organized by Kevin Brownlee and Eva del Soldato, titled "Strategies of Authority," at the University of Pennsylvania in April 2018.

1. Roland Puccetti, "Brain Transplantation and Personal Identity," *Analysis* 29 (1969): 65–77, at 70. On intellectual disabilities see also C. F. Goodey, "Blockheads, Roundheads, Pointy Heads: Intellectual Disability and the Brain before Modern Medicine," *Journal of the History of the Behavioral Sciences* 41, no. 2 (2005): 165–83.

Doctors summoned to the king's bedside were under the direction of the *premier médecin* to the royal house, Jean Chamberlain. They were soon joined by surgeons, including the two stars of the time: the anatomist Andreas Vesalius (1504–64), whose fame as the “second Asclepius” was well established after his groundbreaking anatomical discoveries at the University of Padua that culminated with the publication of the *Fabrica of the Human Body* in 1543;² and the barber-surgeon Ambroise Paré (1510–90), a true innovator of surgical procedures, who had been the Valois's military surgeon in various battlefields in France and Italy.³ Given that the injured person was a most powerful political figure whose survival or death was bound to have wide-ranging administrative, religious, and historical implications, not only in France but also in Italy (he was married to Catherine de' Medici and many important members of his court were Italian), the stakes were uncommonly high. King Henri died eleven days after the accident on July 10, 1559. My aim is to examine both how knowledge of many mechanisms of the brain was already allowing early modern surgeons to assess traumas and injuries to the skull, and how physicians and surgeons, then as now, negotiated their particular experience of the human body with the respect and the authority that their persona or their area of expertise had in the medical arena and in their society at large.

In the sixteenth century, no matter the surge of anatomical teaching in universities and the dexterity of a surgeon's hands, an operation was always the last choice to preserve a patient's life when nothing else would do. The lack of foolproof anesthesia made such interventions frightful, and the fear of infection in the absence of antibiotics figured considerably in the dismal survival rate.⁴ Still, surgery—whether done by a learned surgeon belonging to the College of Physicians, by a barber of the Barber's Guild, by a practitioner apprenticing with surgeons, or simply by a local medicaster—was attempted for fractures, wounds, ulcers, hernias, the removal of bladder stones, and dislocations; when the use of gunpowder made the battlefields exceptionally deadly in fact it became indispensable. Books on how to perform surgery often used illustrations to aid the inexperienced, as in Giovanni

2. “To the very kindly and learned Andreas Vesalius the second Asclepius and cherished friend.” This is how Vesalius was addressed in a letter by his friend Johan Herwagen, writing from Basel on March 23, 1555 [?1553]. In C. D. O'Malley, *Andreas Vesalius of Brussels, 1514–1564* (Berkeley, 1965), 405–6.

3. Paré revolutionized surgical techniques in various instances, aiming at minimizing pain or the damage to the body. See *La manière de traicter les playes faictes tant par hacquebutes, que par fleches: Et les accidentzicelles, comme fractures et caries des os, gangrene et mortification* [. . .] (Paris, 1551). Together with Jean Tagault he dominated the field of French surgery in the early and mid-sixteenth century. See Marie Louise Concasty, ed., *Commentaires de la faculté de médecine de l'Université de Paris (1516–1560)* (Paris, 1964).

4. The anesthetic was used only after 1846; the antisepsis after 1867.

da Vigo's *Practica in arte chirurgica copiosa* (1514) or in Guido Guidi's *Chirurgia, è Graeco in Latinum Conversa* (1544).⁵ They were written in Latin, although barbers, some of them itinerant healers performing the most common surgeries, could hardly read them.⁶ Such was, for example, the case of Paré.⁷

There was also a different way of understanding the body that separated physicians and surgeons. The physicians believed that even when the problem they were called to examine seemed localized—say, to the skull—it was important to appreciate the patients' internal mechanisms in order to apply the humoral balance that made the body functional. Their diagnosis could be made only after gathering information on the entirety of the sufferers' symptoms, both at the site of the problem and in general. Thus, they were interested in mood, bowel movements, eating patterns, and levels of activity before applying their first line of treatment: bloodletting, purging, and cupping.⁸ For the surgeons, however, the body was anatomically evident: body parts could be examined from the outside to the inside, pinpointed and tackled with the scalpel, as in the flayed anatomical illustrations that showed how each inch of the human form was constructed. The physicians used their past experiences, present conjectures, and all the academic information they could muster to act on the patient,

5. The history of surgery and in particular of surgeons is still to be fully fleshed out. For recent explorations, see John Henderson, *The Renaissance Hospital: Healing the Body and Healing the Soul* (New Haven, CT, 2006); Cynthia Klestinec, "Vesalius among the Surgeons," in "Vesalius and the Languages of Anatomy," ed. Valeria Finucci and Maurizio Ripa Bonati, special issue, *Journal of Medieval and Early Modern Studies* 4, no. 1 (2018): 125–51; Michael McVaugh, "When Universities First Encountered Surgery," *Journal of the History of Medicine and Allied Sciences* 72, no. 1 (2017): 6–20; Piers D. Mitchell, *Medicine in the Crusades: Warfare, Wounds, and the Medieval Surgeon* (Cambridge, 2004); and Pearl Katz, *The Scalpel's Edge: The Culture of Surgeons* (Boston, 1999).

6. For the importance of barbers to address surgical needs, see Sandra Cavallo, "Barber Surgeons and Artisans of the Body," in *Artisans of the Body in Early Modern Italy: Identities, Families and Masculinities* (Manchester, 2007), 64–88; Tiziana Pesenti, "'Professores chirurgie,' 'medici ciroici,' e 'barbitonsores' a Padova nell'età di Leonardo Buffi da Bartapaglia," *Quaderni per la storia dell'Università di Padova* 11 (1978): 1–38; Celeste Catherine Chamberland, "Honor, Brotherhood, and the Corporate Ethos of London's Barber-Surgeons' Company, 1570–1640," *Journal of the History of Medicine and Allied Sciences* 64, no. 3 (2009): 300–332; and Anita Guerrini, *The Courtiers' Anatomists: Animals and Humans in Louis XIV's Paris* (Chicago, 2015).

7. In 1554 Paré had been accepted into the Confraternity of Saint Côme, which had both barbers and surgeons among its members, but the requirement that inductees know Latin was waived in his case, a demonstration of the fame that he had already achieved by then. See Steven G. Friedman, "Ambroise Paré: Barber Vascular Surgeon," *Journal of Vascular Surgery* 68, no. 2 (2018): 646–49.

8. See Andrew Cunningham, *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients* (Aldershot, 1997); Roy Porter, *Blood and Guts: A Short History of Medicine* (New York, 2003); L. W. B. Brockliss and Colin Jones, *The Medical World of Early Modern France* (Oxford, 1977); Peter Elmer, *The Healing Arts: Health, Disease, and Society in Europe, 1500–1800* (Manchester, 2004); Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge, 1999); and Piero Gambaccini, *Mountebanks and Medicasters: A History of Italian Charlatans from the Middle Ages to the Present* (Jefferson, NC, 2004).

while the surgeons used their hands, their eyes, and their knowledge of anatomy to intervene.⁹ In the sixteenth century power was in the hands of physicians. Although historically it is debatable whether we have to wait until the nineteenth century to clearly see the passage from a view of disease as informing the entire organism to one being decipherable *in loco*, as in Michel Foucault's theorization, still surgeons, even famous ones like Vesalius and Paré, seem to have had, all in all, less authority than doctors.¹⁰

I would like to explore this tug of war between physicians and surgeons by examining their discussions and procedures as they appear in the copious correspondence of Italian courtiers and secretaries present at the royal event, as well as in the autopsy reports made by Vesalius and Paré, the former written immediately after the king's death and the latter a few years later on the occasion of the publication of his book on surgery. Given the fragmentary state of Italy in the sixteenth century—most of it under the direct power of the Spanish Hapsburgs and the French—accounts of possibly fatal injuries of important political individuals were eagerly sought at the various courts that dotted the Italian peninsula, which had been affected by decades of warfare (the "Italian Wars," 1494–1559). Rulers needed to understand whether their fragile alliances with the superpowers were still well placed or needed to be switched; in the case of Venice, the issue was how to keep neutral. Thus, Italian relatives or minions close to the patient's bedside wrote back home daily about minute events, changes in prognosis, emotional tensions, political reactions, and private postures. Can a king with an impaired brain keep working on state papers? Would the opinion of Vesalius, a Dutchman who became famous in Italy and was now sent to Paris by his Spanish patron, Philip II, have more weight than that of the French royal physicians in charge? Would the view of the barber-surgeon Paré, who had already published a book on wounds caused by arquebus and firearms, but who had no formal university education, be an authoritative one? What therapies were used to try to save

9. On the relationship between physicians and surgeons at the time, see Richard Palmer, "Physicians and Surgeons in Sixteenth-Century Venice," *Medical History* 23, no. 4 (1979): 451–60; David Gentilcore, *Medical Charlatanism in Early Modern Italy* (Oxford, 2006); Vivian Nutton, "The Humanist Surgeon," in *The Medical Renaissance of the Sixteenth Century*, ed. A. Wear, R. K. French, and I. M. Lonie (Cambridge, 1985), 75–99; Oswei Temkin, "The Role of Surgery in the Rise of Modern Medical Thought," *Bulletin of the History of Medicine* 23, no. 3 (1951): 249–59; and Michael Stolberg, "Bedside Teaching and the Acquisition of Practical Skills in Mid-Sixteenth-Century Padua," *Journal of the History of Medicine and Allied Sciences* 69, no. 4 (2014): 633–61.

10. Michel Foucault, *The Birth of the Clinic* (London, 1997), 95. Medically speaking though, already by the middle of the eighteenth century Giambattista Morgagni (1682–1771), professor of anatomy at the University of Padua, had shown that the observation of patients' diseases—coupled with the later anatomical dissection of their bodies—confirmed his hypothesis that diseases begin in specific organs and tissues. See Morgagni, *De sedibus, et causis morborum per anatomen indagatis libri quinque* (Venice, 1761). Today Morgagni is considered the father of modern anatomical pathology.

a king's life? What remedies were applied to stave off a cascading and soon catastrophic set of ailments? Letters recounting what was taking place capture the minutiae, as well as the diplomatic and social import of the swiftly unfolding events. By reporting on medical decisions, they interpret them and thus allow us to glimpse into a lay person's understanding of the then current status of medicine and surgery. The two autopsies, however, both written in rich technical terms, enable us to appreciate the status of intervention on the brain at the time, as argued by a top anatomist and a top surgeon.

In his *Fabrica of the Human Body* Vesalius claimed that the brain was what distinguishes man from animal and fully charted its anatomy in a set of highly specific and aesthetically dramatic illustrations. In the seventh book of the *Fabrica*, he dedicated thirteen chapters to different structures of the brain, four chapters to the organs of sense, and two chapters on how to dissect the brain and perform vivisection. Illustrations of the brain of male individuals in the book are even more illuminating than the words explaining the structure of this organ and already show parts that only years later would be "discovered" and properly named.¹¹ In a way, Vesalius's eye could see more than the Latin vocabulary would allow him to name.

The idea that you are, to put it simply, your brain, that there is a biological basis to how you behave, and that the brain is where consciousness and feelings emerge was not common in ancient medicine. For Aristotle, to be human meant to have a heart, not a brain. For him the heart was the first organ to be formed, the place where the soul was located and where motion and intelligence had their seat. Galen followed Aristotle in thinking that the heart was the place of life, the source of the innate heat that governs the animal that is man, as he put it. But he refused the Aristotelian belief that the heart is the source of the nerves and gave more importance to the mind, which controls fluids known as pneuma, and described changes in behavior as a consequence of traumatic head injuries. He thought that the vital spirit was generated in the heart and the animal spirit in the brain. His descriptions of the brain and of cerebral circulation are accurate, and his comments on spinal transection brilliant.

Galen usually dissected oxen when considering the anatomy of the brain and used macaque monkeys to study the nerve anatomy of this organ. Vivisection was conducted on pigs; the anatomy of sheep was also heavily studied. However,

11. As Marco Catani and Stefano Sandrone write in *Brain Renaissance: From Vesalius to Modern Neuroscience* (Oxford, 2015), there is an image (A2 in the appendix) in which "three longitudinal most anterior gyri of the frontal lobe as well as the vertical direction of the precentral and postcentral gyri in the frontal and parietal lobe" were officially defined only two hundred years later (27). For another example, "the cortex of the insula, a structure 'discovered' by Felix Vicq d'Azyr and Johann Christian Reil 350 years later, is also clearly visible" (27). The appendix of all figures with commentary is at 215–52.

the brain anatomy of man and animal is hardly the same, as Vesalius was vocally to emphasize when dissecting human cadavers. Moving away from his first thesis topic at the University of Paris on pathology and the cure of sick patients, Vesalius transitioned into cutting, sawing, slicing, and carving the body well before he enrolled at the University of Padua, where he was made a professor the same year he graduated. Rushing to dissect the brain—once circulation ceases, the brain morphologically changes—and in fact dissecting many brains in order to provide as faithful as possible drawings of the skull's interior, Vesalius identified the ventricles, the meninges, the cerebral nerves, the pituitary gland, and the blood supply to the brain and spinal cord and mapped the structure and workings of the eye. Even as a student in Paris he made the discovery (actually a recovery, since Celsius had mentioned it) that the human jawbone, unlike that of animals, is made of one single piece. He also argued, as Jacopo Berengario da Carpi, the most important anatomist before him, had done a few years earlier, that Galen's *rete mirabile* was absent in the human head, although present in that of the vertebrates that Galen had studied (Romans did not allow dissection of humans).¹² More to the point, he contended that the fluid-filled cavities called ventricles were not responsible for brain function and denied the role of the soul in the ventricles. In his chapter on the variability of the human skull, he described five heads. He noted differences in shapes and had fifteen diagrams made. He showed that there are seven pairs of cranial nerves in the cerebellum and described blood vessels. For the first time he separated the gray from the white matter, described the midbrain, rejected the theory that nerves were hollow, and recognized focal epilepsy.¹³

In his reflections on the brain, Vesalius was uncharacteristically humble and confessed that thoroughly understanding its work was an issue too complicated for his times: "How the brain performs its functions in imagination, in reasoning, in thinking and in memory . . . I can form no opinion whatever. Nor do I think that anything more will be found out by anatomy."¹⁴ Still, it was thanks to his exhaustive knowledge of the human body verified through dissection that Vesalius was asked

12. According to *Webster's Dictionary*, the *rete mirabile* is "a small but dense network of blood vessels formed by the breaking up of a larger vessel into branches that usually reunite into one trunk and believed especially important as oxygen-storing mechanism in aquatic animals" (<https://www.merriam-webster.com/dictionary/rete%20mirabile>). Berengario wrote in 1521 that he had dissected more than a hundred heads for the sake of finding it. See his *Commentaria*, (Bologna, 1521), fols. 6v–7r.

13. Regarding focal epilepsy, Vesalius preceded Hughlings Jackson. Before him, Johan Dryander (1500–1560) had illustrated the anatomy of the brain, specifically the dura mater separating the right and the left brain, in *Anatomiae, hoc est, Corporis humani dissectionis pars prior* (Marburg, 1537).

14. In William Dampier, *A History of Science and Its Relations to Philosophy and Religion* (Cambridge, 1971), 122. For a historical excursus on brain injuries, see Clifford Rose, "The History of Head Injuries: An Overview," *Journal of the History of the Neurosciences* 6, no. 2 (1997): 154–80.

to rush to Paris in early July 1559 to Henri's bedside by his patron King Philip II, who had just married by proxy Henri's daughter.

Henri II of Valois (1519–59) ruled France for twenty-two years, from 1547 until his death. As a cadet son of François I, he was not destined to the throne of France but became dauphin when his brother François of Valois, Duke of Brittany, contracted a chill with subsequent fever while playing tennis, and died—his cause of death being likely pleurisy. Henri had been married since the very young age of fourteen to the Florentine Catherine de' Medici (1519–89), also fourteen, but his heart was for the widow Diane de Poitiers (1500–1566), whose role at court was of paramount importance and whose preferred colors—black and white—he usually sported at tournaments.¹⁵ Although his first ten years of marriage were barren as a result of an anomaly in his sexual organ, when the problem was successfully addressed by the renowned Parisian faculty doctor and theorist Jean Fernel, Henri fathered ten legitimate children.¹⁶ As for his personality, he was described as somewhat gloomy and stubborn, a character trait that could have originated in his childhood years of grueling loneliness in prison in Madrid, when together with his older brother he was held hostage by the Emperor Charles V in exchange for his father, François.¹⁷ At forty, in any case, Henri was still in reasonably good health, although “afflicted with gout and bouts of vertigo”; he had spent much of the summer the year before “in his tent with a cold.”¹⁸

Henri had been involved for years in the Italian Wars as a result of which the French finances were thoroughly depleted. He had also lost the strategic town of

15. On the well-known rivalry between Catherine de' Medici and Diane of Poitiers, see, e.g., Sheila ffolliott, “Casting a Rival into the Shade: Catherine de' Medici and Diane de Poitiers,” *Art Journal* 48, no. 2 (1989): 138–43.

16. Henri was afflicted by hypospadias and chordee, a urologic abnormality in which the opening of the urethra is not at the tip but on the underside of the penis. It is treated today by surgery. Catherine, however, was inexperienced and had to be coached on how to “do it” by Diane de Poitiers, her cousin since both were of the La Tour d'Auvergne stock. Diane was herself unable to have children with Henri, although she had two daughters during her marriage. Fearing that her position at court would be lost if Henri, who needed male heirs, would remarry, she chose to support Catherine in this triangulated relationship. On Henri's sexual problem, see M. Hatzinger, S. Al-Shajlawi, and M. Sohn, “Die Hypospadie und Infertilität von Heinrich II von Frankreich (1519–1559),” *Geschichte der Urologie* 53 (2014): 375–78; and Jennifer Gordetsky, Ronald Rabinowitz, and Jeanne O'Brien, “The ‘Infertility’ of Catherine de' Medici and Its Influence on 16th Century France,” *Canadian Journal of Urology* 16, no. 2 (2009): 4584–88. See also Jean Fernel, *On the Hidden Causes of Things: Forms, Soul and Occult Disease in Renaissance Medicine*, ed. John Forester and John Henry (1542; Leiden, 2004).

17. In 1525, during the Battle of Pavia in the Italian Wars, François I was captured by the forces of Charles V and held prisoner. For his release, he pledged that his two sons would be sent to Spain as captives to ensure that he would keep the terms of the Treaty of Madrid, signed in 1526. François was in no rush to make good on his promise, and the imprisonment of the two boys became increasingly harsher as a result.

18. In Frederic Baumgartner, *Henry II, King of France 1547–1559* (Durham, NC, 1988), 218. Gout was a general term used in the period to refer to rheumatism, which was thought to come from an imbalance of humors.

St. Quentin, the door to a feared occupation of Paris, after a long siege presided by the talented commander of the Hapsburg troops, Emmanuel Philibert, Duke of Savoy and governor of the Netherlands. He was thus quite eager to take a seat at the peace conference that was finally organized at Cateau-Cambrésis. That treaty would confirm the Hapsburgs and the Valois, that is, Spain and France, who had fought each other for the last sixty-five years, as the *de facto* rulers of Europe. It was signed on April 2, 1559, and sealed with a number of marriages among the main partners, as was customary for ruling families at the time. Henri's fourteen-year-old daughter, Elizabeth (1545–68), had been promised to Philip II's son, Don Carlos, but the deal then switched to Philip himself (1527–98) when his first wife, Mary Tudor (Bloody Mary) died; Emmanuel Philibert (1528–80) was to marry Henri's sister, the thirty-six-year-old Marguerite, Duchess of Berry (1523–74). The setting for the festivities connected to the double marriage was the Hotel de Tournelle, Catherine's favorite home in Place des Vosges. Philip, who was residing in Brussels since his father Emperor Charles V's abdication, chose not to leave Flanders, because as it is claimed he said, the king of Spain does not chase maidens. Instead, he sent his proxy, the Duke of Alba, to represent him. The marriage ceremony took place on June 21 in the Louvre. Emmanuel, however, came in person to Paris to marry. By June 28, all requirements for this last marriage having been signed, Henri gave the signal for the start of a three-day tournament that was to take place in Place des Vosges. He was a consummate horseman and eagerly ordered the site cleared for setting up the wooden stadium and the list.

On the third day, Friday, June 30, Henri had already jousted the conventional three times when, fearing that perhaps he had not unequivocally won the third joust with Gabriel de Lorges, First Earl of Montgomery (1530–74), a scion of a powerful French family of Scottish extraction and captain of the Scots Guard, he asked for a rematch. The count at first demurred and the king was asked to let it be, since it was late in the afternoon and he appeared drained and flushed by the heat. Moreover, court members, and in particular Catherine, had reason to think that the day was unlucky, since there had been a double premonition of bad events to come. The first, by Catherine's astrologer and mathematician, Luca Gaurico, had correctly predicted years earlier that Henri would meet his death following a head wound in a duel around his forty-first year—and he was now forty years and three months old.¹⁹ The divination did not seem to displease Henri, we are told, as long as he could keep his honor intact. The second prophecy was by Nostradamus, who

19. The prediction was in a letter in Latin that warned the king "to avoid all single combat in an enclosed space, especially near his forty-first year, for in that period of his life he was menaced by a wound in his head which might rapidly result in blindness and even in death." In Edgar Leoni, *Nostradamus and His Prophecies* (New York, 1982), 27n. Gaurico died one year before the tournament.

lodged into the king's right eye. As Vesalius was to write in his autopsy report, the lance "first struck the middle of the eyebrows, the root of the nose, and the inner part of the left eyebrow. From there it continued on through the whole lower part of the right eyebrow to the temple."²³ Henri was not unhorsed by the blow, although he first leaned to the left and then to the right; but when the horse that had continued to gallop stopped, he fell to the ground, unconscious. The entire court rushed to the site of the accident. Henri revived, then lost consciousness. According to some reports, he was carried by solicitous members of his retinue, while in others he was said to have chosen to walk up the few stairs leading to the door of the Chateau de la Tournelle, showing in so doing "cuore e vigore veramente da re" (heart and strength proper to kings), as Alfonso d'Este, the future Duke of Ferrara, wrote the same day to his father.²⁴ Another report by Aurelio Fregoso to Duke Cosimo I de' Medici in Florence, however, argued that the king fell immediately after he reached the top of the stairs: "sendo stato portato a braccio dal connestabile e suo figlio, il condussero a cima di una scala, et che come fu a cima, volse esser lassato per voler far prova di andare di se, et subito cascho in terra" (he was being brought in their arms by the constable and his son toward the top of a staircase. Upon reaching the landing, he wanted to be set free to show that he could walk by himself, and immediately fell to the ground).²⁵ In the meantime, Henri's teenage son and heir to the throne fainted.

The consensus at the moment seemed to be that the accident was not too serious. As the English ambassador Nicholas Throckmorton wrote the day after, "the hurt seemed not to be great; whereby I judge, he is in little danger. Marry, I saw a splinter taken out, of a good bigness; . . . but I noted him to be very weak, and to have the sense that all his limbs almost benumbed, for being carried away, as

23. Andreas Vesalius, "The Tragic Termination of the Royal Injury," in O'Malley, *Andreas Vesalius of Brussels*, 396–98, at 396. The original report has been lost, but there is a copy at the Bibliothèque Nationale, mss. fr. vol. 10190. It was first published by Alphonse de Ruble, *Antoine de Bourbon et Jeanne d'Albret, I* (Paris, 1881), 432–35, and republished with corrections in Ferdinand Wagenseil, "Vesal beim Tode Heinrichs II von Frankreich," *Archiv für Geschichte für Medizin* 46 (1962): 336–39.

24. Letter of June 30, 1559, in Archivio di Stato di Modena (hereafter ASMo), "Alfonso II," cited in Lucien Romier, "Mort de Henri II," *Revue du Seizième Siècle* 1 (1913): 99–152, at 140. English translations here and throughout are mine. Alfonso d'Este (1533–97), who later that year became Duke of Ferrara as Alfonso II, was the son of Ercole II d'Este and Renée de France and led the war in Flanders for Henri II, who gave him the command of one hundred knights. A year earlier he had married Lucrezia de' Medici, thus strengthening his relationship with Catherine too. See Marion Leathers Kuntz, *Anointment of Dionisio: Prophecy and Politics in Renaissance Italy* (Philadelphia, 2001), 87.

25. This report, dated July 10, 1559, comes from an "Aviso" in Venice. Aurelio Fregoso letter from Urbino to Duke Cosimo I is in the Archivio di Stato di Firenze (hereafter ASF), Mediceo del Principato, vol. 479, fol. 489. Fregoso had been in the service of Henri for a number of years, but in 1557 he passed to the service of Cosimo de' Medici as his army general fighting the French in Lombardy. Biographical information is in Jean-François Dubost, "Fregoso, Aurelio," *Dizionario biografico degli italiani*, vol. 50 (1998), [https://www.treccani.it/enciclopedia/aurelio-fregoso_\(Dizionario-Biografico\)](https://www.treccani.it/enciclopedia/aurelio-fregoso_(Dizionario-Biografico)).

he lay along, nothing covered his face, he moved neither hand nor foot, but lay as one amazed.”²⁶ Another witness, Antonio Caracciolo, bishop of Troyes, a son of the Neapolitan prince of Melfi, noticed that after the blow the king would have fallen, if courtiers had not come to his help. Then, “disarmatolo in fretta lo trovaron tramortito con la stecca passata nell’occhio, et tutto insanguinato. Quindi si diedero con ogni sollecitudine a farlo rinvenire con acqua fresca, acqua rosa, et aceto e prima che lo conducessero alla sua camera tramortì due altre volte” (they relieved him quickly of his armor and found him fainting, the lance passed through his eye, and all bloodied. Thus, with great precaution they sought to revive him with fresh water, rosewater and vinegar, but he fainted twice before reaching his chamber).²⁷

Under the direction of Chapelain, court doctors worked right away to remove as many splinters as they could from Henri’s right eye (in Vesalius’s later account, they took out half a dozen).²⁸ Pulling splinters was extremely painful. “Et benchè S. Mtà sia stata molto patiente, non hà pero potuto fare di non cridare ben forte” (although the king was very patient, he still could not avoid screaming loudly), wrote Alfonso d’Este, one of the very few people allowed at the king’s bedside.²⁹ At this point, the Maréchal de Vieilleville observed, five or six surgeons tried to enlarge the wound and “sound” the part of the brain into which splinters of the lance penetrated.³⁰ Following the medical custom, doctors washed and dressed the lesion with egg white, bled the patient twelve ounces, and purged him with a concoction of rhubarb and mummy. The king vomited three or four hours later, the expected

26. In Patrick Forbes, *A Full View of the Public Transactions in the Reign of Elizabeth* (London, 1741), 161 n. 6. See also, more generally, Seymour Schwartz, *The Anatomist, the Barber-Surgeon and the King: How the Accidental Death of King Henry II of France Changed the World* (Amherst, NY, 2015).

27. Caracciolo’s letter, “A Monsignor Cornelio Musso Vescovo di Bitonto,” is in a collection put together by Luigi Michele, titled *Delle lettere di principi le quali o si scrivono da principi o a principi o ragionano di principi. Libro terzo* (Venice, 1581), 194v–198r, at 195v. Caracciolo had moved to France in his teens and later was employed by Henri as ambassador to Pope Paul IV. For biographical information, see Giovanni Parenti, “Caracciolo, Antonio,” *Dizionario biografico degli italiani*, vol. 19 (1976), https://www.treccani.it/enciclopedia/antonio-caracciolo_res-e5455c79-87e9-11dc-8e9d-0016357eee51_%28Dizionario-Biografico%29. See also Charles O’Malley and J. Saunders, “The ‘Relation’ of Andreas Vesalius on the Death of Henry II of France,” *Journal of the History of Medicine* (1948): 197–213, at 202–3.

28. Vesalius, “Tragic Termination,” 396.

29. Letter by Alfonso d’Este to the Duke of Ferrara, June 30, 1559, in ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 141.

30. The report is from Maréchal de Vieilleville who wrote, however, many years later, now in V. Carloix, *Mémoires de la vie de François de Scépeaux, sire de Vieilleville et compte du Durestal, marechal de France*, in *Nouvelle collection des mémoires pour servir à l’histoire de France*, vol. 9.1 (1838), 284. Cited in I. M. L. Donaldson, “The Injury and Death of Henri II: The Contributions of Amboise Paré and Andreas Vesalius,” in *Journal of the Royal College of Physicians of Edinburgh* 43 (2013), online version.

outcome in humoral medicine.³¹ He then became restless, got another purge, and was given barley-gruel to fend off fever. Accounts of how he spent the night varied: for some he rested, while for others he suffered. He asked often for water but was only given some fluid watered down with julep every half an hour, or so wrote Luigi Gonzaga, well aware that in humoral medicine moistness was not to be encouraged in sick patients.³²

A consultant, Ambroise Paré, was called back from Lyon in a great rush to assist the king.³³ As a field surgeon in numerous battlefields for the king in Italy and France, Paré had performed many successful operations on the skull and had also employed a valuable procedure, which appeared later on the title page of his extensive *Les Oeuvres de M. Ambroise Paré*.³⁴ Years earlier, in 1545, at the Battle of Susa in Italy, he had also found a revolutionary method to cauterize wounds by applying a mix of egg yolks, oil of roses, and turpentine instead of the boiling oil that was customarily used then on gunshot wounds.³⁵ Some of his techniques could be called neurosurgical, although the term itself is anachronistic for the times.³⁶ Given that there were no

31. "Hor messo in letto, gli medici deliberorno di darci una medicina di reubarbaro et momia et ucolepo rosato, se ben mi raccordo, laqual tenuta tre o quatro hore la vomitò tutta." From a letter by Luigi Gonzaga to the duke of Mantua, dated July 1, 1559, in Archivio di Stato di Mantova (hereafter ASM), "Francia," cited in Romier, "Mort de Henri II," 143. Luigi (Lodovico) Gonzaga-Nevers (1539–95), born in Mantua, was sent to France at age ten to claim the assets of his French grandmother and thus became the founder of the cadet branch of the Gonzaga, the Nevers. He fought for Henri II in the battle of St. Quentin, where he was taken prisoner by the Spanish. Many historians make him one of the courtiers most responsible for the St. Bartholomew's Day Massacre of the Huguenots in 1572.

32. "spesso dimanda a bere, ma non gli danno senon un pocho di giolippo con aqua ben mescolato, et ciò gli danno molto raro; perodimanda quasi ad ogni mezzhora a lavarse la bocha di aqua et gli concedono." From a letter by Luigi Gonzaga to the Duke of Mantua, July 1, 1559, in ASM, "Francia," cited in Romier, "Mort de Henri II," 144.

33. As Leone Ricasoli writes to Cosimo in Florence, on July 2, 1559, "Trovandomi lontano da Parigi XV poste, passò un cavalcatore del Re che andava con gran diligenza per un medico a Lione, et disse che il Re era stato ferito d'una lanciata in giostra." In ASF, Mediceo del Principato, 4564, fol. 13, in Romier, "Mort de Henri II," 142. Ricasoli had just been sent to Paris by Duke Cosimo I to congratulate him for the signing of the peace agreement, as a letter informing Catherine states. See ASF, Mediceo del Principato, "Cosimo 1 de' Medici," vol. 211, fol. 2.

34. Ambroise Paré, *Les Oeuvres de M. Ambroise Paré* (Paris, 1565). In English, see Paré, *The Workes of That Famous Chirurgion Ambrose Parey. Translated out of Latine and Compared with the French*, trans. T. Johnson (London, 1649). Paré was such an expert on brain injuries that, as Simpson writes, "it seems that of his 18 cases of head injury, only five died." In Donald Simpson, "Paré as a Neurosurgeon," *ANZ Journal of Surgery* 67 (1997): 540–46, at 544.

35. The method was found by chance when Paré had to become inventive after his supply of oil ended, but it later changed radically the way he dealt with traumatic wounds. See Cyril Mauffrey, "Finally I had run out of oil: Ambroise Paré and the Birth of Modern Trauma Surgery," *Trauma* 8 (2006): 1–3, at 2.

36. As Simpson writes, it is "a very gross anachronism to speak of neurosurgery in the 16th century . . . nevertheless Paré did perform many procedures that we see as neurosurgical." In Simpson, "Paré as a Neurosurgeon," 543. The neurological effects of skull injuries were also noticed by Leonardo Botallo, a student

exterior wounds to the king's skull, doctors were unsure as to what damage could have occurred internally, although the patient's vomiting could be seen as the result of a contrecoup injury, as Paré was soon to write in his book on surgery of the skull.³⁷

The next morning, July 1, Henri did not talk, answered only with a feeble voice, and kept the uninjured eye shut, as in the report that Scipion Piovene, the king's equerry also in the service of the Cardinal of Ferrara, wrote to his patron in Italy.³⁸ His wound was dressed anew, but to avoid giving him more pain the doctors only washed the surface of the lesion, rather than thoroughly cleaning it and taking away more splinters—a mistake, as it turned out. Even a witness, Guglielmo Roviglio, the secretary of Alfonso d'Este, writing back to the Duke of Ferrara, judged that the doctors should have been more thorough when treating him, for the king “molto si duole, et di questo nasce, che per mio parer non è buono, che li medici li vano con molto rispetto a causa di non farli male, et forse potriano essere causa di maggior danno” (he bemoans profusely, and thus doctors treat him with plenty of circumspection in order not to irritate him. For me, this is not a good thing, and could perhaps be a reason for supplementary harm).³⁹ The king was also fed something cold together with unspecified salves ordinarily used in such circumstances, Luigi Gonzaga wrote back to the Duke of Mantua.⁴⁰ Then again, he fell into a deep sleep and by late afternoon he had no fever. His urine, however, was judged altered.

On July 3, the king felt much better, Roviglio informed the Duke of Ferrara; he asked for music, gave permission to restart the festivities, and even dictated state letters.⁴¹ That same day Vesalius arrived from Flanders after a hasty journey of two hundred miles and brought along a third surgeon, the Spanish Dionisio Daza

of Gabriele Falloppio at the University of Padua, who later became a military surgeon with the French army and a royal physician to Henri's son, Charles IX, in *De curandis vulneribus sclopettorum* (Lyon, 1560).

37. Ambroise Paré, *La methode curative des playes et fractures de la teste humaine. Avec les pourtraits des instruments necessaires pour la curation d'icelles* (Paris, 1561).

38. “non si lamenta nè parla quasi mai, senon che a pena risponde una paroletta quando li vien adimandato qualche cosa; dorme assai e non guarda quasi mai niuno col bon occhio, tenedolo di continuo serrato.” Letter to the Cardinal of Ferrara, in ASMo, “Francia,” cited in Romier, “Mort d'Henri II,” 145. Piovene entered the service of Henri II as equerry in 1555. Two years earlier he had brought to Paris some excellent horses to present to the king on behalf of the Duke of Ferrara. See Lucien Romier, *Les origines politiques des guerres de religion* (Geneva, 1974), 102.

39. From a letter of July 2, 1559, of G. Roviglio to the Duke of Ferrara, in ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 145–46.

40. “non so che geliada artificciata et altre cosete appartenenti a simili mali.” Letter of Luigi Gonzaga to the Duke of Mantua, July 1, 1559, in ASM, “Francia,” cited in Romier, “Mort de Henri II,” 145.

41. “La cose di S. Mtà, Iddi gratia, vanno ogni di migliorando . . . S. Mtà, per recrearsi un puoco, hà addimandato hoggi la musica laquale si gli è fatta et hà mostrato di cio molto contento.” Letter of G. Roviglio of July 3, 1559, in ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 146–47.

Chacón, physician to the Spanish Duke of Alba. Chacón's function was that of onlooker, and his presence was meant to display the solicitousness of Philip II toward his new father-in-law. On first seeing the king, Vesalius wrote that he appeared not to suffer, although he "seemed benumbed in both his animal and especially in his vital strength."⁴² To assess Henri's pain level, he performed a neck flexion. As his friend, Heinrich Petri, described it later (he may have heard it directly from the source), Vesalius "made trial with a clean cloth which he put in the king's mouth [to bite] and then pulled it out with some force; whereupon the king threw his hand to his head and cried out in pain." It is at this juncture that Vesalius pronounced what sounded like a death sentence: *Chironium vulnus*, that is, "the wound will not heal."⁴³ His diagnosis of a fatal outcome was given in smooth Latin and "with that facility that I saw in many meetings," Daza Chacón later wrote.⁴⁴ What Vesalius administered may have been the first test of meningitis that has ever been recorded.⁴⁵

To better understand the problem of what kinds of brain injuries are possible when no skull fracture is present, the cadavers of four criminals were made available to the medical team for a comparative study of skulls, using the broken lance of Montgomery.⁴⁶ Additionally Montgomery, preoccupied with the possibility that he could be harshly punished for wounding the king, provided Vesalius with a cadaver of his choice, "an unfortunate man who was assassinated yesterday to be preserved until the arrival of Vesalius, and he wished the latter to show him in the dead man's head the anatomy of the king's injury."⁴⁷ The issue of trephination was debated at length by physicians and surgeons uncertain as to whether there was an inflammation in the king's brain requiring trephining the skull to release the internal pressure. Vesalius, following Hippocrates, was certain that that was the case,

42. Vesalius, "Tragic Termination," 396.

43. For this account and the reconstruction of the episode, see O'Malley, *Andreas Vesalius of Brussels*, 285. Vesalius does not mention the test in his autopsy. The expression "chironium vulnus" comes from Erasmus's *Adagia* 2.8.21, and refers to the story of the centaur Chiron, who was unable to cure himself, although he was a healer, when he was shot by a poisoned arrow.

44. "Vesalio dixo su parecer con aquel latin y con aquella facilidad que en muchas juntas." In Chacón, *Practica y Teorica de Cirugia* (Madrid, 1678), 205. Chacón was later involved with Vesalius, then residing in Madrid, for a consult on brain fracture involving Don Carlos, son of Philip II, who broke his skull when falling down a set of stairs. Don Carlos survived a subsequent infection, and his recovery was considered miraculous. See Andrew Villalon, "The 1562 Head Injury of Don Carlos: A Conflict of Medicine and Religion in Sixteenth-Century Spain," *Mediterranean Studies* 22, no. 2 (2014): 95–134.

45. See O'Malley, *Andreas Vesalius of Brussels*, 285. Paré also knew the importance of meninges for the nutrition of the brain. See Paré, *The Workes of That Famous Chirurgion Ambrose Parey*, 128.

46. O'Malley, *Andreas Vesalius of Brussels*, 285.

47. O'Malley, *Andreas Vesalius of Brussels*, 286.

but other doctors were not so sure.⁴⁸ At the time trephination was not performed immediately after the accident, but usually three days or even later.⁴⁹

This was the case in 1517 of Duke Lorenzo de' Medici (1492–1519), Catherine's father, who was the victim of an arquebus shot that hit his skull and came out at the nape of his neck during the war to retake the town of Urbino. Lorenzo underwent trephination after the seventh day, when he started to run a fever. In this case, he was lucky, for according to Andrea Della Croce (1514?–1575), who was an expert of traumatic injuries as doctor-in-chief of the Venetian fleet, fever following a skull fracture is a sign of death if it appears on the fourth, seventh, or eleventh day.⁵⁰ Lorenzo was able to heal and return to Florence a few weeks later, as Berengario da Carpi recounts in his book on fractures of the skull, dedicated to the Medici duke. Berengario was present at the surgery, although he did not perform it because in the rush to arrive at the patient's bedside he had not brought his instruments along.⁵¹ In Henri's case doctors agreed that there was both a contusion from the blow and a concussion with possible rupture of the veins, but they were unsure about cerebral injury because at the time it was unclear whether damage to the brain could occur in the absence of a skull laceration.⁵² The result of the consultation, Vesalius

48. Hippocrates had already identified and described five cases of fractures: linear fracture, contusion, depressed fracture, dent occurring with or without fracture, and contrecoup fracture. See *De capitis vulneribus* (a translation into Latin of works by Hippocrates, Galen, and Oribasius from a Byzantine source by Guido Guidi) (Paris, 1544).

49. As the Spanish surgeon Francisco Arceo writes, "The third day after a wound is made, it shall be expedient to use the office of the trepan or percer." In Arceo, *A Most Excellent and Compendius Method for Curing Woundes in the Head and Other Parts of the Body* (London, 1588), chap. 4. See also B. Nathan and G. Evans, "The Treatment of Head Injury during the Renaissance," *Journal of Accident and Emergency Medicine* 15 (1998): 119–20. Trephination was performed as early as 5000 BCE. For explanations on the techniques used and for an archeological study of skulls, see John W. Verano, "Differential Diagnosis: Trepanation," *International Journal of Paleopathology* 14 (2016): 1–9. More generally, see Charles G. Gross, *A Hole in the Head: More Tales in the History of Neuroscience* (Cambridge, 2012).

50. Andrea Della Croce, *Della chirurgia [. . .] libri sette* (Venice, 1574). See also Cynthia Klestinec, "Translating Learned Surgery," *Journal of the History of Medicine and Allied Sciences* 72, no. 1 (2016): 34–50.

51. Jacopo Berengario da Carpi's neurosurgical treatise *Tractatus de Fractura Calvae sive Cranei* (1518) specifically addressed all varieties of head traumas following battlefield injuries together with the instruments needed for craniocerebral surgery. See Berengario da Carpi, *On Fracture of the Skull or Cranium*, trans. L. R. Lind, *Transactions of the American Philosophical Society* 80 (Philadelphia, 1990); and Antonio Di Ieva et al., "Berengario da Carpi: A Pioneer in Neurotraumatology," *Journal of Neurosurgery* 114 (2011): 1461–70.

52. As in Vesalius's postmortem examination in O'Malley, *Andreas Vesalius of Brussels*, 287. Now we know that it would have been useful because even without a skull fracture "there was a secondary rebound trauma resulting in a subdural haematoma in the occipital area." See J. Tainmont, "A Historical Vignette (19). An Orbital Trauma in the 16th Century," *B-ENT* 6, no. 3 (2010): 229–36. See also Kian Eftekhari et al., "The Last Ride of Henry II of France: Orbital Injury and a King's Demise," *Survey of Ophthalmology* 60, no. 3 (2015): 274–78.

wrote, was that “it was unanimously agreed at this point that trephination could promise nothing.”⁵³ The king may have had the best doctors and surgeons working for him, but the option of surgery was met by the fear that skull perforation could lead to inflammation, damage his cerebral faculties, and even kill him.

By the evening of July 4, Henri started to run a fever again and was given an additional purgative to lower it. For Vesalius and some other physicians the fever seemed to indicate damage to the brain. But taking a hint from the king’s urine, court doctors instead felt that fever was “the result of putridity arisen from harmful material [in the venous system] rather than from the wound or from the brain,” and once more they used humoral medicine to address the problem.⁵⁴ The king’s left leg and arm now suffered from paralysis; the right side underwent a long convulsion, and respiration became difficult. The realization that paralysis on one part of the body meant that different parts of the brain govern different bodily motions was important for Vesalius to understand neurodegenerative conditions, as he wrote in the *Fabrica*.⁵⁵ The doctors declared Henri’s case desperate.

By July 7 the royal palace looked like a funeral site rather than a wedding venue (“il Palazzo ha quasi mutato le nozze in mortorio”), or so Lione Ricasoli wrote to Cosimo I in Florence.⁵⁶ By July 8 there was no hope: “I sequali sono brutti: la febre è ardentissima, la testa sigli è enfiata, et la piaga non arena” (the signals are bad: fever is very fiery, the head is swollen and the wound does not dry), Roviglio wrote.⁵⁷ Delirium was now constant and a rattling of the throat could be heard. People in the street, Niccolò Ferrante wrote from Venice to Duke Cosimo in Florence, reflecting perhaps a more general view of the Signoria, now believed that the wound was mortal.⁵⁸ On July 9 the king was given communion and last rites. He kept moving in and

53. Vesalius, “Tragic Termination,” 397.

54. Vesalius, “Tragic Termination,” 397.

55. For more on Vesalius’s neuroanatomy, see John M. S. Pearce, “Anatomical and Neurophysiological Phenomena,” in *Fragments of Neurological History* (London, 2003), 1–66; and Malcom Hast and Daniel Garrison, “Vesalius on the Variability of the Human Skull: Book 1 Chapter 5 of *De Humani Corporis Fabrica*,” *Clinical Anatomy* 13, no. 5 (2000): 311–20. Unlike Vesalius, Paré believed in the existence of the Galenic *rete mirabile*, but he too knew that convulsions could take place on the opposite side of a cerebral injury. See his *The Workes of That Famous Chirurgion Ambrose Parey*, 275.

56. From a letter of July 7 from Lione Ricasoli to Duke Cosimo I in Florence, in ASF, Mediceo del Principato, 4594, fol. 21. Ricasoli was in France as Cosimo de’ Medici’s ambassador. The letters he wrote to his duke between July 7 and September 11, 1559, are in *Archivio Storico Italiano a cura della R. Deputazione di Storia Patria*, vol. 26 (Florence, 1877).

57. From a letter by Roviglio to the Duke of Ferrara of July 8, 1559, in ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 148.

58. From a letter by Niccolò Ferrante to Duke Cosimo I in Florence on July 8, 1559: “si dubita di morte, la qual cosa non so certa, ma alle piazza si dice per certa.” In ASF, Mediceo del Principato, vol. 479, fol. 445.

out of consciousness, but according to official reports he was also somehow able to urge that the official church ceremony of his sister be celebrated that very night in the nearby Église Saint-Paul, and to commend to Catherine his children and his kingdom, and to the heir to the throne his church and his people. Whether he was able to do all of the above with his depressed level of awareness or whether it was politically necessary to announce that he did it is another matter.

The doctors checked again the wound now to dress it, and as Roviglio rushed to inform his duke, they found the site dry.⁵⁹ It is at this point that trephining was considered again. In preparation, Henri was subjected to fumigations to make him fall asleep and this, Roviglio wrote, was the very last remedy.⁶⁰ Whether the hands of Vesalius or Paré would have been used on the king's skull if surgery were to be performed is anybody's guess. Probably the trepanning would have been carried out by a court surgeon. When the wound was rechecked, however, the doctors saw it was pus filled, a sign today that the infection had moved from the orbit into the brain.⁶¹ Henri also started to sweat profusely, the sweat of death, as the doctors called it, and the plan for an operation to address the inflammation was abandoned. Court doctors now gave the king a drink of wine mixed with sage and heat-producing herbs, and this, "a prescription prepared under the guise of a potion for the wound" Vesalius wrote, only hastened the end.⁶² Doctors and surgeons again were not on the same page.

Henri died the day after at one o'clock in the afternoon. The "fortuna" that made the cadet son, rather than the firstborn François, king of France, now deserted him, for no matter the "virtù" displayed through the years—he is still referred to as "le roi gentilhomme"—Henri was unable to either foresee or control his destiny because no medical technology or lifesaving drugs were available to restore his health. According to a lay witness, Antonio Caracciolo, the reason for his death was "non . . . tanto la trafitta della scheggia, quanto la gran concussionione della testa, per la quale si lacerarono alcune vene della pia madre, onde poi cadde del sangue nel cervello, e ivi fece apostema senza rimedio. Mori con spasimo, e con attratione, et estensione

59. "Dipoi l'hanno sfasciata la testa per medicarlo et hanno trovato la piaga molto secca, et si stà aspettando che li uscisse l'anima." Letter of G. Roviglio to the Duke of Ferrara on July 9, 1559, in ASMo, "Francia," cited in Romier, "Mort de Henri II," 149.

60. "Per ultimo rimedio li medici hanno trovato di farli alcune fumotazioni per farlo addormentare e questo per trapanarlo et usare l'ultimo rimedio." From a letter by Roviglio to the Duke of Ferrara on July 9, 1559, in ASMo, "Francia," cited in Romier, "Mort de Henri II," 150.

61. Purulent encephalitis can be treated with drainage or elimination of infected brain tissue. See C. Ernest West, "A Case of Purulent Encephalitis Treated by Drainage and Removal of Infected Brain-Tissue," *Proceedings of the Royal Society of Medicine* 2 (1909): 15–18.

62. Vesalius, "Tragic Termination," 398.

mostruosa di mani, e di piedi” (not so much the wound made by the spear, but rather a head concussion, which lacerated some veins of the pia mater. As a result, blood fell into the brain and there created an aposthema for which there was no remedy. He died with pain and convulsions, with monstrous swelling of hands and feet).⁶³ It is noteworthy that even a courtier summarizing what appears to be a medical consensus could understand the importance of the pia mater, which constitutes the innermost layer of the meninges, tightly clinging to the surface of the brain, and protects the central nervous system by containing the cerebrospinal fluid. That the pain Caracciolo describes was visible to others we can surmise from a tomb sculpture made by Germain Pilon, now in the Basilique de Saint-Denis in Paris, where the majority of French kings are buried. Here Henri’s body lies outstretched in pain, quite a different posture than the calm one of his wife next to him (fig. 2).

Queen Catherine, who kept next to the king’s bedside most of the time, had in the meantime managed to take control of the situation. Diane de Poitiers, Henri’s powerful lover, never entered the king’s room for fear of being chased away, Roviglio wrote, and was forever barred from the Valois court.⁶⁴ Putting her hope in God, Catherine asked all Parisian churches to ring no bell and all parishioners to pray for their king. Whether or not the queen thought that Henri’s life was at stake, she made sure that only the legitimate members of the family, together with the usual array of doctors and prelates, would now be in the royal chamber. In another woodcut illustrating the event, we see the king lying in bed. Next to him are portrayed his wife; the constable Anne, Duke of Montmorency; Charles de Guise, Cardinal of Lorraine; François, Duke of Guise; Alfonso d’Este; Emmanuel Philibert; the king’s son François; and possibly Henri’s sister (fig. 3).⁶⁵ This engraving is clearly a politicized representation of what may have been going on in the room and may depict more people than those actually inside at the time, but it is still worth examining.

63. In Michele, *Delle lettere di principi*, 196v. Further contemporary and schematic sources of the event figure in Louis Lafaist, *Archives curieuses de l’histoire de France depuis Louis XI jusqu’à Louis XVIII*, ser. 1, vol. 2 (Paris, 1834); J. A. C. Bouchon, *Choix de chroniques et memories sur l’histoire de France* (Paris, 1836); and Jean de Serres, *Histoire des choses mémorables avenues en France, depuis l’an 1547 jusques au commencement de l’an 1597* (Paris, 1599).

64. “fino a quest’hora non è entrata anchora Madama di Ventinois nella camera del Re per dubbio che hà che la regina non la cacciasse,” writes G. Roviglio to the Duke of Ferrara, on July 1, 1559, in ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 144. Diane de Poitiers was later vindictively despoiled by Catherine of almost everything Henri had given her throughout the many years of their liaison.

65. The list was given by J. Alvarotti to the Duke of Ferrara on July 6, 1559: “Nella camera di S. Mtà vi entrano pochissime persone: la Regina, il Conestabile, il card. Lorena, M. di Guisa, il sr. principe nostro [Alfonso] e il sr. duca di Savoia.” In ASMo, “Francia,” cited in Romier, “Mort de Henri II,” 144. The woodcut is one of the *Quarante tableaux* by Perrissin and Tortorel.

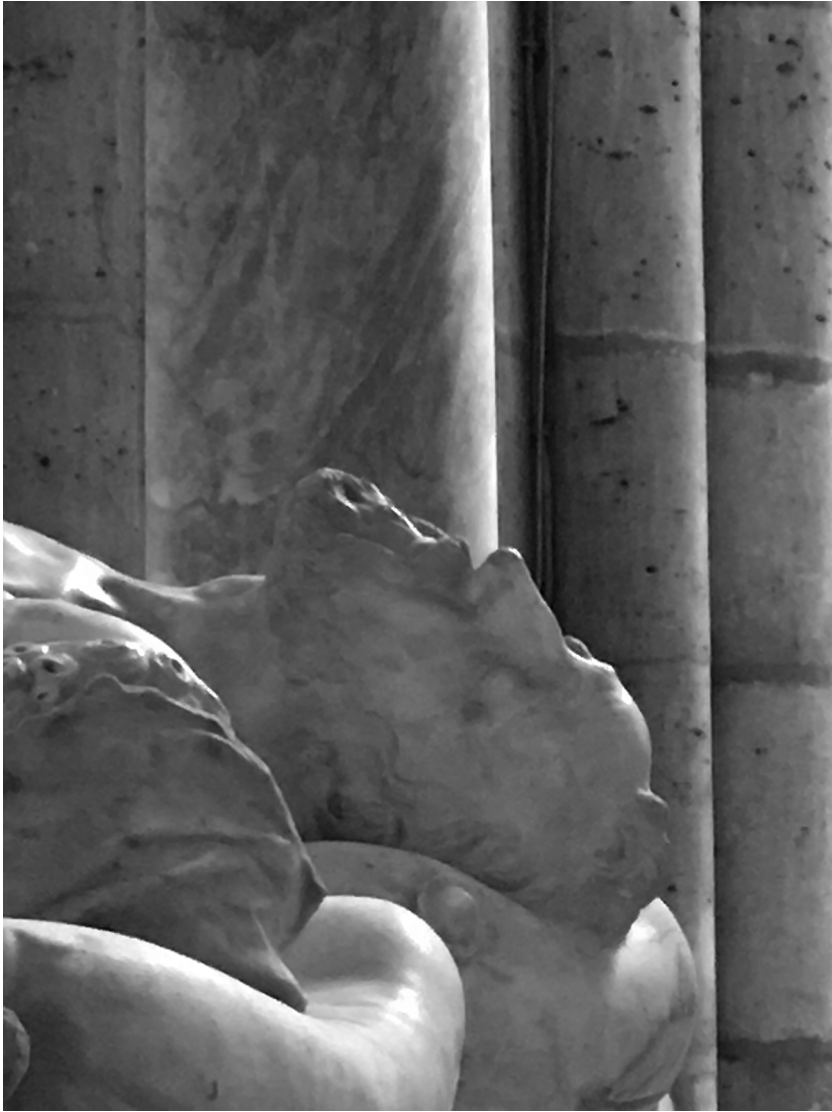


Figure 2. Germain Pilon, Tomb of Henri II Valois and of Catherine de' Medici, Basilica of Saint-Denis, Paris (photo, author). Color version available as an online enhancement.

On the woodcut's right side, standing at the edge of the king's bed there is a Frenchman, most probably the chief physician Chapelain, who will make the final decision on any procedure to undertake. Not far from him there is a table full of gadgets and two men seem to discuss what to do. One has been identified as Paré and the other as Vesalius, thanks to their physical traits and styles of clothing.



Figure 3. King Henri II of France on his deathbed, with members of the royal family and the royal household in attendance. Print after a woodcut by Perrissin, ca. 1570. (Wellcome Collection. Attribution 4.0 International CC BY 4.0.) Color version available as an online enhancement.

Standing close to the middle of the table is a royal apothecary.⁶⁶ The table has bowls, flasks, an urn for leeches, a fleam for bloodletting, and vases for potions—all items needed to address bodily issues according to the humoral theory. Tellingly, surgical instruments are limited to a retractor, probably used to hold the injured eye open, and to probes for exploring the lesion.

As usual with royalty after death, the king's body was opened to remove his entrails and heart. The heart was enclosed in an urn and placed under a pyramid in the Chapel of Orleans.⁶⁷ A cast was made of his face, showing the right side as greatly swollen. Then a thorough autopsy was performed by Vesalius and Paré. For Paré, the king had suffered a severe concussion following a contrecoup brain injury. In mentioning the amount of blood in the subdural space and the corruption in Henri's brain, Paré seems to attribute the cause to a concussion rather than

66. There is also another man close to the king's bed with a handkerchief in his hand. He could be one of the nurses attending the king or another figuration of Vesalius holding the handkerchief with which he administered the test that made him think that there was nothing to do to keep Henri alive.

67. The original urn was destroyed during the French Revolution, and a new one was made in the nineteenth century. It is now at the Louvre, held by three Graces.

an abscess. He believed that the king should have been operated on because accumulated blood would bring putrefaction; surgery instead could have addressed the problem.⁶⁸ As he wrote, “because of the agitation or concussion of the brain, he [the king] died on the eleventh day of his injury. And after his death we found in his head, on the site opposite to the blow, just about the middle of the commissure of the occipital bone, a quantity of blood spread out between the dura and the pia mater and an alteration in the brain substance which was red or yellowish in colour over an area of about an inch: and in this part there was the beginning of putrefaction.”⁶⁹ Eugene Flamm notes that until the nineteenth century surgeons could make no distinction between blood collected in the head as a result of an injury and blood collected as a result of an infection coming after the injury.⁷⁰ Thus, what for Paré was putrefaction of the blood resulting from the countercoup injury was more probably infection coming from the splinters left inside Henri’s right eye.

For Vesalius there was no damage to the king’s vision, although the left eye was very swollen and there was swelling of the forehead: “the membrane attached to it somewhat posteriorly at the vertex had a yellowish color for the length of one finger, the width of two, and the depth of a thumb. The whole of the left part was observed to be filled with a serous ichor-like fluid which flowed away as if the whole had recently been affected by putrefaction or some sort of gangrene. In the region where the suppuration occurred . . . there was some grumous blood.”⁷¹ He too believed that there was a concussion as a result of a contrecoup injury to the brain that caused compression and subdural hemorrhage, and in this he agreed with Paré: “Thus, the putrid condition gave proof that the brain had collided with the skull

68. According to Simpson’s analysis, Paré “seems to have seen the danger [of accumulation of blood] in a putrefactive change in the blood, rather than in the mechanical compression of the brain; the blood became corrupt and putrid (Paré, *The Workes of That Famous Chirurgion Ambrose Parey*, 273), which might go on to corrupt the brain, to disturb cerebral function and finally to cause respiratory failure. He evidently attached importance in the finding of a small area of ‘corruption’ in the king’s brain; a modern reader might wonder whether this was an area of contusion rather than an abscess, but to Paré this would not have been an important distinction, because he believed that contusions necessarily went on to suppurate. For Paré a dangerous collection of fluid under the skull should be drained; better still, it could be prevented by operating on fractures before putrefaction took place. A modern neurosurgeon, aware of the role of microbial infection, would endorse this policy in compound fractures, but would see it as mistaken in closed head surgeries.” Simpson, “Paré as a Neurosurgeon,” 545.

69. Paré, *La methode curative des playes*. English translation in Marc Zanello et al., “The Death of Henry II, King of France (1519–1559): From Myth to Medical and Historical Fact,” *Acta Neurochirurgica* 157, no. 1 (January 2015): 145–49, at 147.

70. Eugene S. Flamm, *From Skulls to Brains: 2500 Years of Neurosurgical Progress* (New York: New York Academy of Medicine, 2008), 10.

71. Vesalius, “Tragic Termination,” 397.

and had been concussed and shocked by it, and not that the condition had been caused by an injury to the skull.”⁷²

More recently Konstantinos Markatos and his team have reviewed the case and attributed Henri’s death to meningoencephalitis following cranial trauma.⁷³ They find Paré’s account wholly “insufficient” and argue that the king’s loss of speech immediately after the accident points to what turned to be delayed meningitis. As they write, “we must assume that periorbital trauma caused a hematoma between the meninges, leading to infection (meningitis), followed by possible sepsis that ultimately proved fatal.”⁷⁴ Marc Zanello and his colleagues have also offered a diagnosis that discounts traumatic brain injury and takes into full account Henri’s swollen face. The king suffered craniofacial trauma involving the right eye and died of infection, they argue, caused by the many splinters still in his right eye because “the description of the brain at autopsy was not that of an epidural haematoma.”⁷⁵ Vesalius had remarked in his autopsy that the eye in its “innermost and posterior aspect still contained a large number of splinters which, like stakes, had been driven in a kind of circle.”⁷⁶ Intracranial wood is very dangerous and can affect the patient “days to years after an apparently trivial initial wounding,” according to C. F. Miller.⁷⁷ Without antibiotics, infections can kill 85 percent of patients. In the end therefore, since the craniofacial and laryngeal injury led to septicemia, King Henri could have been saved by antiseptics and antibiotics—but those were not available technologies at the time.

At this point the issue was not surgical or even medical. Physicians could have done relatively little to address Henri’s epileptic seizures, narcolepsy, and altered

72. Vesalius, “Tragic Termination,” 397. In O’Malley’s explanation, “the initial vomiting and restlessness, the gradual loss of consciousness, the slow pulse, stertorous breathing and rising temperature, and finally the signs of contralateral paralysis and ipsilateral convulsions presaged a fatal issue.” O’Malley, *Andreas Vesalius of Brussels*, 287.

73. Inflammation of the meninges—that is, of the membrane surrounding the brain and the spinal cord—is called meningitis; inflammation of the brain itself is called encephalitis. Let’s remember that Vesalius had diagnosed meningitis on his first visit to the king and felt that that inflammation was deadly.

74. Konstantinos Markatos, Marianna Karamanou, Konstantina Arkoudi, and Georgios Androustos, “Henri II of France (1519–1559) and His Death from Meningoencephalitis Following Cranial Trauma,” *World Neurosurgery* 106 (October 2017): 442–45, at 443 and 447. Markatos is skeptical about the presence of both Paré and Vesalius at the king’s bed before his death.

75. Henri “died from periorbital cellulitis caused by a retained foreign body in the wound, complicated by a left interhemispheric haematoma.” Zanello et al., “The Death of Henry II, King of France,” 145 and 148.

76. Vesalius, “Tragic Termination,” 397.

77. “Peri-orbital puncture wounds by sharp wooden objects are not rare, but can be dangerous when there is intracranial penetration by and retention of the wooden foreign body. Days to years after an apparently trivial initial wounding, serious intracranial complications can occur.” C. F. Miller, J. S. Brodkey, and B. J. Colombi, “The Danger of Intracranial Wood,” *Surgical Neurology* 7, no. 2 (1977): 95–103, at 95.

consciousness, let alone tackle the infection that killed him. Still, nobles at court, Vesalius stated, “were unwilling to acknowledge any damage to the brain, an injury they were loathe to admit in so great a king.”⁷⁸ What to do indeed with a king with a supposedly impaired brain? And if operated on, what if the king were to die as a result of surgery? The medical community at large could be easily blamed for murder when treating members of the nobility. Paré himself was accused one year later of poisoning Henri’s son, King François II, who was being cured for an inflammation of the ear and died of meningitis or intracranial infection.⁷⁹ As Rodolphe Le Maistre, personal doctor of Henri IV, would strongly argue in *La Santé du Prince*, an error in judgment in treating a royal patient, whose “vie est si precieuse,” is an affair of state.⁸⁰

Thus, a policy of wait and see may have got the upper hand among the physicians, and their opinions seem to have carried the day more than those of the surgeons. And the issue here is social. Paré never got a degree from a medical institution, as I mentioned earlier. His position was that of king’s ordinary surgeon, together with Jacques Le Roy and Jehan d’Amboise. He had been able to perfect his skills during many years of employment as field surgeon in military campaigns, had trephined skulls of wounded soldiers, and was later employed by all three sons that succeeded Henri to the throne. But as a barber he could not prescribe medication and his opinion could not overcome that of established doctors. Paré was also keen to play down his achievements, for as he famously said, his job as a doctor was to dress wounds, but the wounded could only be saved by God: “Je le pansay et Dieu le guarit.” Finally, Paré was a Huguenot serving “the most Christian king” at a time when Catholic and Huguenot factions were at an uneasy peace; their rivalry famously flared up a few years later in the St. Bartholomew’s Day Massacre. In the case under examination, Paré protected himself from any negative speculation about his surgical abilities by claiming at the start of his book on head wounds that he had a minor role at the king’s bedside and that Jean Chapelain, “as principal and superintendent” made all final decisions, although many times he asked for his opinion and advice.⁸¹

Paré also may have felt inadequate in the presence of Vesalius, as an episode that may have taken place a few years earlier seems to hint. Charles O’Malley, Vesalius’s

78. Vesalius, “Tragic Termination,” 396.

79. For Stephen Liston, Paré’s choice not to intervene through surgery to cure the sixteen-year-old François II likely testifies to the fact that one more time the surgeon felt unsure of his position at court. See Liston, “Ambroise Paré and the King’s Mastoiditis,” *American Journal of Surgery* 167 (1994): 440–42.

80. Rodolphe Le Maistre, *La santé du Prince. Ou le soing qu’on y doit observer* (Paris, 1616), 18. See also Jacob Soll, “Healing the Body Politic: French Royal Doctors, History, and the Birth of a Nation, 1560–1634,” *Renaissance Quarterly* 12, no. 1 (2002): 1259–86.

81. Paré, *La Méthode curative des playes*, dedication, 2nd leaf, r–v.

most perceptive biographer, speculates that the two doctors may have met in 1553, when Paré, who had been sent as a military surgeon to the city of Hesdin under siege by the Spanish troops, was briefly captured by Emmanuel Philibert, fighting for the Hapsburg. After Monsieur de Martigues, a French defender of the city who was captured with Paré died, the Duke of Savoy sent a team of physicians, surgeons, an apothecary, and a man referred to as “the emperor’s surgeon,” who could have been Vesalius, to embalm the nobleman. As Paré writes, “The emperor’s surgeon approached me and very courteously requested me to make the incision, but I refused, saying that I was not worthy to carry his instrument case. He asked me again to do it for the love of him, saying that it would please him greatly. I would have refused again.”⁸² A man so deferent toward those with university degrees would have probably deferred to Vesalius at the king’s bedside too.⁸³

As for Vesalius, although given his reputation one would be tempted to regard him as in charge of Henri’s case, my sense is that his role was also considered minor, apparently subordinated to the ruling opinions of the royal physicians. After all, he was, as a contemporary put it, “more surgeon than physician” (although technically he was an anatomist rather than a surgeon).⁸⁴ Vesalius had personal issues going against him, so to speak: beside being Flemish and having been sent to Paris by the king of Spain, he had been vehemently criticized for his anti-Galenic posture a few years earlier by the professor with whom he had studied in Paris before moving to Padua, Jacobus Sylvius (Jacques Dubois).⁸⁵ Vesalius too, no matter his fame, could be intimidated and accused of murder. The year before his trip to Paris he had misdiagnosed Anna Van Egmont, wife of William I the Silent, whose health issues he declared as coming from melancholia, but she died a few days later. He was also reproached for sounding too dark in his diagnoses. In a letter penned three months after Henri’s death, on October 20, 1559, Cardinal Antoine Perrenot de Granvelle, a leading minister of the Spanish Hapsburgs, complained that Vesalius “always declares them [the maladies] to be mortal so that if [his patients] die, he is not at fault, and if they live, he has wrought a miracle.”⁸⁶

82. See O’Malley, *Andreas Vesalius of Brussels*, 261–62.

83. Vesalius had to interrupt his medical studies in Paris but subsequently graduated from the University of Padua in 1537. He was offered straight away the chair of anatomy there.

84. David S. Chambers, “A Mantuan in London in 1557: Further Research on Annibale Litolfi,” in *England and the Continental Renaissance: Essays in Honour of J. B. Trapp*, ed. Edward Chaney and Peter Mack (Woodbridge, 1990), 73–107, at 96. This was in reference to an autopsy of the Mantuan Ferrante Gonzaga that Vesalius performed in 1557, when he disagreed with the other doctors regarding the cause of the nobleman’s illness and the reason for his death.

85. Vesalius had responded to Sylvius’s criticism with his “Letter on the China Root” (1546). See O’Malley, *Andreas Vesalius of Brussels*, 219–23.

86. In *Papiers d’état du Cardinal Granvelle*, 5:182, cited in O’Malley, *Andreas Vesalius of Brussels*, 283.

Finally, although we do not know the precise reason why he went to the Holy Land after leaving the Spanish court in 1564, a trip that ended with his death in a shipwreck, one of the theories at the time was that Vesalius had to vacate Madrid because he had performed an autopsy on a nobleman who turned out to be alive. The fear of being considered dead while still breathing was a historically proven early modern anxiety; still, that this calumny of vivisection could be attached to a famous anatomist proves that Vesalius never fully belonged to the court of his patron, where in fact his assignment was to attend specifically to the Netherlandish, and not the Spanish, patients in the royal entourage.⁸⁷

Had the doctors been able to save Henri, France would have found itself with a mentally and physically impaired king. It would not have been by any means the first time that a ruler with mental issues was at the head of a state (Ivan the Terrible and Henry VIII Tudor were contemporary examples) nor would it have been the last.⁸⁸ Although jousts were forbidden at the French court after Henri's accident, disabilities kept festering among the Valois, and both his first son, François II, and his second, Charles IX, died young. As Henri lay dying, political maneuvers were proceeding at an even speedier pace than medical ones. Given that the heir to the throne was a minor, although already married, and sickly looking, and that Catherine isolated herself in grief (she would forever wear black), the space for partisan upheavals was speedily filled by the Catholic faction led by the Guise family and the Huguenot faction led by the House of Condé. They hastened the war of religion that bloodied France for decades when perhaps three million people died of violence, famine, and related diseases.⁸⁹ The end came when Henri IV of Navarre (1553–1610), who had previously married Henri's and Catherine's daughter, Marguerite of Valois (1553–1615), and subsequently tied the knot with another Florentine descendant of Catherine, Marie de' Medici (1575–1642), changed religion one more time, from Protestant to Catholic, and came to the throne. He memorably put an end to the carnage by fostering a policy of reconciliation and encouraged his French subjects to give less importance to spiritual abstractions. Enjoy life, he recommended, famously promising that no plowman in his realm would lack the means to have a chicken in his pot every Sunday dinner. In the end, for both king and subjects, Paris was well worth a mass!

87. Zanello et al. also think that Vesalius's role at the bed of King Henri was limited. See Zanello et al., "The Death of Henry II, King of France," 145.

88. A number of diagnoses have been made regarding Ivan and Henry VIII, including paranoia, bipolar disorder, and traumatic brain injury.

89. The years of religious hostilities started in 1562, three years after Henri II died, and ended in 1598, when Henri IV was crowned king of France.