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THE MEDICAL SIDE OF RABELAIS.

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HE exact date of Rabelais' birth is not precisely known and has given rise to much discussion, but it was probably at about 1490. He passed the first half of his life in monasteries and in the silence of the cloister he acquired prodigious erudition and a great hatred toward the monacal state. Hellenist and Latinist of the highest order, he was able to read the works of Hippocrates, Galen, Pliny and Celsus and he became passionate for medical art.

Although he became a monk by chance, he nevertheless deliberately became a physician, and on September 17th, 1530, he was immatriculated as a student in the Faculty of Medicine of Montpellier. On December 1st he passed his baccalaureate and upon this occasion delivered several lectures on the Aphorisms of Hippocrates and the *Ars parva* of Galen. Although he merely was a simple Bachelor, in December 1531 he was appointed Physician to the Hôtel-Dieu of Lyons and took the title of Doctor although this diploma was not conferred upon him until a much later date.

Endowed with an adventurous humor, he undertook on several occasions and without authorization, short trips of several weeks' or even several months' duration, to the great detriment of his patients. The high hospital officials met in order to decide upon some means to remedy this condition of affairs and they called to their aid the city council composed of two cloth merchants, another merchant, a grocer, a salt merchant, an iron merchant, two brokers and a sheriff. This plebian reunion, incapable of appreciating a man such as Rabelais, withdrew his appointment and in his place instated a certain Du Castel. This occurred in 1535.

Without making any remarks, Rabelais went back to Montpellier, worked there for some time and took his license in April,

1537 There now remained nothing further for him to do but to undergo his examination for the doctorate, which was not properly speaking, an examination, but rather of the nature of a brilliant ceremony, and for this reason it was termed *Actus triumphalis*.

The evening before these celebrations, the bells of Saint-Firmin rang forth, and the next day, the Faculty attired in their robes went together to the church of Notre-Dame-des-Tables, where a true orgie of discourses took place. The curate of Saint-Firmin spoke first, and then the masters in their turn, and lastly the ordinary students took part.

In the midst of a flood of prose and verses, the Muses, Apollo, the Goddesses, the Virgin and the higher saints were supposed to come and offer their congratulations to the candidate. To end up, the new doctor received through the hands of the curate the work of Hippocrates as a constant subject for meditation, the square bonnet, the gilded sash and the ring. He then went around among the assembly, distributing gloves, confectionery and other delicacies to the ladies. Upon leaving the church, the students, preceded by a band, collected in a small wine-house, from which they did not come out until they had partaken of a sumptuous repast, washed down with large quantities of wine, while the evening terminated much like it does in our days, with the destruction of windows, street lamps and other breakables.

After his reception, Rabelais commenced a course of lectures on the "Prognostics" of Hippocrates and also gave a few lectures on anatomy with demonstrations on the cadaver, as is shown in a piece of Latin poetry from the pen of Etienne Dolet in 1538. In this piece there is question of a criminal who had been hung, whose body was dissected by Rabelais in the presence of a numerous audience, and who was supposed to be speaking and congratulating himself upon being able to serve in a spectacle so instructive and edifying.

Rabelais was the private physician of the Cardinal du Bellay in 1533, and of Cardinal de Langay in 1539, while in 1546 he started for Metz. His friend, Etienne Dolet, the publisher, had just been burned as a heretic, and, since Rabelais did not uphold Dolet's principles only "jusques au feu exclusivement," he thought it more prudent to take refuge near the frontier. This same year, 1546, the register of the city of Metz shows that the subject of this sketch was appointed physician to the St. Nicholas Hospital

and was paid by the said city. Incapable of leading a sedentary life, he was given his *cong * in June, 1547, and he recommenced his peregrinations in company with Cardinal du Bellay. The protection he received from Cardinal de Chatillon caused him to be nominated Curate of Meudon in 1550, which was sufficiently remunerative to prevent him from wanting for anything. He was obliged to give up these functions in 1552, probably on account of the scandal caused by the publication of the fourth book of "Pantagruel" which was far more aggressive than the preceding ones as far as religion was concerned. The Faculty of Theology took rapid measures to stop the sale of the book through an intervention on the part of Parliament. The date of Rabelais' death is quite as uncertain as that of his birth, but it is generally believed to be 1553. He died in Paris and was buried in St. Paul's cemetery.

The medical science of Rabelais is most extensive and it is not one of the lesser charms of his satire to see the technical expressions of anatomy and pathology elbow the terms of a mixed-up procedure and fantastic philology. In "Gargantua" and "Pantagruel" we find at each step many indications of a solid science. Anatomical expressions are profusely indulged in and with much correctness, as for example in the following passage: "Il chocqua doncques si roidement sus eux, sans dire gare, qu'il les renversoit comme porcs, frappant   tort et a travers,   la vielle escrime. Es uns, escrabouilloit la cervelle, es aultres rompoit bras et jambes, es aultres deslochoit les spondyles du col, es aultres demouilloit les reins, avalloit le nez, poschoit les yeulx fendoit les mandibules, enfoncoit les dents en la gueulle, descrouloit les omoplates, sphaceloit les greves, desgondoit les ischies, debezilloit les faucilles. Si aulcun sauver se vouloit en fuyant,   iceluy faisoit voler la teste en pieces par la commissure lambdoide . . . A d'aultres donnant sur la faulte des costes, leur subvertissoit l'estomac et mouroien soubdainement; es aultres tant fierement frappoit par le nombril, qu'il leur faisoit sortir les trippes; es aultres, parmy les couillons, persoit le boyau, cullier . . ." Many other similar examples are to be found: "Soubdain apr s, tira son dict bracquement et en f rut l'archier, qui le tenoit   dextre lui coupant enti rement les venes jugularies et arteres sphagitides du col, avec le gargacon, jusque es deux adenes; et, retirant le coup, luy entrouvrit la moelle spinale, entre la seconde et tierce vertebre."

Many anatomists endeavored to find out if an arm could really wound the above mentioned organs in a single blow in the order of their enumeration and they concluded affirmatively.

The physiological knowledge possessed by Rabelais was a most curious reflection of the errors of his time. The mechanism of the double circulation of the blood was unknown, while the phenomena of digestion were most peculiarly interpreted, the liver and the spleen fulfilling most surprising functions, as may be seen in the following quotation: "L'appetit en l'orifice de l'estomach, moyennant un peu de melancholie aigrette que luy est transmis de la ratelle, admoneste d'enfourner viande. La langue en fait l'essay, les dents la maschent, l'estomach la recoit, digere et chylifie. Les venes mesaraïques en sugçant ce que est bon et idoine, delaisent les excrements (lesquels par vertu explosive sont vuides hors par exprès conduits) puis la portent au foye; il la transmue derechef et en fait sang. . . Adonc chascun membre se prépare et s'evertue de nouveau à purifier et affiner cestuy tresor. Les roignons, par les venes emulgentes, en tirent l'aiguisité que vous nommez urine et par les ureteres la découlent en bas. Au bas, trouve receptacle propre, c'est la vessie, laquelle en temps opportun la vuide hors. La ratelle en tire le terrestre et la lie que vous nommez melancholie. La bouteille du fiel en soustraict la choler superflue. Puis, est transporté en une autre officine, pour mieulx, estre affiné, c'est le coeur lequel par ses mouvements diastolicques et sistolicques, le subtilie et enflambe tellement que, par le ventricule dextre, le met à perfection et; par les venes, l'envoye a tous les membres. Chascun membre l'attire à soy et s'en ailmente à sa guise. . . Par le ventricule gauche, il le fait tant subtil qu'on le dit spirituel et l'envoye à tous les membres par ses arteres, pour l'aultre sang des venes eschauffer et esventer. Le poulmon ne cesse, avec ses lobes et souffletz, le refreaischir. En recongoissance de ce bien, le coeur luy en depart le meilleur, par la vene artériale. Enfin tant est affiné dedans le retz merveilleux que, par apres, en sont faicts les esprits animaux, moyennant lesquelz elle imagine, discourt, juge, résouldt, delibre, ratiocine et rememore."

It is somewhat difficult to surmise how much obstetrical knowledge was possessed by Rabelais, but a very short sentence occurs in "Gargantua" which would seem to show that the physiology of labor was not absolutely unknown in the sixteenth century and that vaginal examinations were of ordinary occur-

rence: "Peu de temps après, elle commença à soupirer, lamenter et crier. Soudain vindrent à tas sages femmes de tous costés. Et la tastans par le bas, trouverent quelques pellauderies assez de mauvais goust, et pensoient que ce fust l'enfant; mais, c'estoit le fondement qui lui escappoit."

On account of his great erudition, Rabelais was what might be called a hesitating practitioner and his faith in medicine was easily shaken. The therapeutics that he followed, and which he believed the most efficacious of all, were simplicity personified. All the endeavors of the physician as regards the patient should "tendre à une fin, c'est le resjouir sans offense de Dieu et ne le contrister en facons quelconques." He also points out, or rather gives one to understand, that physicians abhor medicines and never take any themselves. If Rabelais renders the value of the science doubtful, he is quite careful to criticise his colleagues, principally his contemporaries: "Certaines hommes, qui sont parmi les mediciens et passent pour tels, se trouvent, si on les examine a fond, vides de science, de bonne foi et de prudence, mais pleins d'arrogance, d'envie et d'ordures. Ils font leurs experiences en tuant les gens (comme Pliné s'en est plaint jadis); et par eux, on est menace de plus de péril que par la maladie elle meme. Maintenant enfin, ceux que recommande leur attachment à la medicine ancienne et epurée font leur chemin auprès des grands. Si cette opinion se fortifie et se répand, on verra bientôt reduits à la besace ces charlatans et aventuriers, qui avient enterpris d'appauvrir de long et large le corps humain." If one reads only this paragraph it would appear that Rabelais, who was an open adversary to the savants of middle ages, was a blind disciple of the masters of antiquity. Many authorities who have analyzed his works have been taken in by this declaration, which appears to be one of principle and a true profession of faith. In reality Rabelais did not believe in one tenth part of what he put forward. Take for example his "Gargantua" and one will not be long in becoming edified as to his pretended veneration for Greek and Roman medicine. In the third chapter of the first book, entitled "Comment Gargantua fut unze mois porté au ventre de sa mere," he does not miss a very excellent opportunity to handle Pliny badly, likewise Hippocrates and many other biologists. He begins by calling them "Anciens Pantagruelistes," in other words intrepid drunkards. "Messieurs les anciens Pantagruelistes ont confirmé ce que je dis et ont déclaré non seulement possible, mais aussi, legitime l'enfant né de femme

l'unzieme mois après la mort de son mary: Hippocrates, lib. de Alimento; Pline, lib. VII, cap. V. et mille aultres fols," thanks to which a Gallic law was voted relating to the declaration of legitimate births.

Such erudition was not given forth without effect and Rabelais draws one of his conclusions, which is that generally he is greatly distressed in not being able to dispose of "Moyennant lesquelles lois les femmes veuves franchement jouer du serrecropière à tous enviz et toutes restes, deux mois après le trespas de leur marys." Further on he mentions one of these improbable remedies the secret of which was possessed by Pliny and which he recommended, according to his custom, without even having endeavored to ascertain its real value. "A la braguette de Gargantua est attachée une grosse esmerangde de la grosseur d'une pomme d'orange, car (ainsi que dit Orpheus, libro de lapidibus, et Pline, libro ultimo) elle a vertu érective et confortative due membre nautrel." To end up, Rabelais calls Pliny a liar and insinuates that "la vie très horrifique du grand Gargantua" are the words of the Gospel in comparison with his natural history: "Mais vous seriex bien davantage esbahis et estonnés, si je vous exposois presentement tout le chapitre de Pline, auquel parle des enfantements estranges et contre nature. Et toutefois je ne suis point menteur tant assureé comme il a esté."

It may be objected that Pliny was not a physician in the true sense of the word; although he did not practice medicine in Rome, his "Natural History" is nevertheless an enormous compilation in which will be found all the pathologic and therapeutic superstitions which were current during the first century of the Christian era. To be absolutely certain that Rabelais attacked the great lights of ancient medicine, all that is necessary is to examine the thirteenth chapter of the "Tiers Livre" to be convinced. All this most excruciatingly funny discussion, in which Panurge asks himself if he will rely on the faith given by dreams to know if he will be "cogu, Dieu et sa femme aidant," is a long piece of sarcasm, hitting the great majority of the physicians of antiquity and particularly Hippocrates, who wrote the following lines in his book "On Dreams: "If one sees the stars, it is a good sign; if one sees spots on the moon, an emetic should be taken; if in the sky one sees fire and heat, it is a sign of an excess of bile; leafless trees indicate a want of sperme." Relative to the same subject, Pliny has left us a number of magic receipts which were taken

from Democritus, and which are to be found in his thirty-second book. The passage runs as follows: "Democritus assures us that if one will tear out the tongue of a living frog, without any of the parts to which it is attached, and if, after having allowed the frog to fall into the water, one applies this tongue to the spot where the heart beats, on a woman in slumber, this woman will reply correctly to all questions." It is evident that Rabelais could have had but little confidence in Celsus, who, nevertheless, has always been supposed to be one of the most serious physicians of antiquity, when we read passages similar to this one, which is to be found in the fifth book: "If one is ill from the spleen, the ointment should be composed of the powdered shell of acorns, and mixed with equal parts of nitre and then sprinkled with very strong vinegar. As soon as the mixture has taken on the consistency of a cerate, it is spread on a piece of linen which in the first place has been dipped in cold water; and it is then applied in this condition, without forgetting to sprinkle barley flour over all. But it should not be allowed to remain in place more than six hours, for fear that it might destroy the spleen."

The quotations from these three authors are quite sufficient, although it would be an easy matter, though more or less uninteresting, to extract from Galen, Herophilus, Oribasius, or even from Avicenna, barbaric formulæ having about the same value as those already given.

Given such numerous absurdities which filled the works of the most famous ancient physicians, how could the sarcastic and sceptic Rabelais have resisted to speak his thoughts on the princes of science? How would he have been able to accept, without examination, therapeutic measures which in most instances were based more upon sorcery than on pharmacodnamy? Consequently it is not at all astonishing to find him making merry of the medicine of antiquity, not directly and methodically, which is the way of a critic and not of a satirist, but by extracting certain aphorisms of the Greek or Roman physicians and quoting them in the midst of a most cutting burlesque, in order to make them more ridiculous. We have insisted somewhat upon Rabelais' defiance of the classics, because during the sixteenth century it certainly gave the stamp of originality to the man, made the author of "Pantagruel" a singular figure and at the same time had a decisive influence over his attitude as a physician. In Rabelais, one occasionally finds enu-

merated with complacency certain officinal preparations and their indications, but it is quite evident that he never reposed any confidence in medicines.

In 1532, by fortuitous occurrence of circumstances, Rabelais came in contact with Jehan Canappe, who was at that time translating the surgical portion of Galen's works. This translation revealed to him the existence of an apparatus for fractures of the leg, invented by Hippocrates and which a physician of Pergamus, a contemporary of Galen, had apparently greatly improved upon.

Struck by the inconveniences presented by the apparatus described by Galen, Rabelais drew a design which modified and greatly improved it, and to which he gave the barbarous name of "glossocomion." This drawing has been reproduced in an interesting little work by Heulhard, entitled "Rabelais, chirurgien." This figure brings to mind one of these Gallo-Roman catapults, which decorate many museums. They are merely gross planks, with enormous lateral mountings, and thick cords; but, for all that, this engine marked a decided progress in surgery.

Before the sixteenth century, manual extension was exclusively practiced in fractures of the thigh, and then splints were applied, which were held in place by circular cords. Although most primitive, the glossocomion pertained to the method of extension and counter-extension. Two forces acting in an inverse direction were obtained by means of two cords applied one above, the other below the seat of the fracture, which prevented the fragments from overlapping. To obtain the same result, Paracelsus used two iron rings which could be separated by means of a screw to any extent desired; one ring being placed above, the other below the site of the fracture. Two strong metallic poles united the two rings which could be regulated as to the distance separating them.

Shortly after its invention, the glossocomion was finally substituted for similar apparatus, while a few years later Paré produced in his works a figure representing an apparatus that he pretended was of his own invention, but which in truth is really an almost exact copy of the glossocomion.

The syringotome was another instrument due to the initiative of Rabelais. This was not a simple reproduction of an instrument formerly in use, but was a true invention. Galen mentions this instrument, but neglects to describe it. The syringotome of which we are now speaking consisted in a blunt pointed blade which

could be withdrawn into a hollow handle, and by a very simple mechanism it could be made to extrude; in other words, it was merely a probe-pointed bistoury having a moveable blade.

This instrument was employed for the incision of the peritoneum in cases of penetrating abdominal wounds. The handle of the instrument was first introduced into the opening of the wound and then the blade was slowly pushed out. Although this instrument cannot be said to represent a very remarkable discovery it was in all probability most useful in the days of early surgery.

The question of Rabelais' therapeutics as employed in his practice is a difficult one to treat and it is a question whether or not he ever did have a practice. The famous bibliophile, Jacob, upheld that while Rabelais was physician to the Hôtel-Dieu of Lyons he opened a kind of dispensary where he held consultations, treating scrofulous and gouty patients according to his methods. This assertion, however, would appear to be lacking in facts, because the continual travels of Rabelais would seem to make it a material impossibility for him to build up a stable practice. Then again, it is to be noted that during his stay at Lyons his time was largely employed in the correction of proof at Sebastien Gryphe's, the publisher, which would make it perfectly impossible for him to give any attention to the supposed numerous patients. Furthermore, when at Metz, in 1547, he wrote such a pressing letter to Cardinal du Bellay requesting the loan of money, that one is led to believe that a medical practice must have been unknown to him. Rabelais, it should be recalled, was the private physician to two cardinals successively and for this reason he was morally prevented from any practice among the people. The only consultation that Rabelais probably ever had was of such a peculiar character that we would mention it for this reason. When at Turin, in 1540, he received a letter from Pelicir, Bishop of Narbonne, begging him to give his opinion relative to the following case: Philipus Saccus, President of Milan, had consulted physicians of Venice and Bologna, in order to ascertain if a baby girl, of which his wife had been delivered, might be considered as legitimate. It occurred on October 26th, 1539, at the fourth hour of the night before the full-moon, that the President had had relations with his wife, and the generally accepted nine months were far from having gone by since this happy contingency, when a superb daughter, apparently at term, was born to him. The reply to this question remains unknown.

We have, unfortunately, no knowledge of any prescription given by Rabelais, but in reading his works one soon becomes convinced that he possessed an excellent knowledge of the materia medica and pharmacology of his time. He shows that his knowledge was very extensive, naming without attaching much importance to those remedies which were held in high estimation but, what is more serious, he made such a hyperbolic eulogy of them under the most grotesque circumstances that it is quite impossible not to see a satirical hit addressed at therapeutics. We will only mention, among the plants referred to by our author, those which were employed as medicines. More than two hundred figure in various degrees of importance in his works and it would be practically useless to refer to them all. In the first place we have *aquilegia vulgaris*, which was given in infusion for its diaphoretic effect in eruptive diseases; saffron, which stopped the heart "by resolution and superfluous dilatation;" cabbage which was employed for chronic inflammation of the lungs; verbasum and bechium, used in bronchitis; eryngion, which, according to Galen, was excellent in colic. Rose-water and angel-water were recommended as astringents for the vagina and apparently were greatly appreciated by the women of the time. Besides this, rose-water, as well as vinegar, were thought to stop fainting spells and "by fusement encores sinon qu'on apporta force vinaigre et eau rose, pour leur faire revenir le sens et entendement accoustumé." As a matter of fact, chestnuts, sprinkled with wine, which favorably acted upon the digestion, were not omitted. "Apporte le fruit: ce sont chataignes du bois d'Estroc; avecques bon vin nouveau, vous voyla composeur de peds."

There also fortunately existed a certain "huyle de maguelet," made from the cherries of a certain tree growing in Alsace, endowed with properties exactly opposed and which was greatly reputed for windy diseases. Other plants having more decent use were the aristoloche, whose root was employed as a tonic and emmenagogue, while the ancient physicians believed that it would favor the flow of the lochia, from which fact it owes its name; lichen, which cured homonymous diseases; callithricum, which made the hair grow with great vigor; the seeds of fern, which were administered in abortion; alyssum, a plant which, according to Pliny, prevented the outbreak of rabies. Hellebore, enjoyed for a long time a reputation as a purgative and as a sovereign remedy in the treatment of mental diseases as Rabelais tells us:

"Et luy consielloit pendre quelque pue de ellebore, afin de purger cestuy humeur en luy peccant." *Achillea millefolium* was employed as an hemostatic and for the cicatrization of wounds by Rabelais. The dried fruit of euphorbes was used as a sternutatory. Panurge as a knowing boy, covered his handkerchief with it and, presenting it to beautiful and honest ladies, "le secouoit bien fort à leur nez les faisoit esterneur quatre heures sans repos."

What can be said of mandragora, this plant which is quite as enigmatic as Pliny's ocean hare, or the unicorn of the middle ages? It was in reality a slightly narcotic plant whose occult influences have been described by Anatole France in the following lines: "Marchez avec précaution; ce sentier a ceci de dangereux qu'il est bordé de mandragores qui, la nuit, chantent au pied des arbres. Elles sont cachées dans la terre. Gardez-vous d'y mettre le pied; vous y prendriez le mal d'aimer ou la soif des richesses et vous seriez perdus, car les passions qu'inspire la mandragore sont melancoliques. Je demandai comment il était possible d'éviter ce danger invisible. M. d'Astarac me répondit qu'on y pouvait échapper par intuitive divination et point autrement."

In the thirty-fourth chapter of the first book, mention is made of potable gold, which for a long time was held very high in general esteem. It contained a solution of chloride of gold and a volatile essence and was believed to cure the plague and leprosy, as well as to preserve youth. Brantome, speaking of the Duchess of Valentinois, who at seventy years of age still possessed an agreeable face, attributed this most surprising preservation to the excellent quality of this remedy and says: "Every morning she partook of some broth composed of potable gold." Snails were considered at Montpellier as an excellent remedy for pulmonary trouble. Ants were considered excellent as a prophylactic against bites from mad dogs.

The excrements of animals were utilized in the old pharmacopoeia, as Rabelais would lead us to believe from the following: "Et y sinapisa de pouldre de diamerdis." This powder had a composition quite similar to the powder of Perlinpinin. Some years later, Montaigne said: "Le chois de la pulpart de leurs drogues est aulcunement mystérieux et divin, le pied gauch d'une tortue, l'urine d'un lézard, la fiente d'un éléphant, les crottes de rat pulvérisées et telles aultres singeries, qui ont plus le visage d'un enchantment magicien que de science solide."

A series of physical agents should now be mentioned, which

were employed as remedies, or at any rate they had a very distinct physiological action. The treatment of sciatica by cutaneous revulsion has been given to us by Panurge: "Mais notez que cestuy rostissement me guerit d'une ischiatique entièrement à laquelle j'estois subject plus de sept ans, du costé auquel mon rostisseur s'endormant me laissa brusler." Although Rabelais speaks of the influence of the moon which "faict les catarrhes," he makes fun of the popular belief. A contemporary of his, the burlesque poet Merlin Coccaie, who lived from 1491 to 1544, and composed the work entitled "Histoire macaronique," a prototype of Gargantua writes: "Les mediciens ont esgard à la vertu de la lune, quand ils veulent bailler une médecine a un malade; aultrement elle feroit jeter hors trippes et boyauz."

Even the great Paré had the audacity to write: "La lune estant humide (lors principalement qu'elle est pleine) remplit le corps d'humidité superflue dont survient pourriture."

Those suffering from constipation, impotency, or dysuria found an end for their ills when they read the following sentence: "Jamais ne puissiez-vous fianter que à sanglades d'estrivieres; jamais pisser que à l'estrapade, jamais eschauffer que à coups de baston."

We do not feel prepared to admit that a good whipping would have a laxative or diuretic effect, but as far as it goes as a genesic excitant, this has been known from the remotest antiquity and many historical examples prove it beyond a doubt, and it is well known that Henry III. and J. J. Rousseau were masochists. The list of aphrodisiacs is given by Rabelais with great luxury. Theophrastus had narrated the power of the aphrodisiacs in history and mentions for example the case of a certain person, who by a single contact with a certain herb, could satisfy seventy women. We consequently find satire directed against Theophrastus in the following sentence in the "Tiers-Livre": "Vis'tu oncques le froc du moine de Castres? Quand on le posoit en quelque maison, fust à découvert fust à cachettes, soubdain par vertu horrifique, tous les manans et habitans du lieu entroient en ruyt, bestes et gens, hommes et femmes jusques aux ratz et aux chatz." On the other hand, "certaines plantes et drogues rendent l'homme refroidy maléficié et impotent à la génération. L'expérience y est en nymphaea, heraclia, amerine, saule, chénevé, periclymenos, tamarix, vitex, mandragore, cigue, orchis le petit, la peau d'un hippopotame et aultares."

The greater number of these plants had an usurped reputation which physicians had accepted on the authority of Pliny, who said that the seeds of hemp destroyed all generative virtue in man, and Dioscorides stated that at the sacrifices of Ceres, those Athenians who wished to render homage to their virginity, slept on the leaves of the vitex. Hemlock was taken daily by the Egyptian priests who were desirous of preserving their chastity. There were other celebrated plants, such as the water-lily, which prevented the debauch of dissipated monks or vicious nuns. These hypothetical virtues, at least as far as the water-lily was concerned, were confirmed by Rembert Dodoëns, in his "Histoire des Plantes," which was published in 1557, as is evident from the following quotation: "La racine et semence de nenuphar blanc sont fort utiles contre l'appetit du jeu d'amour, si on en boit la decoction ou si on en use en poudre, car elles sechent la semence naturelle et font que l'homme vit en chasteté."

In considering Rabelais as a hygienist one should take into consideration that there was hardly an appearance of sanctity in those days of intransigent anti-alcoholism. He declares with great distinctness that "Jamais homme noble ne hayst le bon vin, c'est un apophthegme monachal," and that it is extremely difficult for a physician to admire without some reserve, a man possessing such a prodigious knowledge, but who drank so deliberately.

The "nunc est bibendum" is perpetually upon his lips and it is with an ill-concealed approbation that he presents the young Gargantua, who said "que les metes et bornes de boire estoient quand, la personne beuvant, le liège de ses pantoufles enflait en hault d'un demy-pied.

Regarding the question of eating, frugality must not be expected on the part of Gargantua, who only stopped eating when his belly felt distended. To properly end this meagre repast he "lavoit les mains de vin frais, s'escuroit les dents avec un pied de porc et devisoit joyeusement avec ses gens." After this gastronomic picture it is not astonishing that diet was treated more or less slightly; to satisfy one's hunger was "la vraie dyete, prescrite par l'art de bonne et seure médecine, quoy qu'un tas de badaux medecins conseillent le contraire." It should not be forgotten that Rabelais dedicated his first books to the "very illustrious drinkers," also to "the extremely precious syphilitics," while the last books are dedicated to the gouty. Since he sang the praises of the bottle, Rabelais easily made enemies who accused

him of guttling. Scaliger attributed this vice to him in his "Exercitations contre Cardan," which was published in 1557, and Ronsard, who had had dealings with him, wrote the epitaph of a good nursing bottle, in which Rabelais is represented jumping around in wine like a frog in a puddle.

On the other hand, his followers upheld that Rabelais feigned drunkenness in order to distribute wisdom with impunity. Without wishing to expose the arguments in favor of either one of these opinions, it must be admitted that if it was to inculcate certain philosophical doctrines that Rabelais took the appearance of Silenus, he employed a most compromising mask.

Nevertheless, he certainly benefited gouty patients and those having calculus by excellent hygienic advice in recommending daily exercise as is evident from the following passage: "Les medecins de Gargantua disoient que si on le tenoit ainsy au berceau, il seroit toute sa vie subject à la gravelle."

In still more concise form, Suetome had also touched upon the principal causes of gout when he termed it *morbus dominorum*. A sedentary life and excessive eating are certainly the best known factors of uric acid lithiasis, while, on the other hand, rest is most advantageous in the larger number of dyscrasies accompanied by loss of flesh. Thus, an excellent means of fattening a cachectic is to make him a "monk for three months," because "si en estat monachal il n'engraisse ny par art, ny par nature, jamais n'engraissera." Under a humorous guise is hidden a truth which is recognized to-day, and if at the present time tuberculous patients are put on forced feeding, with cod liver oil and so forth, this must be combined with rest on a lounge if the desired result is to be obtained.

The physical and intellectual education of children pre-occupied Rabelais to a certain extent, and under the title, somewhat pretentious perhaps, of "Rabelais pedagogue," Réaume has been able to collect an anthology, comprising all the passages of the Five Books relating to the education of children. Regarding corporal exercises, Rabelais begins by teaching those which were in vogue during the middle ages. In the first place, he describes the art of riding on every kind of horse and Gargantua became so expert in this noble sport that "le voltigeur de Ferrare n'estoit qu'un cinge en comparaison." On another day he learned how to use the hatchet and the sword, while on the next he hunted stags, wild boars, bears, partridges, pheasants, and so forth.

Then, as his strength increased, he wrestled, ran, jumped, swam, climbed trees, fired guns, yelling like a deaf person in the midst of the field in order to amplify the voice. After all this he took a bath accompanied by frictions and then went in, "ce pendant monsieur l'appetit venoit," which can readily be understood without any explanation after such varied gymnastics. This was a muscular culture which certainly was not in any way neglected and amateurs in sports can possibly find no fault with it.

At the present time, when intellectual overwork is so much feared, one is really astonished at the amount of effort that Rabelais thought necessary for children's memory. This was in the good days when one studied Donat, Facet, Théodolet, Marmotret, Alanus, the "De modis significandi," the "Compost" with sage commentaries, and many other idle stories.

Nevertheless, the father of the family was not long in perceiving that his son "vrayement estudioit très bien et mettoit tout son temps, toutesfois qu'en rien ne prouffitoit et, qui, pis est, en devenoit fou, niays, tout resveux et rassoté." Grandgousier, having brought up his son according to this method, was stupefied to discover his naughtiness and his mental incapacity, because when asked a very simple question before a few friends the child "se print à pleurer comme une vache et se cachoit le visaige de son bonnet et ne fut possible de tirer de luy une parole, non plus qu'un ped d'un asne mort."

Gargantua rose at four o'clock in the morning. A few passages of the Bible were read to him, then he learned his lessons, dined, although this time was not lost for study because during the occasion of bread, wine, fish, fruit, and vegetables, which were served on the table, passages were read to him from Pliny, Julius Pollux, Galen, Dioscorides, Aristotle and many others. When his tutor was not absolutely sure of these quotations, which was quite excusable, the text was arranged to suit the case. After this, the student gave himself up to "mille petites gentillesses et inventions nouvelles," such as arithmetic, geometry and astronomy.

Music was not forgotten and when the process of digestion was ended the child devoted himself to it. The instruments which he was taught were the lute, harp, German flute, violin and trombone. After this, he was instructed in caligraphy, then was taken out and led near fields, where he was pleased to distinguish herbs and trees according to the description given in the works of Pliny, Galen, Marinus and many others. In the evening, after

dinner was over, he was initiated in astronomy and after this fearful day was ended he retired to indulge in a well deserved repose.

Pantagruel's education was carried far beyond this point, because the study of medicine and the Hebrew and Arabian and Chaldean languages were added, and I here append this really extraordinary program.

"J'entends et veulx que tu apprennes les langues parfaitement. Premièrement la grecque, comme le veult Quintilian; secondement la latine; et puis l'hebraicque, pour les saintes lettres, et la chaldaicque et arabicque pareillement; et que tu formes ton style, quant à la grecque, à l'imitation de Platon; quant à la latine, de Cicéron; qu'il n'y ait histoire que tu ne tiennes en mémoire présente, à quoy t'aydra la cosmographie de ceux qui en ont escrit. Des ars libéraux, géométrie, arithmetique et musique, je t'en donnay quelque goust quand tu estois encores petit, en l'aage de cinq à six ans; poursuis le reste et d'astronomie saiche en tous les canons. . . Du droit civil, je veulx que tu saiche par coeur les beaux textes et me les confère avec philosophie.

"Et quant à la cognoissance de faits de nature, je veulx que tu t'y adonne curieusement; qu'il n'y ait mer, rivière, n'y fontaine, dont tu ne recognoisse les poissons; tous les oiseaux de l'air, tous les arbres, arbustes et fructices des foretz, toutes les herbes de la terre, tous les metaux cachés au ventre des abysmes, les pierreries de tout Orient et Midy, rien ne te soit incogneu.

"Puis, soigneusement revisite les livres des medecins grecs, arabes et latins, sans contemner les thalmudistes et cabalistes; et par fréquentes anatomies, acquiers-toi parfaite cognoissance de l'aultre monde, qui est l'homme. Et, par quelques heures du jour, commence a visiter les saintes lettres; et puis en hebrieu, le Vieux Testament: somme, que je voye un abysme de science."

It is surprising that a physician, knowing the deplorable results of mental overindulgence in childhood, could have advised an intellectual education of such weight. In spite of his great knowledge, Rabelais was far from possessing all that he advised to be taught, but nevertheless his infancy was a laborious one, and his studious youth was passed in the midst of the calm of the monasteries, where he hardly passed any time in futile amusements. For this reason it may be questioned whether our author was not desirous of painting a picture quite as exact as possible, of education during the sixteenth century, so that criticism became

evident under the guise of satire. For example, can this paragraph be interpreted in any other way? "Le matin, il alloit es lieux secretz faire excretion des digestions naturelles. Là, son précepteur repetoit ce que avoit esté leu, luy exposant les pointz plus obscurs et difficiles." In other passages he gives in the most crude manner his idea of prodigious children, of those miniature savants who from the parents' standpoint, undertake nothing but what is extremely genial. Grandgousier had in this way a most decided indication of the brilliant intelligence of his young child by "l'invention d'un torchecul," and thought for this reason that his son would be some day received a Doctor of the Sorbonne.

There is no doubt but what Rabelais was distinguished as a physician in the treatment of venereal disease. Gonorrhœa was not studied by him to any extent and he only makes one allusion to it in a single passage of his works: "luy print une pisse chaulde, qui le tourmenta plus que ne penseriez. Mais ses medecins le secoururent très bien; et avecques force de drogues lenitives et diuretiques, le firent pisser son malheur." To this list one should add drastic purgatives, hydragogues, or "quatre quintaulx de scamonnée colophonique, six vingts et dix-huit charretées de casse, onze mille neuf cents livres de rheubarbe, sans les aultres barbouillements."

This treatment was far from being ridiculous and for this reason Rabelais did not care to criticise it, but what exasperated him was to see that many physicians were occupied with the discussion of the pathogenesis of gonorrhœa, and this waste of time gave him bitter thoughts. "Et m'esbahis grandement d'un tas de fois philosophes et medecins, qui perdent temps à disputer dond vient la chaleur de ces dictes eaux. . . car ils n'y font que ravasser et mieulx leur vouldroit se aller froter le cul au panicault que de perdre ainsi le temps à disputer de ce dont ils ne savent l'origine."

Syphilis was the real specialty of Rabelais and the treatment of this disease held an important place in his life. He followed the method of Gaspard de Torella. The patients were in the first place covered with mercurial ointment. In point of fact, the use of mercury in syphilis is far from being a new method. For example, Dabry, in his book published in 1863, entitled "La Medecine chez les Chinois," showed that in the year 2637 B. C. the physicians of "The Son of Heaven," Emperor Hoang-ty, treated syphilis by mercurial inunctions. During the middle ages, the Arabs employed mercury as has been indicated by the immortal

Jean Fernel in his work most admirably translated by Dr. Le Pileur, and I here append the passage relating to this fact.

“Les Arabes employerent avec succes l’hydrargyre, le melant avec certaines huiles et poudres, ils en frottaient les jointures des bras et des cuisses, d’autres le ventre, d’autres enfin tout le corps.” The Arabian preparation was called *unguentum saracenicum* and only contained one-ninth part of mercury in weight.

The physicians of the fifteenth century followed this method and, in the first place, employed only very mild preparations, the ointment used by Torella being only the strength of one part in forty; but the first results obtained having been most encouraging, they increased the doses until, in the sixteenth century, they covered the patients from head to foot. The result of this treatment was not long in showing itself, for the patients were soon attacked by a formidable stomatitis, which was described by Ulrich de Hutten in his book, and which was also described by Rabelais in one of his prologues.

“O quantesfois nous les avons veu, à l’heure qu’ilz estoient bien oingts, et engraisés à point, et le visaige leur reluisoit comme la claveure d’un charnier et les dents leur tressailloient comme font les marchettes d’un clavier d’orgue ou d’espinnette, quand on joue dessus, et que le gosier leur escumoit comme à un verrat que les vaultres ont aculé entre leur toiles.”

In the chapter where Epistemon relates what he saw in hell, Rabelais again speaks of the treatment by inunctions as follows:—“Le pape Sixte estoit gresseur de vérole.—Comment: dist Pantagruel, y a-t-il des vérolés de par de la?—Certes, dist Epistemon, je v’en vis onques tant, il y en a plus de cent millions. Car croyez que ceux qui n’ont eu la vérole en ce monde-cy, l’ont en l’autre.”

After the ointment had been applied, the patients entered a large oven which was heated to such a temperature that some fell asphyxiated as soon as they entered. Those who could not afford to be treated thus were lined up in a large oven where the nurses occasionally played them the unfortunate joke of forgetting them and they were found later undergoing the metamorphosis of smoked hams.

The oven treatment lasted from twenty to twenty-five days, and according to Ulrich de Hutten the greater number of patients were so debilitated either by terrific perspiration, by the administration of mercury in toxic doses or by the serious disorders pro-

duced by stomatitis that they died in a few days. Others led a miserable existence.

In the large cities of France, ovens were not wanting; all the more so because they were at the same time sanatoria and places for *rendez-vous*. When he arrived at Metz, Rabelais found the following ovens: the oven of Bas-Champe, mentioned in 1266, the ovens of Tomboy, in 1437, the oven for men, rue du Poncel, in 1455, the oven near de Moulins, in 1463. In 1571, an act mentioned an oven for women, rue de Poncé, and perhaps even the latter was built during Rabelais' life.

Treated in this manner syphilitic patients were pretty well assured of their affair, because in patients afflicted with an eminently deglobulizing disease, hematopoiesis was facilitated by putting them on a strict diet, after which they were exposed to sudden thermic variations of the oven, and to end all they were smeared with fat and filled full of mercury. But in spite of this extreme treatment, syphilis in the sixteenth century took on serious forms and here is a quotation from Rabelais in which he mentions tertiary syphilitic liabilities, exostosis of the fingers and specific laryngitis: "Panurge contrefaisoit ceux qui ont eu la vérole, car il tordoit la gueulle et retiroit les doigts et, en parole enrouée, leur dist. . . ." These unfortunates were obliged to pay out more than fifty francs a day and died as much from ennui as from their disease.

Rabelais, who for good reason was a sceptic as to the value of the diaphoretic treatment, thought that the mind should be cared for at the same time that the body was treated. He endeavored to make the patients jest at their own suffering, commencing for example by giving them a very fanciful etiology, and thus Etion, the ancestor of Gargantua, "eut la vérole pour n'avoir beu frais en esté."

This curious pathogenesis is a transparent criticism of the aberrations which were current at the time. Steber, in 1494 was the first to attribute the origin of syphilis to the conjunction of the planets, and this stupidity was reproduced in books and believed in for more than thirty years. After this, Grunbeck declared that the disease was produced by the bile which became mixed with the pituit. Leonicensino thought that malaria was the most important cause. Since all these explanations appeared of little value, a number of authors put forward the theory that anthropophagia, sodomy and bestiality were the factors. The endeavor

to make patients forget their ills was one of the principal aims of Rabelais and on many occasions he expressed himself relative to this point with considerable force. One of the numerous griefs that he addressed to the "diabes engipponnés" is to have "tollu ses ecrits es malades, es goutteux, es infortunés, pour lesquelz en leur mal esjouir les avoit faicts et composés."

This persistent opposition against those that his satire had terribly wounded is a proof of the rapid success of all his writings. He could advise not to undertake the reading of his raillery "de haulte gresse," without in the first place, and as a measure of prudence, "relier le ventre avec bonnes grosses sangles ou bons gros cercles de cormier," in order not to burst with laughter nor be carried away by joy. Thus a philanthropic idea became the origin of these colossal farces which gave Rabelais the highest place among French comic authors, chronologically and qualitatively.

In 1539, under the pseudonym of Orchesino, Rabelais increased the series of his burlesque tales by publishing at Lyons, a small book entitled "Le triumphe de très haulte et très puissante dame Vérole, royne du Puy d'amour," which was illustrated by thirty-six wood engravings, representing the principal inconveniences of the disease and its treatment, with an explanatory text at the bottom of each page. The engraving which is the most suggestive is the one representing the city of Rouen, surrounded by the principal cities of France, where dame Vérole is the reigning sovereign. In point of fact Rouen had the sad reputation of giving rise to the malignant cases of syphilis, as the proverb of the time shows: "Vérole de Rouen et crottes de Paris ne s'en vont qu'avec la piece." This most extraordinary little book is to-day unobtainable and only one example is known and that is found in the Lyons Library.

Having become, in 1547, a salaried physician of the city of Metz, Rabelais was at the time appointed physician to the St. Nicholas Hospital. He began by ordering the inhabitants to remove all filth from the streets, and this was done in order to preserve the city against the ravages of the plague. Now, the name plague was an euphemism and included in its comprehension both the plague and venereal diseases. At the St. Nicholas Hospital the patients were divided into good and poor patients, the latter term being applied to those having the plague, leprosy, or syphilis.

From his appointment Rabelais was also charged with the medical inspection of the houses of ill-fame. These were placed under the immediate guardianship of an unstable monarch, who was called the "roi des ribauds."

An ordinance of Louis IX assigned to fast women certain special streets for their houses and to which the name of *bordeaux* was given. An act issued in 1278 shows that the "roi des ribauds" was not only responsible for the conduct of the prostitutes in Metz, but that he also was obliged to remove all the clothing of any dissipated looking person who entered into the city during summer, and if he neglected to do this he was thrown into the mud in company with the suspected person, *coram populo*. These customs go to show that the people of Metz did not underrate the gravity of contagious diseases.

In closing this rambling sketch, I wish to say that I am greatly indebted to the excellent monograph by Dr. Maurice Mollet, entitled "Rabelais, Clinicien," which appeared in 1904.

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