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MEDICINE IN THE DAYS OF THE GRAND MONARCH

I DEAL with the condition of medicine in the time of Louis XIV. And, as the reader is aware, I must cover a generous portion of time, for Louis had the longest reign of any monarch. It extended from 1643 to 1715—seventy-two years out of a lifetime of seventy-seven.

To relate this period roughly to our own history: Louis was born eighteen years after the Pilgrims landed at Plymouth Rock. He was two years old when Harvard College was founded by act of the General Assembly. His death was anticipated fourteen years in the opening of Yale University. The great days of France were not remote from our own history; but we were forging out a new country from the rough forest when France had reached the acme of her royal magnificence.

The professor of political economics at Harvard—if there had been one in those days, which there wasn't—could have anticipated modern college discussions by nearly two hundred years and told his students of the New Deal that the minister Colbert had instituted in France and of the manufacturing codes he established. The parallel of the situation

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can be made of those characters who bulk large in the affairs about which historians write. The monarch appears in one guise to his people, another to his courtiers, another to his ministers, and still another to his physicians. And it is often only in the intimacy of the bedchamber, to the physician who sees the monarch in sickness and pain, that the real man is revealed. Louis XIV clad in robes of state, regally meeting the ambassadors of Holland, or Louis romantically galloping over the roads to rescue La Vallière from the Carmelite nunnery, is a very different person indeed from the one whom his physician saw naked, emaciated, doubled in cramps of typhoid or bent across a bed wincing in pain during a crude surgical operation performed without anesthesia.

And in this chapter I shall use these illnesses of Louis as a guide in discussing the actual medical conditions of this period. It will be with few omissions of any branch of medicine. The contacts that Louis himself made with medicine covered the broad fields of internal medicine, epidemiology, parasitology, dentistry, and surgery. They extended to the genitourinary specialty and, strange to say, even to obstetrics. Whatever may have been the benefit that Louis derived from medicine—and in some cases it was problematical, to say the least—there can be no doubt of the practical benefits conferred on medicine by the patronage of Louis.

But now before we turn to these specific matters

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then and there and here and now is startling. But if Louis was mentioned at all in the confines of Harvard, I suspect it was to compare, with some vehemence (and some hope of eternal damnation), his good Catholic Majesty and his treatment of the Protestants, to certain emperors in a decadent age of Rome.

The medicine of the two countries was as different as the civilizations. Our colonial days developed the practical apprentice-trained physician who combined healing and surgery with preaching and politics, and not infrequently with school teaching, farming, and Indian fighting as well. The medicine of Europe, on the contrary, was surrounded with magnificent pomp and ceremony. It was the medicine of the fur and velvet clad physicians held up to satire by Molière.

Medical practices, knowledge, and belief are a part of the general cultural history of any period. They reflect the civilization. They never stand alone as an isolated phenomenon. Medicine can be seen and appreciated only against the background of the times. And although historians have, because of technical difficulties, been slow and perhaps loath to recognize the fact, the reverse is also true. The culture of a period cannot be truly defined unless its medicine is known. Medicine is one of the best—and certainly one of the most intimate—indications of the cultural state of any civilization. Indeed it is often only through medicine that a true evaluation

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In merely a word or two, here then is the state of medicine when the reign of Louis XIV opened. Fourteen hundred years before his time the impetus given to the advancement of ancient medicine by Hippocrates had slowed and faltered and finally stopped. Galen of Pergamum, the physician to the Roman emperors, the last of the great Greco-Roman medical men—as if in preparation for the long hibernation to come—had gathered together in encyclopaedia form all medical knowledge—and sad to say all medical fallacy—of his time. He wove it all together—the good and the bad, the true and the false—into one elaborate and plausible system.

As he closed his pages the Western civilization fell to the barbarians. The dark ages set in. But Galen's writings were rescued and kept alive by the Arabs in their brief but brilliant period of civilization—the period of the Arabian Nights. Galenic-Arabic medicine returned to Europe with the Crusaders. It was woven into medieval scholasticism. The word of Galen was endowed with the authority of the church. His word was the last that men might speak—speak in safety.

The hindrance to medicine arose not so much from the fact that Galen gave some false information—he gave some very sound as well—but from the fact that progress could be made only by controverting Galen. And controversion of Galen was forbidden.

The revolt came when, in the late fifteenth and

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let me in broadest strokes define the background for the medicine of these days.

The years covered by the reign of Louis XIV were those which lay between the period marked by the fresh vigor and aggression that grew out of the Renaissance and the Revival of Learning on the one hand, and on the other, the sterile formalization that developed in the eighteenth century.

The century, or century and a half, before the time of Louis held those turbulent days when men, in ever-present danger of being burned for heresy, had struck out for the right of freedom of intellectual pursuits, freedom of thought and deed, and even of personal liberty. It was in the travail of those great days that the modern period was born. And for a time, like a lusty infant with newly opened eyes, it explored in naïve wonder the new-found world about it; in every direction tried its strength. Esthetic, imaginative maturity came first; art and literature reached heights that have never since been attained—Shakespeare, Milton, Cervantes, Molière, Velásquez and Rembrandt, Bach and Purcell.

Philosophy and mathematics sprang up with new life—adolescent at least—Galileo, Newton, Leibnitz, Bacon, Descartes, Spinoza, and Locke.

Medicine—or rather the medical sciences—followed in the wake. The maturity in medical practice was to come only in the then distant future, the future of the nineteenth century—the century of Pasteur, Lister, and Koch.

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And then—one of the greatest achievements of medicine—William Harvey of England demonstrated mathematically and anatomically the course of the circulation of the blood. It was in the year 1628 that he published his book.

Vesalius then had overthrown the anatomy of Galen. Harvey—ten years before the birth of Louis XIV—had overthrown his physiology. At last, so it would seem, men were free of the old influence—free to practise a medicine based on new knowledge. They may have been free but they did not teach it or practise it. In the medical schools of Paris, Galen still reigned supreme. The students were forbidden to mention the name of Paracelsus. Disputations, hair-splitting like those of the medieval universities, were the main instruments in learning. The old ceremonies were carried on—and satired by Molière. The doctor was well educated in the classics and thoroughly hardened against any innovations. He was often a dignified and intelligent looking man if we may judge from the pictures by Rembrandt and others. He was prone, if we may also judge from the pictures of the times, to make his diagnoses by looking through a flask of urine held up to the light. It was as good a method of diagnosis as any other considering the state of therapeutics. His therapy was the harmless remedies of Galen—the herbs and the theriacas. He more often than not was a keen follower of astrology and not infrequently the founder of a secret remedy of presumably amazing virtues.

early sixteenth centuries, that peculiar character, often more admired in the field of mysticism than medicine, Aurelius Theophrastus Bombastus von Hohenheim—better known as Paracelsus—raised himself a bit above the welter of superstition and scholasticism and roared and stormed for the abolition of intellectual authority and for the right of freedom of medical thought. It was he—the son of a mining superintendent—in revolt against the herb remedies of Galen—who introduced into medicine the mineral medicaments: iron and mercury and arsenic. And the much contended antimony was to follow. Paracelsus started the long dispute between the herbalists and the mineralists—the conservatives and radicals. He also started men to thinking independently in medical matters.

The first fruit of his daring was the rise of the medical humanists with the translation of the pre-Galenic medical masters from the Greek. The next was the rise of observers and experimenters.

Vesalius at Padua dared to dissect the human body and show that Galen's anatomical data were wrong. That was in the time of Henry II and Catherine de' Medici. He was ostracized by the men of his own profession for daring to throw discredit upon Galen.

Next in the French court itself that charming personality, Ambroise Paré, tried and succeeded with the amazing innovation of applying anatomical knowledge to the study of surgery.

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there came the first of his illnesses about which we have detailed information.

It is difficult—very difficult at times—to discover the exact medical condition of royalty if we must depend upon the contemporaneous writings of lay authors. When the physicians in attendance leave records, then the plain truth usually comes out. But the lay author frequently has motives of his own and is prone to aggrandize or vilify the monarch about whom he writes, and often he is sadly ignorant about medical matters, accepting for them the dubious authority of hearsay which he would avoid for political and financial matters.

Thus popular stories—we lack the word of any physician—tell us that Louis was born with two teeth, much, so the chronicles say, to the worryment of his wet-nurse. No medical man makes this statement, and while the condition is not unheard of, it does seem to occur with amazing regularity in the infancy of the monarchs of the past. I suspect it must be classed with the comets and earthquakes that obligingly heralded the births and deaths of royalty, and accept it merely as a projection of that peculiar human egotism that would rather make a freak of the king than have him resemble ordinary men.

The first fully recorded illness of Louis came, as I said, when he was nine. He had been then for two years under the educational care of Mazarin, for the age of seven was the time when the training of young monarchs passed from the hands of women

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The revolutionary work of Sydenham was not to come until late in the seventeenth century. And, parenthetically, let me say that Thomas Sydenham of England had his medical education so broken into by the wars that he escaped the stultifying effect of formal education. He was thus, through sheer ignorance, able to think clearly and sensibly on matters of medical practice and thus in turn to lay the basis for a great reform in medical practice and medical education. The surgeons in the opening years of the seventeenth century were classed with barbers and occasionally with executioners. Operative surgery was taught in only a few schools in all Europe. Obstetrics was exclusively in the hands of midwives. Such, in broadest terms, was the state of medicine when Louis XIV, at the age of five, came to the throne of France.

On the death of Louis XIII, the regency of the child king was given to the Queen Mother, Anne of Austria, and her minister, Cardinal Mazarin. The two faced turbulent times—the domestic troubles with the Fronde and the last stages of the Thirty Years' War. Twice the court had to flee Paris, and there was one time when, to assure itself of the presence of the king, the populace of the city stormed the palace and demanded entrance to see the boy sleeping in bed. These were humiliating days for the young king, forced by Mazarin to live in almost poverty. In the midst of these unhappy times, in the year 1647, when Louis was nine years of age,

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Harvey published nearly twenty years before had removed all valid reason for the practice. But bleeding was destined to live on until well into the nineteenth century. And in the days of Louis it was at its acme as illustrated in *Gil Blas* by Dr. Sangrado—"the tall, withered, wan executioner of the sisters three." In actual fact, Guy Patin of Paris, Dean of the Faculty of Medicine in the time of Louis XIV, bled himself seven times for a head-cold and his son twenty times in the course of a few days. Nor was his procedure exceptional.

The boy Louis, then, was bled. At this stage the Queen Mother, exhausted with political and economic troubles and now acutely worried over her son, was taken to bed with a high fever.

The king was bled again on the second day.

Next the appearance of an eruption and some pustules on the face of the king allowed the malady to be recognized as the smallpox. The court was highly alarmed and much concerned over the succession in event of the king's death.

Vaultier was apparently also alarmed, for he called in consultation prominent physicians of Paris.

After a short period of remission, the king became delirious. Many different medicaments were tried on him. I cannot here give you their names but I can assure you that they were the harmless herb remedies of Galen. They had no appreciable effect on the course of his malady.

A vast company of people with solemn faces

to those of men. Anne had accordingly appointed Mazarin superintendent of the education of the king, but in the early years the actual education fell to the hands of the king's principal Valet de Chambre, La Porte. The young king, so Madame de Motteville tells us, "was taught to translate the Commentaries of Cæsar; he learned to dance, to draw, and to ride, and he was very skilful at all athletic exercise."

Late in September of this year 1647 the young Duke of Anjou fell dangerously ill. There is no record that I can find that tells the nature of his illness, although I suspect it may have been smallpox. On Monday, November 11th, at five o'clock in the afternoon, the boy king was taken with a fever; his head ached and he complained of pain in his back and legs. He was put to bed. The Cardinal was called. The boy spent a restless night. In the morning he was unable to rise. He was carried to the commode; there were no water-closets or indeed, so far as we know, sewers in the palace. In these regards the sanitary conditions of the royal palace were like those of a backwoods farmhouse and that in spite of the fact that in 1596 Sir John Harington of Elizabeth's court had published his famous *Metamorphosis of Ajax*, describing his invention of the modern water-closet.

Vaultier was called as first physician of the court; his predecessor, Cousinat, had died the previous year. The king was bled—and that in turn in spite of the fact that the demonstration of the circulation by

lation with the pus from the human smallpox pustule. This dangerous method grew up in the Orient and was brought into England by Lady Mary Wortley Montagu. That was in the year 1721—six years after the death of Louis XIV. In the same year in America the method was introduced by Cotton Mather and Zabdiel Boylston against intense opposition from the people of Boston.

The modern safe vaccination—vastly different from inoculation—was described by Jenner in 1798—twenty-four years after the death of Louis XV from the smallpox.

And now before I go on with the troubles of Louis XIV, the lack of control of smallpox (the disease over which we, in our more fortunate times, hold an infallible weapon) brings up the question of the control of other epidemic diseases in the time of Louis. There was control for one—and only one—leprosy. Since the days of the Crusades it had been rampant in Europe, but it had been brought under control by the method described in the Bible—segregation. Europe had been dotted with lazarettoes but in the time of Louis XIV leprosy had so decreased that the leprosariums were sold and the proceeds turned over to the general hospitals.

One infectious disease under control and no sanitation. And what were the diseases that spread over the lands?

First there was bubonic plague—a constant and terrible threat against which the people were de-

trooped through the bed-chamber to peer at the poor king. His fever rose and all symptoms of his disease increased in violence. A sort of erysipelas developed—so say the records—although I suspect that it was merely the confluence of some of the pustules. Then his toes—again so say the records—became gangrenous. Next a severe intestinal inflammation set in.

Fears mounted high for a week longer, then gave place to joy. The fever dropped. The pustules began to heal but left the king's face permanently pockmarked. He was well on his way to convalescence.

And now a word concerning this disease from which the king suffered—the smallpox. It was an ancient disease, known to the Greeks and Arabs. Known also to the Europeans, but now in these years with which I deal, by one of those alterations which take place in epidemic infections and about which we know so little, the disease was increasing in virulence and increasing in scope, becoming the scourge that was to exact its dreadful toll without regard to rank or person. Charles IX had it and nearly lost his nose from the scars; Louis XIV had it and lived pockmarked; Mary, of the William and Mary combination, had it and died; Louis XV had it and he died. In fact, he is said to have had it twice. He was the last monarch to have the disease, for soon after his time the modern means for controlling this frightful malady were developed. First there came the inoculation against smallpox—the actual transmission of the disease by arm to arm inocu-

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killed 60 per cent of its victims; influenza a half of one per cent.

I give but one more statistical figure regarding the mortality of these times—to me a frightful one. Half of all deaths were of children under two years old. St. Vincent de Paul had instituted foundling homes in 1660, but the humanitarian intent ran far ahead of the practical care. As late as the period 1771-77, of 31,951 infants admitted to the Paris home, 25,476 died before completing the first year. And in Dublin, at about the same period, of 10,272 admitted, 45 survived; a mortality of 99.6 per cent.

In an age when there was as yet no satisfactory method of artificial nursing, when the rubber nipple was not invented, when cleanliness had yet no medical value, when the bacterial cause of disease was unknown and sanitation had no validity, the most serious hazard to health and life was being young. In contrast to ours the population of those days had a far greater proportion of young people. The average length of life was about twenty years as against sixty to-day.

But from these somber things I turn back to Louis XIV. We had left him recovering from the smallpox. We meet him next at the age of fourteen. And Louis is making his way rapidly toward sad difficulties indeed.

Here in a court resplendent with the chosen beauties of France, he is giving unmistakable evidences of his amorous tendencies. The situation greatly wor-

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fenseless. It struck suddenly, remorselessly, and then, satiated with its slaughter, moved on to another district or another town, only to return in a decade. In 1601 to 1603, Moscow lost 127,000 inhabitants from the plague. The disease visited France from 1603 to 1665. In 1630, it took 80,000 victims from Milan, and more than half a million in the Venetian Republic, spelling the downfall of that once great union. In London among many outbreaks, the one of 1665 took 69,000 victims. The city then had a total population of only about 400,000; and all who were able had left at the outbreak of the plague.

The plague and smallpox, and next, uncontrolled and uncontrollable typhus—typhus fever. And then typhoid. It was an almost universal disease and one that even in our country was widely prevalent in the memory of men still living, for the use of the sanitation that controls it is new to civilization. Many of us can recall the frightful mortality it caused in the army at the time of the Spanish War—far more lives were lost then, vastly more, than the whole number afflicted during the World War. To smallpox and plague and typhus and typhoid add dysentery, diphtheria, anthrax, tuberculosis, ergotism, scarlet fever, scurvy—all unpreventable, all prevalent in the seventeenth century. And also that milder disease, the still recurring pandemics of which give us the gentlest hint of what the great scourges of the past must have been—the disease influenza. Plague

be taken, for sterility in the king would be a matter of grave concern of state. The king's care fell to the hands of Villot—with, as we shall see, a peculiar effect on medical practice.

I do not know what Villot's training as a physician was, but I have rather the impression that he was a little of a charlatan; certainly his fellow physicians would have considered him a renegade, for he surreptitiously prescribed mercury to the king. Paracelsus might have approved, but certainly Galen would not. The mercury did no apparent good—neither did the constant purgation, to which the king submitted or the numerous baths which he was forced to take.

Bathing was then a vastly more impressive therapeutic measure than it is now—a bath was an event—something not to be indulged in lightly or without due deliberation or a physician's prescription. Louis bathed, purged, dosed with mercury, pimperl water, and dissolved pearls, went off to the campaigns with his infection still acute. Villot followed in high distress. The infection became chronic and Villot, having exhausted his pharmacopœia, had the happy thought of putting the king on a regimen of carbonated mineral water in large quantities. The disease had now gone on for seven months when one night the king suddenly developed a high fever that was to last a week. In disgust he called Villot a charlatan and made him publish this statement in his bulletin of the king's health. But following the re-

ries the Queen Mother. One after another the more beautiful of her ladies in waiting have been discreetly removed because of the young king's too obvious attention. But the actual danger lay in another direction. Let me quote from the gossipy works of a canon of the church of France, M. Anquetil. He says:

These affairs gave a good deal of concern to the Queen and the Cardinal.—Yet to a person of his Majesty's age, and the most lovely are not the most dangerous. La Beauvais, first lady of the Queen's bed-chamber, laid snares for him and he did not escape. She was dismissed from court, but returned. I have seen her, says St. Simon, and though blind in one eye and bleared in the other, the whole court paid her amazing attention. Her daughter, who has a very different character, strictly virtuous and adorned with every grace, was the Duchess of Richelieu.

The young king had absolutely no privacy—his every act and deed was public property. And, as these records tell us, he became quite dissolute in his habits and showed a startling cosmopolitan taste. As an inevitable consequence, he developed in 1655 (at the age of seventeen) the second of his more serious diseases, this time as a venereal infection—an acute and painful one.

Here indeed was a delicate and serious situation for his physician to handle. The king must not be told the real nature of his malady; it must be carefully disguised from the public who read the bulletin of the king's health. And yet active measures must

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Louis is twenty, he has not yet thrown off the yoke of Anne and Mazarin, has not yet imprisoned Foquet and elevated Colbert. Louis as a young man of spirit has just been through the siege of Dunkirk. He is at Mardick. The physician Villot has been sent to Calais to attend one of the marshals seriously wounded.

It was on Saturday evening of June 29th, that Louis complained of feeling tired; he had no appetite; his head ached. He spent an uncomfortable night and on the next day felt no better. He mounted his horse and rode throughout the day and part of the night.

Arriving at Calais he was burning with fever and exhausted. Villot immediately gave him a bath and bled him from the right arm.

An intense pain developed in his back; he became semidelirious. His back was massaged and he was given a cordial.

You can, if you care to, consult the records and from them follow step by step and symptom by symptom the illness of the king during the next two weeks. It is a record of fever, restlessness, delirium, and loss of weight; it is also a record of bleeding—endless bleeding and cordials and herb remedies in vast profusion. And then on about the twentieth day of his illness his doctor, Villot, in desperation decided to chance a remedy—take a dangerous step. He gave the king a dose of antimony—that contentious medicament about which for a century the

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mission of the fever the symptoms of his chronic disorder also subsided. Mazarin came to the defense of Villot, and the king appointed him his first physician with, as I have said, important results in the therapeutics of the time.

I shall not pause here to deal with the general status of the venereal infections in the seventeenth century except to say that it was abominably bad and continued to be so until nearly our present century. Advancement was hampered then by ignorance and hypocrisy; and now when the ignorance has been dispelled and the diseases have become among the easiest to prevent, advancement is still hampered by a pseudo-morality and prudery—an hypocrisy. If only our public would learn that it is just as immoral to have typhoid or diphtheria as it is to have syphilis or gonorrhoea—that in either case a law of hygiene has been broken, that morals and diseases cannot be mixed, that there is no morality to disease, then we might go far in wiping out the most prevalent of all infectious diseases. It is only by education that we can succeed—and within the year 1935 a great broadcasting company—ostensibly dedicated to the education of the American public—refused to allow a state health official to speak on venereal infections.

In some practical cultural matters we to-day have not advanced beyond the seventeenth century—and so let us return to the strictly medical aspects from which I can draw a more pleasant picture.

Our next scene takes us then to the year 1658.

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failed and Harvey had failed, Louis XIV succeeded. Galenic medical practices declined.

I have mentioned the vast array of worthless medicaments in use; they were incredible in their profusion and equally so in their disgusting qualities. Even in the seventeenth century excrement still found a place in therapeutics, and the moss scraped from the skull of a convict dead in chains was a popular remedy. To-day the physician uses few medicaments indeed and each one, contrary to those of the seventeenth century, has been proved by experiment to be of precise value. It is not fair, however, to dismiss the therapy of the seventeenth century without a word of commendation. It was then that two vastly useful remedies were introduced into practice, quinine (or as it was called then from its popularizers, Jesuit's powder) and ipecac. Two that were good among many that were bad.

The next illness of the great monarch whom we follow occurred in 1663. By this time the king was twenty-five. He had himself assumed absolute power and was, as he said, to be his own ministers. Colbert was already instituting the economic and industrial reforms and the tariffs that, at the expense of the surrounding countries, were to raise France to her zenith. The king had married the Infanta of Spain and was already carrying out an intrigue with La Vallière.

At this critical time the queen developed measles; the king caught the disease from her. And the king

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herbalists and the mineralists—the adherents of Galen and the adherents of Paracelsus—had centered their controversy. The question was: Is antimony a valuable remedy or a dangerous poison? It had been settled correctly, as we know now, that it was a poison. But Villot, with his leanings toward mineral medicaments, gave the king antimony. The king purged and vomited over a period of twenty hours.

There seems little doubt that the disease the king had was typhoid fever. And this was bad treatment. But he was also at about the stage of the disease at which recovery occurs. It is not strange then that the fever fell; the king was left weak and exhausted, but obviously on his way to convalescence.

As we know now, his recovery was in spite of, and not because of, the antimony. But in those days medical practice in such matters, like modern advertising, was controlled by the logic of *post hoc; ergo propter hoc*—after it and therefore because of it. The king was ill; the king was given antimony; the king got well: he got well because of the antimony.

There were thousands—yes, literally hundreds of thousands—of remedies in use at that time which had no better basis for belief in their therapeutic value than did antimony. But antimony, because of its use on the king, became popular, no doubt to the vast harm of many poor patients; but its popularity was also a blow and a telling one to the supporters of Galen. Where the example of Vesalius had

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in a dentist. Dentistry as such in his days was almost exclusively limited to extraction—brutal extraction with the pelican of Paré, a sort of modified pipe wrench that often took out not only the tooth intended, but the ones on each side and frequently one from the opposite jaw as well. I have Paré's word for this. The key so popular with our colonial ancestors was also in use in the terrible extractions of the times.

Louis' decayed teeth and his pyorrhea distract in our minds a little from his royal magificence. But there was no help. Transplantation—that cruel practice to become popular in the eighteenth century and early nineteenth—was not much in use. In transplantation a tooth was extracted and replaced by a sound one drawn at the same time from the jaw of a young person. The inserted tooth, at first wired in place, finally grew firm to the bone of the socket. It was, of course, a dead and infected splinter in the jaw bone. Dentistry, the dentistry that we know, and the sound and healthy teeth that we see were a product of the nineteenth century—the late nineteenth century. Modern dentistry came to life when the bacterial cause of dental caries was discovered by an American dentist. The modern mechanics of dentistry, I may add, are also almost exclusively American in origin.

Our next medical contact with Louis takes us to the year 1670 and may seem a little foreign to the things I have been considering. It lies in the field

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nearly died. The records of each stage of his illness are voluminous: the lassitude, the headache, the fever, the eruption, the delirium, the pneumonia. Voluminous also but monotonous in their sameness are the records of the therapy: herb medicaments, bleeding, bathing, purging; herb medicaments, bleeding, bathing, purging. Fortunately the king survived both his disease and the therapy.

It was soon after his recovery that very ambiguous statements began to appear in the bulletins concerning the king's health. The king had the vapors; he suffered from dizziness; his digestion disturbed him; he had spells of insomnia. Rumor ran high as to the cause of the king's strange state of health. And then there sprang up the belief among the courtiers that the king was inhabited by an enormous tapeworm, one compatible with his royal magnificence and his royal appetite. The belief grew insistent; his physicians—for feeling ran high against them—were forced to meet it. And so whether with any truth or not—I cannot say—we begin to find the records of the king expelling worms—now a live one and next a dead one, and each described in the public bulletins in the most minute details. The records of the worms continue sporadically from the year 1669 until 1709.

I strongly suspect that the king's discomfort was due to indigestion. He was a prodigious eater, and his teeth decayed and he developed pyorrhea. I can find no record—although it may exist—that he called

of obstetrics. And the condition of obstetrics in these years was very sad indeed.

The care of parturient women was entirely in the hands of midwives; women who in those days were still of a low social order and were trained, if trained at all, mainly by their own practical experience. But these women were intensely jealous of their prerogatives and sustained the ancient prejudice against allowing the doctor to enter the lying-in room. True, nearly a century before, Paré had shown how to carry out certain obstetrical procedures; the Germans had passed a law prohibiting shepherds and herdsmen from assisting at difficult deliveries and Roslin had written a book on obstetrics without ever having seen a child born. These were in their way advancements. But obstetrics did not show true advancement until the lying-in chamber was opened up to the trained male physician. When that event occurred actual study was made of the condition with a correspondingly rapid growth of knowledge. Modern obstetrics can truly be said to date from 1670. That was the year that Louis XIV called Dr. Jules Clement to attend his mistress, de Montespan, at the birth of the child who later became the Duc de Main. Louis is said to have evinced his interest by watching the delivery from the concealment of some draperies. At any rate he bestowed upon Clement the title of "accoucheur."

From the royal example, male midwifery, as it was called, became fashionable. Clement presided at the

birth of the dauphin in 1682 and in 1692 Hugh Chamberlin delivered the future Queen Anne. Thus was the doctor finally admitted to the lying-in room.

And now again I turn to Louis who in the year 1686 rehabilitated surgery and for the first time gave the surgeons a modicum of respectability.

The surgeon of to-day is, of course, the spoiled darling of the medical profession, but he was not in the seventeenth century. Quite the contrary. He was outside the pale professionally and socially. Literally all of the surgery that we know to-day lies between the seventeenth century and our time and most of it is nearer to our time.

Paré, it is true, had in the sixteenth century brought anatomy to surgery, he had lessened the use of the cautery and had reintroduced the ligature. He gave surgery a momentary dignity but in the seventeenth century operative surgeons were (I quote the words of Guy Patin): "booted lackeys—a race of evil, extravagant cockscombs who wear mustaches and flourish razors." And indeed they did flourish razors for the operative surgeons were barbers by profession. They not infrequently were also bath-house keepers and executioners. Surgeons and surgery were not in good repute.

It was not until the late eighteenth century when John Hunter introduced pathology and physiology into surgery that the surgeon became a scholar and sometimes a gentleman. It was in 1846 that anesthesia came to relieve the frightful suffering of operations.

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Then he returned to bed until May 2d when it was discovered that a fistula—a passage—had developed extending from the outside into the rectum. A wire sound was passed from the outside and the king, with his own finger, assured himself of the penetration by feeling the tip on the inside.

This indeed was a serious situation. An operation seemed imperative. Felix appeared before the king and in audience explained the situation. There were, he said, three possible procedures: first, cautery; second, ligature; third, incision. He explained each to the king. The cautery would be a long and painful process and so also would ligature. To perform the ligature it would be necessary to pass a string through the fistula and about the surrounding tissue and tighten it each day until finally it had cut its way through. Felix recommended incision which would be painful but brief.

The king made his decision in favor of incision. The date for the operation was set six months in the future, in November of 1686, for Felix must have time to learn how to perform the operation. In the meantime, Louis was to remain inactive at Versailles. The preparations were carried out in secret. Felix collected all the patients he could from the streets and hospitals and practised and practised. I quote a few lines from memories of the time:

The surgeons, inexperienced in the treatment of fistula, were obliged to have recourse to experiments. Many trials were made in the house of the minister of

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But modern surgery—the surgery that we know—really dates from the closing years of the nineteenth century, a time within the memory of men still living, when Lister introduced antiseptics and then asepsis and brought into surgery for the first time the great principle of cleanliness. Before his time the simplest operation might have a mortality as high as the bubonic plague; and operations in the abdomen—in fact, in any of the cavities of the body—were virtually impossible.

But to return to Louis who went far to break down the ancient opposition between the physician and surgeon, I illustrate here the state of surgery by a much abridged account of his surgical complaint.

On January 15, 1685, the king complained of a small lump on the inner side of his buttock. There was some tenderness. The lump grew larger, on January 31st he was given some medicaments, and on February 5th a poultice was applied. On the 15th severe pain forced him to bed. On February 18th an abscess had formed. At this time the court barber and surgeon, Felix, urged opening the abscess. He was overruled by the physicians and apothecaries in consultation.

From the 18th to the 23d of February a variety of remedies were tried in vain. Finally the tip of the abscess was touched with a heated stone to cauterize it. In the following days injections and poultices were applied. The abscess discharged. On March 25th the king was enough better to go out for a brief ride.

that some of the courtiers, to express more graphically their sympathy with the king in his affliction, had themselves bandaged as he was and walked and even sat with apparent discomfort.

"When the news of the king's operation was spread abroad," so say the old journals, "the anxiety of the whole nation afforded a convincing proof of the love they bore their sovereign. The churches were filled with people of every rank, who came in crowds to offer up their prayers for his safety. The same warmth of affection was displayed a month later when the king came to Paris to return thanks to God for his recovery."

You will observe that the king did not go to a hospital for his surgical treatment. No one did who had sufficient money to stay out of a hospital. The hospitals were strictly charitable institutions for the destitute; they were also filthy and vermin-ridden. They were but hotbeds of infection.

Hospital reform started with Florence Nightingale during the Crimean War of the nineteenth century. It received an enormous impetus from the work of Lister. The hospital, as we know it to-day, is an entirely modern institution.

The public sympathy for the king in his affliction reacted with great favor upon the surgeons. Felix was the man of the hour; he basked in royal and popular favor. The more reputable surgeons took advantage of the shifting sentiment to found a college. They in turn excluded the physicians and the physicians in

war, on persons who were induced to submit to the operation in hope of a cure and of receiving a reward. The greater part of these died. They were buried in the night. But notwithstanding every precaution, people observed the bodies frequently sent out of the minister's house. A report was instantly spread that a conspiracy against the king's life had been discovered; that the minister was examining the suspected and guilty persons, who were put to death by poison or torture. Everybody was in consternation and terror of being apprehended.

Finally the critical day arrived. Even the royal family were not yet in on the secret.

On Sunday, November 17th, the king visited all of his gardens and structures then under construction. He slept well that night.

On Monday morning, the 18th, the royal apothecaries entered the bed-chamber in a body and gave the king a bath and an enema. The last was a common duty of all apothecaries.

Next the minister of war entered with Madame de Maintenon on his arm. A confessor followed.

At seven A.M. Felix and the physicians came in. Louis was still calm. He took up the instruments that Felix had brought and examined them minutely. Next he lay across the bed while Felix performed the simple operation. And then to assure the safety of his health the king was bled from the arm.

Next the bed-chamber was thrown open and the court entered to express their sympathy, their wonder, and their admiration.

We are told, although on not too authentic grounds,

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the saving of young lives. In consequence the age level of the population has altered. We to-day have a far greater proportion of older people—people over forty years of age—than in the past.

This medical victory—and it is solely a medical victory—has brought to the front vastly important social and economic problems. They are pressing to-day, very pressing; they are the problems of how to provide in an industrial age for the ever-increasing portion of our population past middle age. This very problem serves to reiterate the fact that I stated earlier: medicine is a force, a strong social force. The problem it has brought now will become more acute each year. Medicine has saved the lives; medicine has precipitated the issue; but medicine cannot provide the economic solution of the changing state. And what is more, the change has of itself brought new problems to medicine. The shifting age of the population has caused an equal change in the nature of the preponderant diseases to be contended. As such diseases as tuberculosis, smallpox, and plague have diminished and the causes of infant mortality have been pushed to the background, there have come to the front such diseases as those that affect the arteries and the heart and cancer, diseases of middle age and past. The diseases of young people—the acute infections—can be largely controlled with broad impersonal measures, the measures of public health and sanitation, which require merely public support. The diseases occurring past middle age cannot be so con-

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protest marched in procession through the streets of Paris clad in their robes and furs and muffs to demand entrance to and control of the college of surgeons. They had picked an unfortunate day. Steet fell and then snow; ice formed under foot. The physicians, wet and miserable, drew up before the newly founded college. The surgeons closed the doors upon them. A clerk of the physicians, holding aloft a skeleton, started to read a long dissertation against the surgeons. A crowd gathered; it booed and hissed the physicians and finally forced them to disperse.

A new day was opening for the surgeons. They had won public sentiment to their side. And for the free advancement of any branch of medical practice, intelligent support of the public is indispensable.

And now I come to the closing years of the long reign of Louis XIV. And here in dealing with his diseases I can no longer draw a sharp contrast between the medicine of his day and our day. The problem then is still the problem of to-day. It is one thing to speak condescendingly of the state of surgery then and admiringly of the state of surgery now—to speak in pity of the scourge of infectious diseases then and of our freedom to-day. But this same happy comparison cannot be carried to all aspects of medicine. The full goal is not yet reached. We can point with pride to the fact that in Louis's day the average length of life was twenty years and that to-day it is sixty. But we must remember that the prolongation of the average length of life has resulted in great measure from

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trolled by general measures. Public support is not sufficient. Active individual coöperation of an educated public is essential. To-day lay education in medical matters is, in the face of the newer problem, a vastly important essential for medical advancement.

But in my digression on these rather philosophical matters, I have wandered from my theme: Louis in the closing years of his life, a life that in epitomizing the advancement of medicine had now reached to the problems that confront modern medicine.

Louis developed gout; Louis developed stones in his bladder; Louis developed hardened arteries; Louis developed a gangrenous leg. And Louis was an old man. In him as an individual, his physicians were faced with the selfsame problems which face our physicians to-day with a population as a whole—age, old age. These are things of no time and no period. They are eternal to the human race.

Nor was the problem one then, nor is it now, wholly of physical matters—it is of mental and spiritual as well. Louis was a man—an old man living in a changing world, losing his grip, sorrowed by the loss of his friends and his family.

Time, nor place, nor medical advancement, can ever change such things. Louis had lived too long. He prepared, with the philosophical calm, the brave spirit, of one who knew that fact and faced it, prepared for a death that came in the year 1715, closing the longest reign of the healthiest monarch that Europe had ever known.