A theoretical and practical treatise on the hemorrhoidal disease : giving its history, nature, causes, pathology, diagnosis and treatment / by William Bodenhamer.

ON THE
HEMORRHOIDAL DISEASE.

BY THE SAME AUTHOR.

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A

THEORETICAL AND PRACTICAL

TREATISE

ON THE

HEMORRHOIDAL DISEASE

GIVING ITS

HISTORY, NATURE, CAUSES, PATHOLOGY
DIAGNOSIS AND TREATMENT

BY

WILLIAM BODENHAMER, A.M., M.D.

ILLUSTRATED BY TWO CHROMO-LITHOGRAPHIC PLATES AND THIRTY-ONE WOODCUTS

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PREFACE.

It is a remarkable fact that in this country, in which monographs now abound upon almost every affection, there is no complete classical or systematic treatise upon the subject of the disease denominated *hemorrhoids;* a disease, too, of more frequent occurrence, perhaps, than any other to which the human body is subject—few, indeed, have attained the meridian of life who have, in the interval, remained entirely exempt from it.

It seems to be taken for granted by the profession that the subject of hemorrhoids, upon which so much has been written heretofore, is either so completely exhausted that nothing new can now be said or written upon it, or that it is unworthy of investigation. Since the very learned and highly valuable treatise by the late and lamented M. De Montègre, of France, more than half a century ago, no complete systematic work on hemorrhoids has appeared even in Europe.

Notwithstanding, however, all that has been observed, all that has been said, and all that has been written, both by the ancients and by the moderns, upon the subject of hemorrhoids, the collection of which would of itself form an extensive library, it must, nevertheless, be admitted by all who have examined the subject carefully that it is still surrounded by much obscurity and perplexity, and attended by numerous errors and absurdities. There is neither a theory nor an hypothesis, so far as the author's reading extends, which is at all satisfactory, or which is adequate to explain the true phenomena of this apparently complicated disease; and, as it regards the

treatment, it is chiefly directed to the mere effects of the malady—the hemorrhage, the congested and inflamed mucous and cellular membranes, the organized tumors, etc.—to the entire neglect often of the *primum mobile*. It may, therefore, in truth be said that this disease has never been anatomically, physiologically, and pathologically investigated with that care and precision which its importance demands; hence the opinion has become prevalent to a great extent that there is no disease named in the whole medical vocabulary, in the practice of which there exists so much empiricism, so much quackery and charlatanism as in that of hemorrhoids, and this condition in this department will doubtless continue to exist until the treatment of hemorrhoids shall be established upon fixed scientific principles, such as generally obtain in the practice of many other diseases, especially in those pertaining to gynecology. Indeed, until such a change does take place, quackery will continue to practise its deceptions, and many hemorrhoidarians will continue to surrender themselves the willing dupes of every ignorant and confident pretender.

The general discrepancy which prevailed anciently, and which, to a considerable extent, still prevails regarding the true nature and character of the hemorrhoidal disease, and the consequent inefficiency and adverse results of many of the multitudinous and contradictory remedies and methods of cure, may be traced to a variety of causes. Among some of these may be mentioned the name or term itself by which the disease is designated; the numerous, multifarious, and changeable causes, whether local or general, which may and do produce it; the diversity in its appearance; the difficulty which, more or less, attends a proper examination of the parts in which it is located; the false theory that it is purely physiological, and not pathological, etc. These are a few of the many obstacles and difficulties to be encountered in the investigation of this intricate subject; consequently, to obtain a clear conception of the real nature of this affection, a great deal of ancient and modern error and verbiage must first be removed. In the prosecution of this

difficult task, the author very sensibly feels his incompetence to do it full justice ; yet it should be considered that all efforts, however humble, which tend in the least to elucidate it, and thus finally to aid in mitigating the sufferings of so common and so distressing a malady, especially in the later periods of life, should be hailed as a subject of congratulation. The author hopes, therefore, to obtain the countenance and the encouragement of the profession for his humble labors in the discharge of this onerous undertaking.

In consequence of the researches in the pathology, pathogeny, and the treatment of hemorrhoids during the past half century, many of the early productions on this disease have, to a certain extent, become inefficient, and are no longer on a par with the present art. The author, however, has in this treatise given a summary account of the theory and the practice of the ancients, as well as that of the moderns, in this disease, with all the changes and the improvements which have been made from time to time, down to the present period, together with the results of his own experience of many years. This has been done especially for the benefit of those who neither have the opportunity nor the leisure to consult the numerous and rare works extant upon this subject. It will enable them the better to judge for themselves, and to regulate their practice accordingly, by viewing at one glance the whole extent of the science and the art on the subject of the hemorrhoidal disease.

The author would remark here that he has not introduced into this treatise the theory and the practice of the ancients in the hemorrhoidal disease, and approved of some of it, because it is old ; neither has he presented that of the moderns in the same disease, and disapproved of some of it, because it is new. He merely gives the reflections which the comparison of the ancient and the modern theory and practice in this disease have suggested to him. The length of time a theory or a practice has existed, can neither make it true nor false ; neither can the status merely of those who formed it, render it either good or bad.

The author trusts that it will not be considered too wide a digres-

sion from the true scope of this treatise that so many topics have been introduced into it, which by some may be thought either to be wholly foreign to it, or to be now obsolete. The object, however, of entering so thoroughly and so lengthily into the subject has not been for the purpose of magnifying the hemorrhoidal disease, or of attaching to it an undue importance, but solely for the purpose of claiming for it that investigation and sober judgment which might result in bringing its practical treatment within the pale of rational principles, and of divesting it of much of the error, obscurity, and confusion which have been too long suffered to surround it, to the discredit and the detriment of medical science and to the encouragement of charlatanry.

This treatise will be found to be a complete encyclopædia upon the subject of hemorrhoids, and is concluded by a copious literature of the subject, ranging from the remotest antiquity to the latest production of the day.

As the author's treatment of hemorrhoids is very simple, and the directions for executing it very explicit, he deemed it unnecessary to give type cases to illustrate it, as is common, and as he might have amply done.

In conclusion, the author would remark that several of the articles in this work were previously published in the New York *Medical Record*, from which they were copied into this without curtailment or other change, for want of time, which will account for some tautology.

249 MADISON AVENUE,
NEW YORK, October 1st, 1884.

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12. The fourth line from the top, for *King James*, read *King James The First.*
24. The fourteenth line from the bottom, for *those*, read *that.*
26. The twelfth line from the bottom, for *havy*, read *have.*
42. The fourteenth line from the top, for *Trunka*, read *Trnka.*
82. The fifth line from the top, for *Abernathy*, read *Abernethy.*
128. The eighteenth line from the top, for *extravation*, read *extravasation.*
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A

THEORETICAL AND PRACTICAL TREATISE

ON THE

HEMORRHOIDAL DISEASE.

CHAPTER I.

HEBRAIC HISTORY.

THERE is no disease within the whole range of medical literature which has a more ancient history, which claims a hoarier antiquity, and a more conspicuous sacredness, than hemorrhoids. A disease, too, which has from time immemorial exercised the genius and the talents of men of the greatest eminence in the medical profession.

The first record we have of this disease is that which is found in the Fifth Book of Moses, in which it is presented in the imposing character of a threatened plague or curse. It appears that Moses, the great Jewish law-giver, on a certain occasion, after having discoursed to the children of Israel upon the blessings for obedience, and the cursings for disobedience, says to them if disobedient—"The Lord will smite thee with the botch of Egypt, and with the EMERODS, etc." (Deut. xxviii. 27.) Moses, therefore, is the first and most ancient authority of which we have any authentic record, upon the subject of that disease which the Greeks, many centuries

subsequently, denominated *hemorrhoids*. The first announcement of this malady by Moses dates back to a period of Jewish history of more than ten centuries prior to the dawn of the Grecian era, or time of Hippocrates, or about the eightieth Olympiad. In giving the early history of this remarkable disease, it may not be improper to remark here, that there is no record nor positive evidence in the Bible, so far as my knowledge of it extends, to prove that the hemorrhoidal plague, with which Moses threatened the Jews, was ever afterwards visited upon that peculiar people, as a divine punishment. It is true, however, that some authors have attempted to establish the contrary of this. Bernard Gordon, an eccentric physician of the thirteenth century, when on the subject of the hereditability of the hemorrhoidal disease, endeavored to prove that the Jews, more than any other people, suffer from hemorrhoids; that this malady became hereditary in the Jewish race; that it was entailed upon them and their posterity forever, as a divine punishment, according to the words of Scripture, as recorded in the seventy eighth Psalm and sixty-sixth verse of the Vulgate:—"Percussit inimicos suos in posteriora; opprobrium sempiternum dedit illis." (Gordonius. *Omnium Ægritudinum a Vertice ad Calcem, Opus, quod Lilium Medicinæ appellatur. Art. Hæmorrhoidibus Hæreditariis.* 8vo. *Parisiis*, 1542.) The word, *inimicos* in the text, upon which all depends, does not, however, apply or refer to the Jews, as this author has attempted to make it, for God in the Old Testament never called the Jews His *enemies*, notwithstanding their frequent rebellions. They were always addressed as His chosen people. If the whole passage, however, is applied to the Philistines, it will at once be seen that it exactly corresponds to the truth of history, for they were not only considered the enemies of God, but of the Jews also, and were in reality the very subjects of the divine affliction named in the text. Now this is a fact which cannot be controverted; viz., that about three centuries after Moses had threatened the Jews with the hemorrhoidal plague, God visited it upon the Philistines, for having taken the ark of the Lord, as recorded in the following passages of Scripture, as found in the Vulgate, the favorite version of our author:—"Agravata est autem manus Domini super Azotios et demolitus est eos; et percussit in secretiori parte natium Azotum et fines ejus. Et ebullierunt, villæ et agri in

medio regionis illius, et nati sunt mures, et facta est confusio mortis magnæ in civitate." (1 Regum, Caput v., V. 6.)

"Illis autem circumbentibus eam fiebat manus Domini per singulas civitates interseationio magnæ nimis; percutiebat viros unius cujusque urbis, à parvo usque admajorem, et computrescebant prominentes extales eorum." (1 Regum, Caput v., V. 9.)

We learn from this brief and graphic Biblical narrative that the disease which afflicted the Philistines, in this instance, did not arise from natural causes, although the climate of Syria, and the habits of its people, were so favorable to its development, but resulted solely from the interposition of divine power.

The Hebraic history of the disease which afflicted the Philistines would not be complete without mentioning the remedy which was employed to heal the victims of it, and to avert the further inroads of it. The Philistines consulted their priests and diviners to know what should be done to arrest the alarming plague which was rapidly spreading among them; and the advice they gave to them was, that they should make a certain number of golden images of the *emerods* (or hemorrhoidal tumors, or morbid swellings, which were the external signs of the disease), and place them in the ark of the Lord, and return it at once to the Israelites, from whom they had taken it. This they accordingly did and were healed, and the plague ceased. (1 Samuel vi. *Et Dissertatio de Philistinorum Plagâ: ab Conrad, Johrenius. Frankofurti*, 1715.)

Some authors are of opinion that Herodotus, in the following narrative, alludes to the hemorrhoidal plague which befell the Philistines; but if so, it is evident that he misunderstood it, and attributed it to a wrong cause. He says that "the Scythians having plundered the temple of Ascalon, a celebrated city of the Philistines, the goddess Derceto, otherwise the celestial Venus, who was there worshipped, struck them with a disgraceful malady which became hereditary among their posterity." (*Lib.* 1, *Cap.* 105.)

This account of this affair is no doubt a legend, a distortion of the Scriptural narration of it, which was doubtless current in that country. The idol Dagon of the Philistines is considered by some authorities the same as the Syrian goddess Derceto, who was certainly the goddess of Ascalon.

Previous to the time of Moses, no mention whatever is made of

this remarkable disease, yet it may have prevailed ever since the fall of Adam, and doubtless did so, having at first proceeded from some natural cause, like any other disease. If Adam and his immediate descendants were subject to the common laws of nature, the hemorrhoidal disease, from its numerous and various causes, must necessarily have produced its usual effects in their systems; for in all ages the same causes produce the same effects; consequently there can be no doubt but that hemorrhoids are as ancient as the creation or fall of man. We, however, only know the hemorrhoidal disease in Hebraic history, as having proceeded immediately from God supernaturally, as a punishment to the Philistines for their wickedness.

From the time of Samuel the prophet, three centuries after Moses, to the dawn of the Grecian era, or time of Hippocrates, the great physician of antiquity, a period of more than a thousand years, all trace of the hemorrhoidal disease, and indeed of the art of medicine itself, is lost; for it may be observed that, with regard to the exact origin of Grecian medicine, it is involved in impenetrable darkness, being anterior to all authentic history, and nothing being known, either as to its rise or the steps by which it grew up to be a regular art.

"Any period," says Mr. Russell (*History and Heroes of Medicine*), "however long it may have lasted, in which no progress was made, is beyond the pale of historical investigation. Like chaos, as described by Milton, it is—

> "A dark
> Illimitable ocean without bound,
> Without dimension, where length, breadth, and light,
> And time and place are lost." (*Paradise Lost, Book* 11.)

The further history of hemorrhoids, that is, from the time of Hippocrates to the present time, will be fully given in the following pages of this work, in which will be found many passages on this disease, selected from the writings of the ancients, and which are the foundation of the opinions long and subsequently held, even down to the present time, by writers upon this ancient affection.

CHAPTER II.

THE ETYMOLOGY AND THE APPLICATION OF THE TERM HEMORRHOIDS.

Synonyms.

[English—*Hemorrhoids. Piles.* Latin—*Hæmorrhoïds. Ficus. Marisca.* Greek—*αἱμοῤῥοίς.* (*Aimorrhoidas.*) French—*Hémorroïdes.* Italian—*Morice. Morici. Morene. Moroide.* Spanish—*Almorranas. Higo.* Portuguese—*Almorreimas.* German—*Hämorrhoïden. Goldene Ader.* Danish—*Gyldenaare.* Swedish—*Gyllenæder. Smickerflæd.* Belgian—*Aanbeyen. Speenader.*]

I. The word *hemorrhoids* is derived from the compound Greek word *αἱμοῤῥοίς*, which is formed from *αἷμα*, sanguis; and *ῥοίς* is derived from *ῥέο*, fluo; consequently, it signifies simply a flux or a flow of blood. This word was compounded by the Greeks obviously to express what they considered a remarkable or characteristic phenomenon or symptom which sometimes attended the disease they denominated *hemorrhoids*, namely, *hemorrhage*, and which has since been gradually assumed as the name for the whole diversified series of phenomena which constitute that affection. The ancient Greek physicians, neither comprehending the true seat, nature, nor the proximate and remote causes of the malady, were content with naming it after a very uncertain, but sometimes a very prominent symptom of it, thus considering, as it were, the sanguineous discharge itself to be the real substantive disease. The best evidence, however, of our ignorance of a disease is when we name it after a mere uncertain and transient symptom; for, in proportion to our knowledge of the seat and the nature of a disease will be our ability to give it a clear and expressive name which will at once denote it. The terms *proctitis*, *rectitis*, *enteritis*, *peritonitis*, *hepatitis*, *iritis*, are clear and expressive names, denoting both the seat and the nature of the disease. This cannot be said of the term *hemorrhoids*,

which neither denotes the seat nor the nature of the affection for which it was coined. Many of the ancients, however, previous to the time of Galen, used the term *hemorrhoids* in its literal sense, namely, as synonymous with hemorrhage in general, a license which its etymological signification so readily admits, the terms *hemorrhoids* and *hemorrhage* being substituted for each other or used interchangeably, and considered synonymous. It was in this sense that the Greeks applied the term *aimorrhoidas* to the bloody serpent (*Coluber Redi* of Linnæus) whose bite produced death from hemorrhage. Hippocrates, on the contrary, however, confined the use of the word *hemorrhoids* solely to a flow of blood from the anus, and speaks of it as being an affection of the anus only: "Excretiones per ora venarum quæ sunt in ano hæmorrhoïdas vocant." (*De Alimento Liber—Hippocratis Opera Omnia Græcè et Latinè, ab Anutio Foësio. Tome* 1, *p.* 381, *folio, Genevæ*, 1657.) Galen, like his great prototype, generally designated under the name *hemorrhoids* a flux or a flow of blood from the veins of the rectal portion of the large intestine, which veins, says he, are furnished at their extremities with cotyledons, like those of the uterus during gestation. He also adds that he learned this fact from Praxagoras. Elsewhere, however, Galen says that hemorrhage differs from hemorrhoids in this, that the former is an abundant effusion of blood, whilst the latter is only a flow of blood which takes place little by little. (*De Finitiones Medicæ Liber: et De Compositione Medicamentorum Localium. Lib. IX.* 8*vo. Galeni Opera Omnia, Græcè et Latinè, à Kühn. Lipsæ*, 1821.)

It will be perceived that Galen used the term *hemorrhoids* to denote a passive, not an active hemorrhage, and that he seemed to be aware also that the bleeding did not proceed from a rupture or a laceration of the vessels of the rectum, or from erosion or ulceration of the mucous membrane of the same, but by an exhalation, an exudation, or by a true *stillicidium* from the mucous surface.

Aitken defines hemorrhoids to be a hemorrhage from the vessels near the anus. (*Elements of the Theory and Practice of Physic and Surgery, Vol. I., p.* 149. 8*vo. London*, 1783). The learned Sauvages employed the term *hemorrhoids* to denote a flux or a flow of blood from the rectum and anus only: "Fluxus cruentus ex podice vel recto mariscis ruptis obsito." (*Nosologia Methodicæ, Vol. II., p.* 323. 4*to. Amstelædami*, 1768).

I must also state here that some of the old, as well as some recent authors, without any show of reason or sense of propriety, have applied the term *hemorrhoids* to a leucorrhœal or a sero-mucous discharge from the rectum which they denominate "*white hemorrhoids*," in contradistinction, I suppose, to what they call "*red or bloody hemorrhoids.*" Now this morbid secretion or discharge from the rectum is the direct result of a chronic inflammation of the mucous membrane of the same, and is nothing more nor less than catarrh of the rectum, and may either be complicated with or attended by hemorrhoids or not.

The following are a few of the authors who have thus applied the term *hemorrhoids* to a leucorrhœal discharge from the rectum: Alberti (*Dissertatio de Hæmorrhoïdibus Albis. Halæ*, 1717); Baumer (*Dissertatio de Hæmorrhoïdibus mucosis earumque sympathiâ cum asthmate mucoso. Giessæ*, 1776); Seligmann (*Dissertatio de Hæmorrhoïdibus Albis in universum. Gœttingæ*, 1782); De Montègre.—Hémorroïdes Blanches (*Des Hémorroïdes, ou Traité Analytique de toutes les Affections Hémorroïdales, p.* 49. 8*vo. Paris*, 1830). The distinguished Professor Richet, of the Hôtel Dieu at Paris, in a clinical lecture in 1874, singularly enough advocated the propriety of the appellation "*Hémorroïdes Blanches.*" (*Irish Hospital Gazette*, July 1st, 1874.)

I could here multiply the authorities, both ancient and modern, who make hemorrhoids to consist solely of bleeding from the vessels of the rectum; but this is unnecessary, as a sufficient number has already been cited. By their definition, hemorrhage alone, from any of the blood-vessels of the inferior extremity of the rectum, constitutes the disease. But inasmuch as hemorrhoids more frequently exist without bleeding, it is therefore evident that bleeding does not in any sense constitute the disease so called, but is, when it occurs, only an uncertain symptom of it. Indeed, hemorrhage, regardless of its source, is never a disease, but merely an evidence or a symptom of it—either of disease in the part itself from which it proceeds, or of disease in some remote part or organ. As it respects the leucorrhœal or sero-mucous discharge from the rectum previously mentioned, it is neither hemorrhoids nor is it a positive symptom of the disease so called. A clear distinction in the leucorrhœal discharge or flux, as in the sanguineous, must be made between the hemorrhoidal disease and it; for, to repeat, it is not the hemor-

rhoidal affection, but sometimes a sign or a symptom merely of a pathological condition of the mucous lining of the rectum.

I have shown that whilst some of the authorities have defined the word *hemorrhoids* to be hemorrhage in general, or hemorrhage from the inferior extremity of the rectum in particular, there are others again who define it to be nothing more nor less than varices of the hemorrhoidal veins, or as consisting of vascular dilatations, swellings, congestions, or tumors, located about the anal extremity of the rectum, and as being either attended by hemorrhage or not.

If Hippocrates is the author of "*De Hæmorrhoïdibus Liber*," which some ascribe to him, including Galen, then, in addition to bleeding from the veins of the rectum, which has been previously noticed, he also considered hemorrhoids to be varices of the extremities of the hemorrhoidal veins. His language in the Greek may be rendered into English as follows: "A defluxion of bile or of pituitous matter to the veins of the anus inflame the blood which those veins contain. The veins themselves being inflamed attract the blood of the others near them, and, being filled with it, raise and swell the internal parts of the rectum. The little heads of the veins are then conspicuous, and partly from the pressure of the fæces, and partly from their own fulness, are liable to break and emit blood, particularly at the time of dejections." The little conspicuous heads at the extremities of the veins, of which Hippocrates speaks, I would say were varices of the venous capillaries. The celebrated Foësius translates from the Greek the same language of Hippocrates into Latin, thus: "Ora venarum hoc modo sanguinem fundere solent. Bilis aut pituita ad venas quæ in ano sunt decumbens, sanguinem qui in his est calefacit. Incalescentes autem venæ, sanguinem ex proximis venis attrahunt, coq.; impletæ, recti intestini partem interiorem in tumorem attollunt, et venarum capitula conspicua sunt, quædum partim à stercore exeunte contunduntur, partim à sanguine coaceruato perrumpunter, sanguinem eiaculantur, idque maximè cum stercore, interdum verò sine eo." (*De Hæmorrhoïdibus Liber.*, *op. cit.*, *Tome* 1, *p.* 891.) A defluxion of bile or pituitous matter to the hemorrhoidal veins forms the basis of the theory enunciated by Hippocrates in the above-mentioned book. The knowledge of this theory, however, was evidently not derived from dissection, but from the absurd idea which was entertained by the ancients, that hemorrhoids served to evacuate the black bile or melancholic humor.

Galen maintained the opinion of Hippocrates, both with regard to the appearance, form, structure, and hemorrhage, as well as to the function of hemorrhoids. (*Op. cit.*) Celsus also, in conformity with the views held by Hippocrates, defines hemorrhoids to be varices of the hemorrhoidal veins with occasional hemorrhage. He says: Tertium vitium est, ora venarum tamquam capitulis quibusdam tergentia, quæ sæpe sanguinem fundunt: *αἱμορῤῥοΐδας* Græci vocant." (*De Medicina, Lib. VI., Cap. XVIII., Sec.* 9). As a positive evidence that Celsus believed that hemorrhoids were varices of the hemorrhoidal veins is found in the fact that he declares they are of the same nature of and identical with varices of the legs. After giving the treatment of hemorrhoidal varices (*Lib. VII., Cap. XXX., Sec.* 3), Celsus, at the beginning of the next chapter, says: "Ab his ad crura proximus transitus est. In quibus orti varices non difficili ratione tolluntur."—*The next transition is from these (the hemorrhoidal varices) to the legs. In which varices are removed with no great difficulty.* (*Op. cit., Cap. XXXI.*) Walæus defines hæmorrhoids to be nothing but varices of the veins of the anus. He says: "Hæmorrhoïdes nihil aliud sunt quam varices venarum ani, varix vero est vena aperta vel immodice dilatata." (*Medicina Practica.* 12*mo. Lugduni*, 1660.) The celebrated Boerhaave considered hemorrhoids to be nothing more nor less than dilatations or varices of the hemorrhoidal veins. (*Prælectiones Academicæ in proprias Institutiones Rei Medicæ. Edidit et notis addidit, Albertus Haller. Sec.* 112. 8*vo. Gœttingæ*, 1739.) Morgagni confirms the opinion of Boerhaave that hemorrhoids are varices of the veins of the rectum and anus. (*De Sedibus et Causis Morborum. Lib. III., Epist. XXXII., Art.* 10 *et* 11, *folio. Venetiis*, 1761.)

From the remotest medical antiquity to the present time, the word *hemorrhoids* has been employed by the largest majority of authors exclusively to designate peculiar tumors of the rectum and anus, whether attended by bleeding or not. I do not deem it necessary to give the numerous authors, both ancient and modern, which I could give, to prove this. I will merely cite on the subject a few eminent medical lexicographers of our own times. Mr. Hooper defines hemorrhoids to be "certain excrescences or tumors, arising about the verge of the anus, or inferior part of the intestinum rectum." (*Lexicon Medicum. Word Hæmorrhois, Vol. I., p.* 409. 8*vo*,

New York, 1833.) Mr. Cooper defines hemorrhoids to be piles; but what *piles* are he does not say. I suppose he means by the word *piles*, tumors. (*Dictionary of Practical Surgery. Edited by D. M. Reese, A.M., M.D., p.* 487; *imp.* 8*vo*, *New York*, 1848.) M. Nysten defines *hémorroïdes* to be tumors. He says: "On donne ce nom aux tumeurs anormales que forment les veins du rectum." (*Dictionnaire de Médecine. Hémorroïdes, p.* 675; *imp.* 8*vo*, *Paris*, 1858.) Dunglison defines hemorrhoids to be "livid and painful tubercles around the margin of, or within the anus; from which blood or mucus is occasionally discharged." (*Medical Lexicon. Word Hemorhoids; imp.* 8*vo*, *Philadelphia*, 1865.) The word *tubercles* is not well chosen by Professor Dunglison to express hemorrhoidal tumors or varices, which he doubtless means, it being in pathology only applied to scrofulous tumors. M. Gosselin defines hemorrhoids to be "*varicose tumors* in the anal region, susceptible of bleeding at certain times." (*Leçons sur les Hémorrhoïdes;* 8*vo*, *Paris*, 1866.)

Besides employing the term *hemorrhoids* to designate hemorrhage in general, hemorrhage in particular, vascular dilatations, varices, or organized tumors, at the anal extremity of the rectum, many authors also use the common word *piles* to designate the same. The word *piles* is from the Latin *pila*, a ball, and is therefore more in conformity with the aspect of the affection than the word *hemorrhoids*, as it generally manifests itself either in the form of a vascular dilatation, a varix, or a tumor.

The ancient Romans sometimes employed the vernacular expression, *ficus* or *marisca*, to designate hemorrhoids, in the same manner we now do the word *piles*. Each of these Latin terms means a fig; the latter, however, means a large blasted and unsavory fig. Both words have reference to the form, shape, or appearance which the hemorrhoidal varix or tumor sometimes presents. The celebrated Latin poet, Martial, uses the word *ficus* in the sense here indicated, by making a jest upon the double meaning of it:—

> "Cum dixi ficus, rides quasi barbara verba;
> Et dici ficos, Cæciliane, jubes.
> Dicemus ficus quas scimus in arbore nasci;
> Dicemus ficos, Cæciliane, tuos."

(*Epigrammatum Medicæ aut Philosophicæ, etc., Lib. I., Epigram* 65; *et Lib. VIII., Epigram* 71. 4*to*, *Venetiis*, 1657.) The great Latin poet, Juvenal, employed the word *marisca* to designate hemor-

rhoids, in the same sense in which Martial used the word *ficus* to designate the same, as will be seen in the following lines:

. . . . "Sed podice levi
Cæduntur tumidæ, medico ridente, mariscæ."

(*Satiræ: Cum Commentarii Caroli Fred. Heinrichii. Vol. I., p.* 13, *Sat.* 11, *Vers.* 12 *et* 13; 8*vo*, *Bonnæ*, 1839.)

These two Latin terms, *ficus* and *marisca*, were, however, not generally used by the Roman physicians of that period, but were subsequently, together with other fanciful appellations, applied by some of the Greek, Latin, and Arabic authors, to certain growths or excrescences at the verge of the anus. In consequence of the great variety of forms which these vegetations assume, these authors bestowed upon them different names, such as *condyloma*, *verruca*, *crista*, *porrus*, *sycoma*, *thymion*, *myrmecion*, etc. These circumanal growths or excrescences are not hemorrhoidal tumors, although even at the present day they are so called by many. Vide Dieterichs (*Dissertatio de Hæmorrhoïdibus Cristatis. Altdorfii*, 1764.)

The old German physicians, besides having used the word *hämorrhoïden*, to designate the hemorrhoidal affection, much more frequently, however, employed the vernacular expression, "*Die goldene Ader.*" They doubtless used the latter in consequence of the opinion they entertained that the disease was in some sense salutary, that by means of it serious or even fatal disorders were often averted or cured—thus considering it to be precious or valuable like gold, the German word *goldene* figuratively meaning *precious*. The word *ader* in German means vein, swollen or varicose vein, or hemorrhoids.

I have now shown that authors have presented the symptoms or the complications of the disease called *hemorrhoids;* namely, either hemorrhage, vascular dilatations, varices, or organized tumors, as the veritable disease itself, whereas it can neither be characterized by bleeding alone, nor by vascular dilatations, varices, or organized tumors alone, nor by all these combined; for bleeding may occur without dilatations, varices, or organized tumors, and each one of them may exist independently of the other.

II.—THE EMERODS OF THE ENGLISH BIBLE.

The subject of the etymology and application of the word *hemorrhoids* would seem to demand that something also should be said in

relation to the signification and application of the scriptural word *emerods* or *emeroids*, as used in the English version of the Hebrew Bible, which was ordered and translated under the auspices of King James. The first mention of this word is in Deuteronomy, chapter 28 and verse 27, as has already been shown in the historical chapter of this work.

In the prosecution of this difficult task, however, I feel very sensibly my incompetence to do it full justice, inasmuch as a part of it requires a degree of knowledge in some of the ancient languages, and a skill in the application of that knowledge which I am far from assuming. I will, however, attempt to do the best I can to contribute my mite toward it, leaving that in which I fail in the hands of the more competent to do it justice. With these few preliminary remarks, I will at once introduce the subject, by stating that with regard to the word *emerods*, as used in the English Bible, it is very evidently a corruption of the Greek word *αἱμορῥοῖς* (*aimorrhoidas*), and has the same signification, namely, a flux or a flow of blood. Now the question is, does the word *emerods* correctly and truly represent the disease or plague with which Moses threatened the Jews? Is it a correct rendering of the Hebrew word or words which he used to designate this affliction? Was this divine punishment to consist purely of a flowing of blood, as the word *emerods* imports, or was it to consist of something else?

There is a very great diversity of opinion among learned Biblical commentators or interpreters and some historians, concerning not only the import of the word *emerods*, but also concerning the proper meaning of the original Hebrew word or words translated *emerods;* as well as concerning the nature and character of the disease represented or intended by them, as the variety and the vagueness of some of the approved translations and commentaries verify. But this diversity of opinion among many Biblical commentators in their attempts at describing or defining this very complicated disease is not to be wondered at, when we take into consideration the fact that the Bible does not teach anatomy, physiology, and pathology, and at best gives but the name or a meagre description, as it were, of the malady in question; and that those interpreters who, although otherwise possessing the highest learning, intelligence, and culture, were nevertheless too deficient in anatomical, physiological, and pathological knowledge to be able readily to decide a question of just such a

character, and one too, which can only be decided by such knowledge.

I will now give the opinions of some of the most able Biblical commentators upon the meaning of the Scripture word *emerods*. Scott, Clark, Gill, and Boothroyd all agree that emerods in Scripture mean hemorrhoids in an aggravated form. Jamieson, in Jamieson, Fausett, and Brown's Bible, says: "Emerods are fistulæ or piles." Keil's Commentary on the Bible says: "And he smote them (the Philistines) with boils—that is, according to the Rabbins, *swellings upon the anus*." Lyra, Abulensis, Gregorius, and other distinguished and learned commentators are of opinion that the Philistines, besides having been afflicted with hemorrhoids, had their intestines to emerge, to hang down, and at length to putrefy. The Vulgate of 1 Samuel v. 9 has: "et computrescebant prominentes extales eorum"—*and their projecting intestines became putrid.* The Hebrew word for *extales* is *Apholim*, and represents, as was supposed, that the *Apholim*, or vicious tumors, were sometimes *hidden* or *unknown* to the Philistines, which Rabbi David, Vatablus, and Isidorus explain to mean, that the plague of hemorrhoids was again drawn into the interior of the body, and thus hidden from view. But the Latin word *extales*, however, is not a correct rendering of the Hebrew word *Apholim*, which, as will presently be shown, does not mean *entrails* or *intestines*, but *swellings* or *tumors*. Now divest this explanation of some error and obscurity, and it represents nothing but the hemorrhoidal disease itself in its most aggravating form, which consists of the protrusion of the tumors beyond the anus (*Prolapsus Hæmorrhoïdis*), and sometimes of their strangulation, mortification, and subsequent sloughing; or the spontaneous returning again of the protruded tumors into the rectum without having undergone the process of mortification. This is doubtless the true and obvious explanation.

Cornelius A. Lapide says that the disease which afflicted the Philistines was *fistula in ano*. Josephus says that it was *dysentery* or *flux*, a sore distemper, brought upon the Philistines for taking the ark of the Lord. This disease is mentioned by Herodotus, who calls it *Thelia*, that is, *papilla*. *Thelia* is derived from *Thele*, the apex or nipple of the pap or mamma, and, by similitude, tumors arising on the body from vicious humors, as was supposed, were called *papillæ;* hence Serenus, when speaking of that disease in which

the anus is swollen, says: "Excruciant turpes anum, si forte papillæ."

Sanctius, on 1 Samuel v. 6, says: "In summa morbus, qui illam præsertim corporis partem infestat, per quam confecti cibi reliquæ et sordes ægunter quas Græci, *aimorrhoidas;* Latini *ficus* aut *mariscas* appellant." Sanctius, however, says that what befell the Philistines was something even worse than hemorrhoids.

As authority is everything in a dead language, I will continue, therefore, to give the opinions of some of the most profoundly learned authors upon the meaning and the derivation of the Hebrew word or words rendered *emerods* by King James' translators of the Hebrew Bible. Whilst some of the authorities affirm that the word for *Emerods* is עֲפֹלִים *Apholim;* others that it is טְחוֹרִים *Tehorim;* and others again that it is both of these words taken together.

Of עֲפֹלִים *Apholim*, Fürst gives the root, עָפַל, *Aphal, to swell, turgesce;* hence the noun *a hill, a tower, a boil.* He refers to Deut. xxviii. 27, and to 1 Samuel v. 6, etc., which he says was understood by many interpreters as used euphemistically for the hinder parts (*clunes*), and to which has been referred אֲחוֹר *Ahor*, Psalms lxxviii. 66: "And he smote his enemies in the hinder parts," etc. According to the very learned Gesenius, the root means *tumuit;* hence the noun signifies *a hill.* He translates Deut. xxviii. 27, and 1 Samuel v. 6, etc., in German, *Geschwülste am After*, that is, swellings or boils upon the nates or anus. Leopold gives *intumuit* as the meaning of the root, and *tumulus* for the noun; and he renders עֲפֹלִים *Apholim, tumores ani.*

Sanctius, on 1 Samuel v. 9, says that the Septuagint, Chaldaic, and ancient Spanish version explain *Apholim* by hemorrhoids.

Bishop Patrick represents *Apholim* as tumors.

The *Targum* uses the word טְחוֹרִין *Tehorin*, in all the passages under consideration, which Buxtorf (*Lexicon Chaldaicum et Talmudicum*, etc.) translates: "Posteriores corporis partes, qui a constringi solent, et constrictas natura esse voluit, ne ea invita excrementa elabantur. Inde pio morbo pessimo istarum partium mariscæ, hæmorrhoïdes." 1 Samuel vi. 17. The root of the word he had given as *binding, constringere.*

The *Peshito Syriac* version has *Tehuro*, in the passages given, which Castellus translates *anus*—"podex et nisus exonerantis ventrem," and refers to 1 Saml. v. 6.

The *Septuagint* translates Deut. xxviii. 27, by *εἰς τὴν ἕδραν*, using the plural, *ἕδρας*, in the other passages. This corresponds to Psalms lxxviii. 66, in the word אָחוֹר *Ahor*, backward, more nearly than the original term *Apholim*.

Bochart says טְחוֹר *Tehor* est anus; עֲפֹלִים *Apholim*, illius partis esse tumores puto, quia עפל, *Aphal*, in *Pual* est tumere; et nomen, עפל, *Ophel* pro *clivo* aliquoties in scripturis occurrit. Rosenmüller follows Bochart in this rendering—"tumores in obscenioribus partibus corporis."

עָפֶל *Ophel*, singular of *Apholim*, means *forts* (used collectively). Isaiah xxxii. 14. Its rendering is *stronghold* in Micah iv. 8. Its rendering is *tower* in 2 Kings v. 24, in 2 Chronicles xxvii. 4, and in various other places. One version has *Ophel* a proper name.

Of טְחוֹרִים *Tehorim*, Fürst makes the root to mean *to glow*, *to burn*. He remarks: "The disease of *Tehorim* was infectious, but if it broke out in boils, it was less dangerous," etc. In his *τὸ τῆς φαγεδαινῆς ἕλκος* Aquila, in the seventh century, translated *Tehorim* cancer, or an eating and spreading sore.

It is agreed, however, by the most approved authorities that the Hebrew word *Apholim* evidently means the disease as a turgescence, a swelling, a varix or a tumor, and not the part of the body affected, as some have rendered it; and that the Hebrew word *Tehorim* means the part of the body affected, as the seat, the fundament or the anus; hence, both words conjointly signify a turgescence, a swelling, a varix, or a tumor upon the posteriors, the fundament, or the anus.

Smith, in his valuable Bible Dictionary, on the word *Emerods*, as it occurs in the several passages of Scripture, says that "the probabilities as to the nature of the disease are mainly dependent on the probable roots of the Hebrew words *Apholim* and *Tehorim;* the former evidently means a swelling; the latter, although less certain, refers to the seat or part affected, as the fundament, or the anus itself, and is probably derived from a Syriac verb meaning 'anhelavit sub onere, enixus est in exonerando ventre.'"

The Arabic description of the hemorrhoidal disease very much resembles the Hebraic, as the Arabic word is closely allied to the Hebrew word עֲפָלִים and means "tumor qui apud viros oritur in posticis partibus, apud mulieres in anteriore parte vulvæ similis herniæ virorum."

It has been shown that both the Mosaic and the Philistine description of this disease or plague clearly agree that it consisted of swellings or tumors located about the anus; and as a further evidence and confirmation of this fact, it is said that the Philistines who were smitten with it made golden images of it, as recorded in 1 Saml. vi. 4, 5, that is, they carved the gold into the exact forms or images of the morbid swellings or tumors which constituted the external signs of the disease; and they doubtless also included in such images the anus, the part affected, or seat of the disease. From this it is evident that they did not consider the disease to consist of bleeding, as the word *emerods* implies, of which no image of gold could well have been made.

This exposition is doubtless the true one, inasmuch as it exactly corresponds with the appearance of the disease, which always manifests itself by vascular dilatations, swellings, or tumors about the anus, whether attended by hemorrhage or not. The term *emerods*, therefore, which has already been shown to be a corruption of the Greek word *aimorrhoidas*, and, like it, means a flowing of blood simply, regardless even of its source, is not at all applicable to the disease or plague which Moses named, and from which nothing whatever of bleeding can be inferred. It is thus made evident that the Hebraic and the Grecian name or description of this malady do not agree in any one particular. Indeed, it must be recognized as unfortunate that the Greeks should have coined the word *aimorrhoidas*, a word so etymologically and so entirely at variance with the true nature and description of the disease they intended to define; for the name of a disease should at least plainly indicate some morbid phenomenon pertaining to it, or the part affected by it, or both. The Greek term *aimorrhoidas*, however, does neither the one nor the other; indeed, in this instance, the very name *hemorrhoids* is misleading, and it would be far preferable to use a term having no signification at all.

III.—THE PROMISCUOUS APPLICATION OF THE TERM HEMORRHOIDS.

Many of the ancient, as well as the modern authorities, have applied the term *hemorrhoids* to vascular dilatations, varices, hemorrhages, tumors, and excrescences occurring in other parts of the body besides those of the rectum and anus. Indeed, there is no name of any disease in the whole medical vocabulary in which such unlimited license has been indulged in heretofore as in the application of the word *hemorrhoids*. But inasmuch as the blood-vessels of the rectal region have been designated *hemorrhoidal* by the ancient Greeks, doubtless in consequence of the frequent irregular hemorrhages from the rectum, no disease therefore should have been denominated *hemorrhoids* or *hemorrhoidal* unless it pertained exclusively to those vessels themselves; for if the term *hemorrhoids* had been heretofore restricted to affections of the hemorrhoidal vessels alone, much obscurity and confusion in the use of it might have been obviated. The largest number of the authors who have infringed this rule, and have thus misapplied the word *hemorrhoids* to various analogous diseases, generally agree in opinion with the celebrated and indefatigable Alberti, who, in his numerous dissertations, has touched upon almost every subject pertaining to hemorrhoids, that all such cases depend, more or less, upon the suppression, metastasis, or deviation of the ordinary hemorrhoidal flux. Alberti denominated all such *extraordinary* or *displaced* hemorrhoids. (*Dissertatio de Hæmorrhoïdum insolitis viis. Halæ*, 1722.)

It will be observed that under the term *hemorrhoids* these authors have confounded affections of every kind, whether or not depending upon the suppression, metastasis, or deviation of the ordinary hemorrhoidal flux; that they have used the term, not only to signify every complication of the true hemorrhoids, but also of affections of an entirely different character—consequently they have treated of hemorrhoids of the mouth, of the palate, of the throat, of the nostrils, of the uterus, of the urethra, of the bladder, of the kidneys, of the ear, etc. Now, upon this principle, these authors might with great propriety have lengthened their already extended catalogue indefinitely, for there is no part of the body which a similar cause might not affect. One would suppose that the ideas which the word *hemorrhoids* naturally suggests would never have permitted

its applications to those various affections above enumerated, whatever analogy might have been found to exist between them.

1. Hæmorrhoïdes Oris.—From remote antiquity, the term *hemorrhoids* was used by some authors to designate an excrescence, or a tumor of the mouth, or a flow of blood from it. Aristotle speaks of hemorrhoids of the mouth. (*De Partibus Animalium. Lib. II.*) Helwich reports two cases of what he designates as hemorrhoids of the mouth. One of these occurred in a man thirty years old, the other in a woman aged forty years. Both cases came under his own observation. (*Historia Morborum, Wratislaviæ; edente Haller. p.* 239.) Zettermann uses the term *hemorrhoids* to designate a tumor and a hemorrhage of the palate which he observed in a case, and which formed the subject of a thesis, which he sustained in Erfurt in 1722, entitled, "*De Hæmorrhoïdibus ex Palato profluentibus.*" Mœbius speaks of having seen bluish tumors under the tongue and on the lower lip which he called *hemorrhoids.* (*Fundamenta Medicinæ Physiologicæ. Cap. XVI.* 4*to. Jenæ*, 1661.) Vogel also speaks of hemorrhoids of the mouth—hæmorrhoïdes oris. (*Dissertatio de Rarioribus quibusdam Morbis. Göttingæ*, 1762.) Portal likewise uses the term *hemorrhoids* to designate tumors of or hemorrhage from the mouth—hæmorrhoïdes in faucibus—in trachea. (*Cours d'Anatomie Médicale. Tome III., p.* 379. 8*vo. Paris*, 1803.) The illustrious Frank, however, very justly condemned the use of the term *hemorrhoids* as improper, as well as disgusting, when applied to either a tumor of or a hemorrhage from the mouth—Nauseosum satis nomen. (*De Curandis Hominum Morbis Epitome, Prælectionibus Academicis dicta. Tome V., p.* 157. 8*vo. Mannheimi*, 1792–1811.)

2. Hæmorrhoïdes Narium.—It is said that the Arabic physicians were the first to apply the term *hemorrhoids* to an affection of the nasal fossæ, which was evidently nothing more nor less than different species of nasal polypi. This term, being early misapplied, was subsequently adopted and continued in later times by several celebrated authors. The following are some of those who gave the name *hemorrhoids* to tumors or excrescences found in the nares: Valescus de Taranta, Johannes Costæus, Alexander Benedictus, Marcus Aurelius Severinus, Petrus de Bayrus, Scheiwasser et Alberti. (*Dissertatio de Excrescentia Nasi, cum Hæmorrhoïdum anomaliis connexa. Halæ*, 1729.)

3. Hæmorrhoïdes Uteri.—It will be observed, by consulting the following authors, that the word *hemorrhoids* was used at an early date to designate various vegetations, tubercles, or excrescences of the uterus. Some of the ancient authors even make a distinction between such of these bodies or growths that were varicose and such that were not—a distinction which they do not even make in describing hemorrhoids of the rectum or anus. I cannot find that either Hippocrates or Galen speaks of hemorrhoids of the uterus; Celsus, however, does. (*De Medicina. Lib. VII., Cap.* 30.) Paulus Aëginetæ also speaks of hemorrhoids of the uterus. (*Libri Septem. Græcè et Latinè. Lib. III., Sec.* 71, *folio, Basilæ*, 1532.) Moschion. (De Passionibus Mulierum Liber Græcus (Spachii Gynæcior 1.) 4to. Argentorati, 1597.) A full account of the condylomata and hemorrhoids of the womb is given by Ludovicus Mercatus, who says that Celsus and Aëtius call any tubercle arising from inflammation by the name *condyloma*, whereas Paulus applies the term only to callous tubercles of the uterus. (*Gynæcia, p.* 962.) Aëtius says that hemorrhoids are sometimes formed on the neck and sometimes in the body of the womb. (*Medici Græci Contractæ ex veteribus Medicinæ Tetrabiblos hoc est Quaternio. Tetr. IV. Sermo IV., Cap.* 97, *folio, Basilæ*, 1542.) Aretæus (*De Signis et Causis acutorum et diuturnorum Morborum. Græcè. Lib. II., Cap.* 3, *folio. Oxonii*, 1723); Aurelianus (*De Morbus Acutis et Chronicis. Lib. I., Cap.* 4. *Amstelædami*, 1722. *Ed. nova*). The two last-named authors both speak of having seen and treated hemorrhoids of the uterus and of the neck of the bladder. Arantius speaks of the ill effects of hemorrhoids of the uterus, and points out their causes, signs, and cure. (*De Tumoribus Liber.* 12*mo. Lugduno-Batavorum*, 1639.) Paré speaks of hemorrhoids of the womb like those of the *straight* gut. (*The Works of, etc. Translated from the Latin. By Thomas Johnson. Book XXIV., Chap. LXI., p.* 955, *folio. London*, 1634). Barbette says that the neck of the uterus is subject to hemorrhoids in the same manner as the rectum is. (*Opera Chirurgico-Anatomica ad circularem Sanguinis Moto aliquæ recentiorum Inventa accommodata. Accedit de Peste Tractatus.* 4*to. Lugduno-Batavorum*, 1672.)

4. Hæmorrhoïdes Vesicæ Urinariæ. — Phenomena are frequently observed in the bladder, in the form of varicose swellings, fungoid growths, or hæmaturia, quite analogous to those presented

by hemorrhoids, hemorrhoidal tumefactions, or hemorrhage of the rectum and anus. This analogy doubtless led the ancients to the use and the admission of the expression *vesical hemorrhoids*. And it may furthermore be observed that the blood-vessels of the bladder have intimate communications with those of the rectum and anus, and that some of the veins of the bladder even pass directly from it into the principal branches of the *vena porta*, which was anciently regarded as the main source of *hemorrhoids*, so that the question might naturally have arisen whether the same causes which produce hemorrhoids in the rectum might not produce the same disease in the bladder, the difference being merely in locality. But it should be observed that the term *hemorrhoids*, which has already been shown to be so defective and inappropriate in its ordinary application, is, if possible, decidedly more so when applied to the analogous affections of the bladder, the uterus, etc. Indeed, the application of it to different though analogous diseases necessarily gives rise to innumerable errors.

Some of the ancients, as well as some of those of the middle ages, speak and treat of hemorrhoids of the bladder. Aurelianus says that there occurs in the bladder, as well as in the anus, the womb, and the genital parts, hemorrhoids, which pour out blood at intervals, and which should be taken into great consideration. (*Op. cit., Lib. V., Cap.* 4.) This opinion of Aurelianus was generally adopted, the proof of which may be found in the works of many celebrated physicians of the middle ages, and even in some of the works of our own time. The following authorities may be deemed sufficient: Saxonia (*Pantheum Medicinæ Selectum, etc., folio. Francofurti*, 1603); Sennertus (*Praxis Medicæ. Lib. III., Pars II., Cap.* 10, *Sec.* 1, *folio. Wittebergæ*, 1650); Timæus (*Opus posthumum. 4to. Lipsæ*, 1668); Rolfinck (*Epitome Methodi Cognoscendi et Curandi particulares Corporis Affectus. 4to. Jenæ*, 1655); Gruvius (*Dissertatio de Hæmouresi. Erfordiæ*, 1692); Pistor (*Dissertatio de Hæmorrhoïdibus Vesicæ Urinariæ. Tubingæ*, 1729); Pistor et Dannenberg (*Dissertatio de Hemorrhoïdibus Vesicæ mucosis. Tubingæ*, 1729; Juncker (*Dissertatio de Hæmorrhoïdibus. Halæ*, 1747); Reich (*Dissertatio de Hæmorrhoïdibus Vesicæ Urinariæ rubris et mucosis. Giessæ*, 1770); Detharding et Knaud (*Dissertatio de Hæmorrhoïdibus Vesicæ mucosis. Rostochii*, 1754); Barbenius (*Dissertatio de Hæmorrhoïdibus Vesicæ in genere et specie.*

Tirnav, 1777); Velper (*Dissertatio de Hemorrhoïdibus Vesicæ. Jenæ*, 1783); Mysing (*Dissertatio de Hæmorrhoïdibus mucosis Vesicæ urinariæ ab infantibus ortis. Jenæ*, 1795). To these may be added the following illustrious authorities: Bartholin, Stahl, Hoffmann, and Hæchstetter. The late able and distinguished M. de Montègre endeavors to establish the fact that hemorrhoids of the bladder, so-called, and hemorrhoids of the rectum and anus are one and the same affection, hence he is in favor of retaining the term *vesical hemorrhoids* (*op. cit.*, *pp.* 320, 337).

It is said that the late M. Nélaton, physician to the late Emperor Napoleon, used on a certain occasion, when treating him during his last illness, the expression *vesical hemorrhoids* in a very adroit manner. This very able and distinguished surgeon, believing that the emperor's disease was *fungus of the bladder* or some other grave affection, and wishing to conceal from the friends of his imperial patient, as well as from his majesty himself, the serious nature and gravity of his malady, used, when strongly urged to give a diagnosis, the very ingenious euphemism *hémorrhoïdes de la vessie*, knowing very well that hemorrhoids were a disease whose innocuousness was familiar to every one.

Mr. Holmes, of London, in his large work on surgery, speaks of *urethral hemorrhoids*. (*A System of Surgery. Vol. IV., p.* 491. *Imp.* 8*vo. London*, 1864.)

From what has now been said upon the subject of the meaning and the application of the word *hemorrhoids*, it will readily be perceived that it serves but little or no purpose as a descriptive or as a distinctive name, to designate this complicated affection; the term being in no wise adapted to convey a correct idea of either the seat, the nature, or the cause of the malady. But the employment of it has been sanctioned by the usage of ages, and although, in a scientific sense, it must be condemned, yet as it is now generally understood as pertaining to a certain disease of the rectum and anus, it can still be used with but little inconvenience, and will no doubt always be used. Indeed there are but few, under any circumstance, who would now, perhaps, feel disposed to change it for one more expressive or comprehensive, especially in view of the fact that a description or a definition of this disease cannot well be condensed into a kind of quintessence in its name.

In concluding this subject, I would here make the remark that

according to the view I hold of the real nature and character of this disease, as will be shown hereafter in another place; namely, that it is essentially an affection which has its seat alone in the hemorrhoidal vessels, especially in the veins and capillaries, and as these have been denominated *hemorrhoidal*, whether scientifically or not, I would therefore, as an additional reason, urge the continuance of the name *hemorrhoids*, or the expression *the hemorrhoidal disease;* for inasmuch as these terms have some reference to the seat of the disease, or part affected, of the same name, they may on that account be used, with at least some degree of propriety. To retain and continue the use of these terms, then, as the exponent of the collective body of diversified phenomena constituting the disease so called, and irrespective of their etymological or literal signification, their use should be strictly confined to the disease as it exists in the hemorrhoidal vessels alone.

The able and distinguished Professor Chaussier, a number of years ago, proposed an entire change in the nomenclature of the sanguineous vessels of the rectum and anus, demominated *hemorrhoidal* by the ancients. The name he proposed, although very ingenious and far preferable to the old one, will scarcely ever be adopted. (*Dissertation sur les Hémorroïdes, par J. B. Lavedan. Paris*, 1814.)

CHAPTER III.

DESCRIPTION AND DEFINITION.

After having in the preceding chapter pointed out some of the vague, erroneous, and conflicting opinions held and advocated by both the ancients and the moderns respecting the interpretation and the application of the word *hemorrhoids*, as well as respecting the nature and the causes of the disease to some extent, I will, without regard to the etymological and literal sense of the term, endeavor to explain what should, in my opinion, be understood by it.

In order, therefore, to arrive, if possible, at a more precise description and definition, by which the real nature and character of the disease may be the more readily understood and elucidated, I will now proceed to give a brief description of some of the most striking phenomena which present themselves during the incipient stage of the affection.

I. Description.—In giving a description of the origin and general characteristics of hemorrhoids, I will begin by stating that a preternatural fulness, or a decided turgescence of one or more of the hemorrhoidal vessels, especially of the veinules and venous capillaries, at the inferior extremity of the rectum, occurs sometimes, and is the first manifestation of a morbid action in them, provoked either in immediate or in remote parts, the primary cause of which is often hidden and difficult to ascertain—hence, it may or may not sometimes be discoverable. This vascular turgidity of the hemorrhoidal veins, but more especially of the arterial and venous capillaries of the rectum and anus, is the result, first, of a morbidly relaxed condition of their coats, by which the capacity of these vessels is increased, and second, by a sanguine fluxion to them, which preternaturally fills, distends, and enlarges them. The relaxed and asthenic condition of the walls of these vessels permits larger currents of blood to enter into their cavity than normal, the fluid being

attracted from its natural channel to these vessels, solely in consequence of the vacuum occasioned by their enlarged calibre, and not, as some believe, by the *vis à tergo*, regardless of the previous morbid condition of the parts themselves; for it is obvious that when the natural tonic contraction of these vessels obtains, less blood can enter into them than when this contraction is replaced by a morbid relaxation of their walls; of course more blood will enter into these vessels as the resistance offered by them is lessened, the blood always flowing in the direction of the least resistance. It will therefore appear evident that the morbid condition of the vessels must exist first, then the blood movement to them as a consequence of it, and lastly, the dilatation or turgescence of them, as the result of the sanguineous movement into them. The morbid relaxation of these vessels is the immediate effect of some continued irritation or excitation of their nerves, and which sooner or later induces inflammation, by exhausting that nervous influence which gives these vessels their strength and force. They thus become weakened, lose their contractile power, allow of over-distention, and finally fall into a state of congestion. The arterial and venous capillaries, especially, are from their structure capable of much greater dilatation and enlargement than either the arteries or the veins, having but a single homogeneous coat or membrane to resist undue force; whereas the arteries and the veins are better protected, for, besides such a coat, they have outside of it a layer of muscular fibres, and a third coat over these. The peripheral vessels, too, are very easily excited or irritated, and those undue stimuli, from whatever source, cause relaxation, soon followed by fluxion, hyperæmia, or congestion.

Now this afflux of the fluids to these vessels of the rectum and anus, as evinced by their turgescence, is not at all in consequence of any abnormal quantity *determined* to them from distant parts, as generally believed and taught, but a want of strength and power in the vessels themselves, to resist the natural impulse and tendency of the fluids in the immediate vicinity from entering into them, and there accumulating in undue quantities. For it may be observed that in fluxion, dilatation, hyperæmia, or congestion there will always be found a morbid relaxation of the vessels of the affected part, by which their capacity is increased, in proportion as their contractile power is diminished; and as a natural sequence, their circulation is retarded or sluggish, the blood being delayed in them and tending

to stasis; consequently, as before observed, it is not owing to an increased quantity of blood directed from a distance to the vessels of the part, but to the unresisting entrance of that which is already at hand, and which sooner or later accumulates to an abnormal extent in the morbid vessels. With especial regard to the capillaries, we know that, unless relaxed and enlarged by some efficient cause, they are too small to admit the red corpuscles of the blood into them; when morbidly relaxed, however, they are then traversed by a fluid differing essentially from that to which they naturally give passage. Indeed, the peripheral or minute vessels of the rectum and anus, in their normal state, give passage only to the uncolored or white corpuscles of the blood, and can scarcely be perceived, but when morbidly relaxed and turgid, they are often exceedingly and disproportionally large, and appear through their thin and almost transparent parietes as if filled with a colored artificial injection.

Inasmuch as the nerves have a great deal to do with the circulation, it is highly probable that the nerve filaments are first impressed, and then they in return influence the capillaries; as soon therefore as the delicate nerve filaments feel the exciting agent, the capillaries respond by becoming morbidly relaxed, and admitting into them abnormal quantities of extraneous fluids. For it may be repeated that it is through the nervous system that the primary cause of the hemorrhoidal disease, of whatever nature that may be, principally operates. The impression which results from the irritation or primary cause is transmitted to the nervous centres, which suspend the activity of that part of them which controls the tone of the vessels of the anal region; or, in other words, the primitive cause acts primarily upon the sensitive nerves of the part, exalting their activity and at the same time inhibiting or suspending their tonic influence from the affected vessels, and consequently causing relaxation of their walls, which is ultimately followed by fluxion, and then by dilatation of their calibre. It is a fact well known that when vaso-dilating nerves are irritated, they not only produce dilatation of the vessels, but sooner or later alter the structure of such, and render exudation from them extremely liable.

The dilatation or enlargement of the hemorrhoidal vessels encroaches upon the cellular membrane and integument which surround them, and which, sooner or later, produces a morbid action in them also.

The sanguine fluxion to, and the undue fulness of, the vessels of the inferior extremity of the rectum do, at an early stage, sometimes disappear spontaneously, together with the cause which produced them, without either passive hemorrhage, hyperæmia, or inflammation, thus evincing the fact that the morbid condition of these vessels may, at an early period, be speedily terminated in the restoration of the natural current. Should this favorable termination, however, not be realized, and the sanguine fluxion and turgescence still continue to persist, they sooner or later result in hyperæmia, congestion, or inflammation, and ultimately in the extravasation of the fluid contents of the vessels into the submucous cellular tissue, which deposit soon, if not absorbed or otherwise disposed of, assumes an organized form there. Should the activity of the nerves, veins, and capillaries continue to increase, a much more copious extravasation into the connecting tissue will take place, part of the serum and also of the red blood penetrate through the turgid and expanded walls of these vessels, either by rupture, exudation, or exhalation, and form the nucleus and lay the foundation there for subsequent organized hemorrhoidal tumors. In the subsequent course of the affection, new vascular branches are formed and spring up in the cellular tissue, which is the principal seat outside of the old and original vessels for the development of new ones.

From the foregoing premises I therefore hold that a morbid relaxation, from whatever cause produced, of the hemorrhoidal veins and capillaries, both arterial and venous, to be alone sufficient for the explanation of the phenomena of the hemorrhoidal disease.

It will be perceived that the principle which I havy endeavored to explain in the preceding does not differ materially from the long-established theory—that whenever a stimulating substance is applied to any part of the body, either externally or internally, a sense of irritation is first experienced at the part itself, and then an increased afflux of blood takes place to the vessels of the same. This fluxion, or blood movement, is in accordance with the old acknowledged axiom—"*ubi stimulus, ibi irritatio; ubi irritatio, ibi fluxus.*"

In hemorrhoids, then, there is first an irritation or an excitation provoked by some stimulating cause, either in the immediate or in some remote part; this irritant, whatever or wherever it may be,

whether in the blood itself, as Hippocrates declares (*De Hæmorrhoïdibus Liber*), or not, produces a state of morbid relaxation of one or more of the veins or capillaries of the inferior extremity of the rectum, and is immediately followed by a sanguine or a serous fluxion to the same, being always attended by more or less turgescence, and sometimes by a passive hemorrhage. The arterial and venous capillaries, instead of the arteries and the veins, are the vessels that become dilated and turgid in the primary stage of hemorrhoids. At this early stage, the simple dilatation or turgescence of these vessels can scarcely be considerd varices, inasmuch as by firm pressure they may be completely emptied of their fluid contents; on the contrary, however, in real varices, or varicose vessels, their walls as well as their contents have undergone more or less organic changes by inflammation, and consequently do not yield so readily to pressure. When the sanguine fluxion and turgescence are fairly established, the condition may be regarded as the first form of hyperæmia. There is now experienced a sensation of tension, of weight, and of pain or of uneasinesss in the affected part, in consequence of the over-distention of the vessels, around which are entwined the most delicate nerves. These phenomena are rapidly followed by increased tumefaction and sensibility of the same part, evincing that already a deterioration of the capillaries and an alteration of tissue have occurred; so that there is now no longer any doubt but that a complete change has taken place, from a physiological to a pathological state; that the Rubicon has been fairly passed, and the confines of disease entered.

II. Definition.—Galen says that, anterior to the time of Hippocrates, physicians wrote little and defined nothing. (*De Finitiones Medicæ Liber*). It may well be remarked that, so far as hemorrhoids are concerned, the disease has never been correctly defined.

I have already shown that the ancients only recognized the hemorrhoidal disease from the hemorrhage, or from the tumors by which it was frequently accompanied. The disease of the hemorrhoidal vessels was not at all considered by them in their descriptions of it. I have looked among the numerous productions on hemorrhoids, published in modern times, for a definition founded upon the morbid state of the hemorrhoidal vessels, and only find three English authors who take this very correct view of the nature

of hemorhoids. Mr. Ware says: "By the term *Hemorrhoids*, or *Piles*, is generally understood a morbid state of the blood-vessels that are situated in the internal surface of the Intestinum Rectum, near the termination of this gut in the aperture of the anus." (*Chirurgical Observations, 2d Edit., Vol.* 1, *p.* 481, 8*vo*, *London*, 1805). Mr. Calvert says that: "I shall define the term *hemorrhoids* to be a morbid state of the vessels of the rectum and anus, with pain, tension, etc., accompanied or followed by the formation of tumors in those parts, and a flow of blood frequently periodical." (*A Practical Treatise on Hemorrhoids and other Important Diseases of the Rectum and Anus, p.* 7, 8*vo*, *London*, 1824). Mr. Gay says: "But what are hemorrhoids or piles? Perhaps this question should have been answered before. I will, then, just state that piles, or rather hemorrhoids, which is the better term for my purpose, may be taken generically to include all forms of dilatation affecting hemorrhoidal veins, especially such as are liable to become permanent by structural changes in their coats, and are, as I shall endeavor to show, in conformity with like tendencies in homologous veins in other parts of the body." (*On Hemorrhoidal Disorder, p.* 10, 8*vo*, *London*, 1882.)

It will be perceived that these authors had a just conception of what constituted the hemorrhoidal disease. The morbid condition, however, of the hemorrhoidal vessels, of which they speak, I hold, consists in their unnatural laxity previous to their dilatation.

By consulting the writings of both the ancients and the moderns, it will be observed that a blood movement to the vessels of the inferior extremity of the rectum plays a very important part in the pathogeny of hemorrhoids. The physicians of antiquity, in order to define or to explain the existence of hemorrhoids, never failed, when no other cause could be evoked, to attribute them to a vague and undefined hemorrhoidal fluxion. At a much later epoch, however, the celebrated Stahl and his school plainly taught the reality of a fluxionary movement to the rectum in the production of hemorrhoids. But no writer of either ancient or of modern times has shed so much light upon this particular point, and attached so much importance to this fluxionary movement, as has the able and learned M. De Montègre, who positively declares that this sanguine fluxion to the inferior end of the rectum is in reality the hemorrhoidal affection itself, as I will now proceed to show. He says,

"There is but one constant symptom of hemorrhoids, and that is a tension, a more or less painful weight of the anus and surrounding parts produced by the fluxion which is formed there. This fluxion is the essential affection, all the rest should be considered as only accessory or accidental." (*Op. cit., p.* 5.) De Montègre further says: "The importance or the intensity of the fluxion gives more or less force and obviousness to the phenomena which may render it sensible. I have just described these phenomena when the affection is slight, but when it is very pronounced, it is announced by general signs, and is composed of an ensemble of symptoms which the venerable author of the Philosophical Nosography has traced with great exactness, as follows: "*Slight horripilation of the back and loins, sometimes torpor of the inferior extremities; pulse hard and contracted; visage pale; eyes encircled and leaden; dryness of the interior of the mouth; urine scanty and discolored; debility of the stomach; flatulence of the intestines; frequent desire to urinate and to defecate; a sensation of a kind of pressure from the anus to the perineum, sometimes with a flow of white mucus.*" (*Nosographie Philosophique, 5th Edit., Tome II., Sec.* 1,113, 8*vo*, *Paris*, 1802.) "In this enumeration," says M. De Montègre, "will be recognized all the symptoms of a grand fluxionary movement, and it is this in reality which constitutes, properly speaking, the hemorrhoidal affection." (*Op. cit., p.* 6.) M. De Montègre still continues: "Considering, therefore, this affection independently of the accidents it induces, we understand by the word *hemorrhoids* only a sanguine fluxion at the extremity of the rectum, and we shall treat separately all the varieties of accidents which are the more or less natural result of this fluxion." (*Op. cit., p.* 7.)

I have quoted M. De Montègre liberally upon this subject, and have given a faithful translation of his words, from all of which it will be perceived that he plainly maintains that the sanguine fluxion to the end of the rectum, as expressed by the word *hemorrhoids*, is itself the essential or substantive affection, because it is present in every case, whilst the hemorrhage and the tumors, if either one or both exist, are not the hemorrhoidal affection, but are merely the consequences of it, and are to be considered as only accessory, accidental, or as a more or less direct result of it.

Now, this grand fluxionary movement of the blood to the end of the rectum, as M. De Montègre expresses it, and which he so plainly

defines and so forcibly affirms to be the real hemorrhoidal affection itself, I have already shown to be the mere result or effect of the morbidly relaxed state of the walls of the hemorrhoidal vessels themselves. I therefore maintain that this morbidly relaxed condition of the walls of the hemorrhoidal veins and capillaries, both arterial and venous, and which in reality constitutes the hemorrhoidal disease itself, must of necessity first exist before the sanguine fluxion can take place; hence this sanguine fluxion or blood movement can no more be considered the primitive, the essential, or the substantive affection or disease than can be the hemorrhage, or the tumors, or both combined, for the sanguine fluxion, the hemorrhage, and the tumors are each and all the direct result of the morbid condition of the blood-vessels themselves, and each owes its existence to or springs from the same primitive source. Instead, therefore, of the sanguine fluxion being the real affection itself, as M. De Montègre has it, it is merely the first manifestation of the affection, and like the hemorrhage and the tumors, it is only a symptom or an evidence of it, and inasmuch as it is always present in hemorrhoids, it may with great propriety be considered the pathognomonic sign of that disease, but not the disease itself.

I have now shown that the disease denominated *hemorrhoids* is nothing more nor léss than a disease of the hemorrhoidal vessels, especially of the arterial and venous capillaries, and that this in reality is the substantive disease, regardless of the cause or causes which produced it; and I have also shown that authors, entirely ignoring this fundamental fact, have presented merely the symptoms, the effects, or the complications of hemorrhoids, namely, the sanguine fluxion, the vascular dilatation or turgescence, the bleeding, or the tumors themselves, as the essential or substantive disease.

CHAPTER IV.

SYMPTOMATOLOGY.

The hemorrhoidal disease is usually ushered in by a feeling of general lassitude, accompanied by a peculiar stinging, pricking, or itching sensation at the anus, together with an uneasy or painful sense of fulness, weight, and tension about the sacrum, the inferior extremity of the rectum, and in the perineum. When these symptoms are complained of for a short time, if the inferior third of the rectum be now examined, some of the hemorrhoidal vessels will be found turgid, and the adjacent parts swollen, red, and hot, as in inflammation. These symptoms supervene gradually, are at their height in twenty-four or thirty-six hours, and remain more or less troublesome for three or four days, and then gradually subside, either with or without a bloody, a serous, or a sero-mucous discharge. In some instances, however, the patient experiences nothing unusual about the anal region or elsewhere, but unexpectedly, on a certain occasion, when evacuating his bowels, he will observe for the first time that he has passed more or less blood. Such cases are not frequent, however, but they do sometimes occur, as I myself have observed on several occasions. The celebrated Frank cites an extraordinary case of a somewhat similar character. He says: "A young man, well organized, passed during his sleep such a quantity of blood by the anus that, when he awoke he was in a manner swimming in it, and as he was ignorant of the character of this affection, it was impossible for him to indicate whence he had lost so much blood, the appearance of which very much alarmed him, although he was not in the least weakened by it. (*De Curandis Hominum Morbis Epitome, Tome V., Sec.* 621, 8*vo*, *Mannheimi*, 1792.)

In describing the hemorrhoidal diseaae in the preceding chapter, so much has been said upon the early symptoms or manifestations of it that it leaves but little more to be said upon this particular

point, especially when including the symptomatology of M. Pinel, already given, who so very accurately portrays the hemorrhoidal seizure by enumerating some of the general or constitutional symptoms which sometimes attend the commencement of the attack.

The symptoms I have thus far enumerated are, as a general rule, those which indicate the incipient or mild form of the disease before the accessory phenomena have been developed, that is, before persistent hemorrhage, hyperæmia, congestion, and the extravasation of the fluids into the cellular tissue have taken place, and before regularly organized tumors have formed. Now, the proximate cause of the phenomena as manifested in the primary form of the disease is evidently the sudden afflux of the blood into one or more of the hemorrhoidal vessels, especially the arterial and venous capillaries, which from some previous exciting cause, either local or general, have become morbidly relaxed, so as to permit into them, without the power of resistance, undue quantities of the fluids attracted to them in consequence of the vacuum occasioned by their relaxed and enlarged calibre, thus producing a preternatural fulness, and a painful distention of their delicate and highly sensitive parietes, the pain being increased in proportion to the decided expansion and tension of the vessels, and differing according to the degree of irritability and sensibility of the part affected, whether within the anal orifice or immediately without, and sometimes consisting in the sense of tickling, itching, prickling, and, at other times, of tearing, burning, or stabbing.

Should the first attack of hemorrhoids be prolonged, or, if of short duration, it should be renewed, as after a greater or less interval it generally is; then other and more aggravated symptoms will be superadded, indicative of hyperæmia, congestion, etc., such as a feeling of increased weight in the loins, hips, and groins, dull throbbing pain in the rectum, swelling and enlargement of the parts, with increased heat, tenesmus, a bloody, a mucous, or a sero-mucous discharge, and sometimes frequent and painful micturition. Organized tumors of various sizes and aspect begin now to appear within the anal canal, or around its orifice, and are protruded at each evacuation of the bowels. When making the expulsive efforts to evacuate, blood may sometimes be seen expelled from these tumors in jets through small apertures, or exhaled from their surface n drops. They are sometimes dry or moistened with a whitish

serum. They are often greatly aggravated by the pressure of the anal sphincters, and sometimes, when protruded, they become strangulated, causing terrible suffering, and setting up no little sympathetic disturbance in all the contiguous parts.

A distressing tenesmus sometimes attends the hemorrhoidal attack, and, if tumors exist, causes them to protrude and makes their return most difficult, as well as prevents their retention, even should they be returned.

When the disease is suffered to progress for a length of time, and has become completely established, and especially if attended by considerable bleeding at each evacuation of the bowels, some of the following symptoms will manifest themselves: transient fever, hot skin, hard pulse, rigors, weight and pain in the forehead, vertigo, obstinate constipation, abdominal meteorism, precordial anxiety, stricture of the epigastrium, loss of strength, marasmus, pallor, dinginess of the skin below the eyes, hurried respiration, palpitation of the heart, rigidity with occasional spasm of the extremities, blanched appearance of the lips, swelling of the face, hands, and feet, dropsy, involuntary protrusion of the hemorrhoidal tumors, etc.

In consequence of the general or constitutional symptoms which more or less attend hemorrhoids, some authors consider them purely constitutional, being symptomatic merely of some other disease or diseases; others consider them purely local, the constitutional or general symptoms being produced by the local disease only, while others again consider them to be both, that is, sometimes one and sometimes the other.

It must be admitted, however, by all careful observers of the disease, as well as by those who have experienced it in their own persons, that it is a disease which is sometimes produced by local and sometimes by general or constitutional causes, and that it almost always manifests itself by local and by general or constitutional symptoms. But independently of the causes, whether local or general, which produce it, or the symptoms, whether local or general, by which it manifests itself, it seems incontestably to be seated in the capillary system, and is essentially a disease of those minute vessels; hence, primarily, a local affection, and its constitutional phenomena are, as a general rule, secondary results. I consider the local phenomena in some instances to be the result of an hemorrhoidal diathesis or a constitutional disturbance which very often

cannot well be accounted for; but in the majority of instances the local disease is not symptomatic of any other malady. Acute or chronic rectitis produces some of the same local and constitutional symptoms which are manifested by hemorrhoids. Is it therefore a constitutional disease? Is it not purely local, giving rise merely to some general or constitutional symptoms which have reference solely to the local affection of the rectum?

The celebrated Cullen says that the connection of the hemorrhoidal flux with the general state of the system is a rare occurrence; that the disease first appears as an affection purely local, and that allowing it to become habitual is never proper. He calls it a topical affection. (*Lectures on the Practice of Physic, Vol. III., p.* 485, *et seq.*, 4*to*, *Edinburgh*, 1812.)

Mr. Calvert attributes the constitutional symptoms or phenomena presented by hemorrhoids to the influence of the local portion of the complaint. (*Op. cit., p.* 9.)

M. De Montègre, who makes the hemorrhoidal affection to consist solely of a sanguine fluxion to the vessels of the rectum, as has already been shown, says that this determination or blood movement to the rectum is antecedent or preparatory to the local demonstration or affection in it, and not symptomatic of it. (*Op. cit., p.* 6.) I do not concur with M. De Montègre in this view of the subject, but, on the contrary, maintain that the morbid condition of the hemorrhoidal vessels, the real substantative disease itself, is first produced, and is then followed by the sanguine fluxion, not as a cause, but as a consequence of it. I would therefore again repeat that this blood movement is merely the distinctive primary symptom or pathognomonic sign of the local disease of the blood-vessels of the rectum, but not the disease itself, for this exists in these vessels before the sanguine fluxion reaches them.

CHAPTER V.

ETIOLOGY.

The causes of hemorrhoids, it may be said, are almost innumerable, and they are as various as they are numerous; so that to copy and to comment upon all those which have been presented by authors generally, would fill many pages. M. De Montègre, in his excellent treatise on hemorrhoids, devotes twenty-nine and a half pages to their consideration (*p.* 72 *et seq.*). His Etiological Chart is the most complete and precise I have seen.

It is extremely difficult sometimes to trace the causes of a disease and their *modus operandi*. It is particularly so with regard to hemorrhoids, in which the causes are multifarious, and the production of the disease is more or less influenced by every change in the constitution. Indeed, in some cases no cause whatever can be assigned for it. It is, however, highly important that the *fons* and *origo* of every case of hemorrhoids should, if possible, be known; for such knowledge, of course, enables us to treat the disease more rationally, and also, if possible, to avoid it. I will therefore give a large number of the principal causes which have been named by eminent authorities, both ancient and modern.

The causes of hemorrhoids may be distinguished into *predisposing* or antecedent, and into *exciting* or efficient. This division I consider sufficiently explicit and convenient for all practical purposes.

I.—PREDISPOSING OR ANTECEDENT CAUSES.

The *modus operandi* of the predisposing causes of hemorrhoids may be said to be general; occasionally, however, it seems fixed or permanent; that is, it acts without cessation in such a manner as to render the disease habitual or constitutional.

Among the predisposing causes the following may be named: 1. The organic structure of the parts; 2. Hereditary predisposition;

3. Temperament or physical constitution; 4. Climate; 5. Season; 6. Age; 7. Sex; 8. Customs and habits of life; 9. Morbid condition of the digestive organs; 10. Pregnancy and the puerperal state; 11. Suppression of hemorrhages in other parts.

1. *The Organic Structure of the Parts.* Many authors have named among the predisposing causes of hemorrhoids the absence of valves in the veins of the portal system; their peculiar dependent situation, together with the contraction of the muscular coat of the rectum, which prevents the free ascent of the blood. These several causes may, under certain circumstances, give rise to vascular turgescence, hyperæmia, congestion, hemorrhage, and to hemorrhoidal tumors. Some authors even go so far as to declare that these are the principal causes of the affection.

From the anatomy of the rectum we learn the dependent position of the veins of its inferior extremity, their comparatively large size, the little support they receive from the loose cellular membrane of the anal region, and their entire destitution of valves. The blood gravitates to the rectum whenever the body is erect, so that under the most favorable circumstances these veins are exposed to more strain and pressure than any others of the body. In consequence of their want of valves, the whole weight of the column of blood in them reaches from the liver, or the heart, without any interruption downward. The main channel again, for the return of the blood from the bowels, is through the liver; and it is scarcely necessary to observe that every disturbance of the functions of that organ acts as an impediment to the passage of the blood through it, and tends in the same degree to increase turgescence and congestion of the vessels of the rectum. Morgagni says that "Without doubt it is not easy for the blood in the internal hemorrhoidal vein to pass through a very indurated liver; but why does it not stagnate equally in the other veins of the rectum, which go to the trunk of the vena portarum? The reason of this is the great length, peculiar to the internal hemorrhoidal vein, in comparison to the other veins of the parts; hence it is much more difficult for the blood to be carried upwards from this vein than from the others, especially as the human body requires it, which without doubt is one of the reasons why other animals are not subject to hemorrhoids" (*op. cit., Lib. III., Epist. xxxii., Art.* 10). These several circumstances, therefore, dispose those vessels to become dilated and gorged with

fluids from the slightest exciting causes, and thus lay the foundation of this troublesome and painful disease.

I would remark that the explanation of these causes is probably too mechanical to be strictly and entirely correct. It tends too much to limit the resources of nature within the bounds of our own deficient comprehension. If the explanation is strictly true, then it would seem that nature had made us very defective in the organization of those parts. But many authors contend that nature has constructed the parts so, in order to effect a certain purpose, that is, to act, under certain circumstances, as a safety-valve for the protection and security of the whole body. These predisposing causes, in my opinion, however, only manifest themselves in the morbid condition of the parts; they do not operate in the production of the disease in question when the parts are in their normal state. Nature never constructed these parts for the purpose of producing hemorrhoids; she only made them as she did all other parts of the body, normal, but more or less subject to or susceptible of disease.

The abnormal development of the hemorrhoidal veins, which sometimes exists, is obviously more liable or more favorable to a varicose condition of them, or to the hemorrhoidal disease, when exposed to the efficient causes, than if normal. Such a preternatural conformation of the venous system of the rectum and anus lacks but one step to the formation of varices, and then another to the development of hemorrhoidal tumors.

I might here remark that the same cause or causes which produce varicose veins of the legs, produce varices of the hemorrhoidal veins.

2. *Hereditary Predisposition.* The hereditary tendency to hemorrhoids is often traceable at an early age. I have seen children of hemorrhoidal descent whose ages varied from five to ten years, who either had the disease in its earliest stage, that of turgidity simply, without regularly organized tumors, or who presented strong evidences of it in having a preternatural development of the hemorrhoidal veins, thus proving the early manifestation of the hereditary predisposition.

It is a fact which cannot be controverted that a similarity of conformation of the parts, favorable to the development of the disease, may be transmitted from father to son, and which may contribute indirectly to the production of hemorrhoids, by favoring the opera-

tion of any exciting causes that might at any time arise or exist. Whether there is or is not, however, a general predisposition inherited, independently of the particular structure of the parts, is a question I am not so well prepared to answer.

The hereditary predispositon to hemorrhoids is a fact established beyond all doubt. In confirmation of it, I could give numerous examples by authors both ancient and modern. I know a family in Brooklyn, N. Y., in which the father and five children have hemorrhoids; one of the children under twelve years of age, the father himself having had the disease when he was fifteen years old. M. De Larroque says he has seen a whole family, consisting of eight or nine persons, both men and women, who suffered more or less from hemorrhoids. (*Traité des Hémorrhoids, p.* 13, 8*vo*, *Paris*, 1812.) Alberti gives numerous examples of the hereditability of the disposition to hemorrhoids. (*Dissertatio de Hæmorrhoïdibus Hæreditariis. Halæ*, 1727.) Hollerius also gives instances of the hereditary transmissibility of the hemorrhoidal disease. (*De Morbis Internis, Lib. I., Cap.* 55, 4*to*, *Genevæ*, 1635.)

3. *Temperament or Physical Constitution.* It is conceded, for obvious reasons, that the sanguineo-bilious and the sanguineo-melancholic or atrabilious temperaments are those which most predispose to the hemorrhoidal disease. The celebrated Stahl says: "Subjectis accidere solet facilius hic fluxus, sanguineo-cholericis et sanguineo-melancholicis plethorâ affectis." (*Dissertatio de Hæmorrhoïdum internarum motu et ileo hæmatite, Hippocratis. Halæ*, 1722.) De Larroque is of opinion that hemorrhoids are more frequent and more intense in the south of France than at Paris, which he attributes to the bilious or choleric constitution of the inhabitants, and to the excessive use of exciting or stimulating aliments. (*Op. cit.*) With regard to this opinion of M. De Larroque, M. De Montègre says that: "I do not know to what extent this opinion may be correct and well founded, but it is at least certain that I have seen persons who have resided for a long time in the south of France without suffering from hemorrhoids, and afterwards cruelly tormented with them at Paris." (*Op. cit., p.* 76.) Of the natural constitution of man, the bilio-sanguine is, according to my experience, the most exposed to hemorrhoids.

4. *Climate.* That climate exerts more or less influence in producing disease, in removing it, in warding it off, or in modify-

ing it, is a fact well established. The great Baglivi, nearly two centuries ago, gives a striking instance of the sudden effect of a change of climate. He says, "I have frequently observed of one of my intimate friends at Rome that, as long as he resided in the kingdom of Naples, or in its immediate vicinity, he was at once attacked with sciatica and with hemorrhoids, which were rebellious to every remedy there; but just as soon as he quitted the country and arrived at Terracine or at Rome he was cured of both." (*Praxis Medicinæ, Lib. II., Cap.* 10, *Sec.*, 4, 8*vo. Lugduni*, 1704.)

That climate exerts a predisposing influence in the production of hemorrhoids there can be no doubt whatever; but to what extent, and in what particular manner this predisposition is exerted by it, is not so well understood; neither is it easy to determine in what climate or country this influence is most exerted, or in which the hemorrhoidal disease most abounds, as in our time there are scarcely any data on the subject. According to my own experience, it is in the southern and southwestern parts of the United States in which the disease prevails to the greatest extent.

Schulzius, in his time, observed that in Poland nearly all the inhabitants suffered from hemorrhoids, especially in Lithuania, where four-fifths at least of the population, without regard to age or sex, were affected with them. (*Kurze Nachricht einiger besonder. Zufälle sowohl einheim. als ander. Krankh. in Polen, S.* 25.) Bœrhaave states that in Greece and in all Asia hemorrhoids were as common as were the catamenia. He attributed this state to the constipation which affected all those people. (*Prælectiones Academicæ de Morbis Nervorum.* 8*vo. Lugduno-Batovarum*, 1761.) Fonseca says that the inhabitants of Venice, of Padua, and the surrounding countries, were much subject to the hemorrhoidal affection. (*Consultationes Medicæ singularibus Remediis, etc., Tome I. Consult.* 27. 12*mo. Francofortie ad Mœnum*, 1625.) Stahl remarks that the citizens of Hamburg, in his time, were great sufferers from hemorrhoids, where the disease prevailed extensively. (*Dissertatio de motu sanguinis Hæmorrhoïdali et Hæmorrhoïdibus externis. Cap. VII., Halæ*, 1722.) Wedel says that hemorrhoids prevailed to a great extent in the city of Frankfort. (*Dissertatio de Hæmorrhoïdibus. Jenæ*, 1727.) The celebrated German Professor Hildebrandt declared that in Germany the blind or closed hemor-

rhoids (*non fluentes vel cæcæ*) were particularly very common. (*Dissertatio de Hæmorrhoïdibus cæcis.*)

It is well known that in Germany, at this time, and also in England, the hemorrhoidal affection is extremely common, not owing so much, however, to the climate, as perhaps to the peculiar customs and habits of the people of these two countries.

The largest number of authors are of opinion that warm climates dispose most to the development of the hemorrhoidal disease. M. De Montègre believed that they operated by inducing the bilious constitution which is generally associated with this disease. (*Op. cit. p.* 75.) This is no doubt true, especially with regard to those who leave the north, and reside for several consecutive years in a southern climate—such are extremely liable, sooner or later, to be afflicted with hemorrhoids. I have, however, been much surprised at the large number in the northern portion of the United States who suffer from this disease. It is ascribed by some to the very severe and sudden changes of temperature, varying often in the same day to the extremes of cold and heat; and attributable to the accumulation of the blood in the internal organs, when the surface of the body, which has been heated, becomes rapidly chilled by the sudden reduction of temperature. The nature and the temperature of the atmosphere, it is evident, have no inconsiderable influence, in combination with other causes, in the production of hemorrhoids; but I am of opinion that this influence bears no comparison to the circumstances with which it is connected—namely, the peculiar character of the food of which the inhabitants of the different nations or parts of country partake, and the peculiar manners, customs, habits, and passions of the mind, to which they are subjected. To these circumstances, doubtless more than to climatorial agency, is this disease often indebted for its great prevalence in certain countries.

5. *The Season.* The spring of the year is the period considered most favorable for the development of the hemorrhoidal affection, for it is during this season that the mass of the blood is always increased in consequence of the secretions during the winter having been diminished; and the absorption of caloric, it is well known, expands the blood. At this delightful season, too, the whole phenomena of life are most active. It is said by some authors that the hemorrhoidal flux is more apt to occur when the north winds

prevail at this season; others say that it is more likely to take place during the solstices and the equinoxes. I am, however, neither prepared to confirm nor to deny this.

6. *Age.* The influence of age is more satisfactorily accounted for. Hemorrhoids generally pertain to middle and advanced life. Mature age, however, is that in which the hemorrhoidal disease more especially manifests itself. It is at this epoch of life that the inferior extremity of the rectum is peculiarly susceptible to sanguineous engorgements, in consequence of the venous system being then fully developed, and the circulation less rapid. The bilious temperament and the depressing passions pertain for the most part also to this age. In early life the head and the chest are the parts of the system that are more subject to vascular repletion than the abdomen. In upwards of ten thousand cases which came under my own immediate and special inspection and treatment, in a practice of forty-five years, I ascertained to a certainty that, in three-fourths of them, the disease manifested itself between the ages of thirty and fifty.

Females at a certain age are for obvious reasons very liable to suffer from hemorrhoids; namely, at the menopause which generally commences between the ages of forty and forty-five.

Whether children of tender years are obnoxious to the hemorrhoidal disease is a mooted question; some authorities affirming and others denying that they are. So far, however, as my own experience goes, I have seen fifteen marked cases, all of which were under twelve years of age, nine of these were boys and six were girls. In these cases, the disease seemed as it were in its incipient stage, being attended only by a decided turgescence of some of the hemorrhoidal vessels, and in most of them with more or less pain, and slight hemorrhage at each evacuation of the bowels; but none of them presented any regularly organized hemorrhoidal tumors. In some of these cases the hereditary predisposition to the disease was very evident. In my opinion, children under twelve years of age, as a general rule, never have hemorrhoids in the form of organized tumors. They may and do sometimes have circum-anal growths, vegetations, or excressences, but these are not hemorrhoids.

Dr. Bushe observed the hemorrhoidal disease in a boy five years old, and in a girl between six and seven. (*Op. cit.*, *p.* 167.) Mr. Holmes says that hemorrhoids hardly ever occur at an early age,

although mucous tubercle is, of course, common enough. Neither mucous tubercle, however, nor condyloma can be properly called a disease of the rectum. He further says in a note, "I had written that hemorrhoids *never* occur at an early age, and such I see is the experience of M. Guersant." (*The Surgical Treatment of the Diseases of Infancy and Childhood*, *p.* 573, *imp.* 8*vo*, *Philadelphia*, 1869.) Mr. Forster says that hemorrhoids do occur in children, though very seldom. (*Surgical Diseases of Children*, *p.* 89, 8*vo*, *London*, 1860.) De Montègre says that "children of tender years present examples of hemorrhoids, although Hippocrates may have declared that such fact scarcely ever occurred." (*Op. cit.*, *p.* 79.) M. Lannelongue has seen two cases of hemorrhoids in very young children. (*L'article Hémorrhoïdes*, in *Dictionnaire de Jaccoud.*) Trunka cites the examples of thirty-nine children, below the age of fifteen years, who were affected with hemorrhoids. Of this number thirty-three were less than nine years old; eighteen were less than five years old, and five were less than one year old. (Op. cit.) Alberti also declares that children are liable to hemorrhoids. (*Dissertatio de Hæmorrhoïdibus juniorum. Halæ*, 1727.) De Haen, on the contrary, however, positively denied that children were ever subject to hemorrhoids, and declares that what had been taken for hemorrhoids in children by surgeons were mere swellings of the mucous membrane of the rectum, the prolongation of which being grasped and compressed by the anal sphincter formed the folds which deceived observers. (*Op. cit.*)

I would observe here that some authors seem to have no idea of the hemorrhoidal disease unless it is attended by either hemorrhage or organized tumors; but the disease in the adult, as well as in the infant, can exist without either hemorrhage or organized tumors; for these do not constitute the disease, but are, when they do occur, the mere symptoms, signs, or accessories of it, as I have already shown.

7. *Sex.* Men are doubtless much more liable to, and much more frequently the subjects of the hemorrhoidal disease than the other sex; and this is in accordance with what I have myself witnessed. It is a question, however, concerning which there has been considerable diversity of opinion. The celebrated Stahl, with his numerous disciples, maintained that the male sex is much more frequently affected with hemorrhoids than the female; and this would seem to

be in accordance with what, physiologically speaking, might be expected; for the menstrual discharge peculiar to the latter would appear to be sufficient, so long as it continues to completely relieve the system of any superflous blood. Many eminent medical men, however, are of opinion that females are much more liable to this affection than males. The illustrious Cullen was one who entertained this opinion. (Op. cit.) Be this as it may, there is one thing certain, and that is that females at two periods of their lives are more liable to hemorrhoids than males; namely, during gestation and at the menopause. In this latter case, the frequency of this disease may be attributed to the change that has taken place from the suspension of an important function: in the former case, to causes that act mechanically, and whose operation is evident; namely, to the pressure in part of the enlarged uterus, in advanced pregnancy, against the blood-vessels. It is by no means unusual for females to have at each menstrual period an attack of hemorrhoids, both coming on simultaneously and both subsiding together in a few days. I have seen cases in which the menses had ceased for several months, and the patient during the time had regular periodical bleeding from hemorrhoids, which for the time being appeared to be a complete substitute for the catamenia. Alberti mentions several such cases. (*Dissertatio de Hæmorrhoïdibus juniorum, Sec.* 4, *et de Hæmorrhoïdibus fœminarum, Halæ*, 1717.)

Sometimes the menstrual flow and the hemorrhoidal regularly alternate with each other. Sennertus says that he saw a woman of a sanguine temperament, but hypochondriac, who experienced a hemorrhoidal flow every month, on the fourteenth day after her menstruation. (*Praxis Medicæ, Lib. III., Par. II., Sec.* 1, *Cap.* 10, *folio. Wittebergæ*, 1650.) Dolæus mentions the case of a young princess of Nassau, whose menstruation occurred at all the epochs of the new moon, whilst the hemorrhoidal flow occurred at the full moon. (*Encyclopædia Medicinæ Theoretico-Practicæ, Lib. III., Cap.* 10, *Sec.* 1, 4*to. Francofurtie*, 1684.) De Montègre says that Fernel relates that the young queen of France, Léonor, was affected with hemorrhoids which alternated in the same month with the menstrual evacuation. (*Op. cit., p.* 67.) Garmann cites the case of a woman about fifty years of age, in whom the menstrual flow happened at every full moon, and the hemorrhoidal flow appeared at every new moon. (*De Fluxu Hæmorrhoidale. In Miscellanæa*

Curioso sive ephem. Acad. Natur. Curiosor. decir. 1, *ann.* 4, *Anolect. p.* 299.)

These authors by the use of the word *hemorrhoids* mean hemorrhoidal bleeding or flux. This distinction must not be forgotten.

M. De Montègre (*op. cit., p.* 80) says that Hippocrates places hemorrhoids among the diseases as proper or peculiar to the male sex when he says, "Viris autem intestinorum difficultates, et alvi profluvia, febres algidæ, et hybernæ diuturnæ, pustulæ multæ nocturnæ epinyctides dictæ, et sanguinis profluvia per ora venarum quæ in ano sunt hæmorrhoïdes vocatur." (*De Aëre, Locis et Aquis, Liber.—Hippocratis Opera Omnia, Græcè et Latinè, ab Anutio Fæsi. Tome* 1, *p.* 280, *folio, Genevæ*, 1657.) From this language and its context, I cannot perceive, as M. De Montègre does, that Hippocrates places hemorrhoids among the diseases proper or peculiar to the male sex in general. He means that the men in the locality, and under the peculiar circumstances which he was relating, were more subject to hemorrhoids and some other diseases there, than the women were in the same locality, and under the same conditions. Hippocrates simply means that the air, the water, and other circumstances of the locality of which he was speaking affected the sexes differently. Smellie says that women are more subject to hemorrhoids than men. (*A Treatise on the Theory and Practice of Midwifery, Vol.* 1, *p.* 123, *8vo, London*, 1779.) Morgagni says that men are more subject to hemorrhoids than women; for in the former there are no passages for the superfluous blood to be conveniently thrown off, as there are in women. (*Op. cit., Lib. II., Epist. XXXII., Art. II.*)

8. *The Customs and Habits of Life.* It is well known that the peculiar manners, customs, or habits of a people, even more than the climate in which they live, exert great influence in predisposing them to disease. As to the hemorrhoidal disease, it is obvious that sedentary habits, conjoined to free living, tend more or less to plethora and to hemorrhoids. They are unquestionably a prolific source of that affection. Inactive life and luxurious nourishment sooner or later bring on a train of diseases or find some outlet for the superabundant fluids. Gout and hemorrhoids are the common attendants on this condition of things. Hence the hemorrhoidal disease is much more common in the higher classes of society, owing to their free living and sedentary habits. They generally take but little

exercise, and consequently are more liable to constipation of the bowels. The lower classes live on simple diet, and take much exercise in the open air. Indeed, according to my experience, I have always found that the hemorrhoidal disease was much more common among city and town than among country inhabitants, doubtless owing to the fact that with the former mental labor is the regular duty, and corporeal exertion only the occasional relaxation. It is not unusual to meet with persons who have lived an active life to advanced age, without in the least experiencing the hemorrhoidal disease; but who, when suddenly retiring from all active pursuits and enjoying repose, are attacked with it.

It is a very common opinion among authors that hemorrhoids are always the necessary result of luxurious and intemperate living, or a full and gross or plethoric habit of body. I have, however, almost as often seen the most temperate and the most abstemious livers severely afflicted with them. In such, the disease is evidently induced by general debility and sedentary occupations. I do not believe that hemorrhoids, as a general rule, are caused by plethora, as maintained by high authority, for it is well known that the disease occurs in early life, and before the period at which a venous plethora happens. Females are attacked by it at an early age, in whom a venous plethora of the hemorrhoidal vessels cannot be supposed to occur, and both sexes are liable, and persons of all ages, from causes which do not affect the general system, and are plainly fitted to produce only a topical or local affection. In my opinion, hemorrhoids scarcely ever depend upon plethora or fulness of blood, for it is well known that they generally occur in persons of a different habit of body. Dr. Bushe, under the term *Plethora*, says: "Those whose systems are surcharged with blood, either from the suppression of artificial or natural discharges, or from too abundant alimentation, are more liable than they otherwise would be from the co-operation of other causes to be affected with hemorrhoids." (*Op. cit., p.* 172.)

M. De Montègre mentions the labors of the cabinet or desk occupations ("*Les travaux de cabinet*") as predisposing causes of hemorrhoids. The sedentary habits and sitting posture inseparable from such occupation produce constipation, and this soon excites hemorrhoids. The intellectual labors of the cabinet, says M. de Montègre, predispose to hemorrhoids by introducing into the

system a morbid sensibility and nervous irritibility which strongly conduce to sanguine fluxions. (*Op. cit., p.* 91.) De Haen observed that the men in Austria are much exposed to hemorrhoids by reason of their intemperate habit of living. (*Ratio medendi in Nosocomio practico. Cap. V., Sec.* 5, *p.* 7. 8*vo. Neapoli*, 1761.) Stunzer says the same concerning the men of Austria. (*Ueber die guldene Ader*, p. 40.) The celebrated Hoffmann, who practised medicine forty years in Saxony, observes that hemorrhoids had greatly increased in his time from the progress of luxury and the increase of idleness and sedentary habits. (*Medicini Rationalis Systematica.* 8*vo. Halæ*, 1738.) Mr. Calvert, who travelled both in Greece and in Turkey, says that "the great frequency of hemorrhoidal diseases among the Turks may be traced to their indolent habit of sitting during almost the whole day on warm soft cushions, to the peculiarity of their diet which, in addition to their general habits, often produces an indolent and torpid state of the bowels, and perhaps also to an excessive indulgence in venery." (*Op. cit., p.* 60.) See also the following authors on this subject: De Oberkamp (*Quæ potissimum adfectuum Hæmorrhoïdalium nostro ævo frequentiorum causâ sit. Heidelburgæ*, 1789); Detharding (*De Hæmorrhoïdibus hodie quam olim frequentioribus. Rostochii*, 1754).

9. *Morbid Condition of the Digestive Organs.* A disordered state of the digestive organs with its consequent train of evils on the lower viscera is of necessity a frequent and a fruitful predisposing cause of hemorrhoids.

10. *Pregnancy and the Puerperal State.* Both the state of pregnancy and the puerperal state are considered predisposing causes of hemorrhoids, for females during these periods are perhaps more exposed to them than at any other.

The uterus, during its enlarged state in gestation, causes a pressure on the hemorrhoidal veins which, in consequence of the absence of valves, renders the free return of the blood in them more or less difficult. The same pressure mechanically obstructs the bowels and induces constipation. The state of pregnancy, too, creates a general plethora, resulting from the suppression of the catamenia during its continuance, and thus tends to the production of hemorrhoids. Alberti, in an able dissertation, makes some valuable and explicit observations upon the state of pregnancy and the puerperal

state as predisposing causes of the hemorrhoidal disease. (*Dissertatio de Hæmorrhoïdibus gravidarum et puerperarum. Halæ*, 1727.) De La Motte says that, if women escape from hemorrhoids during pregnancy, they are almost certain to have them when lying-in. (*Traité complet des Accouchemens naturels, non-naturels, et contre Nature. Obs.* 396, 8*vo*, *Paris*, 1765.)

11. *Suppression of Hemorrhages in other Parts.* It has already been observed that, in some cases of suppression of the catamenia, a turgescence of or a hemorrhage from the hemorrhoidal vessels takes place. This is no uncommon occcurrence, as many examples could be cited. It is well known that a hemorrhoidal tumefaction or a flux has sometimes appeared suddenly on the suppression of one or the other of the following hemorrhages: *epistaxis*, *hæmoptysis*, *hæmatemesis*. Dr. Bushe reports two very interesting instances, in one of which the hemorrhoidal flux immediately supervened on the suppression of an epistaxis, and the other on that of an hæmoptysis. (*Op. cit.*, *p.* 171.)

II.—EXCITING CAUSES.

Among the principal exciting or efficient causes of the hemorrhoidal disease, or those which have an immediate and direct operation or effect, may be classed the following: 1. The abuse of purgative medicine; 2, Certain articles of aliment; 3, Warm or irritating enemata; 4, Constipation; 5, Concussion, contusion, or irritation in ano-perineal region; 6, Other diseases; 7, The passions; 8, Sitting on pierced seats; 9, Tight lacing; 10, Spasmodic or involuntary contraction of one or both of the anal sphincters; 11, Atony of the anal sphincters; 12, Rectal suppositories and vaginal pessaries; 13, Emmenagogues; 14, Abuse of the venereal pleasures.

1. *The Abuse of Purgative Medicine.* The habit which prevails in our country to a great extent among the people generally of indiscriminate purgation is a frightful source of hemorrhoids. Many are in the habit on every slight indisposition of drenching themselves and teasing the intestinal canal with purgative draughts, purgative mineral waters, or constantly swallowing concentrated cathartic medicine in the form of pills, etc. It is surprising, too, how many practitioners are still to be found who encourage this pernicious practice, who still regard portal congestion and hepatic derangements as the essential elements of all diseases, and whose

practice corresponds with their theory, which consists almost exclusively in the exhibition of drastic and other purgatives. Under one of the most constant laws of irritation in mucous canals, the terminating portion of the apparatus of defecation is thus perpetually suffering under propagated as well as direct stimulation, and reacts in the form of hemorrhoids or some more serious disease. Vide De Büchner et Schopff. (*Dissertatio de intempestivo purgantium usu frequenti affectuum Hæmorrhoïdalium causâ. Halæ*, 1755.)

The frequent use of purgatives or cathartics, especially those of the resinous kind, which act chiefly upon the rectum, such as aloes, colocynth, scammony, gamboge, etc., are among those which occasion the greatest influence upon the vessels of the rectum. M. De Montègre says: "Among the numerous examples I might cite of the pernicious effects of aloes in producing hemorrhoids, I will content myself with mentioning that of the celebrated John Calvin, who, according to the report of Theodore Beze, his historian, was, by the frequent use of aloes, attacked with hemorrhoids, which finally became ulcerated, then a spitting of blood, which lasted until his death, which occurred five years later of a quartan fever." (*Op. cit., p.* 100.) Vide also Ruysch (*Dissertatio Aloeticorum abusa in Hæmorrhoïdibus. Marburgi*, 1781.) Among the most irritating of all purgatives, however, according to my experience, is calomel; even in small doses it produces intense pain in some cases, by its irrritating effect upon the mucous membrane. The inconsiderate use, too, of aperient mineral waters is also a great source of the hemorrhoidal disease of our time.

2. *Certain Articles of Aliment.* The nature and character of certain articles of food exert, in various ways, no little influence in the production of hemorrhoids, especially when there already exists a predisposition to that disease. Alimentary substances of a stimulating quality have the property of disposing to this disease by keeping up a constant afflux of blood to the digestive organs. It is well known that excitement of the stomach is sympathetically communicated to the colon and rectum. Morbid excitement, therefore, of the same organ by stimulating food and drink tend to the same disease through the same medium.

The following articles may be named as possessing, more or less, properties which first produce their action, whether mechanical or

otherwise, upon the parietes of the stomach, and subsequently upon the mucous coat of the whole intestinal tract: Radishes, onions, water-cresses, eschalots, mustard, black and red pepper, spices, and aromatics. If these are indulged in to excess and continuously, they may, by their sharp and stimulating properties, tend to the production of the hemorrhoidal disease. All articles that can neither be broken down by the organs of mastication, nor digested by the stomach, such as the seeds of various kinds of fruit covered with their husks, as of figs, tomatoes, strawberries, raspberries, blackberries, etc.; the pits of various kinds of fruit, as of cherries, of grapes, of oranges, etc. These, by their direct mechanical action upon the mucous membrane of the rectum, produce irritation there, which contributes to the development of hemorrhoids, especially in those who are very prone to them, or it may add to the suffering of those who already have them. Oatmeal in the form of gruel or mush is an article of diet often used to obviate constipation of the bowels, and in many cases it is proper and valuable; but in those predisposed to hemorrhoids, it may give rise to them by the irritation it produces on the mucous membrane of the rectum. I could here cite numerous instances of this effect produced by it.

The free use of the heating wines, the intemperate use of spirituous drinks generally, and highly seasoned preparations are all unfailing causes of hemorrhoids in those who are predisposed to them. The stimulating properties of well-prepared coffee, by its exciting effects, when taken to excess, may contribute to the production of hemorrhoids. In general, however, this celebrated beverage taken in moderation, rather gives tone to the stomach and intestinal canal. Sagar says that hemorrhoids are endemic in Germany in consequence of the abuse of coffee, chocolate, and aromatics of all kinds. (*Systema Morborum Symptomaticum, etc.; verbo Hæmorrhois.* 8vo. *Viennæ*, 1776.) Tea, when taken to excess, worries the nervous system, produces weakness of the stomach and general relaxation, and thus tends to hemorrhoids.

The temperature of food as well as of drinks may also exert much influence in the production of hemorrhoids. The desire for hot food and hot drinks is very common, and is as injurious as it is common. Very warm, or iced drinks, by their exciting action upon the stomach and the upper portion of the intestinal canal, create abdominal plethora, and greatly exalt the known sympathy which ex-

ists between the stomach and the rectum, and favor hemorrhoidal engorgement. Hot drinks produce a secondary action upon the stomach which iced drinks do not occasion to the same extent; they, in losing their caloric and assuming the temperature of the stomach, cease to excite, but, on the contrary, relax, and consequently weaken. Prof. Hildebrandt gives an amusing as well as a remarkable instance of the injurious effects of the excessive use of hot drinks in the case of a German lady, a hemorrhoidal patient of his. "I treated," says the professor, "a hemorrhoidal lady, who would begin the day by swallowing two cups of very hot tea; this breakfast, at the end of two hours, was followed by two cups of hot coffee; towards 11 o'clock, a large cup of chocolate, as hot as possible, was required; at dinner, it was a good plate of almost boiling soup; immediately after dinner, two cups of coffee, as hot and as strong, were brought to her; in the evening there were again two or three cups of tea. She closed the day about 9 o'clock by taking a soup, which supplied the place of supper. This lady commenced regularly every day the same course of life until the most active hemorrhoidal pains would force her into abstinence for several days. It was evident that under such circumstances it was impossible to effect a cure, because every to-morrow she rendered void my labors of the preceding day. And I finally finished by thanking this lady, with a most grateful heart, for the desire she expressed to confide herself to the care of some other physician than myself." (*Dissertatio de Hæmorrhoïdibus cæcis.*) Mr. Calvert says that: "A friend of mine, of a full habit of body, and who has been long subject to hemorrhoids, assures me that the first attack was in consequence of having partaken liberally of hot punch, and that he can almost immediately produce a return of the same by a similar indulgence." (*Op. cit., p.* 62.)

3. *Warm or Irritating Enemata.* The habitual use of warm-water enemata is a frequent cause of hemorrhoids, and they are more especially so when purgative or irritating substances are added to the warm water. Professor Hildebrandt gives the instance of a young man in whom he believed hemorrhoids were produced by frequent injections of warm vinegar. He says that: "The example of a young man has demonstrated to me how much warm enemata contribute to the formation of hemorrhoids. He was attacked at the age of twenty with a bilious fever, together with great nervous

debility, and for a number of weeks had several warm injections of vinegar administered daily to him. He was at last attacked with blind hemorrhoids, a disease, the slightest evidence of which he never had before." (*Des Hémorroïdes fermées. Traduite par T. C. H. Marc, p.* 60. 8*vo. Paris*, 1804, *brochure.*)

I could here recite a number of cases which came under my own observation in which hemorrhoids were evidently caused by the long-continued use or abuse of very warm rectal injections.

4. *Constipation.* One of the most frequent and active causes of hemorrhoids is habitual constipation of the bowels. This torpid state of the intestines is productive of hemorrhoids, first, by causing a general and a preternatural fulness of the abdominal system of blood-vessels; second, by the irritation produced on the mucous membrane of the rectum from indurated and impacted fæces; third, by the compression of the hemorrhoidal veins which such accumulated fæces produce, thus more or less impeding the ascent of the blood; and fourth, by the engorgement which the hemorrhoidal veins suffer during violent and prolonged expulsive efforts to evacuate.

The circulation of the blood in the capillary system of the intestines is very materially aided by the peristaltic action of the bowels, especially of the rectum; consequently whenever this action is less than natural it gives rise to local irritation and congestion in various ways, and results in the disease in question. When the fæcal matter is long retained in the colon or in the rectum, it becomes altered in respect to its chemical properties, so as to produce very great irritation of the mucous membrane, and thus cause an afflux of blood toward it. The fæces also in these cases often become exceedingly indurated and impacted, in consequence of which the free current of the blood is greatly interrupted by the compression they produce upon the hemorrhoidal veins; the violent and prolonged efforts at their expulsion, too, force down the mucous membrane of the rectum, and engorge with blood its vessels. If constipation induces hemorrhoids, it may be readily conceived how it aggravates them when they already exist. The highly inflamed and sensitive parts are contused and often lacerated by the severe straining efforts to expel indurated fæces; and then in addition to the hemorrhoids, the serious consequences are apt to ensue, of painful fissures, ulcerations, etc.

The following able authorities are very full and explicit upon the subject of the effects of constipation in the production of hemor-

rhoids, and may be profitably consulted: Orthmann (*Dissertatio de Alvi Obstructione Hæmorhoïdali, Casu illustrata. Jenæ* 1796). Boerhaave (*Prælectiones Academicæ in proprias Institutiones Rei Medicæ: edidit et notis addidit, Albertus Haller. Sect.* 774, 8*vo*, *in fine. Gœttingæ*, 1739). Morgagni (*op. cit. Lib. III., Epist. xxxii., Art.* 10).

5. *Concussion, Contusion, or Irritation in the Ano-perineal Region.* I will remark here that the subject of equitation as a cause of the hemorrhoidal disease is fully investigated in the chapter on the medical treatment of hemorrhoids, under the head "*Equitation Considered as a Cause, a Preventive, and a Cure of Hemorrhoids.*"

A violent blow, or a fall upon the nates, may produce a contusion of the anus, the sequel of which might be hemorrhoids. Flagellation over the nates may occasion the same. The application of heat or cold to the anus may favor the development of hemorrhoids. It is said that the repeated application of leeches to the anus or lower extremities, as well as stimulating pediluvia, bring on hemorrhoids, operating on the vesssls of the rectum by attracting the blood downwards. This may be true, yet I have found the application of leeches to be highly proper and beneficial in all cases in which there were much swelling, pain, and inflammation. I will here also add that sudden and violent exertion, forced walking, lifting heavy weights, or hard labor in a stooping posture, are all frequent causes of hemorrhoids.

It is a fact well known that the fine and delicate integument about the anus is endowed with much animal sensibility, as is sometimes experienced in the burning sensation that accompanies and follows the evacuation of the fæces. In consequence of this exquisite sensibility, great care should be taken to avoid everything that might in the least tend to unduly excite the parts. No rough nor irritating substances should be used for cleansing the parts in the water-closet, as they may and do sometimes prove a cause of hemorrhoids. The finest and softest paper should only be used for this purpose. The highly educated but eccentric Rabelais recommends the luxurious use of a *swan's-neck* for this purpose.

6. *Other Diseases.* Diseases which have their seat either in the vicinity of the anus or in some remote part, may be a cause of hemorrhoids. In the former, the action which they exert is direct; in the latter, it is indirect. Prolapsus of the rectum, prolapsus

of the uterus, stricture of the rectum, stricture of the urethra, vesical calculi, hypertrophy of the prostate, development of tumors in the vicinity of the rectum, etc., may each one be, more or less, a direct cause of hemorrhoids; so may also all affections about the margin of the anus which produce prolonged irritation, such as the various cutaneous eruptions which sometimes locate themselves around the anus, inflammation, chafing, etc. The presence, too, of ascarides nestling in the rectum produces a continual irritation there, and a constant pruritus of the anus, which tend greatly to the development of the hemorrhoidal disease. This is by no means an uncommon cause of this affection.

Diseases whose seat is more or less distant from the rectum, and whose action on the hemorrhoidal vessels is only indirect, such as the development of tumors in the pelvis and abdomen, disease of the liver, pancreas, spleen, lungs, heart, or aorta, as well as dysentery, diarrhœa, etc. In dysentery and diarrhœa, attended with much irritation or inflammation, the rectum participates in the augmentation of sensibility, or even in the inflammation of the higher portions of the intestinal canal which obtains in these two diseases. The excretions, too, in them are almost always of a highly acrid and irritating character, causing intense burning in their passage, with acute pain, tenesmus, and straining; hence it rarely happens that a patient suffering for some time from dysentery or diarrhœa but is afflicted with hemorrhoids.

I am not prepared to say that hemorrhoids owe their origin, so frequently as has been said on high authority, to pressure of the enlarged liver on the portal and mesenteric veins, or to tumors in the abdomen pressing on the great venous trunks, because how many persons suffer from enlarged liver, and yet have no hemorrhoids; neither does the history of abdominal tumors lead us to conclude that hemorrhoids are a necessary consequence of them.

I would remark here, with regard especially to hemorrhoidal bleeding, that it is sometimes caused by other diseases; it being an ancient opinion that the hemorrhoidal flux serves as the crisis of another disease. The affections in which this hemorrhage is judged to be critical are: inflammation of the brain, lungs, pleura, liver, spleen, kidneys, and some inflammatory fevers; as well as in different neuroses, such as melancholia, hypochondriasis, etc. Upon this

subject Hippocrates is quite clear, and I will quote what he says from the Latin version of his works by the illustrious Fœsius: "Melancholicis affectibus et renum vitiis succedentes hæmorrhoïdes (hoc est sanguinis profluvium per ora venarum in ano sanguinem fundere solita) bono sunt." (*Aphorism. II., Sec.* 6. *Fœsio, op. cit., Tome II., p.* 1256.) Again Hippocrates says: "Insanientibus si varices aut sanguinis profluvium per ora venarum quæ in ano sunt (hæmorrhoïdes dicuntur) accesserint, insaniæ solutio." (*Aphorism. XXI., Sec.* 6. *Fœsio, op. cit., Tome II., p.* 1257.) Forestus says that a hemorrhoidal bleeding served as a crisis to a quartan fever with which his father was attacked at the age of fifty-eight. (*Observationum et Curationem Medicinalium ac Chirurgicarum. Opera Omnia, Lib. XXIX., folio. Rothomagi*, 1653.)

Trnka, and some other authors on this subject, have added *gout* to the diseases in which hemorrhoids are considered critical. These authors intimate that the relation between these two diseases is sometimes so intimate that they proposed the use of the term *hemorrhoidal gout*, to designate it. (*Historia Hæmorrhoïdum Symptomata, Omnis Ævi observata Medicæ continens.* 8*vo, Vindobonæ*, 1794 *et* 1795.)

Upon the subject of the hemorrhoidal flux, M. Lauyer-Villermay, however, very judiciously remarks that "these hemorrhages are not always critical phenomena, and in some patients merely constitute a particular symptom of the disease, as is observed in certain special cases of hypochondria, engorgement, or even alteration of the liver and the spleen." (*Traité des Maladies Nerveuses ou Vapeurs et particulièrement de l'Hysterie et de l'Hypochondrie.* 8*vo, Paris*, 1816.)

7. *The Passions.* The profound emotions—terror, fear, rage, sorrow, ennui, restlessness, or nostalgia—may be a direct cause of hemorrhoids. It is a curious fact that the depressing passions—great fear suddenly excited, great grief or prolonged anxiety, depressing home influences, and disappointment in love—will directly produce a fit of hemorrhoids in those predisposed to them. They make a strong impression upon the cœliac plexus, which manifests itself by a decided sense of pain, weight, and sometimes constriction of the epigastrium. The result of this impression is a repulsion of the blood from the whole surface of the body, and an accumulation of it in the internal organs, especially those in the abdomen, which may

either be followed by indigestion, vomiting, diarrhœa, partial or complete jaundice, or by hemorrhoids or hemorrhoidal bleeding. Indeed, any cause whatever that occasions great disturbance of either mind or body seems liable to produce a preternatural fulness of, or a hemorrhage from, the hemorrhoidal vessels.

This explanation, after all, is little more than a faithful enumeration of phenomena. It is, however, the best which can, perhaps, be offered in the present state of our knowledge.

The following cases, showing the direct effect produced upon the hemorrhoidal vessels by profound emotions, are reported and vouched for by eminent men; but the descriptions of some of them seem greatly exaggerated. Gullman cites the case of a merchant, aged forty-six years, of a bilious temperament, and a hypochondiac, who was occasionally subject to rather a profuse hemorrhoidal bleeding, and who, having been exposed to the danger of imminent death, experienced extreme terror, and voided during seven years an immense quantity of blood from the rectum, estimated at four hundred pounds. (*Novo Acta Naturæ Curiosorum, etc. Vol. II., observ.* 78. 4*to*, *Norimbergæ*, 1757. *Erlangæ*, 1818.) Stockhausen relates the case of a man, aged forty years, who was subject to fits of anger or rage, and who, every time he would yield to them, would experience on the morrow a painful weight in the left hypochondrium, with a murmuring sound around the umbilicus. This condition would continue to become aggravated until the third day, when a hemorrhoidal bleeding would take place. This hemorrhage, accompanied with a slight diarrhœa and prolapsus of the rectum, would last eight days, after which the pain of the hypochondrium would cease, together with all the other symptoms. (*Dissertatio de Hemorrhoïdibus. Sec. XXXI.* 4*to*, *Helmstadii*, 1770.) Hoffmann cites the case of a young girl who, being thrown into a violent rage, experienced an excessive hemorrhoidal flux. (*Medicini Rationalis Systematica. Tome IV., observ.* 3. 8*vo*, *Halæ*, 1738.) De Blegny speaks of the case of a woman who, from profound sorrow at the death of her husband, experienced a most violent attack of hemorrhoids, she never having had the disease before. (*Zodiacus Medico-gallicus, ann. I., febr. observ.* 1. 4*to*, *Genevæ*, 1680.)

Ennui or nostalgia sometimes produces hemorrhoids. M. De Montègre gives the example of a vigorous young man, eighteen years old, who came to Paris, where he lived a very retired life, a

stranger to all dissipation and all the pleasures of his age. Finding himself alone and without any intimate friends, he became sorely attacked with ennui. He soon became affected with hemorrhoids, attended by swellings, pains, and profuse bleeding, which continued till the time of his departure from the city for his home. (*Op. cit.*, *p.* 93.) Ferdinand says he saw a young lady who was twenty years old, of a sanguine temperament, sedentary habits, and endowed with much vivacity, who, in consequence of a violent chagrin arising from jealousy, became afflicted with hemorrhoids, and for many months daily evacuated about half a pint of blood while at stool. (*Centum Historiis seu Observationibus et Casibus Medicis. Observ. XVI.*, *p.* 40, *folio. Venetiis*, 1620.)

It may be observed here that the very same emotions which produce hemorrhoids or hemorrhoidal bleeding, as has already been shown, are positively known to have sometimes completely suppressed them when they existed.

8. *Sitting on Pierced Seats.* Protracted sitting on seats or stools open in the centre is sometimes a cause of hemorrhoids. Such seats not only leave the anus unsupported and allow the blood to gravitate without resistance, but in consequence of the pressure on the surrounding parts the circulation is obstructed. A much more frequent cause of hemorrhoids, in my opinion, however, is that of sitting on low water-closet seats or the close-stool, and making protracted expulsive efforts to evacuate the bowels. Low seats require the squatting posture more or less, which favors the protrusion of the bowel. The anus in this position of the body easily juts out, and the extremity of the rectum escapes beyond the external sphincter ani, which firmly grasps and compresses it, and thus causes its vessels to become engorged.

9. *Tight Lacing.* The practice of tight lacing, or wearing too tight clothing, may become a cause of hemorrhoids. By tight lacing all the viscera of the abdomen suffer. The function of the liver is impeded, the stomach is compressed, and the result is indigestion, with all its train of evils on the lower viscera. The rectum, as well as the uterus and the bladder, are forced much lower down than natural, and thus may give rise to hemorrhoids. Whatever disturbs the equilibrium and harmony existing between the functions of the several organs, deranges directly or consecutively one or more organs, most predisposed to disease.

Tight waistbands of pantaloons, tight garters at the knees, the application of bandages to the inferior extremities, and everything which retards the course of the blood in the veins of the lower portion of the abdomen, favors hemorrhoidal enlargements. Hildebrandt reports a case in which wearing very tight pantaloons was, in his opinion, the cause of hemorrhoids. He says: "One of my fellow-students, who wore very tight leather breeches, and who every day, after dining heartily, would remain seated for two or three hours writing; by following this course he soon became hemorrhoidal to the highest degree. As I cannot, to my knowledge, accuse him of any error of diet, I do not hesitate to attribute his disease to what I have just said." (*Op. cit., p.* 66.)

10. *Spasmodic or Involuntary Contraction of the Anal Sphincters.* The normal condition or tonic contraction of one or both of the anal sphincters cannot be a cause of hemorrhoids, it can only be the hyper, or the exalted contraction of one or both of them, which may tend, more or less, to interfere with the free circulation of the blood in the vessels within the grasp of the morbidly active muscles, and thus produce turgescence, hyperæmia, congestion, or stasis in them. This preternatural, spasmodic, or involuntary contraction of the anal sphincters may also prove an efficient cause of hemorrhoids in consequence of the violent straining efforts to evacuate the bowels which this morbidly active state of the muscles induces. A part of the mucous membrane of the rectum, together with the vessels it contains, is protruded beyond the sphincter at each time of the expulsion of the fæces, and being there caught by the contraction of the muscles, its vessels become engorged or strangulated. The repeated occurrence of this circumstance, especially when assisted by constipation of the bowels, is quite sufficient to produce a varicose condition of the hemorrhoidal vessels.

Some of the French surgeons seem to claim priority in presenting the morbid contraction of the anal sphincter as a cause of hemorrhoids. Be this as it may, they can, however, justly lay claim to having fully called attention to it, and dwelling upon its importance in the production of the hemorrhoidal disease.

In 1851 M. Maisonneuve maintained the theory that spasmodic or involuntary contraction of the anal sphincter was a frequent cause of hemorrhoids. He believed that, in almost all cases of hemorrhoids, this morbid contraction of the anal sphincter played a most

conspicuous and painful part in their production. (*Clinique Chirurgicale. Tome II.*, 8vo, *Paris*, 1864.) M. Verneuil, another distinguished French surgeon, in 1855, also ably advocated the theory that the involuntary contraction of the anal sphincter acted a most important part in the pathogeny of hemorrhoids. (*Anatomie Pathologique des Hémorrhoïdes.* In *Bulletin de la Société Anatomique. Tome XXX., p.* 175 *et* 191. *Paris*, 1855.) M. Duret says that the morbid contraction of the anal sphincter is a constant cause of the hemorrhoidal disease, and explains how this contraction acts in the production of that affection. (*Recherches sur la Pathogenie des Hemorrhoïdes.* In *Archives Générales de Médecine*, 1879, *p.* 641.)

The subject of the involuntary contraction of the anal sphincters as a cause of hemorrhoids will be found more fully demonstrated in the article "*On the Treatment of Hemorrhoids by the Dilatation of the Anal Sphincters.*"

I would observe here that, independently of the involuntary contraction of the muscles of the anus as a cause of hemorrhoids, there is a liability of the blood-vessels immediately about the anus to dilatation or varicose enlargement, which appears to some extent founded in anatomical structure. It will be seen that just within the anal orifice, at the point where the mucous membrane and the skin coalesce, there is a kind of constriction, as it were, of the blood-vessels; these vessels appear larger, just above this point and below it, and many of the branches in the venous plexus around the anus appear to be enlarged, while in the very spot or circular line alluded to, they appear to be compressed. The slight dilatation or enlargement of the vessels above and below the point or circular line designated, would be very liable to be taken, by superficial observers, for small hemorrhoidal tumors, or the incipient stage of the hemorrhoidal disease; whereas this peculiar structure appears to be purely normal and only perhaps a little more liable to varicose enlargement than otherwise.

11. *Atony of the Anal Sphincters.* Any defect of the muscular power of the sphinctores ani may prove an exciting or efficient cause of hemorrhoids, as much so, perhaps, as is the too powerful action of these muscles. When atony of the anal sphincters exists, the dilatation, turgescence, and tumors form on those parts of the canal invested by them. For the want of the natural support

which the tonic contraction of these muscles affords the hemorrhoidal vessels, in this depending situation, they become relaxed, and allow of over distention, by undue quantities of blood entering into them; hence the necessary concomitants of this condition are dilatation, turgescence, hyperæmia, congestion, and tumors. Indeed, the compression of the anal sphincters, when in their normal condition, upon the parts of the canal within their circumference or grasp, prevents to a great extent any undue quantity of blood or its elements from entering into, and enlarging the vessels of those parts.

The cause of the atony, or want of contractile power of the anal sphincters, is sometimes the result of injuries or diseases of the brain or spinal cord. In very aged persons this atony of the anal sphincters is not uncommon, and in them it is generally owing to a partial paralysis of these muscles; in both the young and the aged, however, it tends greatly to the production of hemorrhoids and prolapsus of the rectum.

12. *Rectal Suppositories and Vaginal Pessaries.* The introduction of a suppository or any other foreign body into the rectum irritates this intestine by its presence alone, and may thus prove an exciting or efficient cause of hemorrhoids. If such suppository have a rough exterior, or be composed of irritating substances, then the effect and the result would still be more positively marked. I have known a violent attack of hemorrhoids to immediately follow the introduction into the rectum of a suppository composed of sugar of lead and opium.

A pessary in the vagina which irritates this passage, or which presses upon the rectum, may cause hemorrhoids upon the same principle. I could here give several examples which came under my own observation, of severe attacks of hemorrhoids having been produced by this exciting cause. It is well known that the same cause has produced vaginal and rectal abscesses and fistulæ.

13. *Emmenagogues.* From the *modus operandi* of emmenagogues, such especially as ergot, aloes, savin, cantharides, etc., they must of necessity tend to the development of hemorrhoids. I could here cite many interesting cases of this disease having been caused by some of the more exciting articles of this class of remedies. Two marked cases came under my observation, in which violent attacks of hemorrhoids followed the administration of several doses of pills

composed of iron, aloes, and savin, taken with a criminal intent. Störck speaks of a young woman who, having made much use of the sulphurated oil or balsam of sulphur, and the cold infusion of savin, was suddenly seized with a uterine flux, and with tumefied and bleeding hemorrhoidal tumors, together with violent pains, excessive tenesmus, scanty, hard and painful evacuations, to such an extent as to cause syncope and abdominal meteorism. The menstrual flow was arrested by suitable means, but the extreme pain caused by the hemorrhoids continued to the end of the accouchement, for this woman was pregnant, and was successfully delivered. (*Observationes Clinicæ, Ann.* 7, *Febr., Clin.* 2.)

14. *Abuse of the Venereal Pleasures.* Excessive venery may and does tend to the production of hemorrhoids; whilst its prudent and moderate use may more or less tend to prevent, if not relieve or cure them.

It is very obvious that the continuously repeated erethism of the naturally excitable parts concerned in the venereal orgasm, being so contiguous to those which are the seat of hemorrhoids, must of necessity, as it were, sooner or later result in the development of that disease; for this erethism is by no means limited alone to the genital parts, but every organ in the vicinity participates in this augmentation of irritability. Its effects upon the rectum are at once manifested by an irritable and dry state of the mucous membrane and constriction of its walls, which tend to constipation and to hemorrhoids. In such cases, if hemorrhoidal tumors already exist, they become highly irritable, swollen, and protrude. In men, these excesses also give rise to a state of nervous debility which is favorable to the production of hemorrhoids. In women, excesses of this nature give rise to other disorders and inconveniences peculiar to their sex, and act as causes of local irritation.

On the contrary, venery, if not repeated excessively, is no doubt in many cases useful to hemorrhoidal subjects; indeed, it is a fact well established that the venereal act has been known sometimes to dispel the prodromata of an impending attack of hemorrhoids, especially of hemorrhoidal bleeding.

I have now given some of the most frequent and familiar *exciting agents* concerned in the production of hemorrhoids. Many of these, however, which in excess produce the disease or dispose to it, may,

if used with moderation and judgment, contribute very materially to their prevention or cure.

The following authors treat especially upon the subject of the symptoms and the various causes of hemorrhoids: Voit (*Dissertatio de Hæmorrhoïdum præcipuis Causis. Giessæ*, 1784); Heinrich (*Dissertatio de Hæmorrhoïdibus Symptomatibus et Causis. Francofurti*, 1799.)

CHAPTER VI.

HEMORRHOIDAL TUMORS.

One of the results of the hemorrhoidal disease is the development of tumors of a peculiar kind, which many of the ancient and a large majority of the modern authors consider as alone constituting the disease which has obtained the appellation *hemorrhoids*, as has already been shown in a previous chapter.

All hemorrhoidal tumors arise from a morbid state of the hemorrhoidal vessels, the result of some exciting cause acting upon them and producing relaxation of their parietes, followed by fluxion, dilatation, turgescence, hyperæmia, congestion, stasis, and inflammation. Sooner or later, however, a structural alteration takes place either within the morbidly dilated and congested vessels themselves or, what is most common, outside of them, in the cellular tissue by which they are surrounded, the result of an extravasation of the contents of such vessels into this tissue. Even if the organization takes place within the vessels themselves, it sooner or later destroys their walls, and involves the surrounding cellular tissue also in the morbid structure. Cysts may be formed within the dilated and congested hemorrhoidal veins or capillaries before extravasation of their contents takes place. Such a tumor may be called an *encysted varicose tumor*, and arise from a varicose condition of the hemorrhoidal vessels, or from the accidental dilatation of a veinule or venous capillary at a particular point, by which a cyst distended with venous blood is formed, without rupture of the coats of the vessels, and before extravasation takes place into the cellular tissue. Such a cystic tumor may also be formed in the cellular tissue surrounding the congested hemorrhoidal vessels, either before or after the extravasation of their fluid contents takes place into it. In this case, from some exciting cause, the capillary circulation especially is increased in the loose submucous tissue in this region, either a small quantity of blood, lymph, or serum is effused into it, perhaps from

the rupture of some small vessels, or exhaled from their dilated extremities. This may be termed an *encysted cellular tumor.*

That some hemorrhoidal tumors are formed of cysts or sacs of blood, or some of its elements, I have myself demonstrated. I have found such tumors to consist of a varicose enlargement of the hemorrhoidal veinules and capillaries, and they were in direct communication with the large veins of the rectum.

I.—DIVERSITY OF HEMORRHOIDAL TUMORS.

Hemorrhoidal tumors, according to their location, vary much in form, size, number, color, and exterior aspect. They also vary in regard to being the seat of either hemorrhage or not.

1. *Form.* As a general rule, their form, in any situation, is at first globular, their attachment being effected by a rather broad base; but in process of time they sometimes become pyriform, and in rare cases they occasionally present themselves, especially when internal, in the form of vertical semi-cylinders upwards of an inch in length by several lines in diameter. I have seen internal hemorrhoidal tumors present the exact form and appearance of strawberries, raspberries, large purple grapes, and even mulberries; indeed, they assume all manner of forms and aspects.

2. *Size.* Hemorrhoidal tumors vary in size from that of a pea to that of the first phalanx of the thumb or to that of an English walnut. I have seen them as large as a pullet's egg. They sometimes, however, though rarely, attain a much greater magnitude, principally in consequence of large quantities of blood being effused into their central cavity, and it may also be owing in some degree to the great increase in the thickness of their cuticular covering. Serum is also sometimes effused in considerable quantity through the tissue of the tumors. Indeed, when the increase of a tumor is both rapid and great, the conclusion is that the bulk of it is owing to an accumulation of fluid or coagulated blood in its centre. Frank mentions having seen a hemorrhoidal tumor as large as a goose's egg. (*De Curandis Hominum Morbis Epitome. Tome V., Sec.* 621. *8vo, Mannheimi*, 1792.) Schmucker states that he was called to see a gentleman who had several hemorrhoidal tumors, one of which was as large as the fist. He says: "Vor ungefähr einem Jahre wurde ich zu einem vornehmen hiesigen Cavalier gerufen, welcher drei solche grosse Beulen, wovon eine im Umfange die Grösse einer geball-

ten Faust betrug hatte." (*Vermischte Chirurgische Schriften. Band I., Absch.* 2, *Sec.* 107. 8*vo*, *Berlin*, 1776.) It may be observed that the largest hemorrhoidal tumors are usually situated at the sides of the anus, as it is not only there in which the largest hemorrhoidal veins exist, but also in which there is the greatest amount of cellular tissue, their situation thus admitting more readily of their expansion and enlargement.

3. *Number.* With regard to the number of hemorrhoidal tumors, there may be only one, or as many as three, four, or even five. I have, however, seen as many as eight or ten, though this is rare. When they are numerous, they are not large, and are either grouped pretty closely together, or they are scattered over a considerable surface. The affection may consist of one single tumor of a large or of a small size, or the tumors may be so numerous as to almost fill up and close the extremity of the rectum, or hang in clusters around the anus, while between these two extremes every grade in numbers may present itself.

4. *Color.* Respecting the color of hemorrhoidal tumors, it varies with the structure of their exterior covering, whether that is cutaneous, mucous, or muco-cutaneous. When the covering is cutaneous, the color is usually bright; when mucous, it is of a dark or a purple aspect, in consequence of the greater vascularity of the mucous covering. Inflamed tumors, when external, are always of a deeper color than those not inflamed. Internal tumors, being ordinarily of a florid complexion, are often, when inflamed, of a dark-bluish purple, especially when they are prolapsed, compressed, and partially strangulated. When hemorrhoidal tumors are supplied by venous blood alone, their color is purple, modena, or livid; when supplied by arterial blood alone, their color is scarlet; when they are supplied by both venous and arterial blood, their color is mottled.

5. *Exterior Aspect.* With regard to the exterior aspect of hemorrhoidal tumors, especially internal ones, their external surface is originally smooth, but in process of time it often becomes roughened by deposits of lymph, or by the enlargement of the numerous mucous villi. Fissures and ulcers are occasionally seen upon tumors, generally very small and superficial, but sometimes of considerable size, and so deep as to penetrate the tumor and to cause more or less hemorrhage.

Fig. 1.

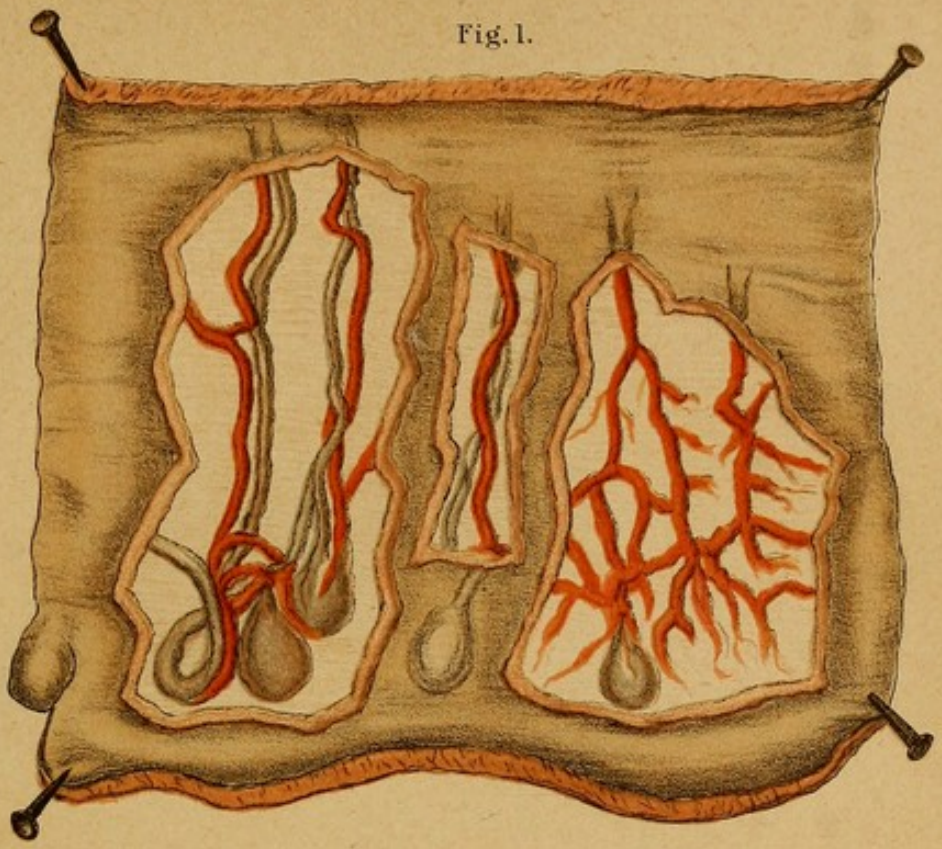

Fig. 3.

Fig. 2.

H. BENCKE, LITH. N.Y.

PLATE I.

EXPLANATION.

FIG. 1 represents a section of the inferior portion of the rectum laid open, and parts of the mucous membrane dissected off, bringing into view a few small internal varices, in connection with some arteries and dilated veins. [Vide page 65.]

FIG. 2 represents several internal hemorrhoidal tumors partially protruded.

FIG. 3 represents several internal hemorrhoidal tumors wholly protruded.

Fig. 1.

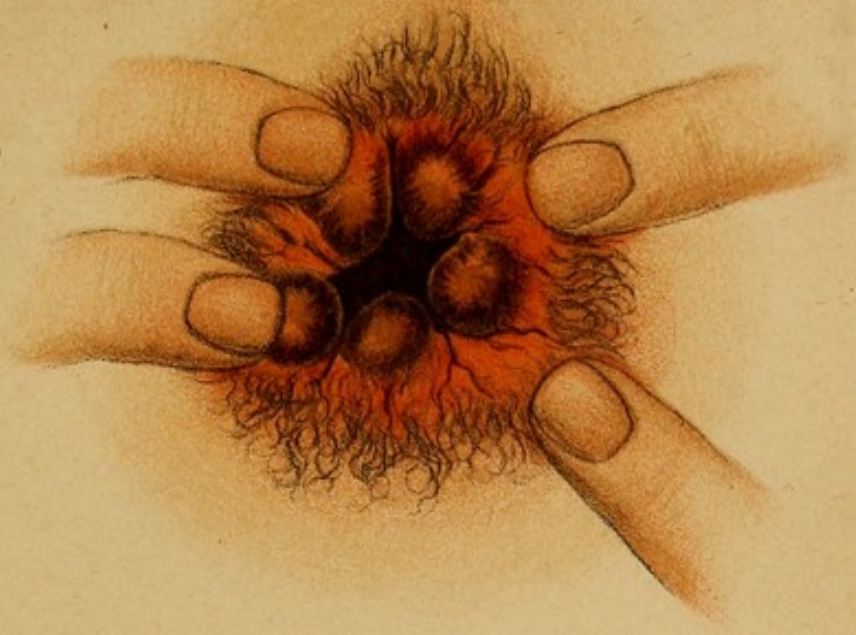

Fig. 2.

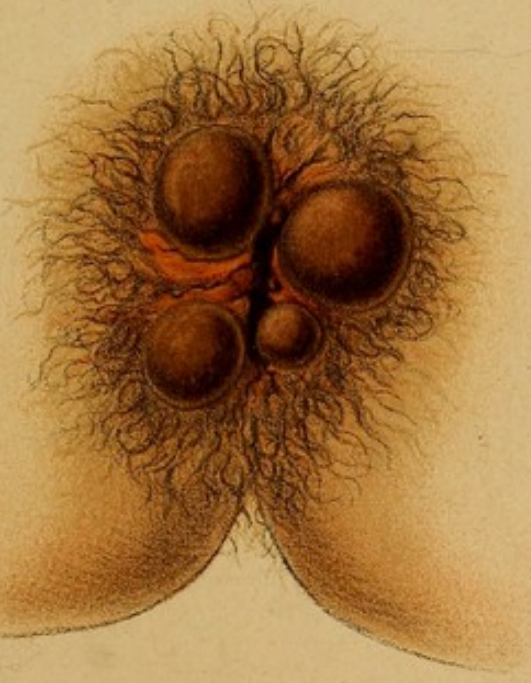

Fig. 3.

Fig. 4.

II.—DIVISION OF HEMORRHOIDAL TUMORS.

Hemorrhoidal tumors may, according to their situation, be distinguished into *internal*, *entero-external*, and *external*.

1. *Internal.* The internal hemorrhoidal tumors are those which are situated completely within the rectum, in the fossa between the external and internal sphincters of the anus. [Vide Plate I., Figs. 1, 2, 3.] They sometimes, though rarely, form above the internal sphincter. I have, however, witnessed several such cases in my practice. Ludwig says that he saw hemorrhoidal tumors occupying the whole length of the rectum, and ascending even up into the colon. (*Adversaria Medico-Practica. Vol. II., p.* 5. *Dissertatio, I., p.* 392, 8*vo*, *Lipsæ*, 1769.) M. Petit makes a similar remark. (*Traité des Maladies Chirurgicales. Nouv. Edit., Tome II., p.* 70, 8*vo*, *Paris*, 1790.) Valsalva also observes that he had seen the internal veins very much dilated throughout the rectum and at the extremity of the colon, accompanied with induration of the liver and spleen. (Morgagni, *op. cit., Lib. III., Epist. XXXII., Art.* 13.) What these three authors describe were doubtless nothing more than varicose enlargements of the hemorrhoidal veins, and not regularly organized hemorrhoidal tumors.

The internal hemorrhoidal tumors are entirely covered by a mucous membrane, and are either *varicose* or *cellular*. The varicose tumors are highly vascular, florid, soft, spongy, erectile, and elastic, diminishing perceptibly under pressure, but regaining their former volume the moment the pressure is removed. Sometimes, however, compression completely empties them of their, as yet fluid contents, so that even the depressions which are formed on their surface are made to recede from the dilated vessels. Their form is usually globular, and their attachment is generally effected by a rather broad base. These tumors are composed essentially of either venous or arterial capillaries, or they may be composed of a combination of the two, the one or the other usually preponderating. When they consist of arterial capillaries only, there is always more or less pulsation in them. These are the particular internal tumors that partake largely of the nævoid structure, and resemble very much erectile tissue, such a structure as was originally denominated *aneurism by anastomosis* by Mr. John Bell. (*The Principles of Surgery. Vol.*

III., p. 383. 8*vo. London*, 1826.) When the tumors consist of both arterial and venous capillaries, as is usually the case, there may be a slight pulsation or an entire absence of pulsation in them. These tumors protrude readily and bleed freely, and exhibit that which should perhaps be considered as the true hemorrhoidal tumors, formed especially by the dilatation of the arterial and venous capillaries. The cellular tumors, on the contrary, are dark, indurated, with little sensibility, and protrude at each evacuation of the bowels, and are often attended by a free mucous or sero-mucous instead of a bloody discharge. These solid tumors are produced by the extravasation of the fluid contents of the morbid vessels into the surrounding cellular tissue, there becoming consolidated, the effusion being the result of the frequent congestion of these vessels. The cellular tumors can only be partially emptied by compression.

From remote antiquity internal hemorrhoidal tumors have been denominated *bleeding* or *open* hemorrhoids (Hæmorrhoïdes Fluentes vel Apertis) and *blind* hemorrhoids (Hæmorrhoïdes Cæcæ, vel non Fluentes). Aëtius says: "Hemorrhoïdum vero aliæ sunt cæcæ aliæ apertæ: cæcæ sunt quæ omni tempore inflatæ sunt et nihil exernunt: apertæ vero sunt quæ per tempora sanguinem effundunt." (*Op. cit., Sermo II., Cap. V.*) Sauvages proposed denominating the bleeding tumors *hæmorrhoïs*, and the blind tumors *mariscæ:* "tumores illi (sine ullo sanguinis effluxu) mariscæ vocari debent et fluxus cruoris *hæmorrhois* multo optius vocatur." (*Op. cit., Vol. II., p.* 323.)

The internal hemorrhoidal tumors, as a general rule, create less pain and disturbance, unless they protrude and become strangulated, than either the entero-external or external tumors, inasmuch as the surrounding parts in which they are located are softer, more yielding and elastic, and consequently they are less compressed by the anal sphincters, hence many patients suffer no other inconvenience from the affection except the disposition sometimes to prolapse and the occasional loss of more or less blood when the bowels are constipated. They are much more insidious, however, in their approach and persistent in their character than the others, and are of a much more serious nature, inasmuch as they tend sooner or later to undermine the general health of the patient from repeated losses of blood, from protrusion, strangulation, inflammation, mortification, and in extreme cases they sometimes even result in death. The internal

tumors, if not removed by art or disappear spontaneously, may in process of time, especially in weak, relaxed, and debilitated persons, gradually become external, in consequence of the constant tendency in such cases, not only to the enlargement and extension of the tumors, but also to the thickening and prolapsus of the mucous membrane to which such tumors adhere, the effect of the relaxation of its cellular connections. Thus the internal tumors in length of time sometimes locate and fix themselves externally, as I have seen in some instances.

2. *Entero-external.* The entero-external hemorrhoidal tumors are those which are located at or near to the internal and external border of the anus, partly within and partly without, and sometimes, though seldom, occupying even the very aperture itself of the anus. [Vide Plate II., Fig. 1.] They are covered by a muco-cutaneous tissue and surrounded by the inferior portion of the external sphincter. They, like all other hemorrhoidal tumors, are either varicose or cellular, and like them, vary in size, form, and color. They are at first soft, compressible, but by time become hard. These tumors, from their locality, are often the source of much suffering and inconvenience, and when irritated, inflamed, or enlarged, they interfere seriously with the comfort of the patient and the functions of the external sphincter of the anus, and often result in anal fissures or anal fistulæ.

The entero-external tumors must not be confounded with the circum-anal growths, vegetations, or warty excrescences peculiar to the verge of the anus, which differ essentially from hemorrhoidal tumors by being the production alone of the diseased cuticular covering of the part, without involving the cellular membrane beneath it.

3. *External.* The external hemorrhoidal tumors are those which appear entirely on the outside of the anus and a little below its margin [Vide Plate II., Fig. 2.] They are covered by the common integument, and, when small, are movable, and can be distinctly felt to be imbedded in the subcutaneous cellular tissue; but when large and tense, they appear to be more connected with the skin itself. These tumors also vary in size like those of the other situations. They are sometimes distended and hard, and at other times soft or flaccid, empty, withered, or shrivelled. When these tumors are sanguineous, their color is sometimes bluish or deep red; when serous, it is pale and almost white. In course of time, however, the cuti-

cular covering of them becomes thickened, and their primitive color disappears, and they assume the color of the skin of the part in which they are located. The external tumors in some persons remain for years free from much pain and productive of but little inconvenience; in others, however, they enlarge, inflame, become painful, and greatly interfere with the functions of the anus, and by sympathy affect the contiguous organs. They never bleed unless upon the application of violence. They are scarcely ever varicose, but consist almost entirely of the cellular tissue and thin integument of the anal region, into which blood or serum has been extravasated in consequence of the active congestion of the hemorrhoidal vessels of the part.

The external and entero-external tumors are sometimes mistaken for internal tumors, and the patient often subjected to unnecessary pain and inconvenience, and the case only aggravated by the fruitless efforts to return them. The surgeon, as well as the patient, sometimes makes this mistake. The patient, immediately after considerable straining efforts to discharge a hard stool, discovers that the external tumors are greatly enlarged, being engorged with blood from the continued straining efforts. He at once imagines that the tumors in their enlarged state have been protruded from within the bowel, and makes painful and fruitless efforts to return them, whereas, by placing himself in a recumbent or horizontal position for an hour, the blood would recede from the tumors without any effort of his. Even should this take place, the patient would still imagine that the tumors had gone back into the bowel, whereas it was their fluid contents only which had returned into the circulation again.

I would remark here that, with regard to the origin and particular location of the different hemorrhoidal tumors, for a length of time great importance was attached to the supposition entertained by many of the old surgeons that the internal hemorrhoidal tumors were in immediate communication with the splenic and great mesenteric branches of the vena porta, and that they alone depended upon this source for their existence and growth, whilst the external hemorrhoidal tumors were alone the result and production of the dilatation and engorgement of the terminating hypogastric branches of the vena cava. This theory finally attracted the attention of the celebrated De Haen, who established upon it the following axioms, namely: that hemorrhage from the external hemorrhoidal

vessels directly and promptly depleted the sanguineous system in general, whilst, on the contrary, bleeding from the internal hemorrhoidal vessels directly and promptly disgorged the vena portal system. This fanciful theory of De Haen has of late years been resurrected, revived, and somewhat modified by the able and indefatigable labors of MM. Gosselin, Dubrueil, Richard, Duret, Verneuil, and others. This subject will be more fully discussed in the article on the *Dilatation of the Anal Sphincters*, in the section on the *Surgical Treatment of Hemorrhoids.*

III.—ANATOMY AND PATHOLOGY OF HEMORRHOIDAL TUMORS.

The nature and the structure of the morbid dilatations or swellings of the hemorrhoidal vessels, especially those in the inferior portion of the rectum, as well as the regularly organized hemorrhoidal tumors of the same region, have for ages been a subject of controversy, and it still remains so to a great extent; indeed, it is a curious circumstance that pathologists are not yet agreed regarding the structure and true nature of hemorrhoidal tumors. It may be remarked, however, with all due deference and respect for the very able and distinguished authorities, both ancient and modern, who have not derived their opinions of the nature and structure of hemorrhoidal tumors from dissection, but from other sources merely, that dissection is the only means by which this mooted question can be decided and all doubts removed. No theory, no authority can be accepted unless derived from and founded upon pathological anatomy. The opportunities after death for making such minute investigations are, however, not frequent, as hemorrhoids are not of such a nature as to cause death generally. Hence this circumstance may to some extent account for the little progress made in this direction.

About forty years ago, I began, in the city of New Orleans, to pay particular attention to the nature, the characteristics, and the anatomical structure of hemorrhoidal tumors, but not having the facilities of a hospital practice, the most fruitful source of pathological knowledge, my efforts have not been crowned with that success which I at first so ardently anticipated, so that I have not accomplished much more than verify in some instances what others had done before me. I have, however, frequently examined regularly organized hemorrhoidal tumors, both internal and external, when

removed from the living body, as well as when found in the dead subject.

I think it important to remark here that a considerable difference will be found in the appearance of hemorrhoidal tumors in the living and in the dead subject, and this difference should not be lost sight of in their investigation, lest the neglect of it might lead to hasty and wrong conclusions regarding their formation and structure. In the dead subject, such tumors, unless death has occurred suddenly, contain, as a general rule, either dilated veins or a condensed cellular tissue, and scarcely ever present that humid, soft, and spongy substance which is observed during life, and which is the result of the infiltration of fluids and the dilated state of the capillary vessels. This accumulation of the fluids depends upon a vital principle, which necessarily ceases with life, or is greatly reduced by protracted disease; hence, in the dead subject, these tumors, which during life were fully distended, will be found more or less collapsed and compact.

In cases, too, in which hemorrhoidal tumors have been of long standing, a new substance is formed, the interstices are filled up from repeated accessions of inflammation, by which the parietes of the minute vessels are strengthened and elongated and new matter deposited. Under these circumstances, the size of the tumors, not being very materially increased by the accession of the circulating fluids, continues nearly stationary. From the several circumstances just enumerated, I would observe that the very conflicting opinions of authors regarding the formation, structure, and nature of hemorrhoidal tumors are mainly owing to the circumstance of each one having examined and described such tumors at different periods of their existence, either in the dead or in the living subject, and under the different circumstances and constantly varying aspects of such tumors.

In the dead subject, it will be found absolutely necessary, in order to facilitate and perfect the inspection of hemorrhoidal tumors, to inject the arteries and veins in communication with them with proper preparations.

In making a section of a regular organized internal tumor, which differs essentially in its structure from the external tumor, a spongy mass will be discovered, consisting of a congeries of minute blood-vessels and intermediate cells, and presenting an inextricable net-

work, in which it would seem impossible to make a distinction between arterioles and veinules, or between arterial and venous capillaries, and in this respect partaking largely of the nævoid structure and very much resembling erectile tissue. [Vide Plate II., Fig. 3.] Such tumors are doubtless built up and sustained by anastomosis, in the manner described by Mr. John Bell. (*Op. cit., Vol. III., p.* 383.) The covering of the internal tumors consists simply of the mucous membrane, usually somewhat thickened, or thickened at one point and attenuated at other points, and variously altered in color and consistence. In the forming stage of the internal tumors, the mucous membrane covering them, sooner or later takes on a congestive, velvety, granular, strawberry-like aspect.

In making the section of the completely organized external and entero-external hemorrhoidal tumors, I have uniformly found that they exhibited a perfect cellular mass, like a piece of the finest sponge, saturated with blood or one of its elements, and resembling somewhat the substance and structure of the placenta or uterus. [Vide Plate II., Fig. 4.] In the primary stage of such tumors, and before the extravasated blood in the cellular membrane had become organized, I have frequently incised them and scooped out their contents, and found that they consisted of coagulated blood only. These hæmatomata are partly covered with skin and partly with mucous membrane. With regard to encysted or sac tumors, they are either formed in the blood-vessel itself, previous to the extravasation of the fluids, or in the cellular tissue exterior to it. In either case, however, the blood-vessel is involved, and ultimately becomes obliterated. Regularly organized hemorrhoidal tumors appear, therefore, to consist of a spongy tissue more or less vascular or dense, according to the duration of the affection, and are entirely composed of arterial and venous capillaries and the surrounding cellular tissue Indeed, the formation and development of all such organized hemorrhoidal tumors must be attributed to this cellular parenchyma, which appears essential and never absent. These facts, so far as they relate to the structure of the most common organized hemorrhoidal tumors, I have repeatedly demonstrated.

IV.—THE DIFFERENT OPINIONS OF AUTHORS.

The authors who believe that the hemorrhoidal disease consists exclusively of tumors may be divided into three classes, each one of

which giving a different description of them, as will be fully shown hereafter. While the first maintains that all such tumors are dilatations or varices of the hemorrhoidal veins, hence *varicose tumors;* the second maintains that all such tumors are the result of the extravasation of the fluids of the morbidly dilated vessels into the cellular tissue, hence *cellular tumors;* while the third admits the varicose state of the veins at first, yet considers that the extravasation of the fluids subsequently into the cellular tissue produces what properly constitutes the true hemorrhoidal tumors.

I would observe, however, so far as the mere structure of such tumors is concerned, that each one of these parties is to a certain extent correct; for all such tumors are at first mere varices, caused by simple dilatation of the morbidly relaxed hemorrhoidal vessels; but by far the largest number of such varices or varicose tumors subsequently become cellular or cystic, caused by cellular deposit and expansion. Indeed, in my opinion, so far as the structure is concerned, the true hemorrhoidal tumor, which is always the result of the morbid state of the blood-vessels, or varicose tumor, is a regularly organized growth, caused by the extravasation of blood or serum or both into the cellular tissue, and there assuming an organized form.

Some authors have divided the cellular tumors into *sanguineous* and *serous;* that is, into those which arise from a deposition of blood, and those which arise from a deposition of serum. The sanguineous tumors are opaque, and of a comparatively dark color, the blood evidently shining through their thin envelope. They usually occur in the strong and the healthy. The serous tumors are of a pale color, almost transparent, highly elastic, easily compressible, rapidly produced, and almost always external. They are more liable to arise in the weak, the debilitated, and the irritable.

Another division of all hemorrhoidal tumors may also be named, one having a somewhat practical bearing, that is, into *functional* and *structural;* or, in other words, into *accidental* and *permanent.* The functional, accidental, or primary tumors are simply dilatations or varices of the hemorrhoidal vessels, being easily compressible, and at this early stage easily dispersed altogether by a proper course of treatment. As to the structural, permanent, or organized tumors, whatever opinions may be entertained—and indeed they are many and various—with regard to their essential nature, yet all agree that

sooner or later the contents of these tumors coagulate and undergo other changes; they become larger, firmer, and their coats increase in thickness—alterations in their structure which greatly modify and obscure their primitive formation.

Some authors, and among them the able Professor M. Chaussier, have divided all hemorrhoidal tumors into two species—the *encysted*, and the *cellular* or *spongy*. The hemorrhoidal cysts are collections of either sanguineous, serous, or sero-sanguineous fluids; and are generally developed in the cellular tissue surrounding the congested vessels; sometimes borrowing from this tissue an actual covering; at other times, on the contrary, the fluid is in contact with a serous surface without any real organized sac. In such instances, if the extravasated fluid into the cellular tissue be pure blood, as from a ruptured vessel, as some authors are of opinion, and presenting themselves in the form of sacs or tumors, such may with propriety be denominated *hæmatomata*. The encysted tumors, when large, were called by some of the old authors *hæmorrhoïdes saccata;* but when small, *tubercula hæmorrhoïdalia*.

Many of the distinctions of hemorrhoidal tumors given by authors are, however, merely fanciful and impart no information as to their real and exact nature.

V.—SYNOPTICAL VIEW OF THE OPINIONS OF AUTHORS.

I will now proceed to classify and illustrate what is known respecting the causation and formation of hemorrhoidal tumors, from the earliest period down to the present time, by briefly presenting the conflicting opinions of the different eminent authors.

1. *Varicose Hemorrhoidal Tumors.* The following are some of the authors who consider that all hemorrhoidal tumors are nothing more than dilatations or varices of the hemorrhoidal veins:—Hippocrates, as I have already shown in a previous chapter, considered hemorrhoids, in their structure, as dilatations of the extremities of the hemorrhoidal veins, and that their function was to evacuate the black bile or melancholic humor. I have also shown elsewhere that Galen and Celsus maintained the opinion of Hippocrates, not only as to the structure, but also as to the office which he ascribed to these varices. These opinions were held by the ancients generally; but in process of time, and after the illustrious Harvey had, more fully than Galen, demonstrated the theory of the circulation

of the blood, the erroneous opinions of the ancients respecting the function of these varices was completely dispelled; and at once a much more correct system of physiology, anatomy, and pathology was rapidly brought into existence; so that physiologists, anatomists, and surgeons began now to apply this new system to the investigation of various diseases, and among them to that of hemorrhoids also, and to establish a doctrine with regard to their formation and structure which, in many of its features, was adopted and still is held by some of the ablest men, as I will continue to show.

In addition to the illustrious names already given, who maintained that hemorrhoidal tumors were only dilatations or varices of the hemorrhoidal veins, I will add the names of the following eminent authors, who advocated the same theory, as I have elsewhere already shown:—Walæus, Bœrhaave, Forestus, Mercatus, Vidius, Trincavellius, De Haen, Alberti, Stahl, Hoffmann, and Lieutand.

I will now present some very able authorities, with a brief synopsis of the views of each one on this subject.

The celebrated Wiseman, surgeon to Charles the Second of England, fully and ably discussed and advocated the doctrine that hemorrhoids were varices of the hemorrhoidal veins. He says, "There is one sort of varices more important than the rest, I mean the varicous swellings of the *Venæ Hæmorrhoïdales*. These happen very often, both in men and in women; so as sometimes to break and void blood; at other times only to swell and distend.

"The varices hæmorrhoïdales themselves will admit of these following differences, which are either essential or accidental. 1. The essential are those that are taken from the parts themselves that are tumefied; namely, either the vein only swells or some adjacent bodies swell with it; or some new body is generated and adheres to it. When the vein only swells without bleeding, which we call *hæmorrhoïdes cæcæ*, or blind hemorrhoids; or which upon swelling, it opens and bleeds, we call *hæmorrhoïdes apertas*." (*Several Chirurgical Treatises. Book III., Chap.* 1, *p.* 211 *et* 213, *folio. London*, 1676.)

Astruc says that "Hemorrhoids are a species of varices arising upon the anus, or in its immediate neighborhood. All hemorrhoidal varices result from the violent distention of the capillary vessels, which arise from the internal or external hemorrhoidal vessels, and from an infinite number of ramifications upon the anus and its con-

tiguous parts." (*Dissertatio de Fistulâ Ani.* 12*mo*, *Monspelii*, 1718.)

Morgagni, who was of opinion that hemorrhoids were nothing but varices of the hemorrhoidal veins, says, "To how great an extent these veins may be dilated, I observed in a certain man of a good habit of body, but inclined to be plethoric, who died at Bologna in 1706 of a wound under the axilla, and whose body I dissected. The extremity of the rectum in this man gave evidence of his having been subject to hemorrhoids, as on the interior surface of it, several varicose enlargements of the veins were observed; and as I looked very attentively upon the largest of these, I was surprised that none but the smallest blood-vessels communicated with it, *non nisi tenuissima sanguinifera vascula.* The varix itself was distended with a large quantity of grumous blood, so as to make it evident that some small vein had been expanded into so considerable a size." (*Op. cit.*, *Lib. III.*, *Epist. XXXII.*, *Art.* 10.)

The large and dilated vessel of which Morgagni speaks, as well as the minute vessels which supplied it with blood, were not veins, as he supposed, but capillary vessels, whose capacity for great dilatation I have elsewhere stated.

M. Petit considered hemorrhoidal tumors as varices of the hemorrhoidal veins, and in conformation of his opinion, among other evidences, cites a remarkable case in which a patient sank from hemorrhage of the rectum. On dissection, he remarks: "Je trouvai le foie peu gonflé, mais dur; les veines mésentériques, spléniques et autres, qui forment la veine-porte, étoient considérablement dilatées, parce que le tronc étoit comprimé, non par le volume, mais par la dureté du foie; les veines hémorrhoïdales, depuis du colon jusqu'au sphincter de l'anus, étoient variqueuses, crévées et ulcérées dans l'interieur du boyau; les bords de plus d'une trentaine de ces ulceres, le boyau même, dans presque toute son étendue, étoient durs et calleux." (*Op. cit.*, *Tome II.*, *p.* 76.)

As a further evidence that hemorrhoidal tumors were varices of the hemorrhoidal veins, M. Petit was in the habit of taking blood from such tumors by puncture, instead of the ordinary method of venesection, which he believed could not have been done if such tumors had not been varices or cysts, in direct communication with the large veins of the rectum.

M. Pinel very clearly and accurately describes hemorrhoidal

varices, from having carefully examined the parts about the rectum and anus in a dead subject. He says: "On a *post-mortem* examination of the body of a female who had formerly been subject to hemorrhoids, I observed some tumors about the anus and some folds of the mucous membrane of a deep-red color. On carefully raising this membrane, I found beneath it some tumors filled with clotted blood. The interior of these tumors was continuous with those portions of the vessels which were of the usual calibre, as was proved by the introduction of a probe. These vessels, which had all the appearance of veins, presented alternately a state of dilatation and their natural calibre. Their course was continued in all directions, thus forming a true vascular plexus. These small tumors were more or less near to each other, and adhered by means of a very fine cellular tissue, easily divided. It seemed to me, therefore, that these hemorrhoidal tumors were nothing but a collection of varices or partial dilatations of different portions." (*Nosographie Philosophique. 2d Edit., Tome II., p.* 566, 8*vo*, *Paris*, 1802.)

Meckel says that the abnormal dilatation of the vessels of the alimentary canal, which not infrequently exists, deserves to be noted. It is most generally observed in the rectum in the form of rounded tumors, which project into the cavity of the intestine, and are termed *hemorrhoids.* It is generally admitted that these tumors are situated in the *hemorrhoidal veins;* doubtless the arteries also contribute to them, although we cannot admit with Cruveilhier that they are new formations, an accidental development of the erectile tissue. More probably they depend in some cases upon the dilatation of the small vessels, and in others on that of the larger vessels, and in the last case, where they appear as sacs, the dilated portion is separated from the rest of the vessel. (*Manuel d'Anatomie Générale, Descriptive et Pathologique. Traduit de l'Allemand, par A. J. L. Jourdan et G. Breschet. Tome III., p.* 292, 8*vo*, *Paris*, 1825.)

Chelius says that hemorrhoids are varicose expansions of the veins of the inferior part of the rectum, in which, by the collection of blood in these vessels, preternatural bags or sacs of different sizes, from that of a pea to that of a walnut, are produced. These swellings are commonly called blind or "*blinde hämorrhoiden*" (Hæmorrhoïdes Cæcæ), in order to distinguish them from flowing or "*fliessenden hämorrhoiden*" (Hæmorrhoïdes Fluentes). They swell

periodically, and again become lax, so that only the empty bags remain. If they have considerable size they are called "*Sac hämorrhoiden*," but if they are small they are "*Zacken*." The blood in the sacs often coagulates into a hard mass, so that a firm swelling is formed. When these swellings are not very large, they may be only formed by an expansion simply of the walls of the veins; but if they are of large size, the blood is poured out beneath the inner coat of the rectum, and expands into a sac, hence the large size which the swellings attain. It often happens that in excising them, little or no hemorrhage occurs, and it is then distinctly perceived that they consist only of skin. (*Handbuch der Chirurgie. Band* 1, *Abtheilung II., Seite* 892, 8*vo. Heidelberg und Leipzig*, 1826.)

M. Andral, in dissecting a very large number of hemorrhoidal tumors, found nothing but one or the other of the following varieties of varix of the hemorrhoidal veins: 1. Simple dilatation, without any other alteration through their whole length or at intervals. 2. Dilatation of veins, with thinness of the walls of the dilated points. 3. Uniform dilatation of veins, with thickening of their coats. 4. Dilatation of veins at intervals, with thickening of their coats at the points of enlargement. In these two latter varieties, the capacity and length of the vein are both increased, and it becomes tortuous in consequence. 5. Dilatation of veins with the development of septa in their interior, which divide the vein into little cells (loculis) in which the blood accumulates and coagulates. 6. The same disposition exists as in the last species, but, besides, there are numerous small openings in the walls of the vein, which communicate with the surrounding cellular tissue, more or less changed. (*Précis d'Anatomie Pathologique. Tome II., p.* 402, 8*vo*, *Paris*, 1829.)

M. Dupuytren says that: "As it regards the nature of hemorrhoidal tumors, a great variety of opinion exists. Some suppose the disease to have its seat in the capillary vessels without involving either arteries or veins. Other again, as Duncan, Le Drau, Cullen, etc., regard them as cysts into which the blood is poured. Lastly, Stahl, Alberti, Vesalius, Morgagni, Petit, and Boerhaave consider them to be dilated veins, true varices, and this is my own opinion also." (*Leçons Orales de Clinique Chirurgicales. Tome I., p.* 341, *imp.* 8*vo*, *Paris*, 1832.)

M. Jobert maintain the old theory that hemorrhoidal tumors are veritable varices of the hemorrhoidal veins. (*Traité des Maladies Chirurgicales du Canal Intestinal. Tome I., p.* 138, 8*vo*, *Paris*, 1829.)

M. Gosselin says: "Internal hemorrhoids are evidently due to varices of the superior veins of the rectum, whilst external hemorrhoids are formed by the dilated inferior hemorrhoidal veins and the hypertrophy of the cellular tissue which surrounds them. This tissue in time becomes so modified by repeated inflammation that the venous element tends to disappear altogether." (*Leçons sur les Hémorrhoïdes*, 8*vo*, *Paris*, 1866.)

Virchow says that: "Hemorrhoidal growths begin with a slight alteration of the surface and slight changes of structure. It is only after a certain continuance that they attain the prominence of hemorrhoidal tumors. All vascular tumors around the inferior extremity of the rectum and about the anus belong to one single category, that of varicose tumors, the arteries being only subsidiarily affected. The plexus hemorrhoidalis is the portion of the venous apparatus in which the affection is developed, and it is the tributaries of the vena cava, rather than those of the portal system, that suffer. They have a bluish or bluish-red color, and, if cut through, are found to be composed of sacculi filled with blood, and varying in size from the finest point to a cherry stone. Although they have a structure somewhat similar to the cavernous tumors, still there is this difference, that here the sacculi do not communicate one with the other. They are surrounded with an enveloping tissue which is well supplied with vessels, especially of an arterial character. All of the hemorrhoidal tumors are composed of these two parts, the aneurismal vessels and the surrounding membrane." (*Die krankhaften Geschwülste. Band III., Hälfte* 1, *Berlin*, 1867.)

For the positive evidence that hemorrhoidal tumors, at their commencement, always consist of simple dilatation of the hemorrhoidal vessels, or, in other words, that they in their primary stage are nothing but varices, we are largely indebted to the able, skilful, and minute dissections of MM. Andral, Dupuytren, Jobert, Virchow, Blandin, Verneuil, Gosselin, etc. Their opinions are worthy of the highest credence, as they were formed alone from actual dissection.

2. *Cellular Hemorrhoidal Tumors.* I will now present some of

the eminent authors who maintain the cellular origin and character of hemorrhoidal tumors, and some who deny the varicose origin of them.

The illustrious Professor Cullen did not believe that hemorrhoidal tumors were varices of the hemorrhoidal veins, but on the contrary maintained, in an able manner, that they were a real effusion of blood into the cellular membrane. His argument is: 1. The veins of those parts are too small to produce by dilatation the large tumors that are usually present in hemorrhoids. 2. If the tumors were varices or varicose, they would be soft and yield to the pressure of the finger; on the contrary, they are hard, and do not disappear on firm pressure. 3. On dissection, the veins seem not to be dilated, but some distinct cells appear loaded with blood. (*Lectures on the Practice of Physic. Vol. I., p.* 485, *et seq.* 4*to*, *Edinburgh*, 1812.)

Mr. Kirby, who had extensive opportunities afforded him by dissection, has given the subject of the structure and nature of hemorrhoidal tumors a very laborious, minute, and careful examination. He says: "I cannot say that they seemed to be formed of a varicose distention of the great hemorrhoidal vein, even in a single instance. In every case of external hemorrhoids the tumor appeared to be composed of a sac-like prolongation of the cellular substance in a very thick and unusually firm state, surrounded by some veins and covered by the integument. The veins were branches of the internal iliac. In every case of internal hemorrhoids the structure was pretty similar; the veins, however, seemed enlarged, and were branches of the hemorrhoidal." (*Observations on the Treatment of certain severe forms of Hemorrhoidal Excrescence, p.* 40. 8*vo*, *London*, 1817.)

M. Récamier, who devoted much attention to the structure of hemorrhoidal tumors, recognized that these tumors sometimes formed small cysts in the dense cellular tissue at the inferior extremity of the rectum, which being closely united to the cellular tissue by their exterior face, are smooth on their inner surface, and present a cavity which is frequently filled with a small clot of blood. (*Essai sur les Hémorroïdes.* 8*vo*, *Paris*, 1800.)

The able and distinguished Professor Chaussier says that hemorrhoidal tumors are due to a rupture of some of the capillary branches situated in the cellular membrane between the mucous and muscular

coat of the rectum. The blood being poured out of the ruptured vessels raises up the mucous membrane, and forms on the spot a bluish or brownish tumor, just what we frequently see to result from the contusion or percussion of the skull, to arise almost instantly a lump or bloody tumor, more or less voluminous—hence hemorrhoidal tumors, in the commencement, are only an ecchymosis, or an effusion of blood furnished by the rupture of some capillary branches, and which is accumulated, circumscribed, and retained under the membrane lining the inferior extremity of the rectum and margin of the anus. If the causes which have determined the extravasation of blood cease, and are not renewed, resolution occurs spontaneously and the tumor disappears. On the contrary, if constipation prevails, if the efforts of defecation are repeatedly made, if at the same time there is plethora or a particular disposition to it, the tumor remains, it increases, and new ones form from it either in the interior or on the exterior of the anus. These tumors, in becoming habitual, acquire with time a texture or particular organization. Indeed, if the old tumors are examined, it will be found that the blood is inclosed in a kind of membranous cyst, formed without doubt by a union of its exterior face to the posterior surface of the cellular membrane between the mucous and muscular coat of the rectum. Most generally the interior of the cyst is smooth; but sometimes it seems bristling with villi; at other times it seems to be cellular, spongy, and formed by a kind of parenchyma, or soft and fungous tissue; and when researched to ascertain whence comes the blood filling this kind of tumor, instead of finding distended vessels, there is only discovered the orifice of some very fine vessels. (*Dissertation sur les Hémorroïdes. Soutenue par J. B. Lavedan, p.* 12. 8*vo*, *Paris*, 1814.)

Upon the very plausible theory of Professor Chaussier, as presented above, M. De Montègre remarks: "In adopting the opinions of the learned Professor Chaussier regarding the formation of hemorrhoidal tumors, I nevertheless have a different conception of their production. Blood being suddenly effused into the cellular tissue by the rupture of a vessel, instead of accumulating there in globules, would spread through the cells of the surrounding tissue and extend itself along the surface in the manner of an ecchymosis; for if the cellular tissue could not retain the blood when inclosed in the vessels it surrounds, how could it have sufficient strength to prevent it

from spreading when the vessel is ruptured? Besides, the blood, being effused in the cellular tissue, would either be reabsorbed or would produce an abscess, and nothing of that kind happens.

"It appears to me more natural, therefore, and more conformable to the common laws of vitality, that in some points of the capillary vessels a dilatation without rupture is produced, by which a small cyst is formed at the expense of the parietes of the vessel '*tanquam ex capitulis quibusdam.*' This explains how it happens that the cyst and the small vessel which supplies it with blood is not obliterated by inflammation, which in all probability would be the case if the blood were poured out immediately into the cellular tissue." (*Op. cit., p.* 34.)

M. De Larroque, who, with Professor Chaussier, divides hemorrhoidal tumors into two species—the cellular or spongy, and the encysted, says: "If we divide one of these tumors in the centre, we find a homogeneous parenchyma, very often of a reddish color, but which sometimes becomes rather white when it is washed in water, and particularly when macerated. If, previous to washing it, we press the tissue, pure bloody serum or else a very limpid serous fluid is forced out, as from a sponge. It should be remarked that even in cases where there are varicose veins, this cellular parenchyma is never wanting; so true it is, that to its development the formation of hemorrhoidal tumors must be attributed. In general, wherever veins are discovered, they are placed between the exterior and this organized tissue, and are lost in very minute ramifications. This general disposition of the veins is an additional proof that these hemorrhoidal tumors do not proceed from varices, for in that case they would be found distributed in the body of the tumors, and not upon their surface." (*Traité des Hémorroïdes, p.* 271. 8*vo, Paris,* 1812.)

M. Lisfranc says that hemorrhoidal tumors are composed of a sort of fibrous tissue, in which only a few vessels are to be found when there is no congestion; and when this exists, however violent it may be, these vessels are never so numerous as in erectile tumors. On upwards of a thousand bodies from which I removed the rectum, and in the numerous operations I have performed, I never as yet have met with a real erectile tumor in this region. This fact renders the prognosis less dangerous, and an operation not so indispensable. It may, therefore, be concluded, 1. That though without a

doubt veins more or less voluminous may be found in hemorrhoidal tumors, still these last are not formed of varicose veins; and 2, That their composition differs from that of erectile tumors. (*Clinique Chirurgicale de l'Hôpital de la Petie. Tome II.*, 8*vo*, *Paris*, 1843.)

Mr. Abernathy believed that hemorrhoidal tumors are originally produced by effused blood in the cellular membrane, but subsequently converted into an organized substance there. (*Surgical Works. New Edition, Vol. II., p.* 240. 8*vo*, *London*, 1830.)

To the list of those who denied the varicose origin or character of hemorrhoidal tumors may be added the names of the following eminent authors: Cruveilhier (*Essai sur l'Anatomie Pathologique, Tome II., p.* 146, 8*vo*, *Paris*, 1816); Delpech (*Précis Elementaire des Maladies réputés Chirurgicales, Tome III., p.* 262, 8*vo*, *Paris*, 1816); Boyer (*Traité des Maladies Chirurgicales, Tome V., p.* 28, 8*vo*, *Bruxelles*, 1828); Le Dran (*op. cit.*); Laennec (*op. cit.*); Beclard (*op. cit.*).

3. *Varicose and Cellular Hemorrhoidal Tumors.* The following are some of the authors who consider that all hemorrhoidal tumors are at first simply varices of the hemorrhoidal veins, but that, in process of time, they become cellular.

Sir B. C. Brodie says: "I cannot doubt that hemorrhoids are just what I have mentioned, dilated varicose veins. This is the common theory of their formation, and I certainly believe it to be correct. If you cut through hemorrhoids and dissect them as if it were in the living person, you see that they are made of dilated veins, and if you dissect hemorrhoids in the dead body, you find them just the same. If you insert the pipe of a syringe into the trunk of the inferior mesenteric vein of a person who had labored under hemorrhoids, the hemorrhoids all become dilated largely with the injection. I know that some have held a different opinion concerning the formation of these tumors, and have supposed that they were not composed of dilated veins, but I apprehend that they have been misled by examining the parts in the advanced stage of the disease. If you wish to know what any disease really is, you must make your dissection of it in its origin, for in its progress one morbid change is followed by another, and when a disease has lasted for a considerable time, you find various appearances in addition to those which existed in the first instance. These ultimate changes which take place in cases of hemorrhoids are exactly similar to those which

occur in connection with varicose veins of the leg. You know that at first the veins of the leg are simply varicose, dilated, that sooner or later they become inflamed, that lymph is deposited in the cellular membrane surrounding them, and that ultimately there is a great mass of induration, in which the diseased blood-vessels are, as it were, imbedded. So it is with the veins of the anus and rectum. At first they become simply dilated; repeated attacks of inflammation cause an effusion of lymph into the adjacent cellular texture, and then the hemorrhoid appears like a solid tumor, in the centre of which, however, you still find the dilated vein in which the disease originated." (*Clinical Lectures on Surgery, Lecture XXXIV., p.* 307, *imp.* 8*vo*, *Philadelphia*, 1846.)

According to the celebrated Richter, *Die Blinde Guldene Ader*, or blind hemorrhoids, consist of preternatural cysts or sacs at the inferior extremity of the rectum, from the size of a pea to that of an apple. Sometimes they are distended with blood and very much swollen, and other times they entirely subside. Although, when they have been repeatedly swollen, they never quite disappear, but are alternately in a full enlarged state, and empty and flaccid. Indeed, the more frequent and considerable the enlargement has been, the greater is the size. It is generally supposed that these tumors or cysts are varicose expansions of the veins of the rectum, and probably, says Richter, this may sometimes really be the case, but the disease is not always of this nature. In particular cases, and perhaps in the most instances, they arise from an extravasation of blood under the inner coat of the rectum, and then and there the cyst is altogether formed by this membrane and not by the vein. The following circumstances furnish proof of what has here been observed. Hemorrhoids are sometimes as large as a walnut or an apple, yet it is scarcely credible that a mere varix could attain such a size. When cut away, the bleeding is often very slight, even when they are large. Surely, if the tumors were varices, there would always be profuse hemorrhage. Sometimes the cyst is found quite empty, but how can a varix be supposed to be in this state? The shape of the hemorrhoids is also remarked to be subject to greater variety than can hardly attend dilatations of veins; thus they are sometimes oblong, sometimes cylindrical like a finger, etc. Lastly, when cut away, the sac is plainly seen to consist only of a single membrane.

(*Die Blinde Guldene Ader. In Anfangsründe der Wundarzneykunst. Band VI., S.* 395, 8*vo*, *Göttingen*, 1802.)

M. Ribes, one of the most laborious investigators of the rectum, is of the opinion that hemorrhoidal tumors are formed of cells filled with blood. He says: "The distention of the hemorrhoidal veins with blood gives rise to varices; but if any of their blood is extravasated into the cellular membrane at the inferior and internal part of the rectum or anus, hemorrhoidal tumors are the result. If the inferior mesenteric vein be dissected in hemorrhoidal patients, the ramifications of the vessel are seen terminating in these cysts of blood, and on completely removing the whole, the hemorrhoids appear suspended from the branches of the vein, as grapes from the vine." (*Mémoires de la Société Médicale d'Emulation de Paris. Tome IX., p.* 110, 8*vo*, *Paris*, 1826.)

It will be seen that both Richter and Ribes, although admitting the varicose condition of the hemorrhoidal veins, yet consider the extravasation of blood into the cellular tissue as properly constituting hemorrhoids or hemorrhoidal tumors.

Mr. Harrison gives a very interesting description of the origin, formation, and structure of what he terms *true hemorrhoidal tumors*. He says: "The true hemorrhoidal tumors, external as well as internal, must be regarded as essentially different from a varicose condition of the anal veins, although they are often connected with the latter, and it must be admitted that in some cases they may owe their origin in a great measure to venous dilatation, either of a trunk or of some of the branches of these vessels; their cavity is continuous with that of the vein, and freely communicates with it, and pressure on the varix empties it of its contents; its tunics are the venous coats and the membrane of the intestine, whereas hemorrhoidal tumors are wholly distinct from the veins, and are either simple cysts, lined by a smooth membrane, or they are composed of a spongy cellular texture not unlike the erectile tissue. The latter is usually the condition of recently-formed hemorrhoides, whereas in those of long-standing the single or divided cyst is the ordinary structure; this cyst will be found to contain a little blood, partly fluid and partly coagulated; and when the internal surface is minutely examined, one or more fine pores will be visible, the orifices of capillary vessels, through which warm water, if steadily injected by the inferior mesenteric artery, will exude on the surface.

In the cellular or more recent hemorrhoids, the texture appears very vascular, soft, and spongy, as also the surface of the tumor, from which blood or serum will sometimes exude during life. These cellular hemorrhoids in time become circumscribed, the cellular texture becomes more or less perfectly absorbed, and the cyst-like structure becomes more developed; however, a very recently formed hemorrhoid may, and sometimes does, present a distinct cyst or cavity, as may be readily conceived when we consider the process whereby these tumors come to be developed, which, as far as our observation extends, is as follows:—From continued irritation; from any exciting cause, such as disease of the intestine or anus, worms, or from a local plethoric condition, spontaneous, as far as we can know, the capillary circulation is increased in the loose submucous tissue in this region, a small quantity of blood, lymph, or serum is effused into it, perhaps from the rupture of some small vessels or exhaled from their dilated extremities. A slight degree of inflammation attends this condition; the part affected, that is, the cellular tissue, becomes more highly organized, thickened, vascular, and spongy. After some time, this increased vascular action subsides, and in process of time the whole may nearly disappear, but in general a part of this more highly organized spongy tissue remains, it being fully supplied with nourishment; the absorbents in due course modify its appearance; the surrounding thickening is removed, as also some portion of the cellular mass, and thus the formation of the hemorrhoidal cyst is completed. A structure like this, connected with the capillary system, must be influenced by the same causes as can affect the latter; thus irritation, local or general, mechanical injury, or general or local plethora, are all capable of exciting increased action in it, and of inducing all those symptoms and changes which are so well known to attend hemorrhoidal inflammation." (*Hemorrhoids.* In *Cyclopædia of Anatomy and Physiology. By R. B. Todd, M.D., Vol. I., Art. Anus, p.* 185, *imp.* 8*vo*, *London*, 1835.)

Sir Everard Home, although considering hemorhoids as dilatations or varices of the hemorrhoidal veins, admitted that, in cases of long standing, the contents of the vessels coagulate and become solid, their coats increase in thickness, and they resemble pendulous excrescent tumors in other situations of the body. (*Observations*

on the Treatment of Ulcers on the Legs. 2d Edit., p. 365, 8*vo*, *London*, 1801.)

It will be observed that Sir Everard Home does not speak of any extravasation of any of the contents of the dilated or varicose vessels into the cellular tissue, but intimates that the organization of the tumors takes place within the morbidly dilated vessels themselves. Mr. Quain, it will be seen, intimates the same; hence it would appear that they exclude the idea of the formation of cellular hemorrhoidal tumors altogether.

Mr. Quain says, "In the more advanced stage of hemorrhoids, the vessels become more than dilated. Their walls are thickened, in consequence of the repeated inflammatory attacks to which they are subjected. They become tortuous as well; and there is often added a deposit of fibrinous matter, by which the vessels are glued together, and an indurated tumor is built up. This change occurs most extensively in external hemorrhoids." (*Op. cit., p.* 12.) Mr. Quain, on the same subject, further says: "The alteration of the veins from which the hemorrhoidal tumor results, takes place in the loops which they form inferiorly. As would be expected, the change is progressive. At an early stage dilatation occurs, which in one part is gradual,—fusiform. In another it is abrupt, starting suddenly out from the end of the loop into a rounded pouch. A degree of elongation of the looped part accompanies these changes; so that the vessel is lowered beyond its natural level. During these alterations, the dilated vein still circulates fluid blood. In a more advanced stage the dilatations are still further enlarged, and they are found to contain clotted blood, or fibrinous matter. From the aggregation of veins, thus dilated in different ways and in different degrees, loaded also with blood or one of its elements, more or less solidified, the hemorrhoidal tumor is formed." (*Op. cit., p.* 32.)

The late able and distinguished Professor Dr. Geddings says, "Some difference of opinion exists, as to what a hemorrhoidal tumor really is. There are surgeons who regard this as a tumor formed by the rupture of one or more of the small veins of the part, and consequent extravasation of blood into the cellular tissue, between the muscular and internal coats of the rectum. Most generally, however, hemorrhoids are regarded as the result of a varicose condition of the hemorrhoidal veins, causing longitudinal swellings along the surface of the bowel and giving a knotty feeling to the interior of

the rectum. These knots or bulbs, soon enlarging, form soft and compressible tumors, at times increasing, then again diminishing in size, and easily emptied by pressure. Soon they become more decided, extend either longitudinally or in a spherical manner, and become firmer and firmer, by the increase of their cellular material and the deposition of plastic matter, until they resemble a sponge filled with blood. An artery is found passing directly into the centre of the tumor. In the external hemorrhoid we are apt to find that, from the amount of plastic deposit, the tumor has lost its cellular character in a great measure, and has hence become a tough indurated mass, supplied with veins, and having an artery passing into its centre." (*Outlines of a course of Lectures on the Principles and Practice of Surgery, p.* 494, *imp.* 8*vo*, *Charleston*, 1858.)

The late able Dr. Bushe says, "In the chapter on hemorrhoidal affections, I gave such a description of the tumors which result from a determination of blood to the rectum as I was warranted from the examinations I have made of them. Whether they had their origin in diseased veins, I did not, nor do I now pretend to determine. Some one possessing more leisure than falls to my lot would do well to renew the investigation, freeing his mind, in the first instance, from the plausible theory of their venous origin, and recollecting also that a morbid structure may not have the same identical arrangement from the commencement.

"Slight dilatation of the hemorrhoidal veins is very common, especially in persons subject to enlargement of the veins of the inferior extremities, and in such persons the portal veins are generally more ample and have thinner tunics than in those who are free from this infirmity. Of these facts I long since satisfied myself. I must say, however, that the dilatation of the hemorrhoidal veins which I have seen bore no resemblance whatever to the hemorrhoidal tumors; nor did it appear to me that the dilated veins were undergoing any structural alterations which would lead to the supposition that they were about to be converted into hemorrhoidal tumors." (*Op. cit. p.* 197.)

The particular kind of dilated hemorrhoidal veins of which Dr. Bushe here speaks, are no doubt of an hereditary origin, being a congenital malformation, such as I have elsewhere spoken of, under the head "*Hereditary Predisposition.*"

CHAPTER VII.

HEMORRHOIDAL FLUX.

I. Bleeding from the hemorrhoidal vessels, a result or a symptom of the hemorrhoidal disease, has in all ages attracted the greatest attention, and it was doubtless in consequence of this phenomenon, as I have elsewhere already shown, that the name *hemorrhoids* was given by the Greeks to the disease so called. It, however, is highly important to make the distinction between the hemorrhoidal flux, and the hemorrhoidal disease, for they are by no means identical.

Hemorrhoidal bleeding, like all other hemorrhages, may be either active or passive. In hemorrhoids, it is generally passive. There is, however, nothing more variable or more diversified than the hemorrhoidal flux, either with regard to periodicity, quantity, or to the circumstances under which it takes place. The most simple form by which it manifests itself sometimes is in the primary stage of the disease, when the dilatation or turgescence of the vessels is unattended by either hyperæmia, congestion, lesion of any kind, or premonition. Such a hemorrhage occurs simply as an exhalation from the capillaries of the mucous membrane of the rectum. I have known persons to lose several ounces of blood from the rectum, while evacuating the bowels, without experiencing any uneasiness or pain, either before or subsequent to the discharge, and also without a previous and a subsequent hemorrhage. Such cases have been reported by authors. Patients who suffer from hemorrhoids are sometimes subject to hemorrhoidal bleeding, at intervals of a few days, a week, a month, or even longer. Occasionally it seems to assume a periodical character, returning with the week, the month, the season, etc. As a general rule, the bleeding ceases in the course of several days, but sometimes it continues more or less for months, and in some instances it takes place in moderation for a lifetime. Cases, too, are reported in which it is said that the bleeding has

occurred but once in a long life. The amount of blood lost varies from that of a few drops to a drachm, to an ounce, and even a pound has been known to have been discharged at one time. The bleeding sometimes occurs during defecating efforts, at other times preceding them; but it most usually follows the passage of fæces.

Smetius speaks of a young man who for several years had a hemorrhoidal flux every spring. (*Miscellanea Medica. Lib.* 1, *Cap.* 4, *Epistol.* 9, *p.* 222, 4*to*, *Frankfurti*, 1611.) Schenfelder reports similar cases. (*Historiæ Enarrationes Medica. Hist. XII., p.* 45.) Stegmann also reports like cases (*Historia Naturalis Curiosa. Dec. III., Ann.* 4, *Observ.* 102.) Alberti cites the case of a young man in whom the hemorrhoidal flux occurred twice a year regularly. (*Acta Naturæ Curiosorum, Vol. I., Observ.* 217.) Fortis mentions the case of a lawyer who had a hemorrhoidal seizure every three or four months. (*Consultationes Medicæ, Tome II., Cent.* 2, *Consult.* 69.)

II.—LEUCORRHŒAL FLUX.

Besides the hemorrhoidal flux which is sanguineous, there sometimes also takes place from the rectum a serous, sero-mucous, or leucorrhœal flux, which has, from its color, been denominated *white hemorrhoids* by a number of authors, as I have elsewhere already shown. This whitish discharge, like the sanguineous, sometimes accompanies the hemorrhoidal disease, but by no means necessarily so, inasmuch as it may or may not depend upon that affection. When it accompanies hemorrhoids, the presumption is that it is caused by the irritation of the mucous membrane of the rectum which these induce; indeed, it is always the effect of irritation or chronic inflammation of that membrane, from whatever cause induced, and constitutes in reality what we term *catarrh of the rectum.* It is an exudation from, or a secretion of the mucous membrane furnished by the exhalants, and is variable as to quantity, consistency, and appearance, being sometimes so copious as to cause a continued dripping or oozing from the anus, and soiling and staining the linen of the patient, or it passes out of the anus suddenly in flakes on the first effort at stool or passing flatus; even efforts at urination, as well as coughing and sneezing, will sometimes cause a more or less discharge of it. The discharge is sometimes whitish, and thin, like gum-arabic water, at other times it is clear and tenacious, like

the white of an egg, and again it has the exact appearance and consistence of frog's spawn. I have occasionally seen it of a pale pink color, resembling currant jelly.

I would observe that, whenever the white flux accompanies hemorrhoids, which it sometimes does, it, as a general rule, immediately follows the sudden cessation of the red flux, and, in such cases, seems to replace it, as it were, or to be a transformation of it, as they are scarcely ever known to co-exist. In some instances, the change of color is gradual from florid red to white, and *vice versa*.

A distinction in the leucorrhœal flux, as in the sangnineous, must be made between the hemorrhoidal disease and it, for it is not the hemorrhoidal affection, nor indeed any other affection, but a sign or a symptom merely of a pathological condition of the mucous lining of the rectum.

III.—EXTRAORDINARY AND EXCESSIVE HEMORRHOIDAL FLUX.

Many cases are reported by authors in which the hemorrhoidal flow has been represented as extraordinarily excessive, the quantity of blood escaping being sometimes enormous, so much so that it would appear almost incredible. A large number of well authenticated cases might be cited to prove that death has often been caused by the mere loss of blood from hemorrhoidal bleeding. The source of the great hemorrhages is the same as that of the lesser. There is no rupture of vessels, the blood transudes through the vascular mucous lining of the rectum, and pours forth from its whole surface, but usually from some points more than from others. The same takes place in hemorrhage from the lungs, from the nose, etc., no vessel being torn, but blood passes freely through the morbidly relaxed membranous pores or tubes which ought to contain it.

Many writers, however, have related cases in which, notwithstanding there was an enormous discharge of blood daily, yet these persons continued to enjoy excellent health. The relation of such cases, however, should, in my opinion, be received with a considerable degree of allowance, as the exact amount of blood lost is doubtless often greatly exaggerated. Patients are exceedingly liable to imagine the bleeding to be much more profuse than it in reality is, from the alarm which is generally caused by the mere sight of blood. The great show, too, which even a small amount of blood makes on the linen and clothes, and its admixture sometimes with other fluids,

also imposes on their imagination or inexperience. There can be no doubt that cases occur sometimes in which discharges of blood, or of fluids bearing a strong resemblance to it, take place to a very great extent without proving fatal or even detrimental. Cases often occur, however, in which the hemorrhage is to a very much less though highly prejudicial extent. Such bleedings are common, and frequently produce an exsanguined appearance, weakness, swellings of the feet and legs, palpitation of the heart, headache, vertigo, faintness, extreme nervousness, spasmodic difficulty of swallowing, and the whole train of like symptoms.

The following are some of the instances of extraordinary hemorrhoidal bleeding which have been reported by authors. They are, of course, extreme and rare cases, and are doubtless greatly exaggerated in every respect:—

Montanus, according to the report of Schwevecher, saw a patient who had passed two pounds of blood daily for forty-five successive days, and finally recovered. (*Append Consilior. Montani, p.* 59, 12*mo*, *Basiliæ*, 1583.)

Cornarius mentions the case of a nobleman who, after drinking freely of Hungarian wine, lost two pounds of blood from the nose and six pounds on each of the four following days from the anus. He nevertheless, it is said, got well without any remedy. (*Observationum Medicinalium*, *Obs. Med. XXVI.*, 4*to*, *Lipsiæ*, 1599.)

Lanzoni cites the case of a priest who daily passed a pint of blood per anum. (*Consultationes Medicæ*, *Consul.* 97. *In Opera Omnia Medico-Physica et Philologica*, *Tome II.*, *pp.* 203, 204, 4*to*, *Lausannæ*, 1738.)

Panarola knew a Spanish nobleman who, for forty years, rendered each day a pint of blood per anum, and at the same time enjoyed perfect health. (*Observationes Medico-Chirurgicæ*, *Pentect. II.*, *Obs.* 46.)

Many of these reported cases of rectal hemorrhage were no doubt bleedings from other sources than from the hemorrhoidal vessels, and consequently not the hemorrhoidal flux.

Pomme gives the case of a man, thirty-six years of age, of an atrabilious temperament, who for a long time had been subject to an excessive hemorrhoidal flux, for which he tried many remedies without obtaining relief. At length, having adopted the idea that it had a venereal origin, he underwent an anti-syphilitic course of treat-

ment, in consequence of which the flux disappeared. However, he was soon attacked with distressing symptoms of cholera when the hemorrhage reappeared. During a month he lost nearly a pound of blood daily, which was followed by colic, pains of the face and extremities. By a generous diet, nutrient injections, and cold baths, the hemorrhage was arrested, and exercise on horseback rendered him convalescent. (*Traité des Affections Vaporeuses des deux Sexes*, 8*vo*, *Lyon*, 1765.)

Harris saw a widow of meagre frame and of bilious temperament, who lost upwards of four pounds of blood from hemorrhoids, in a few hours during the night, and nearly died from exhaustion. The bleeding, however, was arrested by the application of cloths soaked in spirits of wine. (*Observationes de Morbis aliquot gravioribus. Obs. X.*, 12*mo*, *Amstelodami*, 1715.)

Borelli mentions the case of a tailor who lost as much as ten pounds of blood at a time. This man was nevertheless vigorous and of a jovial disposition. Borelli diminished his hemorrhoidal flux by means of the syrup of roses. (*Historiarum et Observationum Medico-Physicarum Centuria. Obs. Med. XLIV.*, 12*mo*, *Castri*, 1653.)

Spindler saw a potter who, after having suffered for a week with pain in the loins, was seized with violent colic and severe vomiting. A cathartic was administered which relieved him; but he passed from twelve to fourteen pounds of vermilion-colored blood from the anus in twenty-four hours, each dejection being accompanied by a slight colic pain. After many remedies were tried in vein, the hemorrhage was arrested by a stimulating injection. (*Observationum Medicinalium Centuria. Obs. Med. XLIV.*, 4*to*, *Francofurti*, 1691.)

Hoffmann says he saw a widow, fifty years of age, of a very full habit, who, in consequence of an indolent course of life and full living, was for eight years subject to hemorrhoids; at the same time she continued to menstruate. The uterine discharge having ceased, and being bled but once, she was seized towards the autumnal equinox, first with lassitude, and then with coma, for which she was bled in the foot, and took cold water in large quantities without any benefit. At the end of two days, however, a stimulating lavement was administrated, when an excessive flux of blood occurred, amounting in twenty-four hours to more than twenty pounds; the

consequence of which was the cessation of the coma. Her strength gradually returned by the employment of invigorating and gently astringent remedies, together with enemata of cold water. (*Dissertatio de immoderatâ Hæmorrhoïdum Fluxione. Halæ*, 1730.)

Smetius relates the case of a man, forty years of age, who passed at least thirty pounds of blood per anum, in two or three days. He was cured by a tonic plaster. (*Op. cit.*)

Pezold speaks of a Saxon chevalier who, in one attack, lost sixty-four pounds of blood. (*Observationes Medico-Chirurgicæ Selectiores, Obs.* 51, 4*to*, *Uratislav*, 1715.)

The Emperor Peter the Third of Russia is represented by her Imperial Majesty Catharine the Second, his wife, as having died of an excessive hemorrhoidal flux. History, however, gives a different version of this affair. It represents him as having died of poison and suffocation at the hands of assassins. This occurrence is said to have taken place on the 17th of July, 1762, and on the next day, Her Imperial Majesty issued a proclamation in relation to this event, of which the following forms a part :—" By the grace of God, Catharine II., Empress and Autocratrix of all the Russias, to all our loving subjects, etc., greeting :

The seventh day after our accession to the throne of all the Russias, we received information that the late Emperor Peter III., by means of a bloody accident on his hinder parts commonly called piles, to which he had been formerly subject, was attacked with a most violent griping colic. That, therefore, we might not be wanting in Christian duty, nor disobedient to the Divine command by which we are enjoined to preserve the life of our neighbor, we immediately ordered that the said Peter should be furnished with everything that might be judged necessary to prevent the dangerous consequences of that accident, and restore his health by the aids of medicine. But, to our great regret and affliction, we were yesterday evening apprised that, by the permission of the Almighty, the late Emperor departed this life, etc.—Done at St. Petersburg, July $\frac{7}{18}$ 1762." (*The Life of Catharine II., Empress of Russia. Third Edit., Vol. I., p.* 304, 8*vo*, *London*, 1799.)

Dupuytren mentions that the celebrated Copernicus and Arius died of hemorrhage, consequent upon the rupture of hemorrhoidal tumors. (*Op. cit., Tome I., p.* 341.)

Mr. Calvert reports the two following cases of excessive hemor-

rhoidal bleeding:—"A middle-aged woman, a patient of the Manchester Infirmary, in whom the hemorrhoidal discharge had been long suppressed, was seized with colic pains, with a sensation of weight about the loins and sacrum; an enema was given, which brought away some liquid fæces, and soon after a discharge of bloody fluids amounting to more than three chamber-pots full, in less than two hours. She was dreadfully reduced in consequence, but the pains subsided, and after some time she regained her former strength.

"The second case was a young woman, an out-district patient of the same hospital, who was affected with pain in the head and loins, symptoms of general fever with tenesmus and sympathetic irritation of the bladder. In this state she continued for some days, when the hemorrhoidal discharge to which she had been subject returned, and more than a pint of blood was daily voided for near a fortnight. The pain of the head and loins, with the other symptoms, disappeared with the recurrence of the discharge, and were succeeded by a small feeble pulse, œdema of the face and extremities, oppression at the region of the stomach, and great prostration of strength. The discharge was finally stopped by the vigorous use of spirituous and astringent injections, with such other means as are generally employed when affections of this nature are continued from debility." (*Op. cit., p.* 16.)

The following authors all speak of the excessive hemorrhoidal flux, and some of them report some extraordinary cases:

Friederick (*Dissertatio de Hæmorrhoïdibus immodicis. Lipsiæ*, 1658.)

Bell A Bedford (*Dissertatio de Hæmorrhoïdum fluxu immodico. Basileæ*, 1698.)

Carmann (*Dissertatio de fluxu Hæmorrhoïdali. Basileæ*, 1715.)

Fisch et Alberti (*De Hæmorrhoïdibus excedentibus. Halæ*, 1718.)

Schrœter (*Dissertatio de fluxu Hæmorrhoïdum præter naturam. Basileæ*, 1614.)

Avenarius (*Dissertatio de fluxu Hæmorrhoïdali, etc. Erfordiæ*, 1726.)

De Berger (*Dissertatio de Hæmorrhoïdibus ultra modum profusis et cæcis. Jenæ*, 1700.)

Nicolai (*Dissertatio de fluxu Hæmorrhoïdali nimio cum nimiâ diarrhœa. Jenæ*, 1776.)

Præger (*Dissertatio de Hæmorrhoïdum fluxu nunc salutari nunc autem noxio. Viteb.*, 1764.)

Rivius (*Dissertatio de Hæmorrhoïdibus apertis. Lipsiæ*, 1709.)

Plattenhardt (*Dissertatio de alvo Hæmorrhoussâ. Tubingæ*, 1721.)

Brandt (*Dissertatio Casus de nomio Hæmorrhoïdico mensium fluxu in virgine observato. Lipsiæ*, 1710.)

Ruchler (*Dissertatio de Hæmorrhoïdibus apertis. Lipsiæ*, 1709.)

Schilling (*Dissertatio de Hæmorrhoïdibus earumque nimio fluxu. Argentorati*, 1652.)

IV.—THE SOURCE OF THE HEMORRHOIDAL FLUX.

The true source of the hemorrhage, when it occurs in hemorrhoids is neither directly from the arteries nor from the veins, as many believe, but from the intermediate order of vessels, the arterial and venous capillaries, which form in effect the transition from the one to the other. It is from the network of the arterial and venous capillaries, from which in reality the bleeding, when it occurs in hemorrhoids, proceeds. In such a case the appearances observed after death are that the hemorrhage had not proceeded from any large or particular vessel, but evidently from the whole series of the capillary extremities opening upon the surface of the mucous membrane of the rectum; for it is at the inferior extremity of this organ that numerous vessels traverse the entire thickness of it, interlacing and uniting in a thousand ways, and forming there the centre of a very compact plexus of sanguineous vessels.

In the early stage of the hemorrhoidal disease, before the development of regularly organized hemorrhoidal tumors, if an examination be made on the living subject when the affected parts are protruded in making defecating efforts, the blood will be seen to issue *guttatim* from a more or less extended surface of the mucous membrane of the rectum, producing an appearance similar to that which results when, in the dead subject, considerable force is applied to the piston of the syringe in filling the arteries of the same part with very thin injection.

Those who believe that the bleeding which takes place in hemorrhoids proceeds directly from the veins, differ but little from the

ancients, who believed that the blood evacuated by hemorrhoids came from the vena portæ, and was charged with the elements of bile, and possessed the characteristics which approximated it to what they denominated *atra bilis*.

To prove positively that the blood in hemorrhoids does not come directly from the hemorrhoidal arteries or the veins, but from the extremities of the arterial and venous capillaries, it is only necessary to inject the hemorrhoidal arteries in the dead body with a thin, colored fluid, when it will appear upon the surface of the mucous membrane of the rectum in small drops. The truth of this I myself have repeatedly verified.

The passage of the blood in hemorrhoids is effected in more ways than one. In the incipient stage of the disease, it is generally effected by exhalation or exudation through the extremities of the morbid capillary vessels, such as takes place from all vascular mucous surfaces. It sometimes, however, appears to flow from one or two points more than from the rest, so that when the patient makes straining efforts to evacuate the bowels, the blood will then be seen to spin out in a fine, continuous stream, as if from ruptured vessels, which doubtless results from the expansion or the relaxation of one or more of the pores of the mucous membrane. In such a case, if the spot from which the blood issued be dried and examined, no solution of continuity will be discovered even by the aid of the most powerful glasses.

In the advanced stage of the disease, after organized tumors have been developed, the blood generally issues from them *per saltum* or in jets through the dilated extremity of a capillary tube, the orifice of which can sometimes be plainly seen and explored by means of a delicate probe. If an old bleeding hemorrhoidal tumor be carefully examined, the dilated extremity of a capillary vessel will almost always be found in it, and from which the blood issues in spouts or in jets. Delatour relates an instance in which he observed the hemorrhoidal flow to issue from tumors in jets out of orifices which he plainly saw. He says that: "One of my patients had many large hemorrhoidal tumors which ejected the blood in spouts whenever the anal sphincters contracted. I observed at the moment of this that the hemorrhoidal veins were so much compressed that the blood came out of the tumors in jets and through dilated pores, distinctly seen." (*Histoire Philosophique des Causes des Hémor-*

ragies. Obs. 212.) I have often, under favorable circumstances, witnessed the same.

In the largest number of cases, the bleeding, when it occurs in hemorrhoids, is to some extent accidental, that is, it only takes place when the affected parts are protruded, either in the act of defecation, when the strain upon the already turgid vessels is increased, and the mucous membrane is compressed; or when the affected parts become prolapsed from long standing or exercise on the feet, or much stooping, or from any other cause that would produce an extrusion of them.

I would observe here that, when the bleeding takes place from a hemorrhoidal tumor, it is much easier to arrest it and effect a complete cure, than when it issues from the whole mucous surface. In the former case, there is almost always to be found the dilated extremity of a capillary tube in the tumor, if regularly organized, and of sufficient age. By removing the tumor, the hemorrhage of course ceases, by means of the plastic inflammation which follows the operation, and which completely seals the bleeding vessel which supplied it.

V.—DIAGNOSIS OF THE HEMORRHOIDAL FLUX.

Bleeding by the rectum and anus sometimes proceeds from other sources besides that from hemorrhoids, therefore hemorrhage through this medium must not be taken alone as a positive evidence that it proceeds from the hemorrhoidal vessels, or from hemorrhoidal tumors; nor must it be taken for granted that it proceeds from internal tumors when none are visible externally.

The bleeding from the rectum consequent upon rectal abrasions, ulcerations, or erosions; or from the intestines or viscera beyond the rectum, as in some fevers and in phthisis, must not be confounded with the bleeding from hemorrhoids. The character of the blood from hemorrhoids is fluid, and is generally of a bright vermilion color, and may be arterial, purely venous, or a mixture of both. It may be discharged immediately before, at, or after a dejection, and may cover the fæces, but never mixes with them. Whereas hemorrhage from the intestines or viscera beyond the rectum is manifested by the blood being black, coagulated, and mixed with the fæces. When the hemorrhage is the result of dysentery, it is mixed with mucus, which gives it the characteristic appearance of portions of flesh;

and when it is produced by various kinds of ulceration, it is always mixed and confounded with the dejections. I might have said above that hemorrhoidal tumors, being protruded and bleeding, do not sometimes immediately cease to bleed when replaced, as is usual, but continue to discharge a small quantity of blood into the bowel, which forms there a coagulum, and is the first material which is discharged in dark clots, at the next evacuation. The diagnosis of the hemorrhoidal flux is plainly pointed out by the celebrated and learned Greek Actuarius of the thirteenth century. He says:— "Verum ille (sanguis) qui ab altioribus locis emanat et aliquamdiu in corpore est moratus, nigrior est: hic vero purus, sincerus, et qualis ex jam cœcis hostiis profluit." (*De Methodo Medendi, Lib.* 1, *Cap. XX.*, 12*mo*, *Basileæ*, 1529.)

CHAPTER VIII.

DIFFERENTIAL DIAGNOSIS, PROGNOSIS.

The diagnosis of the hemorrhoidal disease can by no means be considered very difficult, yet, strange as it may appear, almost every affection of the rectum and anus has sometimes been confounded with it. It is therefore important to know exactly how to distinguish it with certainty from all diseases, whether of the rectum and anus or of the contiguous organs, which in the least simulate it; for the lack of such knowledge has led, and still may lead, to serious consequences.

Although the hemorrhoidal disease does not in reality consist of organized hemorrhoidal tumors, yet inasmuch as such tumors often spring from, and are intimately connected with it, as accessories, it is highly important to distinguish such from all other tumors of the ano-rectal region, especially those which would most likely be confounded with them. The following are those tumors or diseases which most simulate hemorrhoids:—1. Rectal polypi; 2. Villous tumors of the rectum; 3. Malignant tumors of the rectum and anus; 4. Varicose enlargements of the hemorrhoidal veins; 5. Anal excrescences or vegetations; 6. Procidentia recti; 7. Hypertrophy of the prostate gland; 8. Phleboliths of the rectum and anus; 9. Pruritus ani.

1. *Rectal polypi.* Polypoid tumors of the rectum resemble hemorrhoidal tumors in several respects, and are frequently diagnosticated as such. The mucous species may be distinguished from hemorrhoidal tumors by their smooth surface, their soft, delicate, and elastic feel, and their pale-red color, resembling in this respect mucous membrane; by their slow development, their pyriform shape, long pedicle, incapability of sudden erection or collapse, and their freedom generally from inflammation, ulceration, sensibility, and pain. They never attain great size and are not numerous; sometimes, when solitary, they have the peculiar cylindrical form, color, feel, and

general appearance of large *earth-worms*. I have seen them three inches in length, and to protrude at each evacuation of the bowels, and to be difficult to replace.

The mucous species of rectal polypi or adenoma are not uncommon in children, and in consequence of their appearance and bleeding in such, they are often confounded with hemorrhoidal tumors or prolapsus recti. There are never more than one or two present, and when they are protruded, they are of a bright-red color, and look like ripe cherries, and are well calculated to deceive. Children, however, never have organized hemorrhoidal tumors.

The fibrous polypoid tumor of the rectum differs very essentially from the mucous species by its rapid growth, its attainment of considerable magnitude, its highly sensitive nature, and its firm and hard feel. Its form is generally globular, with its surface smooth or lobulated, and it is either sessile or pedunculated, and generally solitary. Its attachment is higher up and beyond the usual locality of hemorrhoidal tumors.

The following figure represents a section of the anal portion of the rectum laid open, and a fibrous polypoid tumor in a state of protrusion :—

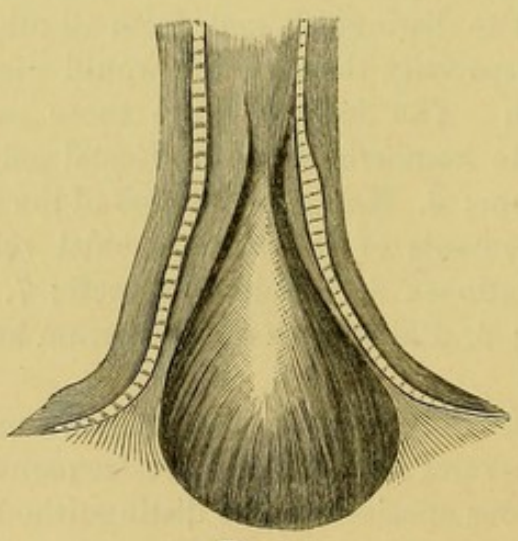

FIG. 1.

These few characteristics clearly indicate the general nature of rectal polypi, of which there are many varieties and forms, and are in general so opposite to those which have already been described as pertaining to hemorrhoidal tumors, that even a superficial examination will enable any one to distinguish between them.

2. *Villous tumors of the rectum.* The villous tumor of the rec-

tum is considered a rare disease, and only occurs in the adult. I have only seen five marked cases, in a practice of forty-five years. These cases were all between the ages of thirty-five and sixty-nine.

The following figure correctly represents a villous tumor which I removed by ligature, in September, 1844, from the rectum of Mr. J. M. W., a planter of Miligan's Bend, Madison Parish, La. :—

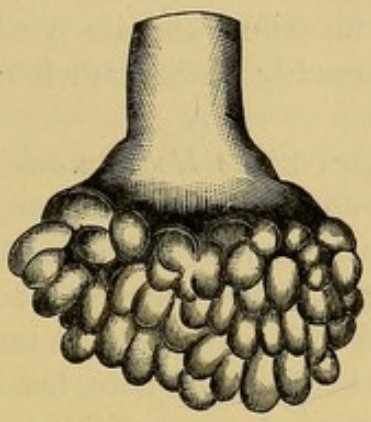

Fig. 2.

When this singular growth exists in the rectum, it is liable to be confounded with the internal hemorrhoidal tumor. The origin of the villous tumor of the rectum is in the mucous membrane of the same, and it is similar in character to the villous growths of the bladder and of other mucous surfaces. It generally has a broad base, and sometimes a short thick pedicle ; has a soft and spongy feel, and is of a dark-red color ; its growth is slow, and it often attains a large size, it having been seen as large as an ordinary orange. It is composed of numerous projecting papillæ or villi, the villous prolongations, which are long and fine, often exceed six or eight lines in length. If the tumor is examined when protruded beyond the anus, it appears as a mass of slender vascular processes, seated immediately upon the mucous membrane, or upon a short pedicle connected with that membrane. In its minute structure, it closely resembles the soft mucous polypus of the rectum. Its principal peculiarity consists in its very remarkable disposition or tendency to bleed, which, in the largest number of instances, takes place within the rectum, without the tumor being protruded, by a more or less constant internal dripping or stillicidium, and in this respect contrasts widely with the internal hemorrhoidal tumor, which frequently never bleeds even when protruded, and when it does bleed it is only when pro-

truded. This tumor is benign, is not painful, but is a constant source of annoyance and trouble, and only attended with danger from the continued loss of blood. While many hemorrhoidal tumors never bleed, the villous tumor of the rectum persistently bleeds more or less, both when *in situ* and when protruded.

The circumstance, then, of the numerous peculiar and abnormally large villous projections of which the tumor is composed, and from which it has obtained its name, and its persistency to bleed under all circumstances, will readily distinguish it from the internal hemorrhoidal tumor.

3. *Malignant Tumors of the Rectum and Anus.* There are no growths of the rectum and anus that are more insidious at their commencement than the malignant or cancerous tumors of those parts; hence, at an early stage of their existence, some of them are very liable to be confounded with hemorrhoidal tumors. Many instances of this mistake could be recorded here, but in their more advanced stage this error of diagnosis is not so liable to be made, inasmuch as their true nature, then, is not so difficult to recognize. As to real hemorrhoidal tumors, my opinion is they never become malignant the word *malignant* being used as synonymous with *cancer*.

In the primary stage of the malignant growths of the rectum and anus, there is generally but little pain, if any attending them, but, as a rule, in their advanced stage the suffering is intense and almost constant. In consequence of the numerous and diversified form and character of these growths, I cannot here, for the want of space, enter into their individual description, for this would fill a a volume of itself, as they alone would form the subject of a most interesting and highly important study.

I have on several occasions observed on the walls of the inferior portion of the rectum numerous hard and flat adenoid bodies, resembling in their form and general appearance beans of different sizes. They, in every instance, proved to be malignant. None, however, but the most careless and superficial observer would pronounce such peculiar growths varices or organized hemorrhoidal tumors. I have also seen the rectum sometimes studded with bony-hard nodules, varying in size from a large pea to that of an English walnut, some of them ulcerated. At other times, I have seen the rectum blocked up, as it were, with soft fungoid tumors or masses, which would bleed from the slightest touch or irritation, and attended by a con-

stant discharge of a muco-purulent character, or like grumous blood. Now, no one would be likely to diagnosticate such as hemorrhoidal tumors.

By observing ordinary skill in making a digital and ocular examination, and carefully considering the symptoms, these malignant growths will not very likely be confounded with hemorrhoidal tumors. Before pronouncing a positive diagnosis, however, all ambiguous growths of these parts, besides the tactile and visual examination, should also be subjected to a microscopical inspection, a small piece of the morbid growth being removed for this purpose.

For obvious reasons, it is not only important that the malignant tumors of the rectum and anus should not be confounded with hemorrhoidal tumors, but that their true nature, if possible, should be recognized at an early period of their development. But it must not be forgotten that cancer in general, like the fungi of the vegetable kingdom, presents or manifests itself in every variety of form and location, according to the body or the substances upon which it fastens and implants itself, and the circumstances that either accelerate or that impede its growth. It may well be imagined therefore, how difficult it sometimes is to detect, under such varied forms and characteristics, a Proteus so fecund of metamorphosis. Indeed, under all these varied circumstances, it might sometimes deceive the most skilful observer, without any impeachment of his sagacity or skill.

4. *Varicose Enlargements of the Hemorrhoidal Veins.* The enlargements of the hemorrhoidal veins will occasionally be met with in practice, simulating to some extent ordinary hemorrhoidal tumors, and equally productive, in many instances, of as severe suffering. They are most commonly observed in aged persons, and in such, often found connected with either varicose veins of the legs, scrotum, or spermatic cord, and are exactly of the same nature. All such cases that came under my own observation were at least of this description.

The enlargements of the hemorrhoidal veins were considered to be hemorrhoids by the old surgeons, as I have already shown, and they are even now so diagnosticated by some surgeons of the present day. I mean such as consider hemorrhoids as varices merely, without the accidents, hemorrhage, and organized tumors, for such they doubtless are. It is, therefore, not surprising that these hemor-

rhoidal dilatations should be looked upon as hemorrhoids, or be confounded with real organized hemorrhoidal tumors, when we take into consideration that they, like hemorrhoids, have their origin in hemorrhoidal vessels, are produced by some of the same causes, are in the same dilated or enlarged condition as hemorrhoids are in their primary stage, as well as the striking resemblance they sometimes bear to organized hemorrhoidal tumors.

While there may be no very obvious difference between these hemorrhoidal enlargements and hemorrhoids in their primary stage, as varices, yet the difference is very considerable between the dilated or enlarged veins and the organized hemorrhoidal tumors which sometimes attend hemorrhoids in their advanced stage. This difference, then, between the dilated or enlarged veins and the regular organized tumors is highly important, and should be recognized in practice, especially as both conditions sometimes co-exist, for serious consequences might result from the adoption, in the former, of some of the numerous and varied methods used in the treatment of the latter.

This disease of the hemorrhoidal veins, in its worst form, always involves a more or less number of these veins, which under such circumstances are not only much dilated, but are very tortuous, convoluted, and knotty, exactly like what is frequently observed in the saphenous vein and its branches. These dilatations are sometimes fusiform, at other times knotty, and are generally found more conspicuous in the ano-rectal region; but cases sometimes occur in which the morbid condition extends as high up as the termination of the veins themselves. They can be distinctly felt with the finger along the interior walls of the lower portion of the rectum, as hard and firm cords, intercepted, here and there, by fusiform dilatations, or by knotty projections; or they sometimes communicate to the finger the sensation of a rope with kinks in it.

In varicose enlargements of the hemorrhoidal veins, the disease seems generally to confine itself to the vessels themselves, they being dilated at various points in their course; and, as a general rule, there is no extravasation of their contents into the surrounding tissue, as is common in hemorrhoids; hence, in these respects, they differ altogether from them. They also differ in locality, as internal hemorrhoidal tumors are scarcely ever found more than two or three inches above the verge of the anus, whereas enlarged hemorrhoidal

veins often extend up the intestine, far beyond the reach of the finger. Vesalius reports the case of a patient who suffered from obstruction or from induration of the liver. He says that in this case the internal hemorrhoidal vein was nearly the size of a man's thumb, throughout the entire length of the rectum. ("*De Humani Corporis Fibrica*," *Lib. V.*, *Cap.* 15, 4*to*. *Basileæ*, 1545.)

The following figure represents a section of the rectum laid open, and the mucous membranes dissected off, which brings into view several large varicose veins:—

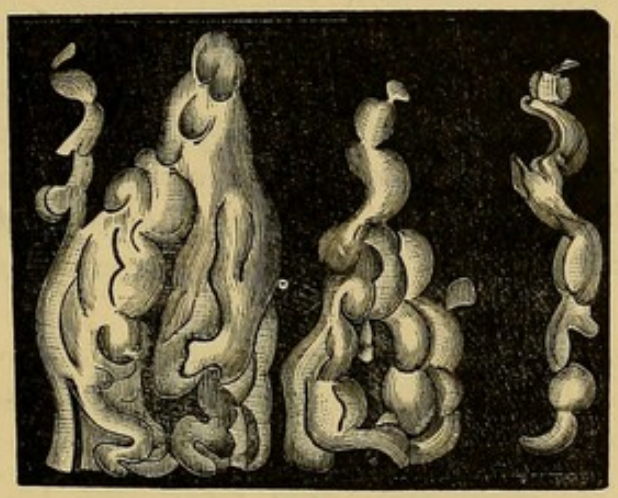

FIG. 3.

In conclusion, it may be remarked that the enlargement of the hemorrhoidal veins may exist alone, or in association with hemorrhoidal tumors. The dilatation may affect a single trunk, or a considerable number, either simultaneously or successively, and may, I repeat, extend up as high as the commencement of the sigmoid flexure of the colon.

5. *Anal Excrescences or Vegetations.* The condylomata or excrescences peculiar to the verge of the anus are often confounded with external hemorrhoidal tumors, and have even been denominated *hemorrhoidal excrescences* by some able authors. They, however, differ essentially and completely, both in their production and in their structure, from hemorrhoidol tumors; and both the disease and the treatment involve considerations of much higher importance in the one case than in the other. The two diseases often coexist; but this is no evidence of their identity.

These singular vegetations originate in the cutis, about the verge of the anus, and are alone the production of the cuticular covering

of the part, without involving the cellular tissue beneath it. While the entero-external hemorrhoidal tumor is seated in the cellular tissue beneath the skin which it involves, the condyloma is seated only in the skin itself, or in the contiguous muco-cutaneous tissue. Sometimes, however, these excrescences are in truth the cuticular remains of what were once hemorrhoidal tumors, the cavities of which had become obliterated, leaving nothing but flaps of skin which usually soon disappear; but sometimes a morbid action is excited in them which ultimately transforms them into permanent excrescences.

These condylomata, or circum-anal growths, are generally numerous, and scarcely ever single; are of either a bright, a dull red, or a lurid color; are often of a soft or fragile texture, easily broken and readily made to bleed; sometimes, however, they are quite hard, firm, and elastic. They occasionally are of a venereal character, but by no means frequently so, or always so, as some authors have declared.

I have already given some description of these condylomata in another part of this work. The treatment of them is minutely given by Hippocrates in his "*De Hæmorrhoïdibus Liber*," and by Celsus in his "*De Medicina*," *Lib. VII., Cap.* 18, *et Lib. VII., Cap.* 30. They both recognized the difference between hemorrhoidal tumors and condylomata.

6. *Prolapsus Recti.* Prolapsus of the rectum has been very improperly denominated *procidentia ani* by many authors. The anus is merely the aperture or orifice of the rectum, which is a fixed point, and cannot, therefore, be prolapsed. It may be everted, but not prolapsed.

The tumor presented by a prolapsus recti, having a number of points of analogy with the internal hemorrhoidal tumor, is very liable to be confounded with it. The distinction, however, is highly important, lest the prolapsus recti be consigned to the knife or ligature. These two affections are frequently combined in the same case, and often mistaken and treated as one; yet they are distinct and may be distinctly seen to be so, by a careful examination of the parts, which should always be done, before an opinion is given or a method of treatment adopted; for the difference between them is wide and should not be lost sight of in practice.

Prolapsus recti may be divided into two species; in the first,

which is the most common, the mucous membrane of the rectum only protrudes, whereas in the second, which is much less common, the rectum, with all its membranes, protrudes.

In the first species, the protruded mucous membrane usually appears in the form of two lateral semilunar pendulous flaps, one on each side of the anus; or in the form of a circular fold round the anal orifice. The semilunar form of the flaps, the extent of their base, and their entire freedom from sudden erection or collapse, as well as the circular form of the membrane, are characteristics so opposite to hemorrhoidal tumors that the difference between them can easily be observed.

The following figure represents the first variety of prolapsus, in which the mucous membrane alone protrudes in two lateral pendulous semilunar flaps or folds:—

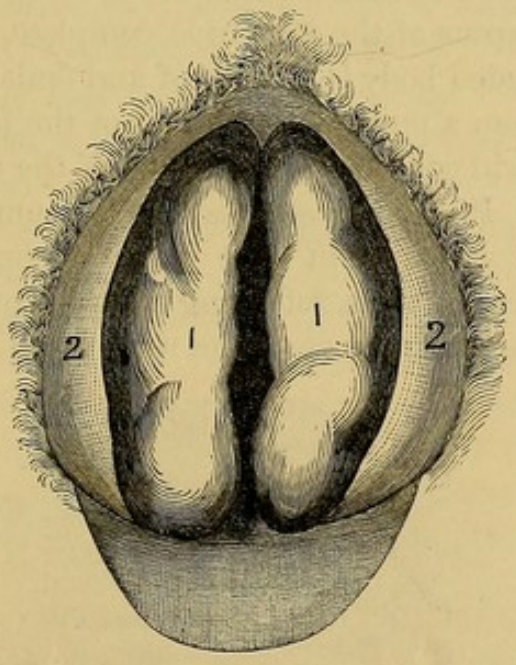

FIG. 4.
[1. Mucous membrane protruded. 2. External sphincter everted.]

This species of prolapsus is sometimes associated with internal hemorrhoidal tumors, which are the cause of it. When the tumors, in this instance, protrude, that portion of the mucous membrane only to which they are attached comes down and is prolapsed with them, as indeed it necessarily must be. In cases of this kind, the whole of the protruded mass is sometimes mistaken for hemorrhoidal tumors, and so treated. The only treatment required, how-

ever, in such cases, is to remove the tumors, when the prolapsus will be spontaneously restored.

To distinguish the prolapsed mucous membrane from the protruded hemorrhoidal tumors is not very difficult. The practised eye and touch will readily perceive the difference, in appearance and feel between the soft and velvet-like portion of the protruded mucous membrane and the hard, smooth, or lubricated bodies forming the hemorrhoidal tumors, which are always separate and distinct, and which have a more definite feel and are more easily moved.

The first species of prolapsus of the rectum is quite common in children, and the protruded mucous membrane is sometimes diagnosticated as a hemorrhoidal tumor, an error which is irremissible. The protrusion in children has the appearance generally of a small red and coiled tumor, in the shape of a pyramid, which contrasts widely with a real hemorrhoidal tumor.

When the prolapsus of the rectum is complete, as in the second species, the protruded body is usually of a globular or oblong figure, varying in size from a pullet's egg to that of the largest orange, and often of a dark livid color, in consequence of the constriction of the capillary vessels. In some instances, the amount of protruded or displaced rectum varies from four to six inches, and presenting several scrolls or coils. The following figure represents a complete prolapsus of all the membranes of the rectum :—

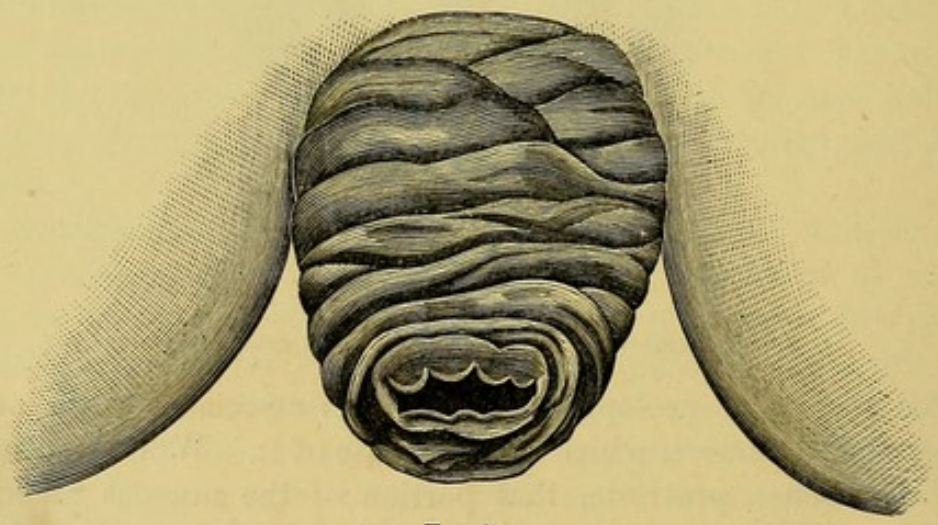

Fig. 5.

This species is the least likely to be confounded with hemorrhoidal tumors, for even a cursory examination will enable one to distinguish between them.

7. *Hypertrophy of the Prostate Gland.* The preternatural enlargement of the prostate gland, a disease of old age only, is liable to be mistaken for a hemorrhoidal tumor, especially in case of hypertrophy of the middle lobe, which corresponds to the rectum. It may, however, be easily distinguished from a hemorrhoidal tumor by inserting the finger into the rectum, when the enlarged gland will be distinctly felt behind the neck of the bladder, jutting out into the rectum, as a hard and immovable body. The peculiar situation, the hardness, and the immobility are the characteristics then which distinguish it from a hemorrhoidal tumor. The anal speculum will also disclose it.

Surgeons will find that patients who suffer from hypertrophy of the prostate generally refer most of their suffering to the inferior portion of the rectum, and almost always attribute it to hemorrhoids —hence their positive assertions, without a tactile examination by the surgeon, are well calculated to deceive him.

8. *Phleboliths of the Hemorrhoidal Veins.* Writers on the diseases of the rectum, so far as my reading extends, have not noticed the singular bodies sometimes found in the hemorrhoidal veins of the ano-rectal region, denominated *phleboliths;* and as they are known to have been confounded with hemorrhoidal tumors, I have thought it proper to notice them here. Aged persons who have varicose enlargements of either the veins of the rectum, the scrotum, the spermatic cord, or the legs, are those in whose veins these bodies are most generally found; indeed, they appear only to form in varicose veins, and are evidently the product of that peculiar condition of the vessels, and they would seem to be depositions from the blood as urinary calculi are from the urine.

I am not aware that the correct chemical composition of these vein-stones has as yet been ascertained. According to the analysis of Gmelin, these stones are composed principally of the phosphate and carbonate of lime, with a small amount of animal matter, and a trace of the oxide of iron; and according to the analysis of Franklin, they are composed of protein matter and phosphate of lime, with a little sulphate of potash and lime.

M. Beclard describes them. (*Elemens d'Anatomie Générale. 2d edit. En Chap. sur les Veins.* 8vo, *Paris*, 1827.) M. Cloquet also describes them. (*Pathologie Chirurgicale.* 4to, *Paris*, 1831.)

Both these authors found some of these bodies in hemorrhoidal veins as well as in other veins.

These phleboliths are generally solitary, and vary in size from the smallest to that of the largest pea; and when out of their venous envelope, they are usually of a yellowish, brownish, or bluish color; are of a hard and brittle consistence, and of an oblong, oval, or spherical shape, with a smooth even surface. When in their venous envelopes, however, they only present the natural color generally of the tissue which covers them, and have the general appearance of small tumors.

In a practice of forty-five years, I have only met with six cases of phleboliths of the veins of the rectum and anus. They all occurred in men, between the ages of forty and sixty-five, and were all more or less complicated with varicose enlargements of the hemorrhoidal veins, and with hemorrhoids.

It is said by authors that these vein-stones are entirely innoxious, but I have known them in three instances to have given rise to anal fistula; indeed, they are, in my opinion, very liable, especially about the anus, to result in abscess and fistula.

With regard to the diagnosis, it is easy to distinguish between hemorrhoidal tumors and those swellings or protuberances presented by phleboliths. The bony-hard feel and the diminutive size of the latter contrast so widely with the soft fleshy feel and generally larger size of the former, that no mistake need be made in distinguishing the one from the other. It is true that a visual examination only of their tumor-like appearance would be well calculated to impose upon the observer the belief that they were in reality small fleshy hemorrhoidal tumors.

9. *Pruritus Ani.* Itching of the anus is often diagnosticated hemorrhoids. Patients will say they have *itching piles.* When an examination is made, however, no hemorrhoids will be found; but either pruritus ani, erythema, herpes, chronic eczema, or oxyuris vermicularis may be discovered.

Rectal Hemorrhage. I will remark here that bleedings from the rectum are often mistaken for hemorrhoids, the diagnosis of which is fully given in the chapter on "*The Hemorhoidal Flux.*"

Differential Symptoms and Signs. The pathognomonic symptom with other symptoms and signs of the hemorrhoidal disease, before

regular organized tumors have formed, will be found in the chapter on "*Symptomatology.*"

PROGNOSIS.

The true hemorrhoidal disease, exclusive of the accidents, *excessive hemorrhage*, *organized tumors*, or *serious complications*, is generally attended with but little danger; indeed, the affection, so far at least as the hemorrhage is concerned, was considered by many of the physicians of antiquity, and even by some at the present day, salubrious instead of insalubrious or noxious, as will be shown in the tenth chapter.

The prognostic, then, is only rendered more or less serious or aggravated by the accidents or the complications; and it varies according to the nature of these, each one may produce consequences which may prove grave, if not ultimately fatal. It is therefore impossible to make rules which would be applicable to the varied cases.

But the hemorrhoidal disease proper, uncomplicated, I repeat, is not of such a nature as to cause death generally, for as an evidence of this, by examining the records of vital statistics, or the mortuary certificates from time to time, scarcely ever a death from hemorrhoids, as from either the primary or the proximate cause, will be found recorded.

CHAPTER IX.

THE CONSECUTIVE ACCIDENTS AND COMPLICATIONS OF THE HEMORRHOIDAL DISEASE.

The hemorrhoidal affection, if not arrested at its inception, is exceedingly liable, in process of time, to give rise to, or to result in, serious accidents; or at least to be in some manner complicated with them. This proneness to consecutive accidents, diseases, and complications is especially manifested whenever more than ordinary circumstances exist, favoring the progress of the primary affection.

I can only designate some of the principal accidents or diseases which immediately originate in, or directly spring from, the hemorrhoidal disease. To name all those which are more or less connected with it in its progress, would indeed be to enumerate no inconsiderable number of the infirmities of human life; for they would be found so numerous and so varied as to extend through the entire nosological table. Indeed, it was believed by many of the physicians of antiquity, and is even believed by some physicians of the present day, that the vena porta, like Pandora's box, is the source from which issue hemorrhoids, and with them innumerable maladies. Their theory regards or contemplates portal congestion and hepatic derangement as the essential elements of all diseases. Pertaining to this same subject, the celebrated Stahl, who considered the vena porta as the source of hemorrhoids and other diseases, said, "*vena portæ, porta malorum.*" (*Dissertatio de Venâ Portæ, Porta Malorum. Halæ*, 1722.)

The first accidents of the hemorrhoidal disease, which sooner or later occur, are either hemorrhage or tumors or both co-existing. These have already been fully considered in the two chapters appropriated to them. The other most frequent consequences which sooner or later follow the disease, and to the development of which it strongly tends, are the following affections:—1. Anal Abscess;

2. Anal fistula; 3. Anal fissure; 4. Prolapsus recti; 5. Irritation or inflammation of the bladder, of the vagina, and of the uterus; 6. Spermatorrhœa; 7. Hemorrhoidal pains; 8. Hemorrhoidal colic.

1. *Anal Abscess.* Hemorrhoidal tumors often suppurate and become the seats of anal abscesses, as I have often observed. In these instances the suppuration takes place in the parenchyma of one or more of the oldest and most irritable tumors. I have repeatedly opened such by a free incision, completely letting out their contents and keeping lint pressed into their cavity for several days, and the result uniformly has been an entire cure of the abscess and the tumor, as well as the prevention of a fistula; indeed, suppuration alone, in a hemorrhoidal tumor, always destroys it.

Anal abscesses, however, may and do sometimes occur immediately outside of the tumors in the cellular tissue, in consequence of the long-continued irritation produced by such in those parts, as well as they may and do sometimes also occur from causes independent of the hemorrhoidal disease.

The distinguished French surgeon, M. Petit, was of the opinion that hemorrhoidal tumors never became the seats of abscesses. He believed that suppuration always took place in the environs of such, and not in the tumors themselves. (*Traité des Maladies Chirurgicales. Tome II., p.* 99, 8*vo*, *Paris*, 1799.)

This opinion of M. Petit has not been substantiated by subsequent experience. M. De Larroque, in commenting upon it, says, "About six months ago, I found in a subject which I opened, two hemorrhoidal tumors completely suppurated; in the one the pus was inclosed in a cyst about the size of a walnut; in the other it was infiltrated, but could be perfectly distinguished." (*Traité des Hemorroïdes, p.* 144, 8*vo*, *Paris*, 1812.)

2. *Anal Fistula.* Anal abscess and fistula ani almost always stand in the relation of cause and effect; indeed, anal abscess is usually the primary stage of anal fistula; hence when hemorrhoidal tumors or any other accessories of the hemorrhoidal disease, or any other cause, result in an anal abscess, a fistula generally follows as a sequence. The largest number of anal abscesses and fistulæ ani have their origin in some of the consecutive accidents of the hemorrhoidal disease; indeed as far as my own experience goes, they are more frequently the cause of abscess and fistula than any one cause with which I am acquainted. The following able authors have pro-

mulgated the same opinion:—M. De Montègre (*Op. cit., p.* 61). De Theyls. (*Dissertatio de sanguinis evacuatione per inferiora quam Hæmorrhoïdem vocant ut causâ Fistulæ Ani. Lugduno-Batavorum*, 1744.)

3. *Anal Fissure.* Hemorrhoidal tumors, by their presence in the anal canal, lessen its calibre, and in the act of defecation, are first extruded and then separated, during which process the delicate mucous and muco-cutaneous lining within the anal orifice is often ruptured by the forcible passage of indurated fæces. If this rupture, with the cause of it, be neglected for a length of time, it becomes an exquisitely painful fissure. Hemorrhoidal tumors, too, by their continued presence in the canal, sooner or later produce a chronic inflammation of the mucous membrane of the same; and when this obtains, the inflamed mucous lining will generally be found so morbidly changed in texture as to be much weakened and easily lacerated by the passage of hardened fæces; and in this manner, also, may anal fissures be produced. Vide the author's work, *Anal Fissure, p.* 62, *imp.* 8*vo*, *New York*, 1868.

4. *Prolapsus Recti.* Hemorrhoidal tumors and anal tenesmus, which sometimes co-exist, are among the frequent causes of prolapsus of the rectum. The mucous membrane of this organ adheres but slightly to the muscular coat, their connection being effected by means of very lax cellular tissue; in consequence, therefore, of the great amplitude of the mucous membrane and its loose connection, it is very liable to be prolapsed; not so, however, of the other tissues of the rectum. The hemorrhoidal tumors then, being attached to this loosely connected membrane, drag it down with them whenever they are protruded; hence this repeated displacement produces weakness, prolongation, and ultimately, prolapsus of it.

Prolapsus of the mucous membrane of the rectum may also be, and often is produced by the tenesmus and the prolonged straining efforts to evacuate the bowels, induced by the continued irritation of hemorrhoids. The following authorities may be named:—Junker et Adelung. (*Disertatio de Prolapsu Intestini Recti protuberantis Hæmorrhoïdibus perperam habito. Halæ*, 1744. *Et Dissertatio de tenesmo Hæmorrhoïdali. Halæ*, 1744.)

5. *Irritation or Inflammation of the Bladder, the Vagina, and the Uterus.* The relation existing between the inferior extremity

of the rectum and the bladder, vagina, and the uterus, as well as the numerous blood-vessels freely communicating between the rectum and these viscera, is so intimate and so direct, that not one of these organs can be seriously attacked without more or less affecting the other; hence severe irritation, or even inflammation, is sometimes communicated to the neck of the bladder, the vagina, and the uterus, by swollen and aggravated hemorrhoidal tumors, or by repeated attacks of the hemorrhoidal disease. Upon this subject the following authors may be consulted:—

Alberti. (*Dissertatio de Hæmorrhoïdum consensu cum calculo et podagra. Halæ*, 1772.)

Hermann et Kaltschmied. (*Dissertatio de Hæmorrhoïdibus cæcis in ulcus vesicæ urinariæ mutatis. Jenæ*, 1757.)

In females it frequently occurs that the irritation or inflammation of hemorrhoidal tumors communicates itself to the vagina, especially exalting the sensibility of the recto-vaginal septum, to such a degree that coitus cannot be consummated at all, or without the most intense suffering. Such cases are often mistaken and improperly diagnosticated by superficial observers.

Alix reports a very remarkable case of this character in which the suffering patient had been treated for a long time for a disease of the uterus without benefit. (*Observata Chirurgica, Fascic. III., Append. p.* 400, 12*mo*, *Altenbergie*, 1774–1778.) Mr. Cockburn also reports the case of a lady who suffered intolerable pain during the act of coition, and who had been treated for cancer of the womb. (*Inability of Coition from Hemorrhoids. In Medical Essays and Observations, 5th Edit., Vol. II., p.* 228, 8*vo*, *Edinburgh*, 1771.)

6. *Spermatorrhœa.* Hemorrhoidal tumors not unfrequently produce spermatorrhœa, or are complicated with it, especially that form of it, in which the escape of the seminal fluid takes place when the patient is at stool. This effect results mechanically by the enlarged internal hemorrhoidal tumors and the fæces, distending the rectum and compressing the seminal vesicles, during the act of defecation. Or the same may result by the continued excitement and irritation of the internal hemorrhoidal tumors, by being directly extended through the rectum sympathetically, to the seminal vesicles, and there exciting seminal emissions. I have seen a number of such cases. Professor Chaussier speaks of such. (*Op. cit., Sec.* 8.) The celebrated M. Lallemand also mentions some. (*A Practical*

Treatise on the Causes, Symptoms, and Treatment of Spermatorrhœa. English Version. By H. J. McDougall, p. 89, *imp.* 8*vo, Philadelphia*, 1848.)

7. *Hemorrhoidal Pains.* A number of different kinds of hemorrhoidal pains, some of them of a most agonizing nature, have been carefully described and classified by some of the old authors, as well as by a few authors of modern times. Sauvages recognizes ten or twelve kinds of pains under the name *proctalgie.* (*Op. cit.*)

Many of the pains, however, which these authors describe, are not the result of hemorrhoids, but have their origin evidently in other diseases of the rectum and anus, independently of the hemorrhoidal disease, as can easily be demonstrated. In the chapter on the *Symptomatology*, I have given all the peculiar pains, that pertain to the hemorrhoidal disease.

Vide Heister et Raupbach. (*Dissertatio de Clavo Hæmorrhoïdali. Helmstadii*, 1734.)

Wedel. (*Dissertatio. Æger Hæmorrhoidibus dolentibus et immodicis laborans. Jenæ*, 1679.)

De Montègre. (*Op. cit., p.* 53.)

8. *Hæmorrhoidal Colic.* I have mentioned this disease here because many of the celebrated physicians of antiquity, especially those of the illustrious school of Stahl, have used the term *hemorrhoidal colic* to designate a peculiar disease, which they believed to be the direct result of, or to be immediately connected with the hemorrhoidal disease. They minutely describe it, and enumerate all the symptoms which unerringly prognosticate its approach, but entirely fail, in my opinion, to give its correct pathogeny. The signs and symptoms they give of this affection do by no means diagnosticate colic merely of any kind, the attack of which is always sudden, with abscence of fever, and a relief from pain by firm pressure; but they seem clearly to indicate inflammation, and more especially inflammation of the serous membrane. The more appropriate term, then, would perhaps have been *peritonitis, enteritis,* or *passio iliaca;* for acute or chronic inflammation of hemorrhoidal tumors, under certain circumstances, might extend from the tumors, or the congested vessels, and the mucous membrane, to the peritoneum, and thus produce the disease in question. So far, however, as my own observations extend, I have never met with such a case. Vide Alberti et Zehner. (*Dissertatio de Colicâ Hæmorrhoïdali.*

Halæ, Magd., 1718.) Alberti et Lange. (*Dissertatio de Colicâ Hæmorrhoïdali in passionem iliacam inclinante. Halæ*, 1739.)

I have thus given the names of a few of the many consecutive affections which immediately spring from, or are intimately connected with the hemorrhoidal disease, and I will now conclude by presenting the names of some of the old authors and their works, who, it will be seen, add other diseases to the above catalogue, as consecutive accidents, results, or complications of hemorrhoids :—

Alberti. (*Dissertatio de Hæmorrhoïdum consensu cum Scorbuto. Halæ*, 1717. *Et Dissertatio de Hæmorrhoïdum consensu cum morbis Splenis. Halæ*, 1718. *Et Dissertatio de Hæmorrhoïdum consensu cum Capite et Pectore. Halæ*, 1718. *Et Dissertatio Hæmorrhoïdes symptomaticæ et perniciosæ. Halæ*, 1726.)

Schrader. (*Dissertatio de Diarrhœa Hæmorrhoïdibus fluentibus junctâ. Lugduno-Batavorum*, 1728.)

Gulic. (*Meditationes theoret. pract. de Furore Hæmorrhoïdum internarum. Lugduno-Batavorum*, 1733.)

Muller et Hoffmann. (*Dissertatio de cephalæa cum immoderato Hæmorrhoïdum fluxu sæpius repente.* 8vo, *Halæ, Magdeburgæ*, 1735.)

Boy. (*Dissertatio de Cardialgia Hæmorrhoïdali. Manhemii*, 1739.)

Brandenburg. (*Dissertatio momenta quædam graviora circa Hæmorrhoïdes sanguineas et mucosas sic dictas. Gœttingæ*, 1800.)

CHAPTER X.

ARE HEMORRHOIDS SALUTARY?

1. This question, although so apparently unreasonable and inconsistent, has, nevertheless, been made one of grave importance, and is by no means so easily solved as might at first be thought, especially when we consider the fact that on both the affirmative and the negative side of the question are found some of the ablest, most profound, and most distinguished men of the medical profession, both of ancient and of modern times. I therefore approach the subject with much diffidence, and in no spirit of dogmatism. The question is certainly one of sufficient importance, for good or for evil, as to entitle it to the candid consideration and thorough investigation of the enlightened medical profession of the present day. I can do but very little more, in this brief chapter, towards elucidating it, than to introduce or to present it fully and fairly to the profession, by giving the ancient and the modern authorities *pro et con.*, so far as my reading extends, and by quoting freely from the most distinguished of these. Being well aware that this attempt will be found imperfect, I nevertheless look forward with hope that it will prove a pioneer for a more efficient laborer.

From remote antiquity it has been an opinion among physicians, and consequently among the people, that hemorrhoids are salutary, especially those that bleed; that they prevent many diseases that would otherwise happen, and that they even contribute to good health and longevity. This erroneous and pernicious opinion is held by numerous physicians and people of the present day, and is, in my opinion, a source of incalculable mischief and suffering. The error consists in giving to hemorrhoids normal or physiological attributes, and was founded upon the absurd notion entertained and taught by the ancients, that they were emunctories by which the bile was evacuated, the acrimonious phlegm, and especially the atrabile. They believed that the hemorrhoidal discharge came from the

turgid extremities of the hemorrhoidal veins; and from the connection of these veins with those of the liver, they believed that they were the media through which the morbid humors, or black bile, were eliminated. Hippocrates in several of his books plainly teaches that hemorrhoids perform the office or function of evacuating the black bile or melancholic humor. He says, "In profluvio quod fit per ora venarum in ano sanguinem fundere solita (Græci hæmorrhoïda dicunt) velut quidam attræbili affine effluit." (*De Morbis Vulgaribus Liber. Hippocratis Opera Omnia Græce et Latinè, ab Anutio Foësio. Tome II., p.* 1185, *folio. Genevæ*, 1657.) Galen also (*De Atra Bile Libellus*) and the different authorities who succeeded Hippocrates continued to maintain the same doctrine regarding the functions which he had ascribed to hemorrhoids. Indeed, this idea was general, and prevailed until after the circulation of the blood was more fully demonstrated by Harvey, when it was in a great measure dispelled. These ancient authorities believed that hemorrhoids were the means of eliminating the *materies morbi*, or through which the *semina morbi* might be evacuated and health restored; and when they were entirely suppressed, they were, upon the principle of metastasis, determined either to the liver and produced dropsy, to the lungs and produced phthisis, or to the head and produced apoplexy. Hippocrates speaks plainly of the antiphthisical effects of the hemorrhoidal discharge:—"Qui sanguinem per ora venarum quæ in ano sunt profundere solent in neque lateris dolore, neque pulmonis inflammatione corripiunter." (*De Humoribus Liber. Foësio, Op. cit., Tome I., p.* 51.) He also says that, in melancholic and nephritic affections, if hemorrhoids supervene they are beneficial. (*De Judicationibus Liber. Foësio, Op. cit., Tome I., p.* 55.) The same sentiment is expressed in Aphorism XI., Section 6. "Melancholicis affectibus et renum vitiis succedentes hæmorrhoïdes (hoc est sanguinis profluvium per ora venarum in ano sanguinem fundere solita) bono sunt." (*Foësio, Op. cit., Tome II., p.* 1256.) Hippocrates further declares that in maniacal affections, if varices or hemorrhoids come on, they remove the mania: "Insanientibus si varices aut sanguinis profluvium per ora venarum quæ in ano sunt (hæmorrhoïdes dicunter) accesserint, insaniæ solutio." (*Aphorism XXI., Sec.* 6. *Foësio, Op. cit., Tome II., p.* 1257.) All authorities agree that the author by the phrase, *maniacal affections*, means *melancholy*. Again Hippocrates says, when a person has been cured of

chronic hemorrhoids, unless one be left, there is danger of dropsy or phthisis supervening: "Diuturnum sanguinis profluvium per ora venarum quæ in ano sunt (hæmorrhoïdas dicunt) curanti, nisi una seructur periculum est ne aqua inter cutem, aut tabes succedat." (*Aphorism XII., Sec.* 6. *Foësio, Op. cit., Tome II., p.* 1256.) The doctrine of this aphorism, however, does not agree with that taught in his: "De Hæmorrhoïdibus Liber," in which he says, "Urere verò ita oportet ut earum venarum quæ sanguinem fundunt nulla inusta relinquatur, sed omnes adurantur." (*Foësio, Op. cit., Tome I., p.* 891.) The graphic instruction here given to burn up all the hemorrhoids, so that not one should be left, is so diametrically opposed to that of the twelfth aphorism, and to the plain and unmistakable sentiments of the several passages I have quoted above, that this part of the book must be either an interpolation or that the whole of it is spurious. Of this book the illustrious Haller says: "Although this is a spurious book, it is by no means a bad one." (*Hippocratis Opera Omnia, Latine*, ab Albertus Haller. Vol. IV., p. 122, 8vo. Lausannæ, 1775.) Whether this book is spurious or not, I nevertheless agree with Haller, that it is not a bad one, especially that part of it which advises that all the hemorrhoids should be destroyed, and not one be left.

I would here remark that a few of the translators of Hippocrates have taken great pains to reconcile this apparent contradiction. Foesius and Gorter, the two most profoundly learned translators of Hippocrates, led doubtless by the great veneration in which they held their admired and beloved author, have attempted to reconcile this inconsistency, by proposing to remove the tumors one by one consecutively only, so that the system might gradually become accustomed to being deprived of them. (*Foësio, Op. cit., Tome I., p.* 891.) Gorter. (*Medicina Hippocratica* [*Hæmorrhoïdibus Liber*], 4*to*, *Amstelædami*, 1754.)

This emendation is plausible; but when a book or a passage in an ancient author is manifestly corrupt or spurious, it seldom happens that any ingenuity can amend it. It would seem wiser, then, to reject it altogether, as Haller has done in rejecting the book on hemorrhoids attributed to Hippocrates.

I have thus shown that the father of medicine had the most implicit confidence in the preventive, preservative, and curative powers of the hemorrhoidal disease. Galen says: "Hemorrhoids have

often prevented a commencing atrabilis or have cured it when it was established, as well as they cure induration of the spleen. They also disperse varices, gouty affections, and articular pains." (*Reliquum Sexti Commentarii Hippocratis, De Morbis Vulgaribus Librum.*) Galen elsewhere says: "Those who are the subjects of hemorrhoids are much less subject to other diseases." (*De Venæsectione Adversus Erasistratum Liber, Cap.* 5.) Celsus considered the hemorrhoidal flux as a salutary evacuation rather than a disease. (*De Medicini, Lib. V., Cap.* 18, *Sec.* 9.) Paulus Aëginetæ, in accordance with Hippocrates and the ancient physicians generally, recommended that, in removing hemorrhoidal tumors, when numerous, one should be left for the purpose of purging the system. He says: "Quare quùm plures sint hæmorrhoïdes unam relinquere oportet, purgationis gratia." (*Libri Septem Græcè et Latinè, Lib. III., Cap.* 59, *folio, Basilæ*, 1532.)

Were it necessary, I could readily show that the doctrine of Hippocrates upon this subject was adopted by nearly all the ancients. I will now, however, show that the same doctrine or a modified form of it was subsequently adopted and further attested by the largest number of the moderns, such as Plater (*Observationum in Hominis Affectibus plerisque Corpori et Animo, etc., Lib. I., Obs.* 1, 8*vo*, *Basileæ*, 1641.)

Primrose. (*De Vulgi Erroribus in Medicini, Lib. IV., Cap.* 51, 8*vo*, *Roterod*, 1658.)

Vega. (*De Arte Medendi. Lib. II., Cap.* 4, *folio, Lugduni*, 1576.)

Zacutus. (*Praxis Medica Admirabilis, Lib. II., Cap.* 6, *folio, Lugduni*, 1657.)

Horstius. (*Operum Medicorum, Lib. II., Cap.* 7, *folio, Norembergæ*, 1660.)

Stahl. (*Dissertatio de Consultâ utilitate Hæmorrhoïdum, Helmstadii*, 1704; *et Dissertatio de Hemorrhoïdibus, Von der Guldenen Ader, Halæ*, 1707.)

Alberti. (*Dissertatio Hæmorrhoïdibus Medicini Hypochondriacorum, Halæ*, 1756; *et Dissertatio de Hæmorrhoïdibus longævitatis causa, Halæ*, 1756.)

Hoffmann. (*Dissertatio de Salubritatem Fluxus Hæmorrhoïdalis, Halæ*, 1708.)

Lævius. (*Nova Acta Naturæ Curiosorum, Vol. I., Cur.* 1, *append.* 1, *Ann.*, 1706.)

Ludolff et Breithaupt. (*Dissertatia de Utilitate Fluxus Hemorrhoïdalis præsertim adsueti positivam curationem prohibentis, Erfordiæ*, 1721.)

Ledelius. (*Miscellanæa Curiosa sive ephem. Acad. Natur. Curiosor. decur. III., Ann.* 5, *obs.* 265.)

Valsalva. (Morgagni, *De Sedibus et Causis Morborum, Lib. III., Epist. XXXIII., Art.* 13, *folio, Venetiis*, 1761.)

The celebrated Richter cites the case of a lady who had a bleeding tumor of the right breast, which he refused to remove, believing it was caused by the suppression of the hemorrhoidal flux. He therefore prescribed remedies to restore the hemorrhoids, but with what effect is unfortunately not stated. (*Observationum Chirurgicarum, Cap.* 4, 12*mo*, *Gœttingæ*, 1770.) Heister observes that he had seen a man who at first became hypochondriac in consequence of the suppression of hemorrhoids; was then tormented by other symptoms, which terminated in pain of the head (*Clavus*). (*Acta Naturæ Curiosorum, Lib. V., obs.* 161. Et Roupbach, *Dissertatio de Clavo Hæmorrhoïdali, Helmstadii*, 1734.)

Almost every species of alienation has been by some authors attributed to the suppression of the hemorrhoidal flux. M. Esquiral says that melancholia and dementia are the most frequent. (*Des Maladies Mentales, considérées sous les Rapports Médical Hygiénique, et Médico-Légal*, 8*vo*, 1838.) Larrouque. (*Traité des Hémorroïdes*, 8*vo*, *Paris*, 1812.) Lacoste. (*Essai sur les Tumeurs Hémorroïdales*, 8*vo*, *Paris*, 1820.)

Many of the authorities I have cited record numerous cases to illustrate their views, as to the therapeutic value or salutary power of the hemorrhoidal flux to cure or to prevent disease, to promote continued good health, and to insure long life. These isolated cases are all of a similar character, and do not bear close scrutiny. They only tend to prove the exception to a rule. The following is a case in point: The celebrated Professor Richerand cites the case of a merchant who had arrived at the age of eighty-nine years, who attributed the continued good health he enjoyed to a hemorrhoidal flux which had existed for more than fifty years. So regular and so considerable was the flow that whenever he evacuated his bowels the blood would spout out from the anus for a certain distance, as

from a vein opened by a lancet. (*Nosographie Chirurgicale, Tome IV., Art. Lésions Vitales des Artères Capillaires, 8vo, Paris,* 1812.) Now, the question is, was it really in consequence of this continuous daily waste of blood for fifty years that enabled this man to onjoy such good health, and to have attained to the great age of eighty-nine years? Or was it not rather owing to his naturally good and robust constitution, his great tenacity of life, and the extraordinary power of nature to restore so rapidly this daily loss of the vital fluid, which, under such continued depressing influences, preserved his life for so many years? Then how disingenuous, how illogical it is to select such an isolated case to prove that the daily continued loss of blood from the rectum is essential to good health and long life. Had this merchant followed the advice of Aëtius, by having the hemorrhage gradually arrested, and at the same time observing proper diet, exercise, and an occasional purgative, he might soon have overcome this worse than evil habit, and might have attained to the age of one hundred years. We sometimes hear it said that such and such an inebriate always had good health, and attained to an extraordinary age, although for many years he was daily under the influence of the intoxicating draught. Who, I ask, would select such a case to prove that intemperance in the use of alcohol tended to good health and long life? Some persons attain great age under the most adverse circumstances and evil influences. These are the exception, not the rule.

Now, with regard to the hemorrhoidal flux, the celebrated Stahl was of opinion that it should never be accounted excessive except when it occasioned great debility or leucophlegmatia. (*Op. cit.*) Cullen, on the contrary, was of opinion that the smallest approach towards producing either of these effects should be considered as an excess, which ought to be prevented going any further; and even in the cases of congestion and plethora, if the plethoric habit and tendency can be obviated and removed, the flux may then with safety be suppressed. (*Lectures on the Practice of Physic, Vol. I., pp.* 485–932, *4to, Edinburgh,* 1812.) Riverius regarded hemorrhoids as a great evil. He says: "The immoderate hemorrhoidal flux is most dangerous, and brings on other pernicious diseases, as weakness of the whole body, coldness of the bowels, and especially of the liver, an atrophy or want of nourishment, an evil habit and dropsy by the loss of natural heat, by the spending too much blood,

which is the treasure of life and the cherisher of the whole body." (*Praxis Medica, Lib. X., Cap.* 10, *folio, Lugduni*, 1657.) Galen says: "Natura evacuationi per hæmorrhoïdes non adsue facienda est, quiâ facilé excedit et hydropem in excessu succedendo procreat." (*De Facultatibus Naturalibus, Lib. III., Cap.* 8.) Aëtius also remarks: "Multorum malorum causa sunt hæmorrhoïdes, deformitatem, miseram vitam inducunt, et multos vitâ privant." (*Medici Græci contractæ ex veteribus Medicinæ Tetrabiblos, hoc est Quaternio, Tetrab. IV., sermo* 2, *Cap.* 5, *folio, Basileæ*, 1542). Aëtius again observes that the danger of the suppression of the hemorrhoidal flux in plethoric habits may be prevented by he patient observing proper diet, exercise, and occasionally purging and bleeding. (*Op. cit.*) Klein says that when hemorrhoids have not caused children to perish before puberty, they often become fatal at that period. (*Interpres Clinicus, Hæmorr. Francofortie*, 1759.)

Notwithstanding the doctrine that hemorrhoids served to evacuate black bile, as held by the ancients, has long since been exploded, yet the moderns of the German and French schools continued to advocate a modified, more plausible, yet equally absurd theory. This theory, still a little more modified, is held by these schools at the present day. To show the estimation in which the hemorrhoidal disease was, and is even now, held by the Germans, it is only necessary to give some of the popular appellations which they have applied to it, and by which it is designated by them, such as "Der Güldene Fluss," "Fluxus Aureus," "Flux d'or," or "Flux Doré," or, rather, "Die Güldene Ader," etc. These popular names of this affection, given by the Germans, indicate the great benefit they conceive to be obtained from it, and how *precious*, like gold, it is. We thus see that they worship hemorrhoids as a *panacea*, for there is not an ailment to which poor human flesh is heir that this universal remedy, in their estimation, will not cure or prevent. Then what a blessing it is to have hemorrhoids and how unfortunate it is to be without them, or to have them cured when they exist! The Germans may therefore, with great propriety, be considered to be the cultivators of the hemorrhoidal disease.

The French, however, are by no means behind the Germans in their laudations of the hemorrhoidal disease, for one of their ablest and best writers on this disease, the late and lamented M. De Montègre, says that "the hemorrhoidal affection might be useful to a

great number of men, and that to become subject to it would for them be a fortunate event." (*Des Hémorroïdes, ou Traité Analytique des Toutes les Affections Hémorroïdales, p.* 127, 8*vo*, *Paris*, 1830.)

2. *Are hemorrhoids a disease?* It remained for M. De Montègre, the author of the able and profound work just cited, to present in the 19th century the old theory that hemorrhoids are salutary, etc., in an entirely new and fascinating dress. This he does by boldly declaring that the hemorrhoidal fluxion, before complications take place, is no disease at all, and that it is analogous to the menstrual flux, thus making it purely physiological instead of pathological. He therefore, in order to avoid the absurdity of calling hemorrhoids a disease, and at the same time considering them healthy, says they are not a disease, but an affection. He declares the hemorrhoidal fluxion to be a vital act, to which the name *disease* is inapplicable, for not only does it not prevent or impede the exercise of any function, but, on the contrary, without causing pain or notable inconvenience, it insures in a measure the preservation of the health; and in this respect it is in every sense comparable to the menstrual fluxion. "To designate this condition I will therefore," says De Montègre, "continue to make use of the word *affection*, equivalent to *manner of being*. I shall reserve the name *disease* for the cases which are aggravated by complications." (*Op. cit., p.* 16.) In another place, M. De Montègre says: "In fact, the hemorrhoidal fluxion, or the ensemble of the movements by which nature produces a sanguineous fluxion at the extremity of the rectum, cannot be called a disease." (*Op. cit.*, p. 118.)

To treat M. De Montègre fairly, and do him full justice, I will give his own language to the reader. He says: "Dans cet état, la fluxion hémorroïdale est un acte vital auquel ne saurait convenir le nom de maladie, car non-seulement il n'empêche ou ne gêne l'exercice d'aucune fonction, mais au contaire, sans causer de douleur ni d'incommodité notable, il assure en quelque sorte la conservation de la santé; tout à fait comparable, sous ce rapport, à la fluxion menstruelle des personnes du sexe féminin. Pour désigner donc cet état, je continuerai à me servir du mot *affection*, équivalant à *manière d'être*. Je réservai le nom de maladie pour les cas qui se trouvent aggravés par des complications" (p. 16). Again he says: "En effet, la fluxion hémorrhoïdale, ou l'ensemble des mouvemens par les-

quels la nature produit sur l'extrémité du rectum une fluxion sanguine, ne saurait être appelée une maladie" (p. 118).

Now as it respects the sanguine fluxion to the vessels at the end of the rectum in hemorrhoids, which is the first manifestation or pathognomonic sign of the disease, and which is always passive, not active—always pathological, not physiological, I deny that it is a vital act like the fluxion to the uterus, to which M. De Montègre compares it; but on the contrary, it is an abnormal, a morbid, or a pathological act, somewhat similar to that which takes place to the vessels of the legs, and which results in the disease called varicose veins of the legs, being remarkably like it in character. The hemorrhoidal fluxion cannot, therefore, in this respect, be compared to the menstrual fluxion, which is in every sense a vital, a normal, or a physiological act. This seems so obvious that it only needs to be stated. The idea, too, which many entertain, that the hemorrhoidal discharge and the catamenia are analogous, is absurd, for the bleeding from hemorrhoids is a hemorrhage of blood which coagulates, whereas the healthy catamenial discharge consists of a fluid which never coagulates, and which has neither the color of arterial nor of venous blood; and in odor, too, it is remarkably distinct from that of blood, and is also very much less disposed to decomposition or putrefaction.

M. De Montègre, in endeavoring to establish his favorite hypothesis that the hemorrhoidal fluxion is physiological and not a disease, uses the term *affection* in a certain sense to designate it, thus making a wide distinction between the terms *disease* and *affection*. But this use of the term *affection* in this instance is neither sanctioned by common acceptation nor by etymology. All agree that in medical language the terms *affection* and *disease* are synonymous. He reserves the term *disease* for the aggravated complications which sometimes follow the hemorrhoidal fluxion, such as excessive hemorrhage, irritated, inflamed, or prolapsed tumors, etc. Now, with regard to hemorrhage, I would remark that it is never a disease, but the symptom merely of disease, sometimes of disease of the part from which it takes place, at other times from that of disease in remote organs. In hemorrhoids, bleeding is often absent, and when it does occur it is passive, and is a symptom merely of the disease. This disease is generally ushered in by a peculiar stinging or pricking sensation at the anus, accompanied by an uneasy and painful

sense of weight, fulness, and tension about the sacrum and extremity of the rectum, often extending to the perineum and sympathetically affecting the sensibility of the bladder, urethra, etc. These symptoms are frequently much aggravated by the pressure of the anal sphincters upon the already turgid and irritable vessels of the parts; attended often by more or less fever, with hot skin, hard pulse, and dry mouth. All these morbid manifestations may take place at the very beginning of the attack, solely in consequence of the sanguineous fluxion, and before any of the complications have taken place of which M. De Montègre has spoken, before there is the slightest effusion of blood, or the formation of organized tumors. I would now ask, how can this preternatural fluxion of blood or serum to the vessels at the end of the rectum take place, without more or less affecting or disturbing the functions and the health of the organ, as well as of the whole body? Indeed, the distention of the highly delicate and sensitive vessels of the part, by any undue quantity of blood or serum, cannot for a moment occur without the patient at once experiencing, at the very beginning of the attack, many, if not all of the symptoms above enumerated. Now, if this is not disease, I ask, what is disease? *Dis-ease*, a separation from, or a deprivation of ease; or an interruption of ease, or of the functions of the body. *Affection* (from the Latin, *affectio*, disease), Cooper says, means any existing disorder of the whole body; and by adding a descriptive epithet to the term *affection*, most diseases may be expressed. Hence we may say, *pulmonary affection*, *calculous affection*, *cutaneous affection*, *febrile affection* (hemorrhoidal affection, if you please), using the word *affection* synonymously with *disease*. (*Lexicon Medicum*, *vol. I.*, *p.* 33. *Imp.* 8*vo*, *New York*, 1833.)

M. de Montègre, throughout his work, plainly teaches that the hemorrhoidal fluxion is not a disease, but an affection. Galen, who was always very precise in defining his terms, says, when on the subject of the pulse, that he is about to treat of those pulses that are peculiar to affections (*affectionibus*) or diseases, and calls that an affection which is preternatural (*præter naturam*). (*De Præsagatione ex Pulsibus*, *Lib. III.*) Hemorrhoids, from their very nature, are a disease, as much so as are varicose veins of the legs. Their origin, subsequent development, and structure prove it. The disease consists of a preternatural fulness, or decided turgescence of one or more of the vessels of the inferior extremity of the rectum, occurring at

uncertain intervals, and is the first manifestation of a morbid action in them—provoked either in immediate or in remote parts—the primary cause of which it is often impossible to ascertain; hence, it may or may never be discoverable. This vascular turgidity is either the result of an increased afflux of the fluids attracted from the neighboring parts to these vessels, or it is owing to a morbidly relaxed condition of them, by which their capacity is greatly increased, and by which larger currents are permitted to pass into their cavity than normal, the fluids being solely attracted from their natural channel to these morbid vessels by the vacuum occasioned by their enlarged calibre. The natural consequence, therefore, of this morbid dilatation of these vessels is that the circulation in them is retarded and sluggish, they having, to a certain extent, lost their contractile power; hence the fluids are more or less delayed and permitted to accumulate and to distend them. If this vascular fulness or hyperæmia does not soon disappear spontaneously, or is removed by treatment, it sooner or later terminates in congestion, attended by inflammation, with a serous or semiplastic extravation and subsequent infiltration into the surrounding tissues, thus laying the foundation of regular organized tumors. This affection, therefore, is, from first to last, a disease of the hemorrhoidal vessels, the arterial capillary system being principally involved. It can, therefore, with great propriety be called the *hemorrhoidal disease.*

Is it not surprising that hemorrhoids which are so obviously a deviation from health should by any one be considered and denominated healthy, or declared to be no disease at all? Yet many such are found, some of whom have even written volumes to prove it. But, I ask, does it sound well in reason's ear, or does it seem fit and proper in the light of common sense to call any disease healthy, or to style it a healthy process? It can be readily understood why venesection, as a therapeutic remedy, is sometimes salutary; why calomel, rhubarb, ipecac, or opium is salutary; for, in the administration of any of these remedies, the inference or presumption is that there exists a morbid or diseased condition of body which requires to be relieved or removed by it.

Hemorrhoids are often the result of other diseases, such as chronic affections of the liver, phthisis pulmonalis, etc. In all such cases, how absurd is the idea that they are salutary and should not be interfered with, because they tend to relieve the primary affection—the

diseased organ—as a derivative remedy, nature having established them for that very purpose! Now, in my opinion, if hemorrhoids are the only hope, the only resource, the only remedy of the physician to ward off or to cure the primary disease, then indeed is the case hopeless. The primary disease, as well as the hemorrhoids, the effect of it, should both be treated at the same time, for the removal of the effect will by no means remove the cause, the primary disease; and it is not the removal of the effect which produces fatal consequences, but the non-removal of the primary disease itself which results fatally. It is remarkable that the enthusiastic advocates of this theory do not, in imitation of nature, make efforts to induce hemorrhoids as a derivative remedy in cases in which they do not already exist, inasmuch as this achievement is by no means difficult to accomplish; yet we scarcely ever hear of it being done when, according to their own theory, it is of the utmost importance.

A frequent objection urged against the removal of hemorrhoids is that some patients after such operation lose their health, and sometimes die; and this circumstance alone is taken for granted as sufficient evidence that the disease had a salutary effect. Now, before such an inference can be drawn or be made available, it must first be positively shown or made known whether the frequency of the fact is such as to justify the conclusion; for no one supposes that the removal of hemorrhoids entirely exempts the patient from the effects of disease and illness ever afterwards, and no one will deny that the removal of hemorrhoids frequently leads to great improvement of the health, or that it confers substantial good. I have often heard physicians say that they regarded hemorrhoids as healthy, or that they depended upon plethora, and were, therefore, safe in warding off worse evils. In my opinion, they essentially never depend upon fulness of blood, for it is well known that they generally occur in persons of a different habit of body. The existence of hemorrhoids is no more an evidence of plethora than that of varicose veins of the legs. If one is considered healthy, or a healthy process, so should the other be. This doctrine is a serious, if not a fatal fallacy, for it leads to the entire neglect of the disease at an early stage, when it might be successfully managed and worse evils really prevented.

The fears, then, which are so generally entertained by so many, on the supposition that hemorrhoids are a salutary outlet, indispensable to the constitution, and that other diseases and infirmities

would be incurred by their removal, are, in my opinion, entirely erroneous and without foundation. How wrong and how absurd it therefore is to persuade the hemorrhoidal patient that his often dangerous, painful, and always disgusting infirmity is a salutary emunctory and the very guarantee of his health!

From what has been said in favor of treating hemorrhoids as a disease, it must not be understood that the treatment, either medically or surgically, should be attempted indiscriminately, as there are sometimes conditions which contraindicate treatment; these, of course, cannot be pointed out in this chapter. There are many precautions which a prudent physician or surgeon will observe before prescribing or operating in this, as in any other case.

I will add the following important authorities, still pertaining to this seemingly inexhaustible subject, as the chapter would not be complete without them.

Triller. (*Dissertatio de Hæmorrhoïdum Fluxu nunc Salutari nunc Noxio. Wittebergæ*, 1764.)

De Oberkamp. (*Dissertatio Fallax Hæmorrhoïdum Utilitas. Heidelbergæ*, 1781.)

Richter. (*Dissertatio de Censura nimiæ laudis Hæmorroïdum. Gœttingæ*, 1744.)

Peschel. (*Epistol. de Hæmorrhoïdum laude circumcidenda. 4to. Lipsiæ*, 1713.)

Metzer. (*De Hæmorrhoïdum statu sano et præter naturam. 8vo. Tubingæ*, 1677.)

Perpessa. (*Dissertatio de Hæmorrhoïdum Utilitate et Noxâ. Tolosæ*, 1705.)

Berger et Vater. (*Dissertatio de Hæmorrhoïdum Fluxu Salutari et Morbosa. Wittembergæ*, 1717.)

Eyselius. (*Dissertatio de Hæmorrhoïdibus secundum et præter naturam. Erfordiæ*, 1702.)

Dupré. (*Dissertatio de magno fluxûs Hæmorrhoïdalis remedio at vitam longam. Erfordiæ*, 1726.)

Draud. (*Dissertatio de Cohibendis potius quam promovendis Hæmorrhoïdibus. 4to. Argentorati*, 1749.)

Juncker. (*Dissertatio cur fluxûs Hæmorrhoïdalis in laboriosis plerumque fit lethalis. Halæ*, 1749).

Zuccarini. (*De Hæmorrhoïdum cum fluxu catameniali non comparanda salubritate. Heidelbergæ*, 1793.)

Grap. (*Dissertatio de fluxu Hemorrhoïdali periodico in arthriticis affectibus beneficio naturæ et medicinâ sine medico. Regiomonti*, 1752.)

Rosenblad. (*Dissertatio de laude Hæmorrhoïdum restringendâ. Lugduni*, 1771; *et Dissertatio de Hæmorrhoïdibus provocandis. Lugduni*, 1777.)

Jausson et Gœlicke. (*Dissertatio de Hæmorrhoïdibus turbatis. Francofurtie ad Viadnum*, 1723.)

Ludolff. (*Dissertatio de fine Hæmorrhoïdum principio variorum malorum. Erfordiæ*, 1725.)

Grumbrecht et Segner. (*Dissertatio de morbis ex interceptis Hæmorrhoïdibus. Gœttingæ*, 1741.)

Brendel et Wolff. (*Dissertatio de Hæmorrhoïdibus interceptis morbis verendorum aphrodisiacos naturalium simulantibus. Gœttingæ*, 1747.)

Stahl et Deville. (*Dissertatio de dubia atque suspecta Hæmorrhoïdum laude. Erfordiæ*, 1733.)

Woyt. (*De Hæmorrhoïdum salubri et insalubri promotione. 4to. Halæ et Magdeburgæ*, 1753.)

It will be seen, from the numerous authors I have cited, that while some consider hemorrhoids to be salutary, others declare them to be noxious, and others again, that they are both salubrious and insalubrious, and some even that they are no disease at all. It will also be observed that these authors *pro et con.*, in their use of the term *hemorrhoids*, more or less confound the sanguine fluxion, the hemorrhage, the tumors that bleed, and those that do not. Some on the affirmative side of the question speak of the passive bleeding only as being salutary, without regard to whether it proceeds from tumors or from the mucous membrane of the rectum; others again believe that even the sanguine fluxion without any bleeding from any source is salubrious; that indeed the whole disease, whatever they consider that to be, is healthful.

I cannot conclude this chapter in a more profitable manner than by presenting to the reader the excellent remarks on this subject by the able and distinguished Mr. Quain, of London. He says: "From the oldest times it has been a common belief, if not a medical dogma, that losses of blood, under the circumstances indicated, are salutary; that at all events they prevent matters from getting worse as regards the disorders we suppose to exist elsewhere, and therefore

ought not to be arrested. For all such general impressions or traditions in the profession, one is inclined to believe that there must be some reasonable foundation; and yet we ought not, in a matter of such great importance, to be guided merely by impressions, however generally they may be entertained. Our conclusions ought to be drawn from facts, from cases carefully observed and put together. I apprehend that the opinion entertained, respecting the healthful influence of fluxes of blood, arose, and continued to be strongly held, when the abstraction of blood was largely used as a remedy for actual disease. I well remember that, when I began to climb the first rounds of the professional ladder, no small portion of my time was engaged in bleeding—venesection or phlebotomy, and arteriotomy, as the operations were called; and few patients having any appearance of excited action about them escaped without being 'let blood.' But the practice of the profession, in this regard, has been much changed; and now a dresser is seldom called upon to use his lancet, except perhaps for the purpose of opening an abscess. Leeches indeed are applied, and the cupper is in requisition at times, but the lancet is comparatively little resorted to. May it not be, then, that notions which have come down to us from a period when the large abstraction of blood as a remedy for disease was often considered necessary, should require revision when the opinion and practice in that respect have been much modified? I would not imply that the prevailing impression respecting discharges of blood should, because of the change in opinion adverted to, be necessarily erroneous; I would merely suggest that the question we are engaged in discussing must be decided, irrespectively of any general notion, by reference to observation only. It should, moreover, not be forgotten that, in order to make examples of disease available for our purpose, much caution is required in removing all sources of error, as well as insufficiency from the examination of them." (*The Diseases of the Rectum, Second Edition, p.* 64, 12*mo. New York*, 1855.)

CHAPTER XI.

RESTORATION OF SUPPRESSED OR RETAINED HEMORRHOIDS.

1. All the authorities who consider hemorrhoids to be salutary, maintain that whenever any unfavorable symptoms manifest themselves soon after the hemorrhoids have been suppressed or retained, they should at once be re-established; and some authors even go so far as to advise that hemorrhoids should be induced or provoked, even in those in whom they never existed before, solely as a derivative remedy, as a relief to some existing malady.

As M. de Montègre is so very explicit upon this subject, I will give a translation of his language. He says: "I would observe, above all, that I employ the word *hemorrhoids* and not *hemorrhoidal flux*, conformably to the distinction which I have constantly admitted in the course of this article, and because the accidents arise primitively from the retention or the suppression of the fluxionary movement, independently of the sanguine flow. In fact, no fewer inconveniences are seen to result from the suppression of the dry, or non-bleeding hemorrhoids, than from those which bleed; from those which yield white serosities, than from those which yield blood." De Montègre continues: "Hemorrhoids are retained when they do not appear at the periods at which they were accustomed to occur; or when the paroxysms, not being subject to periodical returns, accidents in the mean time take place, which they might have prevented." (*Op. cit., p.* 143.) Again De Montègre says: "Sometimes the suppression of hemorrhoids, instead of producing one single grave symptom, gives rise to a number which succeed and replace each other, or even simultaneously torment the patients." (*Op. cit., p.* 156.) In order to establish this hypothesis, M. de Montègre cites numerous eminent authors who report cases directly bearing on the subject, or who maintain the same doctrine. Nearly all these authors will be found presented in the preceding chapter.

The following authors are among those who are in favor of producing or exciting hemorrhoids in persons suffering from diseases distant from the anal region :—Schiewasser et Alberti. (*Dissertatio de excrescentiâ nasi cum Hæmorrhoïdum anomaliis. Halæ*, 1729.) Degner relieved an agonizing pain seated in the jaw of a clergyman, by establishing hemorrhoids. (*Dissertatio de Clavo Hæmorrhoïdali.*) De Sorbait says that hemorrhoids are useful in gutta rosea, because of the revulsion they produce. Experience demonstrates to us, he adds, that the opening of hemorrhoids is the best remedy for gutta rosea. (*Medicinia Practicæ. Tome I., Cap.* 54 *et* 68, *folio. Viennæ*, 1678.) Frommann asks the question, whether it is proper to excite hemorrhoids in persons, who have habitual pains in the throat and redness in the face. (*Conserv. Pract. Post. Probl.* 41, *p.* 450.)

2. *Process of Recalling Suppressed Hemorrhoids.* Great disputes have heretofore arisen among physicians whether hemorrhoids should or should not be suppressed ; or when suppressed, whether they should be restored again; and if so, by what method; whether by general blood-letting, by topical bleeding, leeching, or scarification and cupping, or dry cupping; or by friction, or by the application of irritating substances to the parts, or by such medicines as act specifically on the inferior portion of the rectum.

Bleeding from the foot, for re-establishing the hemorrhoidal flux, was practised both by the ancients and the moderns. They argued that bleeding from the foot had superior advantages over that of the arm; being derivative, it contributes to recall the blood towards the inferior parts of the body, and consequently to re-establish the hemorrhoidal flux. Galen says: "Saphena quæ est versus partem inferiorem pedis, aperta, hæmorrhoïdum orificia aperit." (*De Anatomia Vivorum Liber.*) Hoffmann says that it is proper to practise bleeding at the feet to preserve the descending direction given by nature to the fluxionary movements, and thus favor the re-establishment of the hemorrhoidal fluxion to the rectum. (*Op. cit.*) Fabricius, of Hildanus, recommends bleeding directly from the hemorrhoidal veins for the restoration of the hemorrhoidal flux. (*Consilium in quo de conserbanda Valetudine, etc., folio. Francofurtie*, 1629.) Fabricius ab-aquâ-pendente made use of aloes for the purpose of reproducing hemorrhoids. (*Op. cit.*) Quarin says that "a monk accustomed to a salutary hemorrhoidal flux, having

walked during a great heat, and drank wine to excess, suddenly had a urination of blood, which was exasperated by the walk and by the administration of various remedies. However, says Quarin, that patient having desired my aid, I ordered him to sit over a vessel filled with hot water, arranged in such a manner that the vapor was directed to the anus. At the same time I had cloths dipped in very cold water and placed over the pubis. By this means the urination of blood was checked at the end of two days, and the hemorrhoidal vessels became swollen, and I had them opened with the lancet." (*Animadversiones Practicæ in diversos Morbos. Cap. I., p.* 268, *et seq.* 8*vo*, *Viennæ*, 1786.) M. De Montègre says that the application of leeches to the anus is the most direct means of reproducing the hemorrhoidal flux. In order to produce a general effect, one or two leeches should be applied daily for a week or two, in such manner as to maintain during all this time a light but almost continuous flow. The application of dry cups to the anus itself would also be a powerful means to invite the blood to that part, and be less objectionable than the leeching. The turgescence produced by the action of the cups is so similar in its apparent effects to that of the hemorrhoidal fluxion, that it does not seem to me that it could fail to produce this fluxion by its repeated use. (*Op. cit., p.* 255 *et* 344.)

The following remarks upon this subject by M. Trousseau are so very pertinent that I felt constrained to present them in full. "The physicians," says M. Trousseau, "of past ages have, perhaps, too much exaggerated the importance of hemorrhoids in the scale of pathological phenomena, while those of our own time are fallen into the contrary extreme. It cannot be denied that the suppression of the hemorrhoidal flux, when habitual, may be productive of general disorders among men almost as serious as the suppression of the menses in women. Moreover, it is generally admitted that with certain persons who have not only regularly, but at indeterminate periods, a draining or hemorrhoidal flux, the existence of this pathological condition is attended with a state of general good health, although it may remain for a long time uncertain and variable, provided the hemorrhoids do not manifest themselves as soon as usual. Observation shows also that persons who have had hemorrhoids for a long time, suffer generally if this flux entirely ceases. And it often happens that there is a call for its restoration.

"Many means have been advised to effect this indication. The

warm local baths, mustard foot-baths, leeches to the part, suction applied to the lower part of the large intestines, purgatives, and cupping-glasses to the part. Of all the means which we have made use of, only one has succeeded in any satisfactory manner. This is the application of cupping-glasses. This means was entirely forgotten, when a student of the Medical Faculty of Paris restored it, and I am able to bear witness to its effect on him. He had hemorrhoids till the age of twenty years, and always enjoyed good health. This flux now ceased, when he became subject to violent pains in the stomach and continued disorders of the digestive organs. He consulted M. Andral, while attending the Hôpital de la Pitié, and this physician made use of every means advised by authors for restoring this flux. Nothing succeeded, and the disease remained stationary. The young patient then conceived the idea of applying a cupping-glass to the part. During this application the circumference of the anus enveloped the hemorrhoidal tumors, which for eight days were swollen and painful. From this time his health was re-established. A month after this he experienced a slight return of gastric disorder, and one day, while attending my visit to the hospital, he spoke to me of the relief which he had obtained the previous month from the sufferings which he now began to feel again, and offered to let me witness the prompt appearance of the hemorrhoids under the operation of the cupping-glass. I accepted the invitation with alacrity, and at the same time I placed him upon the bed of one of the patients, and in the presence of more than forty physicians and students, I applied a cupping-glass to the fundament. A minute did not elapse, when the tumors made their appearance, and becoming united, they acquired the size of a small pigeon's egg ten minutes after the application of the instrument. The same means were made use of on the following day, and the hemorrhoidal flux continued for a week, and was followed by a cessation of the disorders of the stomach. M. Andral saw this young physician, and can testify with me to the great rapidity with which the tumors became swollen. After this I had only one opportunity of locally applying cupping-glasses for recalling the hemorrhoidal flux. This was in a female afflicted with erratic rheumatism, which to me appeared to be caused by the suppression of an habitual hemorrhoidal flux. I succeeded in puffing up the hemorrhoidal vessels by means of the cupping-glasses; but the tumors disappeared soon after the application of the instrument. What pre-

vents my using this remedy more frequently is this: in the first place, patients, especially women, have a great aversion to it; secondly, I have conceived that a much more simple remedy, and the employment of which can never be subject to serious objection, will answer the same end. I allude to antimonial suppositories.

"As I had never succeeded with aloetic suppositories, I thought of substituting in the place of aloes one of the most energetic irritants which I thought might attain the desired end. Now tartrate of antimony applied locally to the muco-cutaneous tissue creates an inflammatory action very powerful and persisting; I therefore preferred this article. I mix with a drachm of butter or lard from two to six grains of the tartrate of antimony. The suppository being introduced within the anal sphincter melts quickly, and the tartrate of antimony remaining in contact with the mucous membrane, excites a lively local irritation, a species of tenesmus, as a necessary consequence. When the suppository contains only a grain or half of a grain of the tartrate, it can be retained for twelve hours, without the necessity of going to stool; but when a greater quantity of it is made use of, the patient experiences a heat, at first slight, but afterwards scorching, and attended with painful pulsations at the part; and there is a necessity for frequent stooling. The arterial pulsations increase at the same time that the circumference of the anus protrudes, and pustules, similar to those excited by tartar emetic on the skin, now appear; bluish tumors, hard and painful, permitting occasionally a large quantity of blood to transude. These are the true hemorrhoidal tumors, perfectly evident, with those who have had them already, and only apparent with those who have not had them." (*Antimonial suppositories as a means of restoring the Hemorrhoidal flux. In Journal des Connaissances Médico-Chirurgicales, p.* 101. *Paris, Septembre*, 1836.) Mr. Calvert says: "In cases in which the sudden suppression of the hemorrhoidal flux is followed by violent pains in the abdomen; by hemorrhage from the lungs or stomach; or, in fact, by any affection that appears associated with it, it is generally advisable, not only to employ such means as the urgency of the case may require, but, if possible, to produce a revulsion to the vessels of the rectum. Warm stimulating fluids should be injected into the rectum, and the patient sit over the steam of hot water. If these means should fail, leeches should be applied around the anus; or recourse should be had to electricity for the same pur-

pose." (*Op. cit.*, *p.* 83.) M. Desault strongly recommends electricity in cases of this kind, and declares that he has derived great advantage from it both on himself and others. He says: "Mais une remède qu'on ne doit pas negliger pour rappeller cette évacuation nécessaire, c'est l'électricité. Ce moyen curatif, administré au bains, est un des plus efficaces pour rappeller toutes les evacuations supprimées. On peut y joindre quelquefois l'électricité par étincelles; mais j'aitré sur beaucoup des malades, et sur moi même, un grand avantage de l'électricité par bains pour les hémorrhoïdes. On en trouve un example dans les ouvrages de Sigaud Delafond sur l'électricité médicale, et surtout lorsque le flux hémorrhoïdal masque un flux hépatique." (*Cours Theorétique et Pratique de Clinique Externe.*)

Sufficient evidence has now been presented upon this subject to enable the student to understand it, as advocated by eminent physicians, some even of a late day. Much more might be said, and numerous prescriptions given for the purpose of restoring suppressed hemorrhoids, or for establishing them in those in whom they never previously existed; but the principal object of our work is not to teach how to restore or to produce hemorrhoids, but to suppress them, so that they may never again raise their diminished heads.

CHAPTER XII.

THE TREATMENT.

In the treatment of the hemorrhoidal disease, at any stage of it and by whatever method, our aim should not be confined merely to allaying the inflammation and the pain of the parts, reducing the swelling or turgescence of the vessels, arresting the hemorrhage or removing the tumors, if either one or all of these obtain; but it should, if possible, also be directed to the primary cause, and to the adoption of such therapeutic measures of treatment, whether medical or surgical, as would most effectually secure the patient against the possibility of any future return of the same affection. This important object is too often neglected in the treatment of this disease.

Preliminary. Previous to treating a case of hemorrhoids, the physician should, if possible, always satisfy himself fully upon the following points in relation to such a case:—1. Whether the patient is constitutionally predisposed to hemorrhoids; 2. Whether the disease in him is really local or constitutional; 3. Whether the disease is hereditary, some one or other of his parents having been subject to it; 4. Whether the disease is common in that part of the country in which the patient resides; 5. Whether the age, habits, or manner of living of the patient favors the development of the disease; 6. Whether the patient has been exposed to any of the exciting or local causes already enumerated in a previous chapter; 7. Whether the disease is complicated in any way with any other disease; 8. Whether the present attack of the disease is the first, or has he had numerous attacks; 9. Whether the attacks observe any particular periodicity. The physician, by thus making himself well acquainted with all the accessory circumstances of the case, is the better enabled to elucidate his diagnosis, and adopt a rational treatment.

The treatment of hemorrhoids may be divided into *Medical* and *Surgical.*

I.—THE MEDICAL TREATMENT.

The medical or curative treatment of the hemorrhoidal affection, as a general rule, is of much greater importance than the surgical, inasmuch as by it, if properly directed, we strike at the primary cause; whereas by the surgical treatment we only have to do with the mere effect of the disease, often leaving the cause of it untouched. The relief of the congestion, the arrest of the hemorrhage, or the removal of the tumors does not, as a general rule, remove the cause of them.

It has been shown in a previous chapter that the hemorrhoidal disease consists of a morbid relaxation of some of the hemorrhoidal vessels, especially of the veins and capillaries, by which their capacity is increased and their contractile power diminished; so that they readily admit of over-distention and become engorged with blood or some of its elements. This, then, is in reality the true hemorrhoidal disease; before inflammation has set in, with all its concomitants—alteration of tissue and actual deterioration of the structure of the capillaries, and before extravasation takes place and organized tumors are formed.

Were physicians consulted at the primary stage of the disease, they would be enabled to arrest it at the very threshold, and effect a cure without any surgical operation, by proper medical treatment alone.

Now the principal indication in the treatment of the hemorrhoidal disease, at its incipient stage, is to restore the tone and activity of the morbidly relaxed, debilitated, and engorged vessels; and inasmuch as these cannot unload themselves, by reason of their asthenic condition, they should be assisted to do so, if possible, by the exhibition of such internal medicines and external applications as would tend to increase their contractile power and action, and thus enable them, sooner or later, to force out their superfluous contents, as well as to prevent any undue quantity of fluids to re-enter them. At the same time, measures should be employed, if possible, to lessen the force (*vis à tergo*) which propels the fluids towards them.

The vascular engorgement of the hemorrhoidal veins and capillaries is sometimes the result merely of a neurosis, and when it is so, the most rational treatment should, of course, consist in the restoration of the nervous energy and of the proportionate calibres of these vessels.

To fulfil the indication in the morbidly relaxed and asthenic condition of the hemorrhoidal veins and capillaries, we have in belladonna, aconite, nux vomica, and ergot, valuable remedies, if properly directed, for restoring the lost tone of the hemorrhoidal vessels which always obtains in hemorrhoids.

Belladonna, in the early stage of the hemorrhoidal disease, will be found a valuable agent, and its action is the same, whether administered internally or applied topically to the congested vessels. Its *modus operandi* upon the vaso-motor system of nerves is, to diminish the calibre of the morbidly dilated veins and capillaries, by which their vascularity is reduced. A very eligible form for the internal exhibition of the belladonna in these cases is the officinal fluid extract. Three or four drops can be given three times daily; or the same quantity may be administered, night and morning, either by enema or suppository. The belladonna and nux vomica may be advantageously combined in the treatment of some of these cases, as it is in the following formula:—

℞ Tinct. Belladonnæ,
Tinct. Nucis Vomicæ, ... āā ʒ iv.
Aq. destillat., ... ℥ xv.
Fiat mist.

Two or three table-spoonfuls should be injected into the rectum every morning and night; or the nux vomica may be administered alone, according to the following formula:—

℞ Extr. Nucis Vomicæ, ... gr. x.
Aq. Menth. Piperitæ, ... ℥ vj.
Mucil. Acaciæ,
Syrupi Limonis, ... āā ℥ j.
Fiat mist.

A table-spoonful may be taken three times daily.

The ergot, from its known property of promoting uterine contraction, suggested the idea that it would promote the contraction of the relaxed hemorrhoidal vessels, which it is known positively to do—hence it is valuable in hemorrhoids, especially when they are attended by hemorrhage. The fluid extract is the best form in which it can be employed. It may be given in drachm or half-drachm doses two or three times daily, either by enema or suppository.

The iodide of potassium, having been used with valuable results in aneurism, I was induced some years ago to employ it in the treatment of internal hemorrhoidal tumors, especially in those partaking of the nævoid structure, and resembling very much erectile tissue; such a structure as has been denominated "*aneurism by anastomosis.*" The cases, however, in which I used it had not the firmness and patience to suffer me to continue its use long enough, to test it and to determine results; consequently I have nothing to report either for or against it. Indeed, such treatment, for obvious reasons, can only be carried out to a definite issue in hospitals.

In the cases I treated, I gave the remedy in doses of from twenty to forty grains and upward, three times daily, and required the patients, in the mean time to live on meagre diet, and maintain the horizontal posture much of the time.

The further medical treatment of the hemorrhoidal disease, in any or in every stage of it, should consist of all such therapeutic remedies or measures as are, in the first place, known to be well calculated to remove torpor or inactivity of the portal circulation, if it exists, and to induce regularity in that system, by keeping up a moderately relaxed state of the bowels, if constipation or inactivity of them prevails, by the use of eccoprotic medicines; for the circulation of the blood in the capillary system of the intestines, we know, is very materially aided by the peristaltic action of the bowels, especially of the rectum. For the same purpose, too, in severe attacks of the disease, absolute rest, and the horizontal position of the body, for the time being, should not fail to be enjoined, so as to prevent as much as possible the accumulation of blood in the hemorrhoidal veins, which in consequence of the absence of valves in the portal system is invariably increased by the erect posture. At the same time as local measures, the application to the ano-perineal region of either cooling and astringent lotions, hot fomentatations, or soothing ointments, as well as demulcent and anodyne rectal injections, also greatly contribute to the same beneficial effect, and are often productive of the greatest ease and comfort. These measures, if strictly observed and persevered in, will of themselves powerfully tend, not only to alleviate the pain and discomfort resulting from the hemorrhoidal attack, but sometimes entirely cure the disease. In order, therefore, to avoid those attacks, the patients who are predisposed to them, should be reminded how necessary and important it is for them to be careful

to obtain a regular, easy, and natural action of the bowels once daily, without, if possible, being under the necessity of having perpetual recourse to the use of purgatives; and the most important coadjuvants in such cases are properly regulated exercise, an unstimulating and laxative diet, and enemata.

It is, therefore, of great importance, in the medical treatment of hemorrhoids, that the patient should have one regular evacuation of the bowels daily, in order to prevent fæcal accumulations which, of themselves, tend to the production of the disease. This purpose, as before observed, should, in the first place, be effected, if possible, by a laxative diet and unstimulating enemata. In order to anticipate the regular daily evacuation of the bowels, the use, at the proper time, of an enema of cold or warm flax-seed tea, or water, in the quantity of from half to a pint, should not be omitted, unless the inflamed parts will not tolerate the introduction of the enema pipe. The use of such enemata not only lessens the local irritability of the parts, but sometimes, by removing collections of hardened fæces in the intestines, supersedes the necessity of any kind of purgative medicine. For this purpose, I am in the habit of using the following enema:—

℞ Olei Ricini vel Olivæ, ... ℥ j.
Infus. Sem. Lini tepidæ, ... ℥ vij.
M. pro enemate.

In the administration of enemata in these cases, in order to avoid as much as possible pain or injury to the highly sensitive parts, I use gum-elastic jets, applied to the nozzle of the enema syringe. They are easily adjusted over the bone, wood, or metal enema pipe; and being soft and elastic, are not so liable to cause pain, and do no harm. The figure below represents the jet:—

Fig. 6.

Mr. Curling says that, in case of internal hemorrhoids, half a pint of cold spring water, thrown into the rectum in the morning after breakfast, has a very beneficial effect on the hemorrhoids, by constringing the vessels and softening the motions before the usual evacuations. The relief afforded by this simple treatment, com-

bined with care in the mode of living, is often remarkable. (*Op. cit.*, *p.* 46.)

The following are a few of the eccoprotic medicines, which have been, and still continue to be, relied upon as the most proper in hemorrhoids: Cream of tartar (*Potassa Bitartras*). This is one among the best and most cooling laxatives known, as a mild aperient in hemorrhoids. Given in one or two drachm doses, in syrup, to produce one evacuation daily, it often acts like a charm, by allaying, instead of exciting, the hemorrhoidal irritation. During the hemorrhoidal attack, it may be taken daily, to keep up a gentle action of the bowels; or the following acidulated refrigerant drink may be freely used cold, as a common drink in hemorrhoids:—

℞ Potassæ Bitartratis, ... ℥ j.
Ol. Limonis, ... gtt. xv.
Sacchari albi, ... ℥ ij.
Aq. bullientis, ... O. ij.
Misce.

I frequently use the following aperient in such cases with good results:—

℞ Sulphuris loti,
Magnesiæ Calcin.,
Saccholactin, ... āā ℥ j.
Fiat pulvis.

A teaspoonful of this powder should be taken in as much cold water as will make it thin enough to drink, in the morning, an hour or two before breakfast. Should it fail to produce the desired effect, the same quantity may be taken night and morning. Only one free stool is required in twenty-four hours; more than one only aggravates the case.

Indeed, the general indication in the medical treatment of hemorrhoids, when opening medicines are necessary, is to employ only such as act but feebly or very gently upon the bowels, simply evacuating their contents, without materially increasing any of the secretions. In addition to those already mentioned of this class of agents, may be named *manna*, *rhubarb*, *castor oil*, *olive oil*, *sulphur*, etc.

If engorgement of the liver is complicated with hemorrhoids, I have known Congress water sometimes to act beneficially in removing both the congestion of the liver and the hemorrhoidal vessels.

A pint or a pint and a half may be drank in the morning, so as to procure one free evacuation of the bowels after breakfast. This course should be pursued for four or five days, especially if decided improvement is experienced. The use of Congress water, however, may, for the first day or two, produce more or less irritation of the hemorrhoids; but if the use of the water is persisted in for a few days more, this will generally all subside. Some of the foreign mineral waters, like our Congress, if employed understandingly, may also be used with advantage in some of these cases, such as the *Friedrichshall*, *Carlsbad*, *Pülna*, or the *Hunyadi-János*.

Rhubarb (*Rheum Palmatum*). This article has been highly extolled by many able physicians as a laxative in hemorrhoids; but no one has bestowed upon it higher praise than the late Dr. Samuel Jackson, of the State of Pennsylvania. He says: "The best medicine beyond comparison that we have tried as a laxative in hemorrhoids is *rhubarb*. The patient should masticate a small piece of the root, for at least fifteen or twenty minutes, and then to swallow the whole mass mixed with his saliva. If it prove very offensive at first, let him be assured that a taste for it may be as soon acquired as for tobacco or some other uncongenial articles; so true is this that I frequently meet my patients in the street with a piece of rhubarb in the mouth, as we have sometimes seen persons with a quid of less wholesome medicine. If the patient chew it with his front teeth only, and confine the mass to the front of the mouth, it will prove much less disagreeable than when diffused over a large space. This is by far the best method of using the rhubarb as a laxative, as ten grains thus chewed is more operative than five times this quantity taken in powder and swallowed at once. Dr. Rush used to say that the medicine thus taken made a more diffusible impression on the system through the organ of taste. Cullen directs that the ligneous part should not be swallowed. 'I have found,' says he, 'that the purpose mentioned (*i. e.*, laxative) may be obtained if the rhubarb is chewed in the mouth, and no more is swallowed than what the saliva has dissolved.' This supposed separation of the astringent from the laxative principle we suspect is erroneous; let the chewers of rhubarb decide for themselves. This medicine then, as far as laxatives are needed, we confidently recommend in hemorrhoids, as a remedy of surprising efficacy." (*American Journal of the Medical Sciences. No. xii., p.* 315, *August*, 1830.)

From the high recommendation of Dr. Jackson, I was induced, many years ago, to use the rhubarb in the manner he directed in such cases, and generally with the best results. I, however, occasionally found a case in which it produced too much irritation in the rectum, and aggravated the hemorrhoids, so much so that its use had to be abandoned. Professor Hildebrandt, a century ago, attributed to rhubarb, in substance, the same property of exciting hemorrhoids as aloës, but says that the aqueous tincture of this substance has not this irritating tendency. (*Dissertatio de Hemorrhoïdibus cæcis.*)

The Russian or Turkey rhubarb is no longer to be had in this country, but the Chinese rhubarb can be obtained here, and if fresh and good, will answer every purpose.

Aloes (*Aloe Spicata*). Among all the purgative substances, aloes are known for irritating, in an especial manner, the middle and the inferior extremity of the rectum ; and consequently for determining the hemorrhoidal disease. Indeed, it is an old and almost an established opinion that aloes are pernicious in hemorrhoids, yet this opinion has of late years been so controverted that they are now given both as a preventive and as a cure of hemorrhoids. These same opinions, *pro et con.*, were, however, held by the ancients. Dioscorides declares that the aloe closes up the mouths of the veins in hemorrhoids, and consequently is a valuable remedy in that disease. (*Opera quæ extant omnia, folio. Materia Medicæ Liber. Francofortie*, 1598.) Mesue, however, says that the aloe produces the contrary effect; that it is hurtful in hemorrhoids, and in all affections of the fundament. (*Opera quæ extant omnia, folio. De Simpl. Medicament. Liber. Venetæ*, 1562.) Avicenna also considered the aloe to be pernicious in the hemorrhoidal disease. (*Canon Medicæ. Lib. II., Cap.* 2, *folio. Lovanii*, 1658.) Fabricius ab-aquâ-pendente remarks that when he suspects a suppression of the hemorrhoidal flux to be the cause of a certain disease, he always endeavored to reproduce the hemorrhoids by the use of aloes. (*Opera Chirurgica, p.* 618, *folio. Lugduno-Batavorum*, 1723.) Dr. Pindall, notwithstanding the general prejudice against aloes in hemorrhoids, considers them almost a specific in that disease. His favorite prescription is the following tincture of aloes, given in doses of one or two tablespoonfuls two or three times daily :—

Pulv. Aloes Socotrinæ,
Pulv. Seminum Anisi, ... āā ʒ j.
Spir. Vini Gallici, ... O. j.
Fiat tinctura.

(*Medical Formulary. By Ellis, p.* 41, *imp.* 8*vo*, *Philadelphia*, 1842.)

The most suitable manner, perhaps, of employing aloes in hemorrhoids is in the form of pills, composed of the aqueous extract, and given in doses of from one to five grains daily, interrupting or continuing their use according to the effect desired. The aqueous extract of aloes is not so obnoxious to the objections generally made to the use of this drug in the hemorrhoidal disease, inasmuch as it is easily dissolved, and produces its peculiar effects on the mucous lining of the intestinal canal before it reaches the rectum; and although I am strongly inclined to the old prejudice against aloes in all hemorrhoidal affections, yet there might be cases in which they would be beneficial, especially when combined with other remedies which would tend, more or less, to modify their action. I have found, for instance, the following pill to be very efficacious in cases of hemorrhoids which were caused by obstinate constipation, the result of torpor or atony of the rectum.

℞ Extr. Aloes, ... gr. xxx.
Extr. Nucis Vomicæ, ... gr. xx.
Extr. Hyoscyami, ... gr. xv.
Sulph. Ferri, ... gr. x.
Ol. Caryophylli, ... gtt. v.
M. et divide in pilulas xxx.

One pill should be taken daily, at dinner or at bed-time.

1. Topical Applications.—Local applications, both external and internal, are always indicated in hemorrhoids, and often afford great relief and comfort. They may be applied to the affected parts either in the form of cold or cool lotions, hot or warm fomentations, emollient cataplasms, or soothing ointments. Local anæsthesia is also highly valuable in some cases, and may be employed by using for this purpose some one of the several agents of this class.

In some severe cases of inflamed hemorrhoids, in order to lessen pain, it may be necessary to use fomentations, as hot as can be borne, to the anal region and inflamed parts or tumors, applied in the form

of either flannel cloths or sponges saturated with plain or medicated hot water; or a large flaxseed poultice applied as hot as can be borne, and frequently renewed. When there is much congestion, inflammation, and tumefaction of the tumors, the application of leeches in their vicinity, together with the fomentations, may be highly beneficial in relieving the pain and engorgement. Cold or cool applications, however, are sometimes more grateful to the patient suffering from hemorrhoids than warm or hot ones, and should be tried when the others fail.

Water. Either cold or cool water as a local application to inflamed hemorrhoidal tumors, I have found to be one among the most valuable means to diminish the inflammation and heat which obtains in such cases, if faithfully persevered in. It should be applied to the protruded or external tumors in the form of an ascending douche. A very simple and cheap contrivance for this purpose is found in Clark's douche, represented by the following figure :—

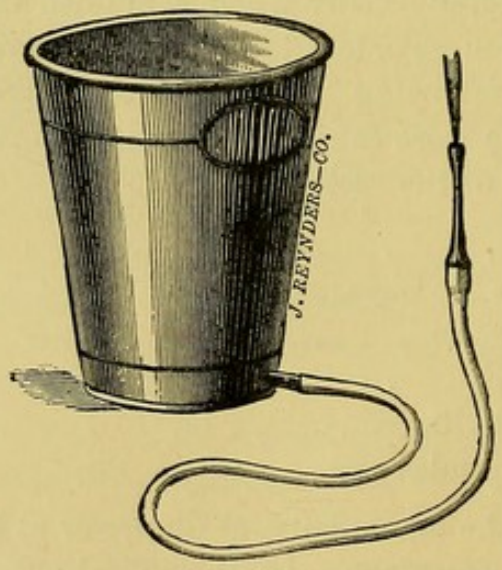

FIG. 7.

Or it may be applied by means of sponges and cloths.

Ice itself, broken into small fragments and enclosed in an oil silk or gum-elastic bag, and applied to the parts or tumors, sometimes acts like a charm. M. De Montègre says that: "Lotions of cool water, rather than cold water, renewed several times daily, have appeared to me the most efficacious remedy that could be employed in inflamed hemorrhoids." (*Op. cit., p.* 227.)

When the hemorrhoidal disease is recent, very beneficial effects

may be derived from injections of cold water, or cold flaxseed tea into the rectum. This should be done immediately after each fæcal evacuation of the bowels, as well as two or three times a day besides, in the quantity of about four or five tablespoonfuls, to be, if possible, retained, and not to produce an evacuation. For this purpose, I use my graduated three-ounce syringe, having a screw-piston, a rubber nozzle, and also a rubber tube seven inches long. The rectum will tolerate the enema much better, and not excite peristalsis when passed slowly into it by the use of this instrument. It is valuable for all medicated rectal injections designed to be retained. The following figure represents it:—

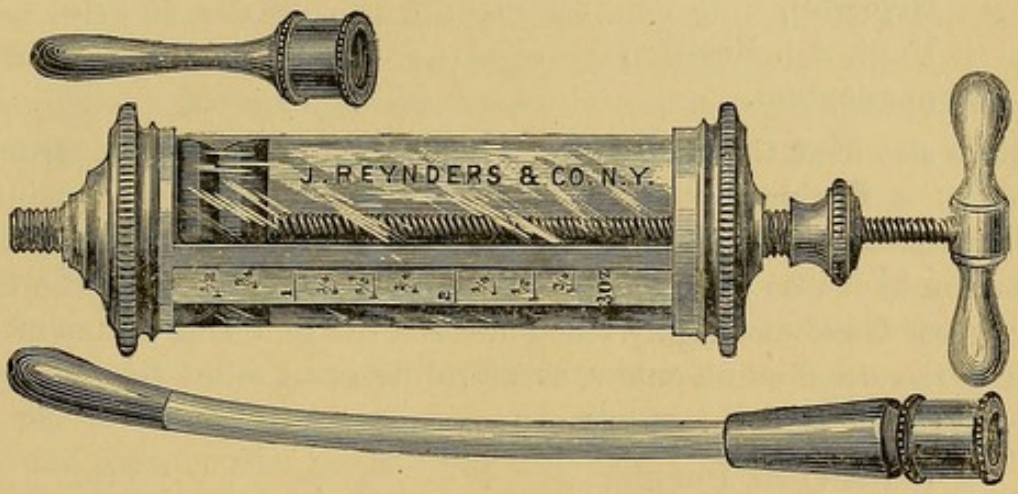

Fig. 8.

Hot Water Rectal Injections. The injections of hot water into the rectum, as a certain cure for hemorrhoids, has lately been introduced by two surgeons, both of whom claiming priority in its introduction and employment. Cold water as a remedy in the same disease has been used for ages by eminent men, either as an ascending douche against external or protruded hemorrhoidal tumors, or the rectum irrigated with it. These means, however, can only be considered as palliative, not curative.

Medicated Lotions. Lead water (*Liquor Plumbi Subacetatis Dilutus*) is a valuable cooling lotion in some cases of inflamed and irritable hemorrhoids. Several folds of linen may be saturated with it and applied to the parts, and frequently renewed. The following stronger lotion may be used in the same manner as the above, especially for external hemorrhoids:

℞ Liqr. Plumbi Acetat.,
Tinct. Opii, ... āā ʒ j.
Spir. Camphoræ, ... ʒ iij.
Aq. Rosarum, ... ℥ viij.
Fiat lotio.

Astringent lotions, when there is not too much inflammation, are indicated, such as that of alum and zinc, and of tannic acid, etc.

Soothing and Relaxing Ointments. When there is much inflammation, heat, and burning pain attending hemorrhoids, I have used the following ointment freely, with good results:

℞ Bismuthi Trisnitratis,
Glycerini, ... āā ʒ ij.
Ungt. Aq. Rosæ, ... ℥ j.
Fiat unguentum.

I have also used the ointment of stramonium (*Unguentum Stramonii*) as a soothing anodyne application in irritable and painful hemorrhoids, with excellent effects. The bruised leaves of the stramonium have also been employed for the same purpose. The late Professor Geddings highly recommended the following ointment, in which the stramonium enters, as affording great relief to the irritation of hemorrhoidal tumors:

℞ Pulv. Carb. Plumbi, ... ʒ iv.
Ol. Olivæ, ... q. s.
Sulph. Morph., ... gr. xv.
Ungt. Stramonii, ... ℥ j.
Fiat Unguentum.

(*American Journal of the Medical Sciences, November*, 1834, *p.* 266.) When the pain of hemorrhoids is attended by anal spasm, the ointment of belladonna (*Unguentum Belladonnæ*) should be used to relax the anal sphincters and relieve the pain. Or the following ointment may be used for the same purpose:—

℞ Extr. Belladonnæ, ... ʒ j.
Liqr. Plumb. Subacetat. dilut., ... ʒ ss.
Sulph. Morph., ... gr. x.
Ungt. Aq. Rosæ, ... ℥ j.
Fiat Unguentum.

The bruised leaves and the berries of the belladonna have also been

used, and recommended as a highly efficacious application in such cases. The effects of these external applications of belladonna should, however, be closely watched, as in some instances bad results follow its too free and indiscriminate use. These effects are manifested by disturbed vision and slight delirium.

A selection may be made from the several remedies I have indicated above, of those the most appropriate under the circumstances.

In all severe hemorrhoidal attacks, complete or absolute rest in the recumbent or horizontal position is essentially necessary in order to ease pain and to prevent, if possible, any further engorgement of the already turgid and inflamed parts.

2. Leeching.—When hemorrhoidal tumors are much inflamed and swollen, as well as all the contiguous parts, the application of leeches, if not contraindicated, is sometimes highly beneficial in subduing the inflammation, and removing the engorgement and tumefaction. The leeches, however, should not be applied immediately to the congested and inflamed tumors themselves, or to any part of the inflamed surface around the anus, but to some distant points, outside of the protruded tumors. This precaution is necessary, for it is known that the leech bites, in such instances, tend greatly to irritate the already inflamed parts and tumors, and are extremely prone to result in suppuration and abscess. I have myself seen several cases of anal abscess and anal fistula caused by leech bites. Stoll, a century ago, declared positively that, if leeches were applied to hemorrhoidal tumors, their bites would result in suppuration. (*Dissertatio de colicâ; colica Hæmorrhoïdale. Viennæ*, 1777.) The leeches should therefore be applied sufficiently distant from the tumors or seat of the inflammation, so that the local irritation produced by their bites would not extend to it; yet at the same time sufficiently near, so that the disgorgement, as well as the derivation, might take place without difficulty. From five to fifteen leeches may be applied, according to the condition of the patient and the symptoms, and repeated daily until relieved, or the inflammation evidently on the decline. When the leeches drop off, the bleeding, if desired, may be further promoted by the patient sitting over the vapor of hot water, so as to soothe the parts and encourage the further bleeding; or hot fomentations may be employed for the same purpose. When the bleeding has ceased, cataplasms of linseed

meal, saturated with McMunn's elixir of opium, may be applied and frequently renewed until all the inflammation is allayed.

Leeching the anal region for hemorrhoids, especially when complicated with chronic affections of the liver and spleen, will be found of great service. They not only diminish the general volume of the blood, but by unloading the hemorrhoidal vessels, operate more immediately upon the affected parts. Their influence, too, on the general circulation is far greater than is usually imagined. Attentive observation will soon convince any one that between the whole capillary system there exists a kind of specific sympathy; so that influencing their action in one part of the body frequently produces striking effects in that of other parts; and the more this circle of sympathies is investigated, the more important it will be found in pathology and in practice. Indeed, when leeches are applied to the anal region, they are not only valuable in relieving inflamed hemorrhoids, but as a revulsive remedy in many other diseases. It was in consequence of the large number of veins which accompany the arteries, and expand around the rectum and anus, and contribute to the formation of the vena portal system, that the margin of the anus was long since selected as the most proper and most eligible place where leeches produce their greatest effect, in chronic inflammatory affections of the liver, the spleen, the colon, the rectum, and adjacent parts. Leeching the anal region, as a revulsive measure, was at one time, many years ago, so common in Great Britain that some of the poetic wits of that period immortalized the practice. Butler, in his celebrated satire, pleasantly alludes to this practice in one of the following lines:—

"But with moon was more familiar
Than e'er was almanack well-willer;
Her secrets understood so clear,
That some believed he had been there;
Knew when she was in fittest mood
For cutting corns, or letting blood;
When for anointing scabs or itches,
Or to the bum applying leeches."

(*Hudibras, Part II., Canto* 3.)

Mr. Alexander Brome, the poetical wit and champion of the cavaliers of Charles the First, in one of his songs against the Rump Parliament, in allusion to Cromwell's hunting the members out of the house by military force, sings:

"Our Politique Doctors do us Teach,
That a Blood-sucking Red-coat's as good as a Leech,
To Relieve the Head, if applyed to the Breech.
Which nobody can deny."

(*The Rump: Or an exact Collection of the Choicest Poems and Songs relating to the Late Times. Vol. II., Part* 2, *p.* 5, 16*mo. London*, 1662.)

The following are a few of the old authors who wrote fully upon the subject of the employment of leeches in the treatment of hemorrhoids:—Schmucker. (*Vermischte Chirurgische Schriften. Band* 1, *S.* 107, 8*vo. Berlin*, 1776.)

Vezov. (*Dissertatio. Ergo rectè medetur qui Hæmorrhoïdes venæ sectione antevertit. Parisiis*, 1673.)

Chomel. (*Dissertatio. Ergo tumidis Hæmorrhoïdibus hirudines. Parisiis*, 1730.)

Klaunig. (*Nosocomium Charitatir., p.* 30, *ad lombos.*)

Topical bleeding in hemorrhoids by leeching, by scarification and by cups, has been used in all ages. Riverius highly recommends cupping as a revulsive measure in hemorrhoids, and especially in excessive hemorrhoidal bleeding. In such a case he advises the cups without scarification, to be applied to the shoulders, to the breasts, or the hypochondria. (*Praxis Medicæ cum Theria. Lib. X., Cap.* 10, *folio. Lugduni*, 1657.)

3. Puncture.—Instead of leeching to relieve the engorgement of the turgid hemorrhoidal tumors, puncturing them with a lancet is sometimes done. I have often performed the operation myself, to the relief of the suffering patients, and no bad results followed, but I much prefer leeching. Care must, however, be observed, in making this operation, not to plunge the lancet into a hemorrhoidal varix lest a hemorrhage should occur which might be embarrassing to arrest.

Humbourg. (*Dissertatio. Ergo Hæmorrhoïdi tumidæ sectio non hirudo. Vindobonæ*, 1765.)

4. Passive Hemorrhoidal Bleeding.—If the bleeding from the hemorrhoidal vessels is quite moderate, it might be a question, under attending circumstances, whether or not to let it alone for the time being; if, on the contrary, however, it occurs daily, is considerable, and renders the patient weak and nervous, it must be arrested. This I have generally succeeded in doing by giving the

following tonic and anodyne pills, to persons of a nervous and serous temperament:—

℞ Sulph. Ferri, ... ʒ j.
Extr. Belladonnæ, ... gr. vj.
Syr. simplicis, ... q. s.
Ut fiat massa, et divide in pilulas xxiv.

One of these pills should be taken morning, noon, and night, and continued till a decided improvement is manifested. Or to fulfil the same indication, the following solution may be given to weak, nervous, and anæmic persons from immoderate hemorrhoidal flux:—

℞ Ferri Citratis, ... ʒ ij.
Sulph. Quininæ, ... gr. xxx.
Acidi Citrici, ... gr. xv.
Aq. destillatæ, ... ℥ j.
Fiat solutio.

Twenty drops of this solution should be taken three times daily, in a glass of the cold infusion of wild cherry bark. At the same time while using one or the other of the preceding remedies, an injection into the rectum, morning and evening, of from two to three ounces of lime-water (*Aqua Calcis*) should be used, and if possible retained; or just before evacuating the bowels, an enema of cold water, or cold flax-seed tea, should be taken. In such cases it is important, for obvious reasons, that the patient should have easy stools, and avoid as much as possible extra straining efforts. If the bowels are obstinately constipated, mild laxatives must be taken, in addition to the enemata. In these cases of passive hemorrhage, I have found the free use of the balsam copaiva a valuable remedy. Acidulated drinks or some of the light acid wines may be used to advantage in many of these cases.

When, however, the hemorrhoidal bleeding is very profuse, and proceeding in jets from organized tumors, nothing will generally succeed but the complete removal of the tumors themselves.

For the treatment of the active or excessive hemorrhoidal flux, see the section on the "*Traumatic Hemorrhage of the Rectum.*"

5. Equitation considered as a Cause, a Preventive, and a Cure of Hemorrhoids.—The very charming exercise, *horseback-riding*, was highly extolled both by the ancient and the modern physicians, not only as a source of convenience and pleasure, but also as a

most valuable remedy in the treatment of some diseases. Hippocrates himself speaks approvingly of the practice of horseback-riding at full gallop, in the open fields, as a remedy for some affections. ("De Victus Ratione, Lib. II.) Oribasius, who relied so much upon other gymnastic exercises as remedial measures in the treatment of disease, passes the highest encomium upon equitation. After declaring that riding slowly is tiresome, he goes on to say that when a horse is put on the stretch, though he violently shakes the whole body, yet this concussion is beneficial, for it strengthens the entire system, especially the stomach; and it purges and quickens the organs of sense, beyond all other exercises. ("Collectorum Medicinalium," Lib. vi., Cap. 24, "Equitatione." folio. Basilæ, 1557.) The Latin writers, as well as the Greek, also allude to horseback-riding as a therapeutic measure in the treatment of disease. The Romans, however, although they exceeded the Greeks in their admiration and prosecution of gymnastic exercises generally, fell greatly behind the Greeks in their attention to, and recommendation of horseback-riding as a remedial measure. The celebrated Baglivi, however, was one of its greatest admirers, and speaks of having cured two hypochondriacal patients, who were desparately ill, by causing them to ride in the country on asses. ("Specimen de Fibrâ Motrice," Lib. i., Cap. 8. In Opera Omnia. Medico Practica et Anatomica. 8vo. Lugduni, 1710.) As an evidence that the Italians, excepting the military, were at an early period not very much addicted to horsemanship, especially to fast riding, I will quote a proverb of theirs, which says "*A galloping horse is an open sepulchre.*" In consequence, therefore, of this established principle, or opinion as it were, of theirs, they conducted their races at Florence by running the horses without riders upon them. And as a further evidence of the timidity of the Romans, which kept them in those days from the enjoyment and benefit of the best and most useful kind of riding, I will refer to some of the sayings of Martial, one of their celebrated poets, who advises his friend Priscus, in hunting the hare, to moderate the speed of his horse; and finally warns all hunters of that animal to beware of fast riding, lest they break their necks, instead of killing the hare. ("Epigrammatum Medicæ aut Philosophicæ," Lib. xii., Epig. 14. 4to. Venetiis, 1657.) Mr. Fuller says: "The exercise of horseback-riding, upon several accounts, may be esteemed the best and noblest of all exercises for a sick per-

son; whether we consider it with respect to the body or the mind. If we inquire after what manner it affects the body, we shall find that it is a kind of mixed exercise, partly active and partly passive. The lower parts of the body being in some measure employed, while the upper parts are almost wholly remiss or relaxed. Nay, where a man is easy, is sure of his horse, and rides loose, there is very little action on his part; but he may give himself to be as careless almost as if he were seated on a moving chair, so that he may be said to be exercised, rather than to exercise himself, which makes the case widely different from almost all other sorts of exercise, as walking, running, stooping, or the like; all of which require some labor, and consequently more strength for their performance. ("Medicina Gymnastica," p. 140, 8vo, London, 1740.)

I would observe here, by way of digression, that anciently at different periods, and for a longer or shorter time, horses were managed by the voice alone, or by the switch, without either bridle, saddle, or stirrups. For saddles they sometimes used the skins of animals, or cloth. Even the aborigines of our own country, not long since, rode and managed their horses somewhat in the same manner, if some of them do not even now do it. Saddles when first made were without pommels; and the ladies are especially indebted to the celebrated Catherine de Medici for the introduction of the pommel on their saddles. Previous to her time, female equitation was conducted *à la planchette*. According to the distinguished Abbé Brantôme, Catherine de Medici was the most perfect and accomplished horsewoman of the age in which she lived, and he says that she introduced the pommel on the lady's saddle for the better display of her unequalled symmetry of person.

Equitation is a passive-active exercise, and differs materially as to whether the horseman rides according to the French or the English fashion, so distinguished. The French rider, with long stirrups and only the ball of the foot resting in them, sits firmly in the saddle with his nates and the saddle in close and constant contact, as if he were part of the horse himself; by which it will be observed the whole pelvis is the principal *point d'appui*, so that the motions of the horse are imparted to the trunk, and the shocks and vibrations occasioned by them, act more forcibly upon the abdominal viscera. The muscles that are principally engaged in this active movement are those of the trunk and inner sides of the thighs. While, on the contrary,

the English rider with short stirrups, and the instep of the foot resting in them, does not sit closely and firmly in the saddle, but makes the stirrups serve him as *points d'appui*, in consequence of which his body is therefore raised at every movement of the horse, because the nates are unsupported, and by reason of this he is constantly compelled to exert himself in more active movements in order to maintain his upright position. It is true he may have the advantage, if it really is an advantage, of more effectually opposing the shocks occasioned by the motion of the horse, and longer warding off the fatigue which they induce; but are not these very efforts which he is continually compelled to make to keep his errect position, almost if not equally tiresome? These two methods of riding, then, doubtless have their advantages and disadvantages as remedial measures, and must be made to conform to the exigencies of the patient's condition. For the prevention and the cure of the hemorrhoidal disease, however, the French fashion of riding is, as a general rule, for obvious reasons, the best.

After having in the preceding general remarks referred to the subject of equitation as a remedy in diseases generally, I will now proceed to consider it especially in relation to the hemorrhoidal disease.

It was an opinion held both by the ancients and moderns, that horseback-riding, though valuable as a remedy in some diseases, yet it always and under all circumstances tended to the production of the hemorrhoidal disease, and that it was especially prejudicial to those already suffering from it. This opinion or supposition, even now entertained by so many, can only, however, be accepted as true to a very limited extent. Such an opinion I have always considered pernicious, inasmuch as it deters many persons of sedentary habits, invalids and others, from availing themselves of this delightful and sanative exercise. It is true that violent horse exercise may prove a cause of hemorrhoids in consequence of the irritation and chafing which it occasions in the ano-perineal region, in those who are unaccustomed to horseback riding, or those who ride for the first time, or ride a long distance in warm weather, which in such produce contusions and chafings, which more or less tend to the production of hemorrhoids. And I will here further remark that riding without a saddle, that is bareback, would also be well calculated to cause or to lay the foundation of the hemorrhoidal disease.

This effect, however, would not be due to the concussions produced by the motion of the horse, but solely by the heat given off and received from the animal in a long ride, especially in warm weather, and by the contusions and chafing of the anal region which attend this kind of equitation. The ancient Romans seemed to have been aware that horseback-riding without a saddle would cause hemorrhoids, for Martial in his epigram entitled "Ephippium" advises the coursers on this account not to ride bareback :—

"Strangula succincti venator sume veredi ;
Nam solet à nudo surgere ficus equo."
(*Op. cit., Lib. xiv., Epig.* 86.)

Horseback-riding must therefore be taken with precaution and prudence, on a good horse and on a good saddle, by those who are acquainted with the science and art of horsemanship, and accustomed to riding. If these prerequisites obtain, equitation is much more frequently a prevention or a cure of hemorrhoids, than a cause of them. I am well aware, however, that it under all circumstances is considered a potent cause of hemorrhoids, by a large number of eminent authorities. I must be excused, however, from naming but two or three of the old authors. The celebrated Trnka maintained that horseback-riding is uniformly a cause of the hemorrhoidal disease. ("Historia Hæmorrhoïdum," 8vo, Vindobonnæ, 1794.) Baldinger says that he has seen the horsemen in the army much more frequently affected with hemorrhoids than the foot soldiers were. ("Introductio in Notitiam Scriptorum Medicinæ Militaris." 8vo, Berolini, 1764.) Gabelschower reports the case of an old man who, at the time of a profuse hemorrhoidal bleeding, took a long ride on horseback, which completely suppressed the hemorrhage, but a hematuria soon followed, of which he died on the eleventh day. ("Curationum et Observationum Medicinalium," Cent. vi., Cur. 50, p. 116. 12mo, Tubingæ, 1627.) This case, which was intended to prove that horseback riding is exceedingly dangerous in hemorrhoids, signally fails, in my opinion, to do so ; and to say the least of it, it is of a very equivocal character.

Now, on the contrary, however, the illustrious Baron Larrey, who was so long Surgeon-in-Chief of the Imperial Grand Army of France, under the Great Napoleon, in accordance with his vast experience, declared positively that the motion of the horse was much better calculated to cure hemorrhoids than to cause them ; that he

had even seen soldiers, on the eve of an engagement, and in the midst of a violent attack of hemorrhoids compelled to mount their horses and remain in the saddle for hours, and who, through the excitement of battle, entirely forgot their infirmity, and found themselves cured when the conflict was over. Indeed, he himself was in the habit of causing soldiers affected with hemorrhoids to ride on horseback at full gallop; and he declares that he never saw any bad effects to supervene, but generally, on the contrary, the most salutary consequences. ("Mémoires de Chirurgie Militaire et Compagne." 8vo, Paris, 1817.) The able and the distinguished M. de Montègre says that "I do not know of a surer, or a better preservative from hemorrhoids than habitual equitation." ("Des Hémorrhoides, ou Traité Analytique de toutes les Affections Hémorrhoidales, p. 106, 8vo, Paris, 1830.)

Being well acquainted with General H. H. Sibley, a Creole of the State of Louisiana, now residing at Fredericksburg, Virginia, and knowing that he had been a commanding officer in the cavalry service for the greater part of his life, I wrote him on the subject of equitation, as a cause, a preventive, and a cure of hemorrhoids, and asked him to give me his experience and opinion in relation to it. The following is an extract from his letter, dated June 4th, 1882: "In regard to your inquiry relative to equitation, as a *cause*, preventive, and cure of hemorrhoids, I can speak ex cathedrâ. I entered the cavalry of the United States Army in 1838, and served throughout every climate on this continent up to 1861. Again in the Confederate Army during the continuance of that war; and lastly in Egypt as a general officer for four years. During this period of over thirty years' almost continual service, from the tropics of Mexico to the frozen crests of the Rocky Mountains, I have never been afflicted with any disorder of the anus, nor have I ever known a soldier in the ranks thus afflicted. True, they were and needs must be entirely free from any malady on their enlistment; but surely horseback exercise never *occasioned* any malady of the anus. Amongst the officers, but two in my regiment were thus afflicted; one, a captain, who complained of some anal malady, but who never shirked the saddle; another who had chronic piles, and who always shirked duty. He is still a living monument of worthlessness, though fully seventy-five years old. Thus you will perceive that my experience proves that horseback-riding rather *prevents* than induces piles. Whether it

tends to alleviate or to cure them, I have no knowledge or experience, never having been afflicted in this way myself; nor have I ever heard of a complaint from soldiers. I think the constant exercise, together with the regular habits and *initial* healthy condition of the cavalry soldier, preserves the healthfulness of the anal parts. It was my constant habit, after a long march in the saddle, to bathe the parts in a basin or in the creek, and the soldiers generally followed my example, etc."

I have myself witnessed the good effects of horseback exercise in several instances. Some of the patients had the disease in the form of varices in the anal region; while in others it was attended by regular organized tumors. These patients positively refused surgical treatment, and were then advised to lay aside the numerous pile nostrums they were using, and try regular horse-exercise for a while, which they did. The pressure of the saddle and the motion of the horse in these cases appeared to exert a most salutary influence in removing the congestion and the tumors. Indeed, the agitation of the intestines, and the repeated concussions occasioned by the motion of the horse, favor the free circulation of the blood through the entire abdominal cavity, and especially through the hemorrhoidal vessels, and at the same time the inferior portion of the rectum, with all the other contiguous parts which participate in this healthful movement, receive an augmentation of tone and elasticity which are well calculated to prevent and dissipate engorgements; and furthermore, there is scarcely anything that can assist, in a more efficacious manner, the action of a torpid liver, than the gentle shaking motion of horseback-riding, which induces a more active secretion in this organ, and absorption in the intestines, by accelerating the circulation. I have known many planters, as well as overseers of plantations, in the extreme southern portion of our country, some of whom were of full habits and free livers, who appeared to be nearly half their time on horseback, and yet, as it were, knew nothing of the disease, never having experienced an attack of hemorrhoids.

In my opinion horseback exercise is not prejudicial, even to the hemorrhoidarian, but on the contrary, is just the reverse. There is not a more certain preservative from hemorrhoids than regular horseback-riding. Should the patient, however, be unaccustomed to equitation, and take it in a sudden and violent manner, he will suffer severely for several hours, especially if he has external tumors,

or internal ones in the least protruded. I would, therefore, advise such a patient not to take this exercise if he has inflamed external hemorrhoids, or internal ones protruded, but first have the inflammation subdued and the tumors completely returned before mounting the horse. It is true, that in such cases it is frequently inconvenient and a little painful at first to ride, yet, if persevered in, great and lasting relief will often be obtained; and I do not think that hemorrhoidal tumors, whether external or internal, should ever contraindicate at least a trial of horse-exercise, by those especially who are averse to all surgical treatment; for if equitation is taken in a proper manner, carefully and prudently, it is a powerful means of preventing and of curing this affection.

I would remark in conclusion that the gymnastic-movement cure of hemorrhoids, which has some advocates, is founded somewhat upon the same principle as that of equitation; but while it is much more accessible to the majority of patients, it nevertheless falls far short of being as efficacious as horse excercise.

A gymnastic movement for the cure of hemorrhoids, it is said, is practised at Bellevue Hospital with success. "It consists simply in trying to touch the toes with the fingers without bending the knees. This movement, though difficult at first, soon becomes easy; it not only strengthens and develops the muscles of the abdomen, but also those of the legs and thighs. It assists the action of cer tain remedies, and thus aids in the cure." (New York *Medical Record*, September 27th, 1877, p. 599.)

With regard to equitation as a therapeutic measure in hemorrhoids as advanced in the preceding article, which appeared in the *Medical Record* of August 26th, 1882, I take particular pleasure in adding to it the testimony of so able and so distinguished a surgeon as our fellow-citizen, Prof. F. H. Hamilton. This he was pleased to give in a note to the author dated August 27th, 1882, as follows:—"My dear doctor: I have just read your very instructive paper on Equitation in its Relations to Hemorrhoids, contained in the last number of the *Medical Record*. If you will refer to my Treatise on Surgery, p. 782, you will find that I have arrived at the same conclusions that you have. These conclusions were the result of a personal life-long experience with the saddle, and were confirmed by a careful study of the subject while upon the field, during the late civil war, and while acting as U. S. Medical Inspector

of the Armies. I was myself almost constantly on the saddle, and while it is true that hemorrhoids were not often met with either in the infantry or cavalry, it is quite certain that it was least frequent in the cavalry. I never knew a cavalryman disabled from this cause—not even among the most active raiders. I knew one excellent cavalry officer who had piles, but he entered the service with them, and was in no way disabled in riding by them. I thank you, my dear doctor, for this able defence of my favorite exercise, etc."

6. Prolapsus Hæmorrhoïdis.—A prolapsus of the hemorrhoidal tumors sometimes takes place either from violent straining efforts to expel indurated fæces, or from frequent and rapid diarrhœal or dysenteric evacuations from the bowels, so that the patient, in consequence of the highly irritable and swollen condition of the tumors, is no longer able to replace them. This irritable and inflamed state of the parts soon induces an involuntary or spasmodic contraction of the anal sphincters, by which the tumors become constricted, causing either a partial or a total arrest of the circulation of the blood in them, and if they are not soon reduced, will result in strangulation, inflammation, mortification, and sloughing. The anticipation and the risk of such an occurrence, form the strongest arguments in favor of immediate measures of relief. It is, therefore, highly important that the tumors should be returned as soon as possible after their prolapsus, either by the efforts of the patient, or by those of the surgeon, for every moment's delay augments the difficulties of their subsequent reduction.

Employment of the Taxis. The use of the taxis in the reduction of the prolapsed or strangulated tumors should at once be put into execution. To accomplish the reduction of the tumors more easily by the taxis, I always, in ordinary cases, first foment the protruded parts for thirty or forty minutes with a sponge or folds of cloth saturated with hot water, then causing the patient to place himself upon his knees and elbows across a bed, with his body bent forward in such manner that the contents of the pelvis would gravitate toward the abdomen. If the patient should be a female, she should be requested to place herself upon her left side, on the edge of the bed, with the pelvis elevated by a pillow, and the abdominal muscles relaxed by drawing up the knees and bending her body gently for-

ward. It will be observed that these positions will of themselves aid, in facilitating the return of the prolapsed tumors.

After lubricating the tumors, as well as the fingers of both hands, the operator should gently insinuate the index finger of his right hand into the anus and anal canal, and with the fingers of the left hand seize the tumors and exercise upon them, light, steady, but progressive compression, with the design, in part, of disgorging them. Then the fingers should be slowly brought together, forming the apex of a cone, and now combined with the compression, propulsive efforts should also be made towards the sphincters, but only at intervals, corresponding exactly with the relaxations of these muscles, for it will be observed that, at each inspiration the patient makes, the fingers will feel the sphincters to contract more or less; therefore, at that moment, the propulsive efforts should cease, without, however, in the least yielding what has been gained, for if persisted in during inspiration, they only increase the pain, the muscular contraction, and the opposition, hence neither favoring the depletion of the tumors nor their return. On the contrary, however, during expiration, the fingers feel the yielding or relaxing sensations of the sphincters, and it is at this favorable lull, that advantage in this propulsive manœuvre must be taken to forward on to completion the reduction of the tumors. It is scarcely necessary to remark that, in the employment of the taxis in the reduction of prolapsed hemorrhoidal tumors, the same gentleness should be exactly observed as in applying it to a hernia.

Immediately after the complete return of the tumors, there is often a strong and irresistible disposition in them to protrude again, which is difficult and sometimes impossible to control. I have, however, almost always succeeded in appeasing and controlling this desire by the application of ice to the anus for an hour or two. This proceeding of the taxis, as a general rule, will succeed in all ordinary cases, as they usually present but few difficulties; but occasionally a case occurs in which several large, inflamed, and swollen tumors will be found prolapsed, so as to present, as it were, an insurmountable obstacle to their return. In such a case it is indispensable to success, to promptly procure the disgorgement of the tumors, in order to destroy the effect of the strangulation caused by the spasmodic contraction of the anal sphincters. This object can be effected by opening the strangulated tumors with the lancet and

completely emptying their contents, or what would be best of all, the complete removal of them by ligature.

The several palliative and curative measures which have been presented in the above section under the head "*Medical Treatment*," constitute the principal features to be observed in the palliative or ordinary and medical treatment of hemorrhoids. But even with the most assiduous and cautious attention, the disease will sometimes continue to progress, so that surgical treatment will finally also have to be invoked to relieve the sufferings of the patient.

(A.) OBSOLETE HEMORRHOIDAL REMEDIES.

Out of the multitudinous remedies which have been used in the treatment of the hemorrhoidal disease from time immemorial, I have selected a few of those only which were at some time or other sufficiently authenticated and merited confidence, as having been employed by eminent men, and sanctioned by experience. I may be censured by some for presenting these old discarded and forgotten remedies, but a knowledge of them will hurt no one, any more than such censure will hurt me.

Wild or common toad flax (*Antirrhinum Linaria*). This plant at one time held an exalted rank in the estimation of many of the old physicians as a most efficacious remedy for the cure or alleviation of hemorrhoids. They report numerous examples of extraordinary cures effected by it when, as it were, all other means had failed. The manner in which it became known and introduced contributed perhaps more to its popularity as a remedy in this disease, than its real merits did. It is said that the celebrated John Wolff, who was the physician of Louis, Prince or Landgrave of Hesse, held the secret of a preparation, in the form of an ointment, composed of the wild flax, by the use of which the Prince had often been relieved of hemorrhoidal attacks, and being very desirous to know the composition of the remedy which had proved such a blessing to him, continued to importune Wolff to disclose its composition to him, which, however, was obstinately refused, until the Prince promised to give him a fat ox every year. In making the formula for his salve known to the Prince, Wolff took especial care, in the following line, to distinguish the plant *Linaria* from the Cypress Spurge (*Esula Cyparissias*) which it very much resembles:—

"Esula lactescit, sine lacte linaria cresit."

To which line the hereditary Marshal of Hesse added:—"Esula nil nobis sed dat linaria taurum."

The following is the formula which this physician gave:—Take a handful or two of linaria plant with the flowers, bruise them, and add a sufficient quantity of hog's lard, and boil it to prepare a salve; strain, and let it cool; then add and mix with it the yolk of an egg. This ointment applied to inflamed hemorrhoids, on some wool or silk, alleviates the pain miraculously. Hoferus, speaking of this salve, says: "It is better to prepare it of the flowers of the plant alone, as it is then more calmative. It was with this ointment, says he, that I calmed in a moment hemorrhoidal pains which were so severe that the patients could neither stand, walk, nor sit." (*Medicationes Familiares*, 4*to*, *Salisburgi*, 1635. *Et Hercul. Med.*, *Lib. III.*, *Cap.* 5.) Horstius highly recommends this ointment by saying that it calms the pains of hemorrhoids in a most miraculous manner, and adds that he obtained it from John Wolff, that famous physician of Hesse. (*Operum Medicorum*, *Lib. II.*, *Cap.* 7, *folio*, *Norembergæ*, 1660.)

Chesneau, after reporting the numerous cures he had made by the use of Wolff's ointment, says that he never found any remedy so very capable of calming the hemorrhoidal pains, although he had tried many. *Observationes Medicæ*, *Lib. III.*, *Cap.* 12, *obs.* 2, 8*vo*, *Parisiis*, 1672.) It is said, however, that the celebrated Stahl and his distinguished pupil Alberti declare, on the contrary, that they have never seen Wolff's ointment succeed except in ulcerated hemorrhoids.

Water Fig-wort (*Scrophularia Aquatica*). Several authors and practitioners of celebrity speak in the highest terms of the efficacy of this plant in the treatment of hemorrhoids. It has been used by them, either in the form of infusion, decoction, lotion, or ointment. Slevogt declares that the effect of this plant is so beneficial and so certain for the cure of hemorrhoids that nothing would be more desirable than that Providence would grant to us other remedies equally as promptly efficacious and certain for all other diseases. (*Dissertatio de Scrophularia*, 4*to*, *Jenæ*, 1720.) Sennertus says positively that a patient tormented by the raging pain (*insano dolore*) of hemorrhoids will at once be relieved, by drinking the infusion or the decoction of the fig-wort, or by taking the powder of the

dried plant. (*Praxis Medicæ, Lib. III., Pars* 2, *Sec.* 3, *Cap.* 10, *folio, Wittebergæ*, 1650.) The following able authorities likewise speak of the highly valuable properties of the scrophularia as an efficient remedy for hemorrhoids. They report many examples of persons cured of this disease by simply eating the leaves or roots of this plant, or by having it infused in their ordinary drink. Heers. (*Observationes Medicæ Rariores*, 12*mo*, *Lugduno-Batavorum*, 1685.) Solenander. (*Consiliorum Medicinalium, Cons. XXII., Sec.* 4, *folio, Hanoviensis*, 1609.) Ettmuler. (*Opera Medicæ Theoretico-Practica, folio, Francufurti*, 1697.)

Millefolium (*Archillea Millefolium*). The use of this plant, both internally and externally, has been highly recommended for the cure of hemorrhoids by many celebrated physicians. They regarded it as astringent and antispasmodic. Alberti recommends the decoction of millefolium to be drank for three days, which he says will completely calm the pains of inflamed hemorrhoids. (*Dissertatio de Hemorrhoïdibus cæcis.*) Riverius gives the same advice, but regards as dangerous the advice which Arnoud de Velleneuve gives, to continue its use for a month. (*Praxis Medicæ cum Theoria, Lib. X., Cap.* 2, *folio, Lugduni*, 1657.)

Lesser Celandine or Pile-wort (*Ranunculus Ficaria*). This plant was at one time denominated *Cursuma Hæmorrhoïdalis Herba*, and was another remedy for hemorrhoids which authors extolled in the highest terms. Solenander says: "I have seen in my youth an empiric who cured all the hemorrhoidal evils with the lesser celandine. His secret consisted in causing beer to be drank, in which he had steeped or macerated bunches of this plant. He also employed the distilled water of the plant as a soothing lotion to the inflamed hemorrhoids. Since then, says Solenander, I have often used this herb, the expressed juice of which acts more promptly than the distilled water. I have cured patients whom an excessive hemorrhoidal flux had almost exhausted, and who seemed menaced by a dropsy. Some persons even cook either the plant or the flowers with eggs, and eat this *ragout* in the morning for the cure of hemorrhoids, for which it is said to be admirable. (*Op. cit., Consil. XX., Sec.* 4.)

Valerian (*Valeriana Officinalis*). But very few physicians have employed this plant as a remedy for hemorrhoids. Lentin, however, declares that he has found no remedy comparable to the valerian in

the treatment of hemorrhoids. He advises its prolonged use, and the patient to be put on the most suitable regimen. (*Beobachtungen einiger Krankheit, Band V.*, 8*vo*, *Berlin*, 1793.)

Black Henbane (*Hyoscyamus Niger*). The leaves of this plant have sometimes been used as an external application for the relief of inflamed hemorrhoids. Hamberger, for this purpose, highly recommends the leaves of this plant boiled in milk with saffron (*Crocus Sativus*). (*Doctrina generalis de Hæmorrhoïdibus, Jæna*, 1745.)

Night-shade (*Solanum Nigrum.*) This plant, which has been commonly employed for cutaneous affections of an irritating and painful character, has frequently, according to the reports of Binninger, relieved hemorrhoidal pains like a charm, by being bruised and applied to the seat of the disease. (*Observationum et Curationum Medicinalium, Centuræ Quinquæ*, 12*mo*, *Montbelg*, 1673.)

Balsam of Sulphur (*Balsamum Sulphuris*). This preparation at one time gained great celebrity as a cure for the hemorrhoidal dis ease. It was highly recommended by Fonseca as a wonderful secret remedy. (*Consultationes Medicæ Singularibus Remediis, etc., Cent. III., Curat.* 6, 12*mo*, *Francofurtie ad Mœnum*, 1625.) Ruland, after reporting several cases of hemorrhoids cured by the balsam of sulphur, says positively that it is proved beyond doubt by innumerable examples, that this remedy is certain and never fails, (*Curationum Empyricarum, Centuræ decem.-Cent. I., Cur.* 87. 12*mo*, *Lugduni*, 1628.)

Painter's Varnish. Allen extols this preparation as an excellent remedy for hemorrhoids, applied alone or mixed with rose oil. It was by this remedy, he says, that a woman cured Charles the Fifth, whom no other remedy could relieve. This varnish should be prepared in the following manner: Mix together twelve parts of drying linseed oil, four parts of Venice turpentine, and three parts of very pure sandarach or resin of juniper; then melt the whole over a moderate fire. (*Synopsis Universæ Medicinæ Practicæ, Pars. II., Cap.* 12, 8*vo*, *Lugduni*, 1729.)

Oil of Eggs. Forestus declares that the oil of eggs, alone or mixed with rose oil, scarcely ever fails to relieve the most cruel hemorrhoidal pains. (*Observationum et Curationum Medicinalium ac Chirurgicarum. Opera Omnia, Tome I., Cap.* 23, *Obser.* 345, *folio, Rothomagi*, 1653.)

(B.) EMPIRICAL, TALISMANIC, AND AMULETIC TREATMENT.

One would naturally suppose that so ancient and so common a disease as hemorrhoids, one which causes so much suffering too, and one which is constantly falling under the immediate observation of every physician, would long since have been well understood; that everything in relation to its anatomical characters, its pathology, and its treatment would have been clearly made out and well defined. But in reality, the very reverse of this happens to be true; indeed, so far at least as the ordinary treatment of this disease is concerned it has been and still is to a great extent highly empirical; so that frequently no better reason can be given for the use of a remedy than that it had sometimes cured. In consequence, therefore, of the empirical practice which has always more or less prevailed, and still prevails to some extent in the treatment of hemorrhoids, multitudinous contradictory and useless remedies have been resorted to for their cure; as well as numerous and various superstitious notions, such as charms, incantations, invocations, etc., have also from time to time been put into requisition for the cure of this affection. I repeat, there is no disease in the whole medical vocabulary, in the treatment of which there is so much empiricism and charlatanism practised as in that of hemorrhoids.

The celebrated Trnka, in his learned history of the hemorrhoidal disease, when speaking on the subject of the employment of amulets in the treatment of that affection, says:—"We cannot expect any good results from the use of amulets, when the disease is produced and maintained by important vices of the solids or fluids; when on the contrary, however, it is produced by the many accidents which depend on the nervous system, it may be hoped that these amulets, either by the effluvia which they transmit to the diseased body, or by the happy sentiments they develop (joy, hope, gayety, tranquillity), produce a new nervous condition under the influence of which the circulation resumes its equilibrium, so that the hemorrhoidal affection naturally disappears." (*Historia Hæmorrhoïdum; symptomata omnis Ævis Observata Medica continens*, 8vo, *Vindobonæ*, 1774.)

It will be perceived that this learned author was of opinion that, under certain circumstances and conditions, hemorrhoids might be cured by the use of amulets, or by analogous means. The exact

modus operandi, however, of such he makes no attempt to explain. Now, the first wish that naturally occurs to the mind of an inquisitive physician is, to learn the mode in which effects so remarkable are produced as those are, which are attributed to the use of amulets in this disease. The cases of hemorrhoids that authors adduce, in which amulets have been employed, either to avert or to cure that disease, are to be referred to the influence of the mind over the functions of the body, regardless of any explanation whatever that can be given. The cures, if such ever take place, can only be attributed to the operations of the imagination. It is true that a variety of conjectures may be offered in explanation of many of these reported phenomena, but none of them would be satisfactory to the philosophical inquirer; for a logical mind will never be satisfied with the explanations which are given of such. They seem to depend upon occult faculties, which cannot be admitted without destroying the entire fabric of one's reason; besides, they prove nothing whatever, and only indicate a coincidence, which may be entirely fortuitous, between the cure and the pretended remedy. But it is disagreeable, if not unphilosophical, to seek or to ask for simple explanations for such marvellous phenomena. The mind loves to repose on wonders, on mysterious dogmata, and is annoyed at the scepticism which debases by bringing them down to the level of the ordinary operations of the understanding. As this amuletic method of cure is opposed to common sense, it would not be fair to try it by common sense principles or procedures; for it is obvious that phenomena of this description are beyond reason, contrary to experience, and utterly irreconcilable to common sense.

I will now proceed to show that some of the ancients employed amulets in the treatment of hemorrhoids. Galen declares that the stone Hieracites (*Lapis Hieracites*), and the Indian stone (*Lapis Indicus*) if worn on the neck, will arrest the hemorrhoidal flux. (*De Incantatione, Adjuratione et Suspensione Liber.*) This very curious book on charms, amulets, etc., has been ascribed to Galen, but upon what authority it has thus been attributed to him, does not appear. It may be, and no doubt is, spurious. The same book is found in the works of Constantinus Africanus, to whom it is also ascribed, and doubtless very justly. (*Opera Omnia, folio, Basileæ*, 1536.) Paulus Aëgineta says that the Hieracites and Indian stone, when appended as amulets, stop the discharge of blood from hemorrhoids.

(*Op. cit., Lib. VII., Sec.* 3, *De Lapides.*) Aëtius declares that the Hieracites has the virtue of drying up hemorrhoids, when attached to and worn on the right thigh. He further remarks that, according to the treatise of Diogenes on stones, the Hieracites is of a greenish color approaching a black, and variously tinged with other colors. The Indian stone, he says, is of a yellowish color, and appears red when powdered. (*Op. cit., Tetrabib. I., Sermo II., Cap.* 30. Dioscorides recommends the Arabian stone, a species of white marble, for the cure of hemorrhoids. (*Opera quæ extant omnia. Lib. V., Cap.* 145, *folio, Francofurti*, 1598.) Monardes mentions the Hæmatites or blood stone (*Lapis Sanguinaris*) found in New Spain, (*Mexico*), of which the Indians believe that, if it be applied to any recent wound, it will at once check the bleeding; and he says that he has seen persons afflicted with hemorrhoids, who wore the blood stone in rings on their fingers for relief and cure. (*Simplicium Medicamentorum ex Novo Orbe delatorum quorum in Medicina usus est, etc.*, 12*mo. Antuerpie*, 1579.) Van Helmont declares that he had a metal, of which if a ring were made and worn, not only the pain attendant upon hemorrhoids would cease, but that in twenty-four hours, whether the tumors were external or internal, they would vanish altogether. (*De Febribus Liber. Cap. II.*, 4*to, Lugduni*, 1650.) Hartmann says that he has used the black hellebore (*Helleborus Niger*) as an amulet several times with success, in arresting excessive hemorrhoidal flux. The leaves being slightly contused to soften them, they are strung and made into a girdle and worn next to the skin. (*Praxis Chymiatrica, p. m.* 50, 12*mo, Genevæ*, 1647.) Plater says, that the leaves of the hellebore should be renewed as fast as they become dry, and worn as an amulet until the hemorrhoidal flux entirely ceases. (*Praxeos Medicæ Opus. Tome III., p.* 646, 4*to, Basileæ*, 1656.) Lanzoni says that a lady of Ferrara wore the leaves of the hellebore as an amulet with the greatest advantage in arresting serious hemorrhoidal bleeding. (*Consultationes Medicæ. Consul.* 97. *In Opera Omnia Medico-Physica et Philologica. Tome II., p.* 203, 4*to, Lausannæ*, 1738.) Wedel relates the case of a woman aged sixty-four years, whose complexion was quite greenish, as is generally the case with hemorrhoidal subjects, who suffered severely from excessive hemorrhoidal bleeding, which failed to yield to all remedies; but as soon as the patient commenced to wear the plant centinodia (*Polygonum*

Aviculare) under her axillæ as an amulet, she was soon cured. (*Miscellanea Naturæ Curiosa, dec. I., Ann.* 3, *Obs.* 22.)

I would here remark that, even in our own enlightened day and age, the buckeye or horse-chestnut (*Aësculus Hippocastaneum*) is carried about in the pockets of those suffering from hemorrhoids, as an amulet for their relief and cure. I have often been astonished to hear intelligent persons extolling in the most eloquent manner the superior virtues of this precious remedy. The stock of credulity, however, in this world is inexhaustible.

I do not think it requisite to multiply any more instances of this species of folly, as they abound in some of the ancient, as well as in the modern writings. Those who have a taste for such facts can easily cull plenty of them; those who have not, will fail to be convinced by any number of them.

In conclusion, I would respectfully recommend to each advocate for the employment of amulets in the treatment of diseases, that he or she should wear the precious stone chrysolite (*Lapis Chrysolithus*) in a ring on the middle finger of the left hand; as this stone is described as being the friend or patron of wisdom, and the enemy of folly. "Inducit sapientiam fugat stultitiam."

The following authors may also be consulted upon this recondite subject:—

Ettmuller. (*Opera Medica Theoretico-Practica.* (*Hæmorrhoid.*) *folio. Francofurti*, 1697.)

Goetz. (*Annales Wratislaviæ. Teut. XIV., Ann.* 1720. *Novemb. Sec.* 4, *Art.* 13.)

De Montègre. (*Op. cit., p.* 291.)

II.—THE SURGICAL TREATMENT.

The aid of surgery has, in all ages, been invoked for the relief of the hemorrhoidal disease, or rather for its accessories, namely, active hemorrhage, varices, and organized tumors. The surgical treatment of hemorrhoids was well understood by the ancients, as will be fully shown as we proceed; indeed, we are indebted to them for nearly all we know on the subject, there being but little new in relation to it. They had ligation, excision, cauterization, crushing or écrasement, evulsion, etc.; and they were also at least acquainted with the morbid anatomy of hemorrhoids, if not with their pathogeny.

Some of the innumerable and diversified surgical methods which

have been devised, adapted, and recommended for this purpose since the time of Hippocrates to the present day, may be comprised under the following heads: 1. Ligation; 2. Ligation and excision; 3. Excision; 4. Cauterization; 5. Issues or setons; 6. Écrasement; 7. Dilatation of the anal sphincters; and 8. Injection.

1. Ligation. The great antiquity of this operation, antedating as it does the birth of the Saviour of the world four hundred years, fills us with with surprise, and claims our admiration in that it has come down to us with the experience of at least twenty-three centuries, with so little subsequent changes; and this fact alone is a sufficient plea for presenting its early history here. Among the multitudinous therapeutic measures which have been devised and adopted from time to time, during this long period for the treatment of hemorrhoids, all of which have had their ups and downs in perpetual fluctuation of commendation and condemnation, ligation has stood the test of ages, and still maintains its superiority over all other methods for the removal of internal hemorrhoidal tumors, as being more simple, safe, rational, and effectual, and as having, at the present day, the recomdation, the advocacy, and the indorsement, with but few exceptions, of all the leading surgeons of Europe and America.

The use of the ligature as a therapeutic resource in the treatment of hemorrhoidal tumors, I have dated back to the dawn of the Grecian era, or time of Hippocrates, the great physician of antiquity, who used it as one of his measures for removing such tumors. He directs that hemorrhoids should be transfixed by a needle and tied with a very thick woollen thread, for thus, says he, the cure will be the more certain. Whether the meaning of Hippocrates is that the needle traversing the tumor was to be armed with the ligature and the two halves of it tied separately, as is now sometimes the practice, or whether the needle was to be used unarmed, merely as a pin to transfix and hold the tumor in place, in order to facilitate its ligation, has given rise to some doubt. It seems, however, evident enough that Hippocrates, in his description of the operation for trichiasis, directs that in that operation the needle must be armed with the ligature, and then concludes by saying that hemorrhoids should be treated in like manner—that is, as must be inferred from his language, that the tumors should be transfixed by the needle armed with the ligature, as in the operation for trichiasis. (*De Ratione Victus in Morbus Acutis Liber. Hippocratis Opera Omnia, Græcè et La-*

tinè. Ab Anutio Föesio. Tome I., p. 406, *folio, Genevæ*, 1657.) Galen particularly recommends the ligature in the treatment of hemorrhoidal tumors. After the tumor has been ligated, as directed by Hippocrates, he advises that it be excised outside of the ligature. (*Libri Isagogici et Decompositione Medicamentorum Localium. Lib. IX. Galeni Opera Omnia, Græcè et Latinè, a Kuhn.* 8*vo, Lipsiæ*, 1833.) Paulus Æginetæ recommends the ligation of hemorrhoidal tumors. Previous to the operation he directs that the bowels should be evacuated by repeated clysters, in order to irritate the anus and render it disposed to eversion, and the rectum to protrusion. He then directs the patient to be placed upon his back, in a clear light, and a very thick thread to be passed round the lips of each hemorrhoidal tumor, leaving one as an outlet to the superfluous blood, for so Hippocrates directs. (*Libri Septem, Græcè et Latinè. Lib. VI., Cap.* 79, *folio, Basilæ*, 1532.) Celsus advises the use of the ligature in certain cases. He says: "If the head of the varix or hemorrhoid be small and have a slender base, it should be tied or ligated a little above the part where it is attached to the anus. When the hemorrhoid is very large, with a broad base, Celsus advises that it be taken hold of by one or two hooks and excised a little above the base; neither must any part of the head be left, nor any part of the anus be taken away. This may be accomplished by not drawing the hooks either too much or too little. When the excision has been made, a needle must be passed through the orifice of the vein, or amputated varix, and below this a ligature must be applied." (*De Medicina. Lib. VII., Cap.* 30.) Celsus doubtless has reference here to the entero-external hemorrhoids, those situated about the verge of the anus, partly within and partly without, and covered by muco-cutaneous tissue. His graphic directions for ligating and excising such tumors, and his precautionary advice in order to avoid unnecessary pain, subsequent cicatricial contraction of the anus, and hemorrhage, are most strikingly proper and judicious. Albucasis, in the treatment of hemorrhoidal tumors, preferred excision and burning; but if the patient objected, he then had recourse to ligation. The base of the tumor was to be transfixed by a needle armed with a ligature and securely tied. (*De Chirurgia. Lib. XI., Cap.* 81, *folio, Argentorati*, 1532.) Rhazes, the great Arabian physician of the tenth century, advocated the ligation of hemorrhoidal tumors. (*Continent. Lib. XXIV., folio, Basilea*, 1544.) Haly Abbas,

another great Arabian physician, approved of either the excision or the ligation of hemorrhoidal tumors, according to circumstances. (*Opera Medico Practica. Lib. IX., Cap.* 61.)

I could here multiply the ancient authorities who employed and recommended the ligature for the removal of hemorrhoidal tumors, but deem it unnecessary. I will now cite a few authorities nearer our own time. Heister always employed and recommended the use of the ligature for the removal of hemorrhoidal tumors. (*Institutiones Chirurgicæ. Tome XI., Pars* 2, *Sec.* 5, *Cap.* 166, 4*to*, *Amstelædami*, 1739.) Mr. Pott always preferred ligation to any other method of removing hemorrhoidal tumors. (*The Chirurgical Works. Edited by Sir James Earle. Vol. II., p.* 407, 8*vo*, *Philadelphia*, 1819.) It is well known how decided Sir Astley Cooper was in his condemnation of excision, and in his advocacy of the safety and superiority of ligation for the removal of hemorrhoidal tumors. (*Lectures on Surgery. Edited by Mr. Frederick Tyrrell, p.* 297, *Imp.* 8*vo*, *Philadelphia*, 1839.) Mr. Howship says: "A strong circumstance in favor of the ligature I consider to be the following: by the ligature a certain degree of inflammation is sure to take place, with considerable tumefaction about the parts, and consequent effusion of lymph into the surrounding cellular texture. The tumors mortify, and the inflammation and swelling subside, but a permanent consolidation of structure is the result. The effused lymph is only partially reabsorbed, and the parts in which the disease naturally forms itself are thus rendered less liable to give way than they were originally. Where, on the contrary, the knife has been employed, scarcely any inflammation follows. The disturbance to the parts by excision is comparatively trifling, and the hemorrhage being always considerable, must, in proportion, diminish any tendency to inflame. The parts cannot, therefore, by this as by the other mode of operating, be left in a state of greater security than they were originally." (*Practical Observations in Surgery and Morbid Anatomy, p.* 312, 8*vo*, *London*, 1816.) Sir Charles Bell says: "The operation for hemorrhoidal tumors by the scissors or the knife is incomplete unless the whole diseased parts are taken away, and the extremity of the rectum consolidated by inflammation. This intention is best fulfilled by the use of the ligature, which is the best method of exciting the necessary inflammation, and is the safest and least inconvenient of all known methods." (*A System of Operative*

Surgery. Vol. I., p. 98, *Imp.* 8*vo*, *Hartford*, 1812.) Sir Benjamin C. Brodie, when speaking of the ligation of hemorrhoidal tumors, says: "I conceive that it is not only one of the most effectual, but one of the safest operations in surgery." (*Clinical Lectures on Surgery. Lecture XXXV., p.* 317, *Imp.* 8*vo*, *Philadelphia*, 1846.) The late Dr. Bushe, of New York, preferred the ligation of hemorrhoidal tumors to any other method. He says: "I have now performed it, I am sure, upwards of a hundred times, and I have never seen a bad symptom follow it." (*A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus, p.* 187, *Imp.* 8*vo*, *New York*,1837.) Mr. Syme, on the ligation of hemorrhoids, says: "I feel warranted, after very extensive employment of the ligature, to state that it may be used without the slightest risk of any serious consequence. Indeed, in the whole course of my practice, I never met a case which either terminated fatally or threatened to do so, when the ligature simply was employed." (*On Diseases of the Rectum. Third Edit., p.* 81, 8*vo*, *Edinburgh*, 1854.) Mr. Quain, with great success and satisfaction, always employed the ligature for the removal of hemorrhoidal tumors. (*The Diseases of the Rectum. Second Edit., p.* 22, 12*mo*, *New York*, 1855.) Mr. Curling prefers ligating hemorrhoidal tumors. He says: "After a lengthened experience, I can state that, with one exception, no fatal case of operation by ligature has occurred, either in my private or in my public practice." (*Observations on the Diseases of the Rectum. Fourth Edit., p.* 63, 8*vo*, *London*, 1876.)

Inasmuch as the ligation of internal hemorrhoidal tumors is established upon as firm a basis as any other operation in surgery, I do not deem it necessary to present any additional evidence of this fact, besides that of the eminent authorities I have already given. I could, however, name as many equally distinguished surgeons in our own country, who are also just as strongly in favor of the same operation. So far as I myself am concerned, I can truly say that, having been in the constant practice for forty-five years of removing internal hemorrhoidal tumors almost exclusively by the silk ligature, I have necessarily acquired some knowledge in relation to the operation. In my opinion, if it is judiciously performed, it is the mildest, safest, most certain, and most effectual of all known methods, and this, as I have already shown, is the settled conviction of the profession at large.

The Common Method. The prevailing method of ligating hemorrhoidal tumors is as follows: after the patient has completely evacuated the rectum by means of an aperient or relaxing enema, or by both, and has by straining efforts protruded the tumors as much as possible, each tumor is seized by either tenaculum or forceps and drawn down fully out of the anus, and close to the base of the tumor thus drawn down, a stout ligature of silk, or gut, or hempen cord, is applied, and then the same drawn and tied with a double knot as tightly as can be; or a curved needle, armed with a double ligature, is passed through the base of each tumor, so as to divide it into two, and the cords tied as tightly as possible on each side. If the tumor or tumors are covered with skin, this is incised upon the circle which is to receive the ligature. When all the tumors are thus tied, they are returned within the anus, and an anodyne enema administered, and the patient required, in the mean time, to maintain the horizontal posture, to live on meagre diet, and to avoid having any fæcal evacuations for a few days. Sometimes, after ligating the tumors, especially if large, they are excised immediately outside of the ligature. This, in short, is the process usually practised at the present day in the ligation of hemorrhoidal tumors.

The greatest objection usually urged against the operation of ligating hemorrhoidal tumors, especially by those who consider all such as veritable varices, is the liability of the operation to produce phlebitis or pyæmia. This danger, in my opinion, however, has been, and still is, greatly exaggerated; of the fatal cases heretofore reported, the most of them were never verified by a *post-mortem* examination; consequently are deserving of but little confidence. Whilst the operation is attended with less danger than any other for the removal of hemorrhoids, still it must be borne in mind that it is not entirely exempt from danger. Many also object to the usual operation, as now performed, on account of the severe pain which follows and continues for some considerable time, and thus hazarding tetanus, and to the confinement to bed or room for several days.

I believe, when phlebitis or pyæmia follows the operation, it is entirely referable to the previous and present bad state of the patient's general health, to his not having been at all a proper or a fit subject for it. When extreme pain follows the operation, causing great distress and suffering, and endangering tetanus, it is generally owing to the tumors having been in an irritable or inflamed condi-

tion when they were ligated, to the unsuitableness of the ligature, or the injudicious manner in which it had been placed upon the tumors. I have performed the operation in thousands of instances, and have yet to encounter the first serious accident.

In order, therefore, to guard against the dangers spoken of, the surgeon should never perform the operation without first making strict inquiry respecting the remote and the proximate causes of the hemorrhoids, and the previous and present condition of the patient's health otherwise. Should he find the patient suffering from organic disease of the lungs, the liver, the kidneys, the bladder, the uterus, etc.; or should he find the patient with a broken-down constitution from any cause, or in an anæmic or excitable state, or passing albuminous urine, he should hesitate to operate until the patient's condition was so improved, if possible, by proper treatment, as to justify it.

The danger is that, in some of the instances named, the blood, by being impaired or impoverished, by long disease, by miasmatic poisoning, by hemorrhages, or by any other cause, has lost its natural power of coagulation—hence pus or any other vitiated fluids find a much more ready admission into the circulation. It has been demonstrated that the coagulating power of the blood is the most efficient barrier, and the most effectual means, by which pus or any other foreign matter is prevented from entering into the circulation and producing inflammation of the veins, or blood-poisoning. A coagulum, as a general rule, will completely circumscribe purulent matter; indeed, under ordinary circumstances, such matter cannot circulate in blood-vessels, in consequence of its power of determining the coagulation of the first portions of the normal blood with which it comes in contact.

In consequence of several obvious objections which were continually being made against the common method of ligating hemorrhoids, I was led, a number of years ago, to carefully investigate the subject, with a view, if possible, to remove some of the objectionable features of it, or so to modify it as to make it less objectionable, without, at the same time, rendering it any less efficacious in the complete removal of the tumors. I first began by making some experiments upon both internal and external hemorrhoidal tumors, when in a quiescent state, expressly with a view to ascertain whether any one point or portion of the tumor was more sensitive than any other, and more especially whether the mucous membrane, or other tissue from which such tumor proceeded, was more or less sensitive than the tumor it-

self, or its covering. I found that the most sensitive part of the tumor was at its base, or at its immediate point of attachment; consequently I have ever since, in operating, been very careful so to adjust the ligature as not to tie it too close to the base, and that nothing but the tumor itself should be inclosed in its grasp. I also found that the lining membrane of the rectum, or other tissue to which the tumor is attached, is very much more sensitive than any part of the tumor itself. Now the question naturally arises, what is the cause of this difference in the sensibility of the natural textures from which the tumor proceeds and those of the tumor or foreign growth itself? The most rational inference which occurs to my mind at present is, that the former are more abundantly supplied with nerves and nervous influence than the latter. Be this as it may, however, the fact is as I have stated it, and it is in the power of any student to verify it. But on this, as on many other points of pathology and physiology, we are sometimes better acquainted with the *quo* than with the *quomodo;* in other words, we know the facts, but we cannot well explain them. My researches on this subject have plainly taught me that, so far as the natural tissues are concerned, the fine and delicate skin immediately without the anal orifice is the most sensitive; that the muco-cutaneous coat immediately within the anal orifice is next in point of sensibility, and that the mucous membrane of the rectum is the least sensitive of the three. I have, however, found the mucous membrane of the rectum much more sensitive than the mucous membrane covering the tumor. This must not be forgotten. Indeed, the foreign body and its covering, unless entirely external and covered with true skin, are much less sensitive than the three natural textures previously named.

The Improved Method. I now propose to offer some improvement on the common method of ligating hemorrhoidal tumors, the success of which, in my hands, has been invariable, and warranted by an experience of many years.

According to the improved method of operating, the tumor to be ligated is never, as a general rule, seized by tenaculum or forceps and pulled down; for if this is done a portion of the elastic mucous membrane of the rectum, to which the tumor adheres, also comes down with it, and is therefore almost certain to be included in the grasp of the ligature. Hence the additional pain, the protracted suffering, and the more or less ulceration which necessarily follow;

for the operator cannot distinguish the true base of the tumor from any other part when drawn down in this manner, for all the parts generally have the same appearance. I always require my patients to extrude the tumors simply by defecating efforts, or by the efforts produced by means of an aperient or a relaxing enema. If one or all these means should fail to protrude the tumors, I employ a bivalve anal speculum, introducing and arranging it in such manner that the tumor which I design to ligate should fall between its blades; then, with suitable instruments, it can be ligated within the canal just as easily as if it were extruded or external. I scarcely ever ligate more than one tumor at one time, and I never employ a thick and stout silk or hempen cord with a hard twist in it, such as saddlers' silk or the linen thread of the sewing machine, which is almost as hard and stiff as silver wire; but I use a fine soft silk ligature, well waxed, with scarcely any twist in it, somewhat like floss or den-

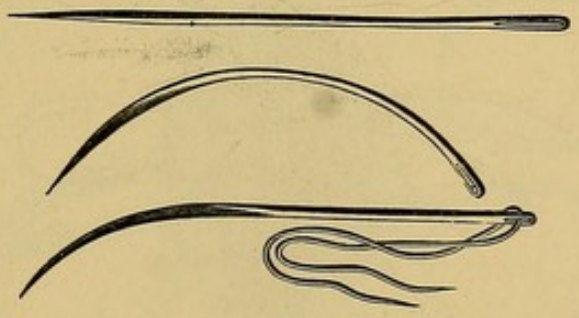

Fig. 9.

tists' silk. For, it may be observed, in proportion to the large size, the hardness, and the stiffness of the ligature, will be the increased pain it will occasion, and the length of time it will take the tumor to slough off. As before observed, I am careful so to adjust the ligature as to exclude everything but the foreign body itself, and only make the ligature sufficiently tight to cut off the circulation—nothing more nor less. This fact can be known and adjudged by the appearance of the tumor whilst the ligature is being tightened. I am also very careful not to place the ligature very close to the base of the tumor, or place of its attachment, as this produces more pain and is not any more effectual in removing the whole of it. The small portion of the base of the tumor, below the grasp of the ligature, will sooner or later slough off, or disappear by some other process, as I always witness. Indeed, the inflammation excited by the ligature in the contiguous parts is doubtless sufficient of itself to ob-

literate, by condensation of the surrounding cellular structure, any remaining portion of the tumor. When the tumor is very large, or too large for a single ligature, or when it is badly shaped, I divide it into two or more sections, according to its size or form, and multiply the ligatures, including but a small portion of the tumor in each section. This is done by arming a straight or a suitably curved needle (vide Fig. 9.) with a double ligature of different colors, and passing it through the tumor a little above its base and repassing it. After each passage of the needle a loop of the ligature, of sufficient length, should be left on each side of the tumor, as seen in the following figure:—

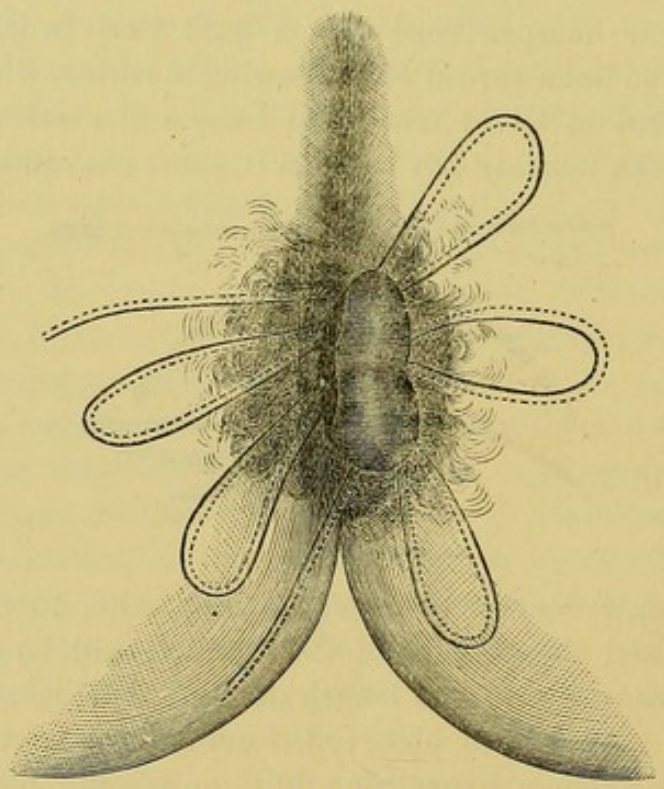

Fig. 10.

and when all the stitches are made the loops are cut, and all the ligatures of one color, are firmly tied on one side of the tumor, and those of a different color on the other side—thus including in the stitches every part of the tumor, and underlaying it, as it were, with a double uninterrupted suture. This operation may be greatly facilitated by first seizing and holding the protruded tumor with my curvilinear forceps, represented by Fig. 11. When any part of the tumor is covered with skin, or muco-cutaneous tissue, I usually incise this upon the same circle which is to receive the

ligature afterward, by which more or less suffering is avoided. I sometimes, when the tumor is entirely external, and covered with skin, and objection made to the knife or curved scissors, ligate it subcutaneously, which causes it to shrivel and gradually to disappear. By this operation the integument, of course, is not interfered with, and much pain, suffering, and inconvenience from the ligature otherwise applied, are avoided. The subcutaneous ligation of external hemorrhoids consists in encircling the base of the tumor with a ligature passed immediately beneath the skin. This is accomplished by the use of a proper needle, describing a considerable curve, and with it to puncture the tumor at a suitable place, and to carry a ligature subcutaneously half round the same. The needle is then to be brought out at this point, and reintroduced at the point of exit, and carried round the other half to the original point of en-

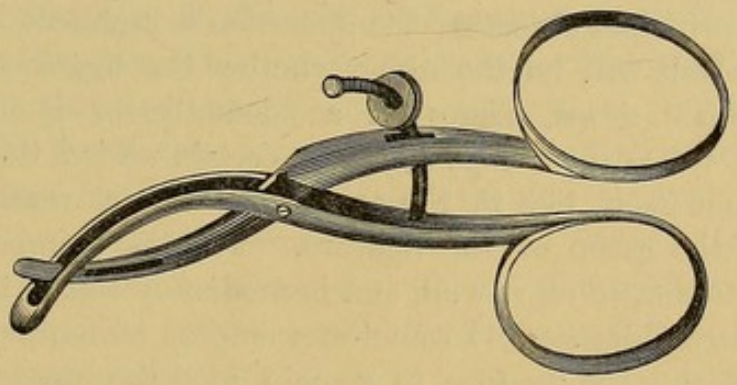

FIG. 11.

trance, and then tied. If the tumor is large, it may be divided into two or more sections, as before described. This is the operation which is sometimes employed for the removal of nævi.

The Modus Operandi of the Ligature. The ligature removes the tumor or foreign growth by two processes: first, by depriving it of its due supply of blood, and secondly, by making its way through the base of the tumor by ulcerative absorption. Now, while it is obvious that the first of these effects may be accomplished by the application of the finest and softest ligature, it is equally clear that the larger and harder the substance of the ligature is, the longer the time it will take, and the more extensive the inflammation, pain, or irritation it will produce, in accomplishing the second. I repeat, then, that when a stout silk, hempen, or linen cord is used as a ligature, which is comparatively a rough substance, especially when hard

twisted, it will, by its mechanical attrition, produce more inflammation and pain, and continue them longer, than when the ligature is finer, softer, not much twisted, and not drawn too tightly. The ligature, however, must be drawn tight enough to interrupt all kind of circulation and physiological action in the tumor; if this is not accomplished the tumor may not perish, or perish very slowly, and more or less sensibility will remain in it. The desirable end, the complete destruction of the tumor, can be attained, however, without making the ligature as tight as it can be. The amount of strangulation should be just sufficient to arrest the passage of the fluids. The tumor, thus deprived of its vitality, first becomes blue or livid, and then softens, shrinks, and loses its volume, and acts in the same manner as any dead foreign body, which must necessarily come away through the eliminating powers of the system. When the entire physiological circulation of the tumor is suspended for twenty-four hours, the principal object of the operation is attained. After this, the final result will be the same, whether the ligature remains on till the tumor drops, comes off accidentally, or is intentionally removed. When there is pain, after a certain period, the pain is not in the tumor itself, but in the contiguous natural textures not included in the grasp of the ligature. It is very important, after ligating a tumor, to oil it well, and immediately return it.

Temporary Ligation. I sometimes employ temporary ligation—that is, suffering the ligature to remain upon the tumor for fifteen or thirty minutes only, and then removing it and replacing the tumor. This method, however, is only suitable in case the tumors are internal, and of a soft and spongy texture, similar to those to which the nitric acid is especially applicable. In examining the tumor a few days after the operation, it will be found to be smaller, and ecchymosis will be visible in all parts of it; and about the fifth or eighth day it will have entirely disappeared, with scarcely any pain or inconvenience during the whole process.

The Proper Time to Operate. The best time for the performance of the operation is when the tumors are in a quiescent state. I do not consider it good practice to operate when the tumors are very irritable and inflamed. I am in the habit, when such is the case, of waiting, if possible, until the irritability and inflammation have spontaneously subsided, or have been subdued by appropriate treatment. It often occurs that among several tumors which are in a quiescent

state, there may be found one highly sensitive and irritable. This one can be easily distinguished from the rest, by its florid appearance, or by its being tense, tender, and painful upon pressure. If the operation is performed when the tumors are irritable or inflamed, the pain and general suffering will be greatly augmented. To subdue the sensibility, irritation, or inflammation of the tumors, see the directions for this purpose under the head, *Medical Treatment.*

As true hemorrhoidal tumors vary in locality, structure, size, numbers, vascularity, sensibility, etc., so do they require modifications of treatment. Those in which, more than in any others, ligation is more especially indicated, are the internal ones which are florid, soft, and highly vascular, which protrude readily and bleed freely; also those internal ones which are indurated, dark, and with little sensibility, protruding at each evacuation, and attended with a free mucous discharge. Those round and sometimes blue tumors, located at the margin of the anus, and covered partly with mucous, and partly with muco-cutaneous tissue, should, when large, be ligated, after incising that part covered by the latter tissue. When any of these are very small, they may be let alone, but when any of these small ones are hard and painful, they should be punctured with a lancet, and their contents completely let out. Those tumors that are altogether external, or completely without the anus, and covered with skin, should be removed with the knife or curved scissors, or ligated subcutaneously.

An important fact, and one that should be remembered, is that when internal and external hemorrhoidal tumors coexist, by completely removing the former, the latter will, as a general rule, disappear of themselves.

French Opposition to Ligation. French surgeons are generally opposed to ligating hemorrhoidal tumors, ever since the celebrated M. Petit, about a century ago, recorded two cases in which, after the operation, symptoms resembling those of strangulated hernia manifested themselves; one of which terminated fatally. (*Traité des Maladies Chirurgicales. Tome II., p.* 123, 8*vo*, *Paris*, 1790.) Now the question, whether these two patients were proper subjects for the operation, is entirely left to conjecture, as nothing whatever is said upon this point in the very brief and meagre description M. Petit gives of them, and of the fatal case no *post-mortem* examination was made; hence, what positive conclusion could be drawn from

such uncertain data, as to either the primary cause of the violent symptoms, or that of death? Yet upon this flimsy argument an operation is denounced and rejected which, as I have shown, has stood the test of ages, and which has been, and continues to be, advocated and successfully performed to the present day, by some of the ablest surgeons in the world.

M. Velpeau says, "At the present time (1830) the ligature, though of easy application, is generally laid aside in France, notwithstanding the argument adduced in its favor by M. Mayor. (*Gazette Médicale de Paris. Année*, 1832, *p.* 24.) The tumors that have no pedicle, or the simple *bourreletes*, do not admit of the employment of the ligature; and the examples given by J. L. Petit show that in other cases it may give rise to the most serious accidents, such as violent pains, syncopes, convulsive movements and inflammations of the intestine and peritoneum." M. Velpeau further remarks, "that the internal hemorrhage attributed, by Cooper and Brodie, to the excision of hemorrhoids, has rarely taken place among us of France; hence it is very natural that we should not have the same confidence in the ligation of hemorrhoids that those surgeons have. Excision, therefore, at this time is almost the only operation which ought to be had recourse to, for these affections." (*Mott's Velpeau. Vol. III., p.* 1099, *imp.* 8*vo*, *New York*, 1847.)

2. Ligation and Excision.—This double operation, or combination of ligation and excision, in the removal of hemorrhoidal tumors, was practised by some of the ancients, and continues to be practised by some surgeons even at the present day. Galen recommended a double flax thread, which was made to traverse the base of the tumor by means of a needle, and tightly constricted on each side. At the end of two hours the tumor was to be excised, outside of the ligature. (*Introductio, Vel Medicus Liber. Cap. XVIII. In Isagogici Libri.*) Mr. Howship says: "Where the tumor is within view, M. Desault recommends the ligature to be first secured, and the tumor then cut off, to avoid the offence from its mortifying, and the injury that might arise from excoriation of the surrounding parts. (*Desault, Œuvres Chirurgicales.* 8*vo*, *Paris*, 1813.) "These reasons, however, are not of sufficient weight to counterbalance what has always appeared to me objectionable practice. It is clear that any living part falling into a state of decay must be offensive;

but it is to me equally clear, and that from long observation, that when a part is thus destroyed, the perfect mortification of the dead part assists in completing that process of vitality by which the ligature is separated; and as the application of a ligature now and then excites much constitutional irritation, so is it an object that may regard even the safety of the patient, to attend to every circumstance that may assist in expediting that ulceration by which the ligature is to be eventually thrown off." (*Op. cit.*, *p.* 156.)

The principal argument used by surgeons at the present day for excising the tumors immediately after ligation, is to avoid pyæmia, or purulent infection. This additional operation, however, by no means secures the patient against the possibility of pyæmia, as I could abundantly prove by citing a number of examples. I will only allude to one, Dr. A. B. W., a well-known and prominent citizen, and a highly respected and admired physician of the city of New York, who in April, 1868, had two hemorrhoidal tumors ligated, and immediately after excised, by a professor of surgery in one of the city medical schools, and in a few days after the operation, the patient died of pyæmia.

It is the practice of some surgeons, after ligating the tumors, to open them with a lancet, and let out their contents, in order, they say, to relieve the pain and tension. If, however, the tumors are properly strangulated, they are incapable of exciting either pain or tension.

I must here give the method of ligating hemorrhoidal tumors, as practised by Mr. Allingham, of St. Mark's Hospital, London, which is the practice, to some extent, in the hospitals of New York City.

Mr. Allingham says: "In expressing, as I most unreservedly do, the opinion that the ligature is the safest, easiest, and the best operation for the great majority of cases of hemorrhoids, I must be understood to mean the operation usually performed at St. Mark's Hospital, viz., ligature combined with incision. The operation was devised by the late Mr. Salmon, and has been practised at that institution for more than forty years. I must premise that in all operations about the rectum, but more particularly in cases of piles, it is essential that the alimentary canal should be thoroughly cleared of its contents. For two or three days prior to the operation, some mild but efficient purgative should be taken, and it is well, if pos-

sible, to have an enema of warm water administered a few hours before operating.

In cases of piles, I prefer the patient to lie on the right side, on a hard couch, with the back towards the light, and the knees drawn well up to the abdomen. The assistant should stand with his back towards the patient's head, and raise the upper buttock with the right hand, the right elbow being at the same time hooked over the pelvis, so that he can control movement on the part of the patient, and keep him in a good position. The patient being thus prepared and fully under the influence of the anæsthetic, I now always gently but completely dilate the sphincter muscles; this completed, the rectum for three inches is within your easy reach, and no contraction of the sphincters takes place, so that all is clear like a map before you. The hemorrhoids, one by one, are to be taken by the surgeon with a vulsellum or pronged hook-fork and drawn down; he then with a pair of sharp, strong, spring scissors separates the pile from its connection with the muscular and submucous tissues upon which it rests; the cut is to be made in the sulcus or white mark which is seen where the skin meets the mucous membrane, and this incision is to be carried up the bowel, and parallel to it, to such a distance that the pile is left connected by an isthmus of vessels and mucous membrane *only*.

There is no danger in making this incision, because all the larger vessels come from above, running parellel with the bowel *just beneath the mucous membrane*, and thus enter the *upper part* of the pile. A well waxed, strong, thin, plaited silk ligature is now to be placed at the bottom of the deep groove you have made, and the assistant then drawing out the pile with some decision, the ligature is tied high up at the neck of the tumor as *tightly* as possible. Be very careful to tie the ligature, and equally careful to tie the second knot, so that no slipping or giving way can take place. I myself always tie a third knot; the secret of the well-being of your patient depends greatly upon this tying—a part of the operation by no means easy, as all practical men know to effect. If this be done, all the vessels must be included. The silk should be so strong that you cannot break it by fair pulling. If the pile be very large, a small portion may now be cut off, taking care to leave sufficient stump beyond the ligature to guard against slipping. When all the hemorrhoids are thus tied, they should be returned within the sphincter;

after this is done, any superabundant skin, which remains apparent, may be cut off; but this should not be too freely excised, for fear of contraction when the wounds heal." (*Fistula, Hemorrhoids, painful Ulcer, and other Diseases of the Rectum; 4th Edit., p.* 133, 8*vo*, *London*, 1882.)

3. Excision.—The removal of hemorrhoidal tumors by excision is of very ancient date. Hippocrates, Galen, Celsus, Aëtius, Albucasis, Rhazes, Haly Abbas, Leonides, etc., approved of excising hemorrhoidal tumors by the knife. This operation by either knife or scissors is practised by some surgeons even at the present day. It has, however, been denounced by some of the most able surgeons in the world, in consequence of the great danger of fearful hemorrhage, and the formidable difficulty of arresting it. There are, however, other serious objections to the excision of hemorrhoidal tumors, besides those just named; these objections have already been noticed in the article on Ligation.

In modern times, the following are some among the able and distinguished surgeons who performed and advocated excision of hemorrhoidal tumors, in preference to any other method:—Petit, Wiseman, Sabatier, Hey, Le Dran, Fletcher, Home, Ware, Abernethy, Dupuytren, and Velpeau. Mr. Abernethy was led to use the knife for the removal of hemorrhoidal tumors, from having witnessed the intense suffering of patients whilst undergoing a natural cure of hemorrhoids in which the sphincter acts as a ligature. He asserts that for twenty years, during which he had been in the practice of removing these tumors with a knife or scissors, he had never met with any circumstance to deter him. (*Surgical Works. New Edition. Vol. II., p.* 233, 8*vo*, *London*, 1830.)

Before performing the operation of the excision of hemorrhoidal tumors, especially internal ones, the surgeon must be careful to distinguish a varix from a cellular tumor; so as to be well and fully prepared, if the former is cut, for a profuse, and sometimes fearful hemorrhage. The want of this distinction and precaution on the part of the surgeon has doubtless often lost the life of the patient.

The Proceeding of M. Boyer. The patient, after having protruded the tumors, is laid upon the edge of a bed with the under thigh extended, and the other flexed, so that the anus would be perfectly exposed. The surgeon, by placing himself in front of the affected part, begins by seizing each tumor with a forceps, and pass-

ing a curved needle into it, armed with a loop of thread. After each tumor is thus treated, he confides all the loops of thread to an assistant to be held. This precaution is to prevent the pain of cutting off the first tumor, from causing all the others from rapidly receding. These preliminaries being accomplished, the surgeon then takes one of the loops of thread from the assistant and draws it towards himself, in order to make the tumor more prominent externally, and cuts across its base with a bistoury, the back of which he turns towards the centre of the anus; and in the same manner removes each of the remaining ones successively. When the tumors are of long standing and bleed periodically, M. Boyer follows the advice of Hippocrates, and leaves one as a safety-valve. (*Traité des Maladies Chirurgicales. Cinquième Edit., Tome VI., p.* 534, 8*vo*, *Paris*, 1849.)

The Proceeding of M. Dupuytren. Before operating, M. Dupuytren always gave an aperient, and afterwards an injection, so as to completely empty the rectum. When this was effected, he required the patient to lie on his left side on the edge of a bed, with one leg bent upon the thigh, and the other extended. If the tumors are external, he requires the patient to make straining efforts, as if at stool, in order to make them as prominent as possible. The tumors are then seized one by one with a forceps; while an assistant separates the nates, and each tumor is excised with a pair of long scissors curved on the flat. He makes it a rule only to remove a portion of each tumor, for if the whole be taken away, there is danger of serious hemorrhage, and subsequent anal contraction. When the tumors are internal, their excision, however, is attended with much more difficulty and danger. The patient is required to sit in a hot bath, and make every effort in his power to force down the tumors; as soon as this is accomplished, he is required quickly to replace himself in the position previously named, and each tumor is immediately seized and excised with the scissors. (*Leçons Orales de Clinique Chirurgicales. Tome I., p.* 341, *imp.* 8*vo*, *Paris*, 1832.)

The Proceeding of M. Lisfranc. To avoid serious hemorrhage, M. Lisfranc excised hemorrhoidal tumors in the following manner:—Two semilunar incisions united by their extremities, must first be made on the tumor; this is then seized, so as to prevent the parts retracting as divided; the hemorrhoid is next extirpated, not at once as formerly, but by small incisions so as to permit me to tie or twist

the vessels as they are cut; finally, when it is nearly removed, I seize the pedicle between the fore-finger and the thumb, to be certain that no artery exists in its interior; and finish the operation slowly and carefully. (*London Medical Times, April 6th*, 1844, *p.* 5.)

The Process of Mr. Druitt. When the tumor is well protruded, the base of it should be transfixed by a long pin, which will prevent it returning into the anus.

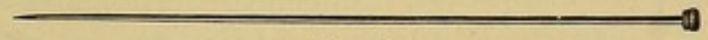

Fig. 12.

Then the tumor should be cut off, and the cut surface, being held and exposed for some time to the air, will not be so apt to bleed profusely, or, if it does, it is easy to apply cold astringents or ligatures. (*The Principles and Practice of Modern Surgery, p.* 494, 8*vo*, *Philadelphia*, 1867.)

At New Orleans, on the 17th day of March, 1846, I excised with the knife a very large internal hemorrhoidal tumor, having a broad base, by first transfixing it with a long needle in the manner of Mr. Druitt. The patient, Mr. J. C., was a well-known sugar planter on the Bayou Lafourche, aged 73. He refused to let me ligate the tumor on account of its great size, insisting upon having it cut off at once, even with the fear of serious hemorrhage presented to him. The bleeding at first was very profuse, but, by the constant application of an ice-cold solution of alum, it gradually ceased; and in the course of two hours, the needle was removed and the parts returned. Mr. C. remained in bed three days without any evacuation from his bowels, when he passed at stool a large clot of blood with the fæces, and nothing worthy of note further occurred.

Method by Clamp, Knife or Scissors, and Cautery.—Mr. Lee, in 1848, introduced the practice into London of removing certain hemorrhoidal tumors by the use of a clamp, a knife, and nitric acid, to avoid the hemorrhage which usually follows the excision of them by knife or scissors alone. He says, "Whenever there is reason to believe that the application of the nitric acid alone will not act sufficiently upon the mucous membrane, the plan I have now for some time adopted is as follows:—The affected parts are first made to protrude, and then embraced by a broad forceps made upon the plan of the instrument described by me in 1848. This instrument consists of two parallel thin blades with their opposed surfaces

roughened, and closing by means of a spring. This may be made to exert any degree of pressure which may be required. With this instrument the prolapsed part is seized, and such a portion of it as may be deemed expedient is cut off on the side of the clamp next to the operator, with a curved knife made for the purpose. The cut surface is then touched with the strong nitric acid, or with the actual cautery. The parts are returned into their natural position, and the operation is completed. This plan is equally adapted for the removal of hemorrhoidal tumors, and the excision of portions of relaxed mucous membrane where no hemorrhoidal tumors apparently exist. The forceps retain their hold of the base of the prolapsed part, after the requisite portion is removed. The cut surface is thus prevented from either bleeding or retracting, and it is held in a convenient position for the application of the actual or potential cautery. This application is as essential a part of the operation as securing any bleeding vessels is after an operation in any other part of the body." (*Pathological and Surgical Observations, p.* 140, 8*vo*, *London*, 1854.)

Since the introduction of this method by Mr. Cusack, of Dublin, and Mr. Lee, of London, Mr. Henry Smith, of the latter city, has now practised it successfully for a number of years, and more than any one else has, by improved instruments and modes of operating, given it most of the reputation and merit it now possesses. The improved clamp of Mr. Smith consists of two steel blades with handles. Both blades are covered posteriorly and laterally with a thin layer of ivory, so that the heat of the cautery is prevented from being conducted to the surrounding tissues. The raised edge of the blades is marked or roughed with numerous small grooves, so as to retain the tissues more readily. A light but powerful screw is added to the handles to regulate the power of the blades, with the addition of a spring at the junction of the blades and handles, so that the former may the more easily open when the screw is turned. To his improved clamp Mr. Smith has lately added serrated and cutting cauteries, all of which are represented in Fig. 13.

Mr. Smith says:—"The operation, whether for hemorrhoids or prolapsus, is very simple, and consists of the following manœuvre: —The diseased portions being well brought down previously by an injection, are separately seized with a vulsellum and handed to an assistant. The part is then inclosed within the blades of the clamp,

which are screwed home quickly and thoroughly; the prominent portion of the pile or prolapsus is then cut away by a sharp pair of scissors, the cut surface is next dried by a piece of lint or sponge, and either the strong nitric acid or the actual cautery, so shaped as to come into contact with the whole of the raw tissue, is applied; when this is effected, the blades are gently and slowly unscrewed, and if there is no bleeding the part is well oiled and allowed to return within the cavity of the gut; if, however, any bleeding point is seen, the blades are quickly screwed together, and the cautery is

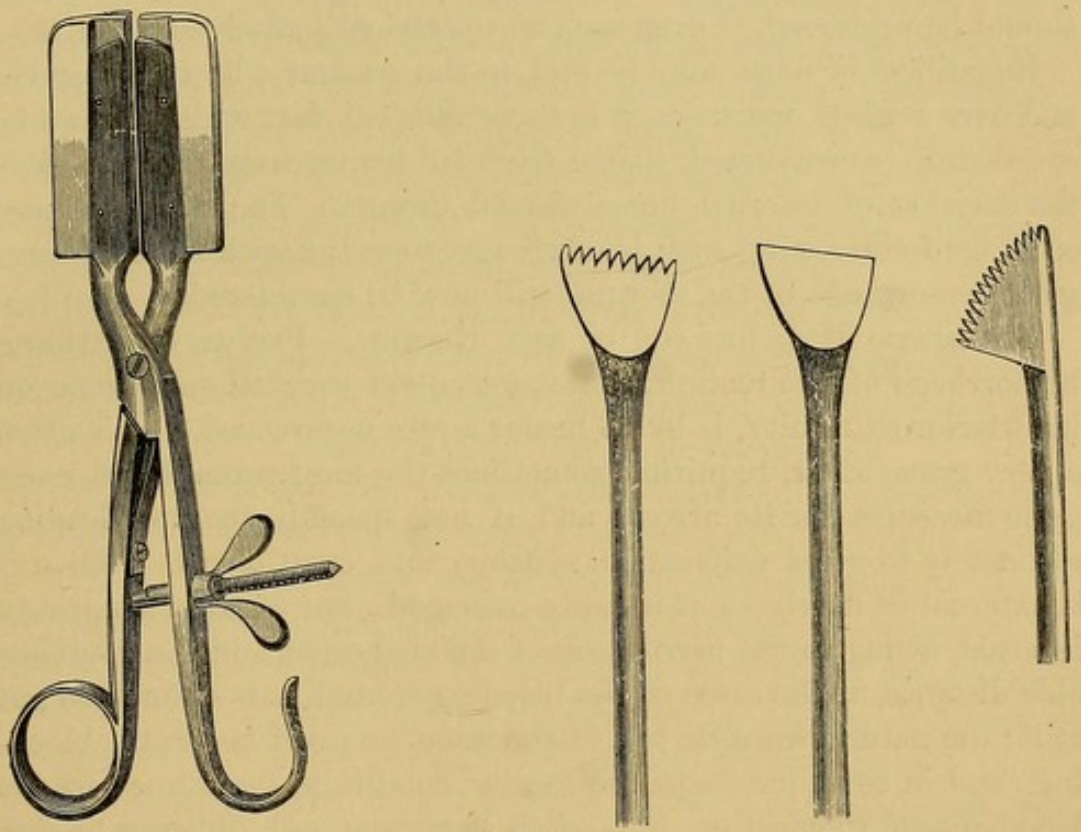

Fig. 13.

applied until the vessel be thoroughly sealed up. The finger is then introduced well up into the rectum. This step serves the triple purpose of returning all the parts well, of compressing any point which might possibly bleed, and of exciting the sphincter to healthy action. I generally introduce at the same time a suppository of opium." (*The Surgery of the Rectum, 5th Edit., p.* 102, 8*vo*, *London*, 1882.)

Mr. Smith offers this method as a complete substitute for ligation, which he very unfairly condemns. He says that the use of the liga-

ture is often followed by *tetanus*, *pyæmia*, *hemorrhage*, *ulceration*, and *great pain*; whereas the use of the clamp, scissors, and actual cautery is entirely free from all these, as well as from cicatricial coarctation of the rectum and anus.

Now so far as hemorrhage is concerned, it is very liable to follow the removal of internal hemorrhoidal tumors, whether by knife or scissors, the actual or galvano-cautery or by the clamp, scissors, and actual cautery combined. In anticipation of hemorrhage, however, the methods of Lisfranc and Druitt are very good, but the method by clamp, scissors and actual cautery is the best and the safest, and should be preferred, if ever such an operation is resolved upon.

Regardless of what may be said to the contrary, by too sanguine and over zealous operators, it is an established fact which cannot be successfully contradicted, that a frightful hemorrhage often follows the excision of internal hemorrhoidal tumors. The different proceedings for arresting such hemorrhage, together with all other surgical hemorrhage of the rectum, will now be considered.

Traumatic Hemorrhage of the Rectum.—Profuse or alarming hemorrhage of the rectum, consequent upon surgical operations on its inferior extremity, is by no means a rare occurrence. It is often a very grave affair, requiring sometimes the most prompt and energetic measures for its arrest; and if not speedily arrested, leading ultimately to great exhaustion, syncope, and even death. When it is external or nearly so, it is easily managed; but when it is entirely internal, owing to the narrowness of the anal canal, and the considerable distance up the same of the bleeding wound, it is difficult to get at it; the natural warmth, too, of the intestine itself favors the bleeding; and in consequence of the morbid condition, sometimes, of the blood-vessels themselves, it is often persistent and difficult to suppress. Surgical hemorrhage of the rectum, then, is to be dreaded, as well on account of the several discouraging circumstances already named, as on account of its being so very insidious, neither the surgeon nor the patient being for some considerable time aware of it, no blood escaping externally to indicate it or to cause alarm.

The source of the bleeding is generally from one of the hemorrhoidal arteries, yet it is very often almost entirely venous. I have seen large quantities lost in a few minutes after the division of a hemorrhoidal vein. The arteries of the rectum are more numerous and of larger size than in any portion of the intestinal canal, and

being chiefly distributed to the posterior part of the rectum, some of their branches may be divided in the operation for anal fistula, sometimes causing serious bleeding; indeed, operations on the ano-rectal region are almost always attended with more than ordinary bleeding. There is sometimes an enlarged and varicose condition of the proper veins of this region, especially in old persons and in those who are suffering from disease of those parts, such as anal fistula, rectal stricture, hemorrhoids, stone in the bladder, etc. In such cases there is generally great induration of the parts from inflammatory deposits, involving more or less the hemorrhoidal vessels themselves; and consequently, when such vessels are divided, they are, from this cause, unable to retract and contract, and the result is alarming hemorrhage. Several instances of this character have fallen under my own observation. In rectal hemorrhage, the blood usually flows into the inferior and middle portion of this intestine, from which, however, it may sooner or later be expelled, either in a semi-fluid or a coagulated state; or it may accumulate in large quantities in the superior portion, and in the sigmoid flexure of the colon, by regurgitation. It is surprising with what persistency the bleeding continues in some of these cases, even when no large vessels are implicated.

As before observed, this accident often follows the operation for fistula in ano, especially when a sinus has been divided high up. It is also very liable to follow the excision of hemorrhoidal or other tumors of the rectum and anus, by knife or scissors. Serious hemorrhage is sometimes the result of dividing a stricture of the rectum when high up. It often follows the division of the anal sphincters for anal fissure, and the operation for perineal artificial anus.

Many patients have perished from rectal hemorrhage, as the records of surgery show, and many have perished from this cause of whom no record exists. Some of these fatal cases were doubtless lost either through ignorance on the part of the operator of the proper measures to be adopted in such a case, or through a want of presence of mind and firmness in him, to insist upon and promptly to execute the appropriate means. I could here cite numerous examples to prove how alarming, how dangerous, how injurious, and how fatal this hemorrhage has been.

I will now proceed to speak more especially of rectal hemorrhage, the result of the excision of hemorrhoids. Such was the constant dread of rectal hemorrhage that M. Dupuytren, who, as has already

been shown, always removed hemorrhoidal tumors with the scissors, never neglected the precaution of either at once applying the heated iron to the wounded parts, or leaving an assistant with the patient in order to arrest the bleeding by the same means, should it occur. Indeed, this distinguished surgeon recommended the actual cautery to be applied to the wounded surfaces in every case, immediately after each operation of the kind, as he found its application absolutely necessary in nearly every patient upon whom he operated, in order to arrest frightful hemorrhage; and for this purpose had special cauteries constructed. (*Op. cit., Tome I., p.* 357.) The same dread of hemorrhage induced Sir Astley Cooper to reject the use of the knife and scissors altogether in the removal of hemorrhoids, and instead, to adopt the use of the ligature. This great and good surgeon was candid enough to admit in his lectures the loss of several of his patients from hemorrhage, consequent upon excision of hemorrhoidal tumors. (*Op. cit., p.* 301.) The late Sir Benjamin C. Brodie says he nearly lost three patients from rectal hemorrhage, following the excision of hemorrhoidal tumors. (*Op. cit., p.* 314.) The late able Mr. Syme considered that serious and fatal bleeding was exceedingly liable to follow excision of hemorrhoids. (*Op. cit., p.* 77.) Mr. Ferguson, with the same dread of rectal hemorrhage before him, says:—"I have an equally strong opinion as to the impropriety of cutting internal piles with the knife or scissors. There may be such an internal bleeding as to endanger life, as I myself experienced; yet while I admit that such a practice may be followed again and again without mischief, I would earnestly caution the young surgeon against rashness in this respect. In one instance, having become emboldened from using the scissors with impunity in a variety of cases, I nearly lost a patient from hemorrhage into the rectum, from a small portion of a wound in the mucous membrane, which passed within the sphincter. On cleaning the rectum from a large collection of blood and applying ice, the bleeding stopped; but probably this was as much the result of the faintness from loss of blood as from any such surgical means that were adopted." (*A System of Practical Surgery, p.* 549, *imp.* 8*vo*, *Philadelphia*, 1853.) The late Dr. Bushe says:—"That excision of hemorrhoidal tumors is not likely to be attended with hemorrhage I deny, for I have performed the operation several times, and after it have had to tie up arteries, plug the rectum, and in one instance to apply the actual cautery.

Indeed, I so nearly lost two patients that, when left to my own choice, I no longer have recourse to this operation." (*Op. cit.*, *p.* 183.) The following pertinent remarks upon this subject are from the late able and distinguished Professor N. R. Smith, of Baltimore: —"Excision of hemorrhoids is the expedient that first presents itself. But for one circumstance—the danger of hemorrhage—this would be the shortest and most effectual expedient. This has been in times past much practised, and often with success. But the occurrence of many fatal cases of bleeding has deterred the modern practitioner. Sir A. Cooper's cases are well known, and were all surgeons as candid, we should have many more such beacon lights. Were the bleeding parts so located as to be accessible to our remedies, there would be no risk; but when a hemorrhoidal tumor has been cut away with the knife, the wounded surface retires within the sphincter, and is reached with great difficulty." (*Baltimore Medical Journal*, *Vol. I.*, *p.* 9, *January*, 1870.)

The same dread of surgical hemorrhage of the rectum led to the invention and the adoption of the *écraseur* for the removal of hemorrhoidal tumors. But *écrasement* by no means always insures against alarming hemorrhage of the rectum, sooner or later, after such operation, as the records of surgery abundantly prove; and as Dr. C. E. B., of New York City, can testify, who had the operation performed on his own person, and came near losing his life from hemorrhage, occurring three or four hours after the operation.

With regard to the excision of hemorrhoidal tumors by knife or scissors, particularly if they are large and situated above the anal sphincters, and a vein has been freely opened, the operator cannot expect anything but a free and copious discharge of blood; the structure of the portal veins facilitating such a sequel to the operation. Attention, however, to the different conditions of the affection, and the relations of the tumors to the anal sphincters, will always enable the surgeon to be prepared for the hemorrhage, and to have his means always in readiness to arrest it, in case it should follow a properly considered and well executed operation. In consequence of inattention to these pathological conditions and measures, the worst results have followed, as well as may again hereafter follow.

Were the measures, however, for arresting surgical hemorrhage of the rectum as well understood and appreciated as they by all means should be, or as those are at the present day for suppressing

such hemorrhage generally, few fatal cases, in my opinion, would ever be likely to occur, whether either knife or scissors were used.

Symptoms. Besides the characteristics which are common to all internal hemorrhages, that of the rectum has peculiarities which enable it to be readily distinguished from all others. In the largest number of instances, from one to four hours elapse after the operation before the symptoms indicating rectal hemorrhage begin to manifest themselves. The patient, after having recovered from the excitement and fatigue of the operation, and perhaps after having been comparatively comfortable for some time, has now a tendency to drowsiness, or becomes anxious, agitated, and restless; he has tingling of the ears, swelling, tension, and sensibility of the abdomen, especially in the left iliac fossa; and is sometimes conscious of warmth or heat extending gradually along the bowel from below upwards; has perhaps colic pains, with a painful kind of tenesmus, and frequent desire to evacuate the bowels, with more or less inability to do so; his pulse is intermittent or irregular. Sooner or later, unless relieved, other and more marked symptoms supervene. There is now a tendency to stupor, and a deadly paleness overspreads the patient's face which, together with the whole surface of the body, is often bathed in cold perspiration; his respiration becomes hurried, difficult, and anxious; his pulse small, frequent, and almost imperceptible; he sometimes has nausea and vomiting; is seized with rigors, spasms of the extremities, and vertigo. Such phenomena cannot well be misinterpreted by the surgon, inasmuch as they plainly indicate that alarming hemorrhage is going on within the rectum, and that the blood, in the mean time, is accumulating in the colon. The patient may die without even discharging the contents of the bowel; but in most instances the tenesmus becomes so great that he makes efforts to stool, and evacuates a large quantity of clotted blood, and whilst doing so often faints, which, for the time being, opposes a barrier to the further effusion. More frequently, however, when the intestine is relieved of its contents, especially if this has been effected in the recumbent or horizontal posture, a sense of general ease and comfort is the immediate consequence, and the only well-marked remaining symptom is that of great prostration. Should the surgeon now neglect to avail himself of this precious truce, in arresting the bleeding promptly, the symptoms will be almost certain to reappear speedily, and if possible

more alarmingly than before, and the patient's previous restlessness will often be followed by feelings of despair; and the depression consequent upon this will sometimes be such that he will even pray that death might come to his relief.

Suppression of the Hemorrhage. The measures for arresting rectal bleeding differ and may be comprised in the following:— 1. *Ligation;* 2. *Torsion;* 3. *Cauterization;* 4. *Compression;* 5. *Styptics;* 6. *Cold Applications;* 7. *Hot Water Rectal Irrigation.*

The ligature, twisting, and the actual cautery are the chief measures, however, upon which to rely in very alarming cases. But as cauterization with the hot iron is almost certain to be followed by high inflammation, if not by sloughing and contraction, it should only be employed as a dernier resort. Torsion is as efficient and as reliable as ligation, when the vessel is small and sound. It is especially indicated in cases in which the bleeding is so deep that the vessel cannot be tied.

Should the operator entertain the slightest suspicion that internal rectal bleeding is taking place, he should at once direct the patient to evacuate the bowel if possible. Should the patient, however, fail in accomplishing this by the natural efforts, an enema of one or two pints of cold water, or salt and water, should be administered, and if necessary, repeated every few minutes, until the rectum becomes so stimulated as to completely expel its contents, which, if the hemorrhage has been going on, will generally be found to consist of a greater or less quantity of coagulated blood. The patient thus, by his straining efforts, might perchance force down the bleeding wound sufficiently low, so as to be seen; should he fail, however, in this, in consequence of the wound being too high up, the operator should then endeavor to pull down the rectum gently, by means of Dr. Byrne's double spring tenaculum forceps, as represented by Fig. 14, or by means of a vulsellum or pronged hook, inserted into the submucous tissue, and traction made until the bleeding point was fairly brought into view, and then the vessel either ligated, twisted, or cauterized, as he might select. This method sometimes happily succeeds. The great difficulty, however, in some instances, is to ascertain precisely whence the bleeding proceeds, especially when from small vessels and at several points. Nothing but a minute examination of the interior of the rectum by means of a proper speculum will enable the operator sometimes to detect the bleeding

point or points, unless the hemorrhage proceeds from a large vein, or from a considerable artery, as indicated by the peculiar jet or scarlet color of the blood.

Failing by the above process, and with the intention now of em-

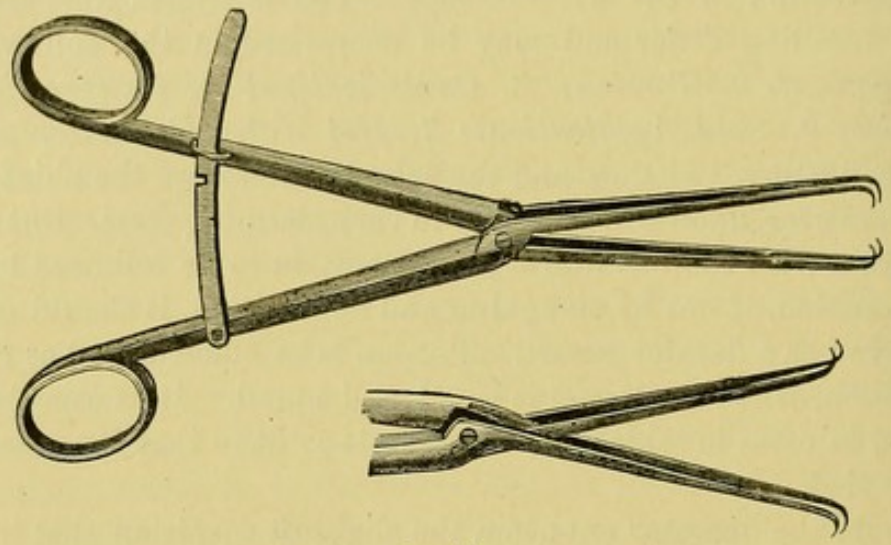

Fig. 14.

ploying the speculum; the rectum and the bladder both having been previously emptied, the patient should be placed upon his left side, on the edge of a bed or table, in front of a strong light; the back and hips as near the edge as possible; the pelvis elevated, the head and shoulders depressed, to favor the action of the heart and the

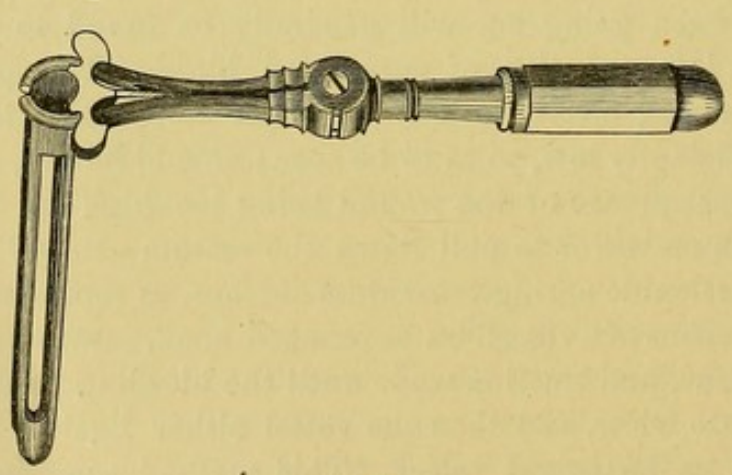

Fig. 15.

return of the blood to the brain; and the thighs should be flexed upon the abdomen. A piece of rubber or oil cloth, if at hand, or something else should be placed under the hips, so as to protect the bed from the fluid discharges, and a vessel placed at the bedside to

receive them. It is also important that a free access of air should be provided in the room. The patient being in this position, the operator should introduce into the rectum the trivalve trellis speculum, represented by Fig. 15. This speculum I devised many years ago, especially for this purpose. It is quite small when closed and easy of introduction, and when introduced admits of extensive expansion by simply revolving the handle. By it, when the blades are widely expanded, all the sides of the interior of the rectum are at once brought into view; and by the aid of a sponge, attached to the rectal sponge mop-holder, represented by the following figure:—

FIG. 16.

the exact source of the hemorrhage may be easily discovered. The speculum thus revealing the true state of the case, gives the operator great advantage in controlling the hemorrhage by giving him confidence, courage, and hope. He sees whence the effusion comes, and makes an estimate of the quantity being lost, by what passes out through the opened anal orifice, as no internal accumulation can now any longer take place. If he should thus find that the effusion is not very great nor alarming, cold applications in the form of irrigation might be employed before resorting to ligation. This generally arrests ordinary, and sometimes even extraordinary bleeding. The iced water should be directed through the open speculum upon the bleeding point, in a continuous stream from a Davidson syringe. If the stream is made directly upon the wound, it has a powerful tendency to promote the contraction of the bleeding vessel, to allay pain, and to prevent inflammatory action. This course, if successful, should be continued until the hemorrhage entirely ceased, and then the speculum should be partially closed and carefully withdrawn. If the hemorrhage, however, is found to be rapid and alarming, the bleeding vessel must at once be tied, twisted, or cauterized, before resorting to irrigation.

1. *Ligation.* For the purpose of seizing and ligating a bleeding vessel some considerable distance up the rectum, I use, instead of the common tenaculum, my long and slightly curved spring forceps, as represented by Fig. 17, which I had constructed especially. It

has a sliding attachment, intended chiefly as a *porte-ligature*, lying flat upon its upper blade, and nearly of the same length. This attachment at its distal end has a beak for holding and carrying the loop of the ligature; near its centre it is armed with two narrow flanges which partially embrace the lower blade of the forceps; and near its proximal extremity it has a rough button, by means of which the slide is projected as far as necessary for carrying the loop of the ligature, and also retracted; by these two movements the blades of the forceps may be locked and unlocked, as may be desired.

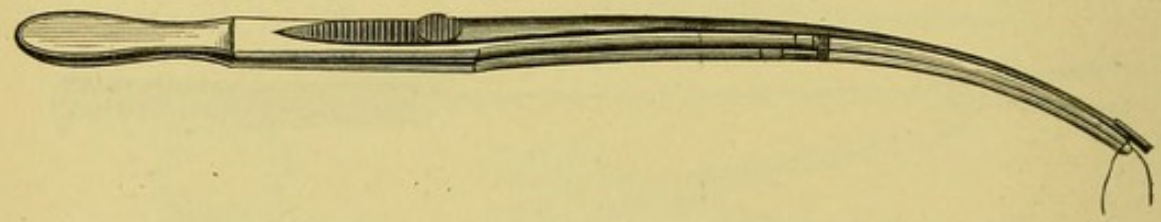

Fig. 17.

The operator, seeing the bleeding vessel through the speculum, seizes it with the forceps, previously armed with a suitable silk ligature of sufficient length, and having the proper noose in the centre of it. He now projects the slide, by which movement he locks the blades, and carries the ligature to the seized vessel. He then places the locked forceps into the hands of the assistant who holds the speculum; and the operator, whilst holding both ends of the ligature in his left hand, and with a long probe in his right, disengages the noose from the beak of the *porte-ligature*, and places it upon the base of the seized vessel, and, when properly adjusted, tightens the knot firmly by means of Dr. A. L. Carroll's admirable *knot-tier*, as represented by Fig. 18.

A second knot, if deemed necessary, may be made and tightened in like manner. When the vessel is secured, the rectum should be well syringed out with cold water, and if the hemorrhage has entirely ceased, the speculum should be carefully withdrawn, leaving the two ends of the ligature hanging out of the anus. In the mean time, the patient should maintain the horizontal posture, take an opium pill, and live on a milk diet, and avoid a fecal dejection for several days.

Should Dr. Carroll's instrument not be at hand, the knot may be tied as tight as necessary by a method I have practised for many

years in ligating polypoid tumors of the rectum, which is as follows: —The vessel being seized with the forceps as above directed, the operator hooks one end of the ligature in the cleft extremity of the silver director or *sonde-cannelée*, which he holds in his right hand, whilst the other end of the ligature is held in his left, and sufficient traction made upon each at the same time to tighten the knot firmly. In this manner a bleeding vessel may be seized with the

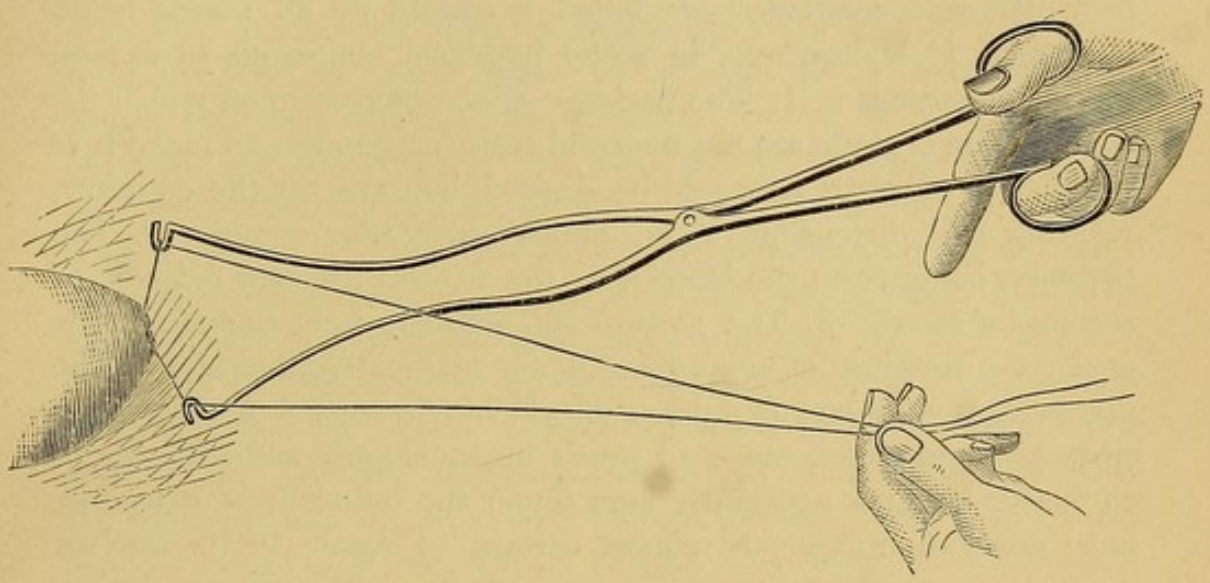

FIG. 18.

forceps, and secured with the ligature at a distance of four or five inches up the rectum; or a polypoid or hemorrhoidal tumor may be ligated almost as easily and as effectually, as if it were at the verge of the anus.

2. *Torsion.* If the operator prefers torsion to ligation, it can be efficiently performed by means of my forceps, already named, or by Dr. Physick's forceps.

3. *Cauterization.* If neither ligation nor torsion can be made available, and the hemorrhage is alarming and threatening life, the actual cautery should without hesitation be at once employed. The cautery iron should be heated to a white heat, and applied to the bleeding vessel through the opened speculum, being very careful to seal it completely. The severe smarting pain, the constipation, and the retention of urine which follow the application of the actual cautery, should be combated by proper means. To relieve the severe pain, anodynes and emollient applications must from time to time be employed. Constipation must be relieved by linseed ene-

mata and castor oil, and ischuria and dysuria by tepid baths, fomentations, and, if necessary, the catheter, and the tendency to contraction by the use of the bougie. The cauterization may also be thoroughly effected by the *galvano-cautery*.

4. *Compression*. This method of arresting rectal hemorrhage is valuable if properly applied and maintained in sufficient force. It is especially applicable to deep-seated bleeding, and in such cases, in which other methods have failed, it should by all means be attempted. It is, however, in rectal bleeding obnoxious to several serious objections: 1. The parietes of the rectum upon which the compression is made are not firm and resisting enough, to make it as completely effectual as would be desired, but are, on the contrary, yielding and distensible to an almost indefinite extent. 2. The pressure, being from the interior to the exterior, is very difficult of accomplishment. 3. The rectum will scarcely ever tolerate in its cavity the presence of any apparatus for making compression. The incessant involuntary expulsive efforts which such a foreign body provokes, and which cause so much inconvenience and suffering to the patient, unless constantly kept under the influence of extraordinary doses of opium, are almost certain to result in its forcible expulsion. 4. Even should the compressing apparatus not be expelled by the involuntary efforts of the patient, it is absolutely necessary for it to be frequently removed to allow of defecation. And 5. In some instances, notwithstanding the presence of the compressing appliance in the rectum, the internal bleeding may still continue to go on for a considerable period without being detected, and in this way may, for the time being, prove deceptive, and precious time be lost.

Tamponment. Several methods have been devised for plugging the rectum with a view of making compression and arresting rectal hemorrhage. For this purpose the *tampon*, *pelote*, or plug, composed of various materials, is generally employed. A very ingenious method of making compression by means of a kind of double *tampon* in cases of rectal bleeding, consequent upon the excision of hemorrhoidal tumors, was first suggested and successfully employed by M. Petit a century ago. (*Op. cit.*, *Tome II.*, *p.* 128.) This method of M. Petit was subsequently simplified and improved by M. Boyer. (*Op. cit.*, *Tome VI.*, *p.* 556.) For the same purpose M. Desault employed with success a *tampon* composed of a square

piece of linen, the centre of which was introduced into the rectum, and filled with lint, after which the corners of the same were strongly pulled against the nates, and secured by a bandage. (*Œuvres Chirurgicales, Tome II., p.* 417, 8*vo*, *Paris*, 1813.)

A modification of the methods of MM. Petit, Boyer, and Desault was made by our own countryman, the late and lamented Dr. Barton, of Philadelphia. His method is as follows: "Take a sufficient number of pledgets, made from portions of a common roller-bandage or other piece of muslin, about two inches in width, and long enough, when loosely wound, to gain ready admittance into the rectum. Let each pledget be secured by a ligature tied round the middle of the roll, and long enough to leave several inches of the ligature freely dependent from the anus. Introduce these pledgets, previously thoroughly oiled, one after another, into the rectum, until the lower part of that viscus is distended by the muslin, leaving the free ends of the ligatures hanging from the anus. This being done, divide the projecting ends of the ligatures, carrying one-half of their number toward the right hip and the other half toward the left; then take a large pledget or small roller, firmly wound, and place it between the parted ligatures, with its axis in the antero-posterior direction; lastly, gather the ligatures from the opposite sides of the anus, and tie them across the external pledget with sufficient firmness to arrest the hemorrhage." (*American Cyclopædia of Practical Medicine and Surgery, Vol. II., p.* 115, 8*vo*, *Philadelphia*, 1841.)

I have made use of the following *tampon* successfully on two occasions: Take a strip of fine cotton or linen cloth, about nine inches long and about seven inches wide, sew it up in the form of a bag or purse, wet it, lubricate it with vaseline or the white of eggs, and introduce it into the rectum some distance beyond the bleeding point, by means of a slightly forked slender rod, or by the rectal *port-mesche* et *tampon*, represented by the following figure:—

Fig. 19.

Then with the same instrument stuff the upper portion of the sac tightly with lint, cotton wool, or tow; afterwards draw on the perineal portion of it, as if pulling it out, until sufficient compression

is made from above downwards to arrest the hemorrhage. It should now be maintained firmly in this position by a proper compress and and T-bandage. To remove the *tampon*, a portion of its contents must first be taken out, which can be very easily done by means of the common dressing forceps. The *tampon*, however, should not be disturbed, if possible, for several days, and measures should be adopted to keep the bowels confined for that period.

Mr. Allingham, of St. Mark's Hospital, London, recommends the following method in secondary rectal hemorrhage: "When called to see a case of this kind, always arm yourself with a full-sized bell-shaped sponge and plenty of cotton wadding; take also some per-sulphate of iron, or if you have not that, powdered alum. Thread a strong silk ligature through, near the apex of your cone-shaped sponge, and bring it back again so that the apex of the sponge is held in a loop of the thread. Then wet the sponge, squeeze it dry, and powder it well, filling up the lacunæ with iron or alum. Pass the forefinger of your left hand into the bowel, and upon that as a guide, push up the sponge, apex first, by means of a metal rod, bougie, pen-holder, or a rounded piece of wood, if you can get nothing better. Now this sponge should be carried up the bowel at least five inches, the double thread hanging outside the anus. When this is so placed, fill up the whole of the rectum below the sponge thoroughly and carefully with cotton wool, well powdered with the iron or alum. When you have completely stuffed the bowel, take hold of the silk ligature attached to the sponge, and while with one hand you pull down the sponge, with the other push up the wool. This joint action will spread out the bell-shaped sponge, like opening an umbrella, and bring the wool compactly together; if this is carefully done, no bleeding can possibly take place, either internally or or externally." (*Fistula, Hemorrhoids, and other Diseases of the Rectum*, *p.* 157, 8*vo*, *London*, 1882.)

A pig's bladder, softened in warm water, and introduced into the rectum, and filled with *charpie*, makes a good *tampon;* it was first used with success by M. Levret, and subsequently recommended and used by M. Dupuytren and others. The bladder may be filled with either lint, air, or water. Upon the same principle the late Dr. Bushe invented a very ingenious instrument for making compression in rectal bleeding. (*Op. cit.*, *p.* 185.)

Digital Compression. Direct compression by means of the fin-

ger or fingers, introduced into the rectum, cannot be considered as a methodical proceeding. It constitutes, at best, but a temporary means until the operator can have recourse to a more energetic plan. The operator should introduce the first and second finger of his right hand into the rectum, and make firm pressure upon the bleeding wound, and at the same time urge the patient to make efforts to draw up the anus, or to contract the sphincters as closely as possible, and thus endeavor by these two forces to compress the bleeding vessel or vessels. It is true that digital pressure, unless it is maintained by a relay of assistants, is very inconvenient and fatiguing to the operator; but as it sometimes succeeds well, it should be resorted to. If by this proceeding the bleeding is arrested, the fingers, after having remained in the bowel from one to two hours, may be carefully withdrawn, and small bags of ice applied to the anus.

5. *Styptics.* The considerable depth at which the bleeding occurs in rectal hemorrhage, renders ineffectual, to a great extent, those hæmostatica to which recourse is had, when the source of the bleeding is less deeply seated.

When the effusion proceeds from small vessels, and at numerous points, it may often be suppressed by the insufflation into the dilated rectum of a powder composed of equal parts of tannic acid and alum, by means of my rectal insufflator, represented by the following figure:—

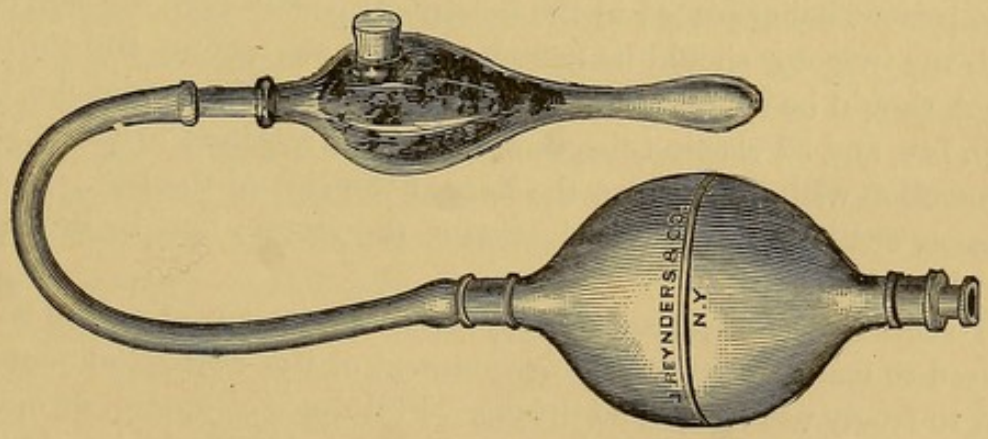

FIG. 20.

Powerful astringent injections are also valuable in such cases. Mr. Curling, surgeon to the London Hospital, recommends the following as a valuable injection, in obstinate rectal hemorrhage:

℞ Tannic Acid, ... ʒ j.
Alcoholis, ... ʒ iij.
Aquæ, ... ʒ j.
Fiat injectio.

6. *Cold Applications.* These, even as adjuvants, are highly valuable, and cannot be dispensed with whilst the hemorrhage continues. The cold applied in the form of irrigations, I have already recommended and described. Small bags of ice should be constantly kept applied to the anal region, as well as to the thighs.

7. *Hot Water Rectal Irrigation.* The employment of very hot water as a hemostatic in uterine or rectal hemorrhage is now recommended by some surgeons. The *modus operandi* of this remedy is, however, not very clearly stated by those who use it; yet, nevertheless, it might be well worthy of a trial. The rectum must be irrigated with it through the speculum, by means of a syringe, throwing a continuous stream; or by means of the rectal irrigator, represented by the following figure:—

Fig. 21.

The patient being placed in the horizontal posture, on the side of a bed, the irrigator should be introduced into the rectum, and the nozzle A should be connected to the elastic hose of Clark's douche, Fig. 7, p. 148, and an elastic tube, as a waste-pipe, attached to nozzle B, in connection with a vessel, on the floor at the side of the bed. In this manner either hot or cold irrigation of the rectum may be produced and kept up at pleasure.

To conclude, the patient during the whole treatment should be required to maintain strictly the recumbent or the horizontal posture, and to freely use acidulated drinks. Full doses of opium, or opium combined with the acetate of lead or gallic acid, should be administered. These are measures that should never be omitted, inasmuch as they constitute a very important part in the treatment of all traumatic hemorrhages. In great prostration, the treatment must be stimulating. A smelling bottle must be held to the nose of the

patient, and if he can swallow, he must take large quantities of brandy, either alone or in union with ammonia. These remedies may be aided, if necessary, by the application of heat, friction, and sinapisms to the spine, as well as to the præcordial region; measures which will generally soon restore him. When reaction begins, the patient must be carefully watched, lest over-stimulation take place, followed by excessive nervous and sanguineous excitement.

I would once more observe, before closing, that some cases of rectal hemorrhage admit of no delay whatever, being quite alarming from the commencement, by rapidly exhausting the patient. Such cases require the most prompt and vigorous action, or all will be lost; hesitation or indecision would be fatal. The means already pointed out must be put into immediate force; the rectum must be thoroughly emptied of the blood; the anus must be dilated with the speculum, the bleeding vessel or vessels, if possible, taken up by ligature, or if this is impossible, the actual cautery must be resorted to; or compression, astringents, and cold applications must be employed and steadily persevered in, until all danger is over.

I deem it proper to remark here that this article on surgical hemorrhage of the rectum was written by me in 1872, originally for the *New York Medical Record*, and appeared in that paper just as it appears above. It was intended, as has been observed, for the treatment of traumatic hemorrhage of the rectum in general, and not especially for that consequent upon the excision of hemorrhoidal tumors exclusively. Some may be disposed to consider the article too prolix, too minute in description and detail; but I judge that those who are most familiar with the serious nature of this kind of hemorrhage will not condemn it on that account.

4. Cauterization.—The cauterization of hemorrhoidal tumors is effected by the application to them of either the actual cautery, galvano-cautery, or the potential cautery.

a. Actual Cautery. The red-heated and white-heated iron and the potential cautery were the favorite remedies of the ancients, and were extensively employed by them for the destruction of hemorrhoidal tumors. Dujardin, in his history of surgery, mentions the fact that the ancients used the red-hot iron much more frequently than the potential cautery for the destruction of hemorrhoids. (*Histoire de la Chirurgie, Tome* 1, *p.* 500, 4*to*, *Paris*, 1774.) The exalted estimation, however, in which the knife (cold iron) and the

actual cautery (hot iron) were held by Hippocrates and the ancients generally, may be learned by referring to the remarkable axiom contained in Aphorism 88, Section 7, as given by Foësius. "Quæ medicamenta non sanant, ea ferrum sanat. Quæ ferrum non sanat, ea ignis sanat. Quæ vero ignis non sanat, ea insanabilia reputare oportet. (*Aphorismorum Liber*, *Aphor.* 88, *Sect. VIII.*, *Foës.*, *op. cit.*, *Tome II.*, *p.* 1262.) Foësius, however, entitles the last six aphorisms of the seventh section of his collection "*Aphorismi Spurii Nothi.*" The eighty-eighth aphorism, the one quoted above, is in reality the sixth aphorism of the eighth section, the whole of which section is generally rejected as spurious and not given. Sprengell and Gorter, however, are exceptions who retain it. Sprengell makes the eighth section to consist of eighteen aphorisms. (*The Aphorisms of Hippocrates and the Sentences of Celsus*, 8*vo*, *London*, 1708.) Gorter makes the eighth section to consist of fourteen aphorisms. (*Medicina Hippocratica*, 4*to*, *Amstelædami*, 1754.)

Of the ancients, neither Celsus, Paulus Æginetæ, nor Albucasis mentions the actual cautery as a remedy in hemorrhoids. It is severely condemned by Andrea à Cruce. (*Chirurgia Universale e Perfetta di tutte le Parti pertinenti all 'ottimo Chirurgo*, *folio*, *Venet.*, 1605.)

The various actual cauteries or burning irons of Hippocrates and the ancients are well tabulated and described in the celebrated work of Scultetus. (*Armamentarium Chirurgicum*, *Appendix S.*, *Pars II. De Variis Cauteriis*, *Tabula Prima*, *p.* 361, 8*vo*, *Amstelædami*, 1741.) These cautery irons are also well represented in the works of Ambrose Paré. (*Op. cit.*, *Lib. XIX.*, *Cap.* 27.)

The actual cautery, as a resource of surgery, seems to have been forgotten for ages, when it was again revived. Severini was an enthusiastic advocate for the use of the hot iron in the removal of hemorrhoids. He was highly indignant on one occasion on being prevented from employing it on a patient of a distinguished family by the attending family physician, whom he severely denounced as cowardly. (*De Recondita Abscessuum Natura*, 4*to*, *Francofurti*, 1643.) Morand, at the beginning of the seventeenth century, employed the hot iron frequently and successfully for the destruction of hemorrhoids. (*Trattato Universale Teorico e Practico dei Parti necessario alle Mammane ai Chirurghi et ai Medici*, 8*vo*. *In Venez.*, 1788.) M. Boyer and other French surgeons subsequently

employed it for the same purpose. (*Op. cit., Tome VI., Chap.* 37, *p.* 534.) M. Jules Guerin, on the authority of M. Sabatier, used and recommended the actual cautery in the treatment of hemorrhoids. (*De la Médecine Operatoire, Tome III., p.* 242, 8*vo, Paris,* 1826.)

After the introduction of anæsthetics, however, many of the French surgeons at once commenced using the hot iron in the treatment of hemorrhoids, and still continue to use it. M. Arthaud directs attention to the advantages of the actual cautery in the treatment of hemorrhoids over that by either excision or ligation, and relates cases treated by M. Nélaton. He points out the precautions necessary to be observed in the operation. It is often followed by more or less severe vesical tenesmus, and sometimes by retention of urine. A tepid bath relieves these symptoms, and also calms the pain which succeeds the cautery. A light diet is recommended for the first five or six days, with a view to defer any action of the bowels. Towards the sixth day, however, in weak and debilitated subjects, an improved diet is indispensable, and tonics must be prescribed. M. Nélaton, he says, has never observed any contraction of the rectum to result from this operation. (*De la Cautérisation des Tumeurs Hémorroïdales par le Fer Rouge,* 8*vo, Paris,* 1854.) Upon the authority of M. Malgaigne, M. Begin employed the actual cautery in the treatment of hemorrhoidal tumors. M. Begin, considering that excision almost always renders the use of the hot iron necessary, thought it better to adopt simple cauterization with the burning iron. He makes a tampon of lint, which he ties with brass wire to resist the heat. The tampon is introduced into the rectum, and the patient is then told to strain, as if at stool, whilst the wire is at the same time cautiously pulled. The tumors come out, and a cautery is applied pretty strongly on them, or two if necessary, and when the eschar seems sufficient the tampon is removed. The pain, according to M. Begin, is not severe. After the fall of the eschar, the wound cleans, and soon becomes covered with a healthy cicatrix. (*Operative Surgery. Translated from the French by F. Brittan, M.D., p.* 435, *imp.* 8*vo, Philadelphia,* 1851.)

The same preparatory steps must be taken in the employment of the actual cautery as in the operation for the excision of internal hemorrhoidal tumors. The bowels must first be thoroughly evacuated by the use of castor oil, and afterwards a warm flax-seed enema

must be given to bring down the tumors. The patient being placed on his left side on the edge of the bed or table, and the tumors well protruded, he should be etherized. The nates being well separated and held by an assistant, the surgeon should seize one of the tumors with a vulsellum forceps, and pull it fairly outside, and then with either Curling's or Smith's clamp applied closely to its base, tighten the clamp firmly, and hand it to a second assistant. Two or three cautery irons of the proper shape for the purpose intended should be selected, and previously heated to a white heat in Leiter's self-blowing alcohol lamp. Both the lamp and the different forms of the cautery irons are represented by the following figures:—

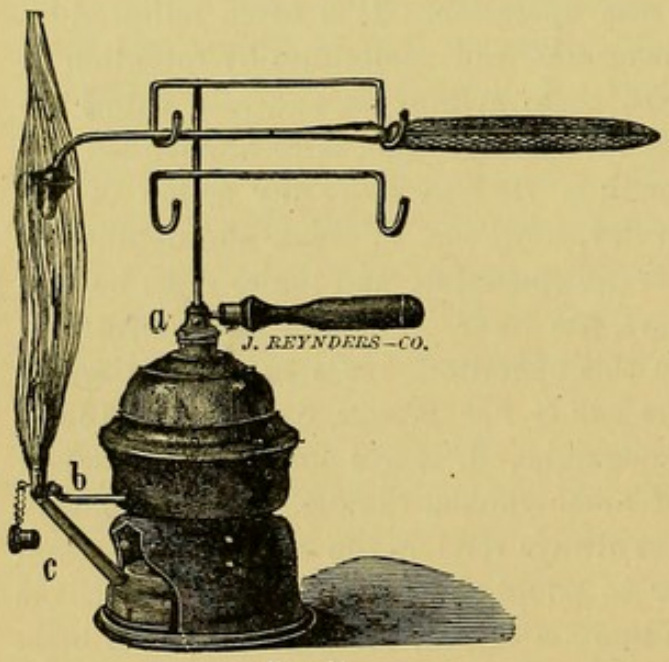

FIG. 22.

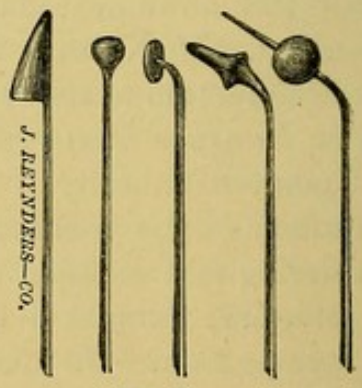

FIG. 23.

The surgeon should then apply one of the heated irons to the clamped tumor, or even two if necessary, until it is well burnt down to the clamp. After the destruction of the tumor, the clamp should be taken off and applied in the same manner to each one of the remaining tumors successively. After all the tumors have thus been destroyed, the parts should be well oiled and carefully returned. The after-treatment should consist of the horizontal position, cold applications to the anus, and anodynes, warm baths, light diet, and the avoidance of stooling for several days, or the after-treatment may be conducted as advised by M. Arthaud, as given above.

M. Demarquay uses a pointed red-hot cautery iron, which he thrusts into the internal hemorrhoidal tumor two or three times

He also, in some cases, merely passes the hot iron over the surface of the tumor, in order to produce only a superficial eschar. In all cases in which the tumors only protrude on defecation, and can be easily replaced, or in which the anal sphincter is not relaxed, nor the mucous membrane of the rectum prolapsed, he advises écrasement linéair. In all other cases he prefers the actual cautery. (*Mémoire sur le Traitement Chirurgical des Hémorroïdes. In Gazette Médicale de Paris*, 1860, *p.* 636.)

MM. Richet and Dolbeau use and recommend the actual cautery for the removal of hemorrhoids. The former cauterizes the tumors in several sections by means of a peculiar forceps brought to a white heat.

These several French surgeons speak in the most *glowing* terms of the success of the hot-iron in the treatment of hemorrhoids. Of the success there can be no doubt, for there is no remedy that will more effectually destroy tumors of any kind, than a hot iron at white heat applied to them long enough.

The actual cautery, however, in all its forms, as a remedy for the destruction of hemorrhoidal tumors, is in the highest degree objectionable, especially so in external hemorrhoids, and should therefore be discarded. Regardless of what some have said to the contrary, its use has been proved to have often resulted in permanent consecutive contraction of the rectum and anus, and sometimes in paraly sis of these parts. Several deplorable and irremediable cases of this description have come under my own observation. I will name one:—I was consulted in New Orleans, La., in the winter of 1858 by Mr. S. V. S. a well-known citizen of that place, who the previous summer, while in Paris, France, had three external hemorrhoidal tumors removed by the actual cautery, by an eminent Paris surgeon, who assured Mr. S. that no bad result whatever would follow the operation. Such, however, were the deformity and the contraction of the anus and anal orifice in this case, that nothing but fluid fæces could be passed.

Moreover, the actual cautery, in these instances, does not protect the patient against serious hemorrhage sooner or later; or from pyæmia or purulent infection nor tetanus. The recovery of the patient, too, from the operation is always very protracted, and the pain during the time is often intense. Inasmuch then as surgery, at the present day, is in possession of so many resources which are at the

same time milder, much safer, and equally certain, and far less repugnant, the actual cautery for the removal of hemorrhoidal tumors should, I repeat, be therefore rejected.

b. The Galvano-Cautery. The galvano-cautery has been and still continues to be employed as a remedy for the removal of hemorrhoidal tumors, chiefly, however, by some German and French surgeons, who speak of its efficacy in this respect in the highest terms. Among the most able advocates of this practice is the distinguished French surgeon M. Verneuil, of Paris, of whom it is said that he has practised it very successfully for a number of years. According to M. Lartisien, M. Verneuil's method consists in making a puncture in hemorrhoidal tumors with a pointed red-hot cautery, "*cauterisation ponctuée.*" These punctures, more or less numerous, made in the tumors to the depth of several millimetres, produce a curative phlebitis or healthy process in their vascular tissue, and do not result in consecutive rectal contractions. The operation for tumors of the largest size does not last more than four or five minutes, and is not so painful as to require anæsthesia. The process of M. Verneuil comprises two distinct operations, first the anal dilatation, which will be fully explained hereafter; and second, the interstitial cauterization of the tumors. (Lartisien, *Du Traité des Hémorroïdes et de la Cauterisation intersti, en particulier. Thèse de Paris*, 1873.) Bottini performs and recommends a somewhat similar operation to that of M. Verneuil. He uses a red-heated galvanic-cautery, which he introduces gradually and progressively into the hemorrhoidal tumor to the depth of from ten to fifteen millimetres, allowing the cautery to remain in only for a few seconds, and rotating it as he withdraws it. Bottini's operation differs from that of M. Verneuil in making but one application and puncture of the cautery to each tumor. (*La Galvanico-Caustico nella Practica Chirurgica. Novare*, 1873.) Esmarch uses and prefers the galvano-cautery to the actual cautery, for the removal of hemorrhoidal tumors, as being much less painful and producing an eschar much less liable to bleed. (*Die Krankheiten des Mastdarmes und des Afters. Pitha und Billroth's Chirurgie.*)

The galvano-cautery wire, as well as the galvano-cautery bistoury is sometimes used for the removal of hemorrhoidal tumors; either one or the other being in connection with a powerful galvanic battery, and brought to a dull red heat, instead of a white heat to avoid

hemorrhage, readily and bloodlessly cuts its way through the base of the tumors.

The same serious objections, however, which have been urged against the actual cautery, heated in the ordinary manner by fire, for the destruction of hemorrhoidal tumors, apply with equal force against the galvano-cautery for the same purpose; indeed it is obnoxious to all the evil consequences attached to the actual cautery.

The only objection which the advocates of cauterization by the galvanic cautery had at one time, was the very cumbersome instrument, and the uncertainty and unreliableness of its action. This is now obviated by the German instrument of Grennett, and that of Messrs. C. T. and J. N. Chester; also by the *thermo-cautery* of Collin or of Paquelin. The following figure represents Paquelin's instrument:—

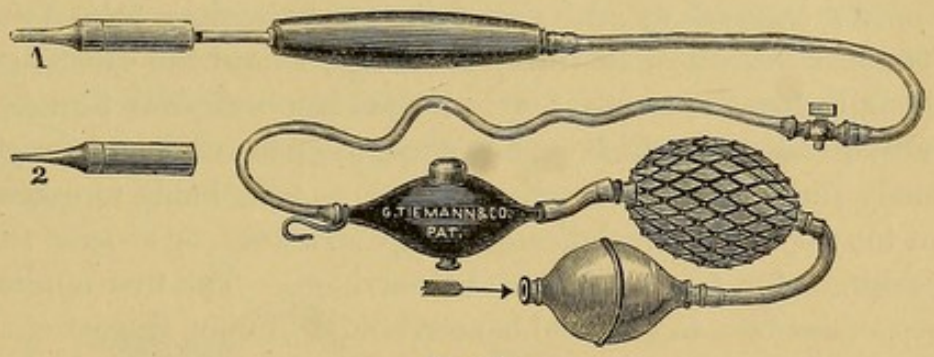

FIG. 24.

But even these improved instruments do not obviate the inherent inconvenient and incommodious instrumental preparations, which always more or less complicate the operation.

But after all, I ask, is not an iron, heated in the ordinary manner by fire, just as efficacious in destroying hemorrhoidal tumors as one heated by any other process? In my opinion, therefore, cauterization by either the galvano-cautery or the thermo-cautery has no advantages in this respect over the actual cautery, and is far less hæmostatic too than it.

c. The Potential Cautery.—Cauterization with various potential cauteries is of very ancient date, as has already been shown. One of the most celebrated escharotic preparations of the ancients for destroying condylomata and hemorrhoids was what they denominated *melanteria*, which according to some authorities is the ferruginous arsenite of copper, and which applied to tumors caused them to separate "like a piece of burnt hide." Paulus Aëginetæ speaks highly

of an escharotic that was employed in his day for the removal of tumors, which was nothing more than the *potassa cum calce* of our time. (*Op. cit., Lib. IV., Sec.* 34.)

The following potentitial cauteries have been and still continue to be used by some practitioners, to destroy hemorrhoidal tumors:—*potassa caustica*, known as potassa fusa; *potassa caustica cum calce*, composed of two parts of quicklime and one part of caustic potash, and being less powerful than the first; *Vienna paste*, composed of equal parts of potassa caustica and potassa caustica cum calce, with the addition of alcohol to make a paste; and the Vienna paste changed by M. Filhos by the addition of more caustic potash, which renders it more powerful, and by preparing it in the form of sticks, and in this form it is known in France, as the *caustic of Filhos; nitric acid; acid nitrate of mercury; nitrate of silver; sulphate of copper; chloride of zinc; chromic acid;* and *carbolic acid.*

Potassa Fusa.—About thirty years ago, I used the caustic potash occasionally for the removal of external hemorrhoidal tumors with tolerably good results. It is, however, too powerful and dangerous a remedy for internal hemorrhoids, as it is very liable to extend its action too far into their delicate spongy structure, or at least further than desired, for fear of serious hemorrhage. The first application of the potassa fusa to external hemorrhoidal tumors, the patient complains of a burning sensation which, however, passes off in half an hour; at the end of four or five days, it will be observed that the tumors are considerably diminished in size, and that there is a superficial slough which is almost ready to separate, and which can be easily removed and should be, by gently rubbing over it a soft rag or piece of lint. When this is done, the caustic must be applied again. It scarcely ever requires more than three applications of the caustic, at intervals of four or five days, to remove the largest tumors; at the end of that time, the tumors entirely disappear, leaving only a slight sore which heals in a few days.

By this treatment, anæsthesia is not requisite, neither is the patient required to lay up; and if the caustic is carefully and properly applied and guarded, there is simply the production of a circumscribed sloughing inflammation, not extending beyond the part desired.

Potassa cum Calce, and Vienna Paste. These two escharotics are employed by some surgeons for removing hemorrhoidal tumors,

both internal and external. They are milder and less active than the potassa fusa; and the effects of all three may be controlled, if desired, by acetic acid.

The pain which is induced by the application of the Vienna paste, or the caustic of Filhos, may be greatly, or altogether, diminished by the addition of a certain amount of the muriate of morphia, as recommended by M. Piedagnal. M. Amussat, père, speaks of having treated a woman for hemorrhoids with his peculiar clamp forceps, charged with the "*pâté de Vienne*," combined with one-twelfth of a grain of the muriate of morphia. The clamp was applied for four minutes, during which the patient experienced scarcely any pain. It was only after the removal of the clamp that she complained of slight smarting. I have myself on several occasions used the anæsthetic compound of Piedagnal, composed of Vienna paste and the muriate of morphia, as an application to both internal and external hemorrhoidal tumors, with good results; but it did not produce that high degree of local anæsthesia, which I was led to expect, from the positive statements made, regarding the entire freedom from pain following its application.

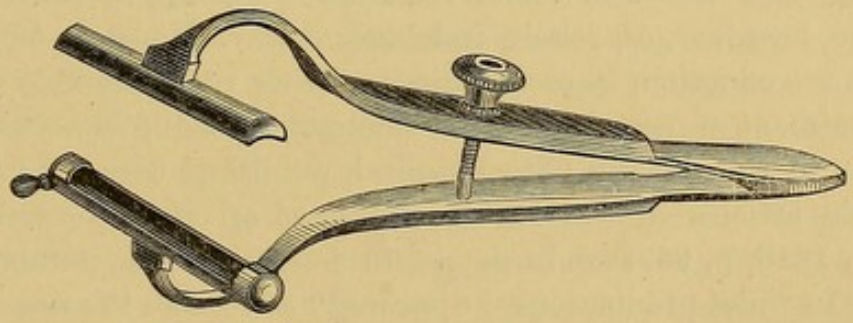

FIG. 25.

I would here remark, in relation to the late distinguished M. Amussat, père, that, after having laid aside the ligature, which he had previously so highly commended for the removal of internal hemorrhoidal tumors, invented an ingenious *porte-caustique* and clamp combined for cauterizing internal hemorrhoids, around their base, as represented in Fig. 25. The inside of each blade of the forceps or clamp has a groove in it, to receive and hold the caustic. By means of this instrument, the grooves of which being charged with the caustic of Filhos, M. Amussat would seize hold and cauterize, at the

same time, the base of the tumors. One application of the caustic, around their base, in this manner, was all that was necessary to completely destroy them.

M. Amussat, fils, has published a very valuable *brochure* on the use of the *porte-caustique* clamp for the removal of internal hemorrhoidal tumors. (*De la Cautérisation Circulaire de la Base des Tumeurs Hémorroïdales Internes*, 8*vo*, *Paris*, 1854.)

Nitric Acid. Of all the potential cauteries for the cauterization or destruction of hemorrhoidal varices, or certain hemorrhoidal tumors, the nitric acid, in my opinion, stands pre-eminently in the first rank, inasmuch as it can be used with perfect safety in hemorrhoidal varices, and in certain highly-vascular internal hemorrhoidal tumors, in which it would not be safe to use either the knife or the ligature.

Riverius is the first author, so far as my reading extends, who mentions the muriatic and nitric acids as remedies in the treatment of hemorrhoids. He recommends them in cases in which there is an immoderate hemorrhoidal flux, by applying either one or the other to the bleeding varix or tumor. In mild cases, he recommends the use of the muriatic, and in extreme ones, the nitric acid. (*Praxis Medicæ cum Theoria. Lib. X., Cap.* 10, *folio*, *Lugduni*, 1657.) We are, however, especially indebted to Mr. Houston, of Dublin, for the introduction, in recent times, of this very valuable agent in the treatment of certain internal hemorrhoidal tumors. He, while surgeon to the Dublin City Hospital, published two very able and valuable articles in the Dublin *Journal of Medical Science*, for March, 1843, p. 95, and in the same journal, for September, 1844, p. 32. In these productions, he strongly advocates the use of nitric acid of a specific gravity of 1500 as an application to two kinds of hemorrhoidal affections. The first of these is a tumor which he describes as a kind of aneurism by anastomosis of the small vessels of the mucous membrane and submucous cellular tissue; the second as of a chronic inflammatory character, and best illustrated by comparing it to the red, villous, tender hemorrhagic surface exhibited by the mucous membrane of the eyelids, in old cases of chronic conjunctivitis. Mr. Houston was led to believe that the direct application of the nitric acid to the highly-vascular internal tumors of the rectum, combined in itself all the advantages possessed by excision or ligation, without any of their danger or other disadvantages.

Mr. Houston mentions that he had reason to believe that the use of strong nitric acid might be beneficially employed for the removal of dilatations of the larger veins of the rectum, sometimes connected with these vascular tumors. In a very aggravated case of vascular tumor, says he, complicated with large internal varices, both one and the other were removed by separate applications of the acid. The disappearance of such varices under its use may be brought about in three ways: first, by the direct action of the acid on the whole surface of the tumor, producing a slough thereof, to its entire depth; secondly, by the extension of the inflammatory action to the sac of the varix, inciting there a local phlebitis and a consequent coagulation of the blood and obliteration of the venous cavity; and thirdly, by the destruction of the mucous membrane, simply, without obliteration of the sac, the remedy, in this instance, being derived from the support which the varix thereafter receives from the cicatrized and tightened membrane.

Had the nitric-acid treatment of hemorrhoids been strictly confined within the limits assigned it by Mr. Houston, it would not now be so unpopular as it has since become. It was owing to the abuse of the practice in the application of the acid to all kinds of hemorrhoidal tumors and enlargements, both internal and external, which injured it in the estimation of so many. In order to success, therefore, the cases for treatment by this agent must be well and carefully selected. None but the internal hemorrhoidal tumors of a soft and spongy texture, which have been denominated *aneurism by anastomosis*, that is, none but the small granular, bright-red, strawberry-looking, and very vascular tumors that readily bleed, are properly amenable to the nitric-acid treatment. The acid should, therefore, be entirely restricted to such growths, or to patches of villous, bleeding mucous membrane. The nitric acid is not at all indicated in external hemorrhoidal tumors, and not even in large pendulous internal tumors which do not bleed and have capacious peduncles. As I have elsewhere observed, the arterial structure principally preponderates in those internal soft and spongy tumors, of a bright-red color and vascular character, whereas in those of a purple or dark color, not unlike a mulberry in appearance, they are composed of veins to a very large extent, yet some few arteries doubtless also enter into their formation.

Modus Operandi. After the patient is prepared and placed ex-

actly as for the application of the actual cautery, the tumors being well protruded, the best and most convenient method to be observed in the application of the nitric acid, is to encircle the base of each tumor successively by means of Mr. Curling's steel clamp forceps, with electro-gilt blades, represented by the following figure:—

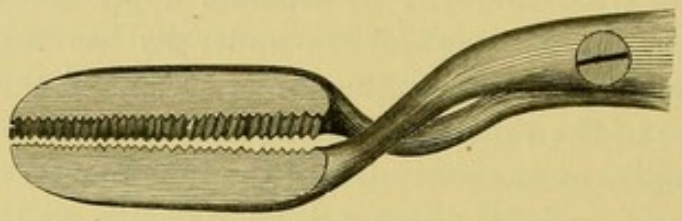

Fig. 26.

This instrument will maintain the tumor in position, and make sufficient pressure to prevent any hemorrhage which might otherwise occur while the acid was being applied. When the tumors cannot be easily protruded, the application of the acid must be made to them, and to any varicose vessel, or diseased mucous membrane, through my silver-plated bivalve anal speculum, represented by the following figure:—

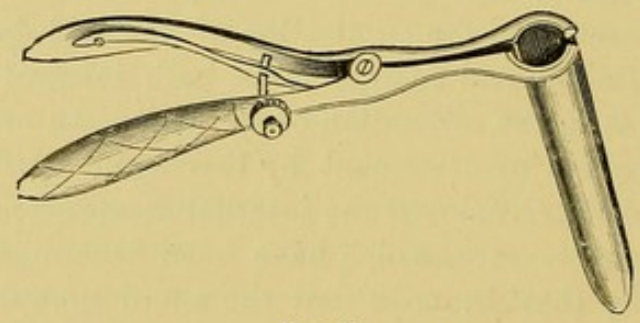

Fig. 27.

The speculum should be previously prepared, and introduced into the rectum for that purpose.

The strong acid should be applied to the tumor with a small wooden spatula, or with a small glass brush, great care being observed not to let any of the acid come in contact with the fine, delicate, and highly sensitive muco-cutaneous tissue about the verge of the anus, which would cause no little unnecessary suffering. When the acid is confined solely to a mucous surface, the pain is slight, and of short duration, being a mere burning sensation, which soon passes off, and the separation of the superficial slough, and the healing of the sore caused by the escharotic, are attended with but little uneasiness. To protect the surrounding parts, as well as to limit the

action of the acid, I use olive oil; others are in the habit of using a solution of the bicarbonate of soda, or a paste made of chalk and water. The acid should only be applied every fourth or fifth day, and so thoroughly to the whole surface of the tumor as to change every part of its bright-red hue, to an ash color; and it scarcely ever requires more than three applications, if applied to the proper tumors and in the proper manner; at least such is my experience in its use, which has been very favorable to it, but which has not been very extensive. After each application of the acid to the tumor or tumors, they should be well oiled and returned into the rectum.

To repeat, the nitric acid treatment will only result satisfactorily in those hemorrhoidal tumors that are highly vascular, that are prone to bleed, and are of a soft and spongy texture; and that readily absorb the acid. It does no good whatever, but more or less harm, when it is applied to tumors that do not bleed, and are composed of a very firm tissue, into which the acid cannot readily permeate.

By this treatment anæsthesia is not required, neither is the patient confined to his bed or room, but generally enabled to be up and about all the time.

Nitrate of Silver. The nitrate of silver is sometimes used as an application for the removal of hemorrhoidal tumors; but very little confidence is entertained in its beneficial effects, except in the very early stage of varices, or of small hemorrhoidal tumors. It should be applied in its solid form. I sometimes employ a weak solution of this salt as an application to inflamed and irritable hemorrhoids, to calm their irritability, and have found it valuable.

Acid Nitrate of Mercury. Mr. Curling speaks highly of the acid nitrate of mercury, as a remedy for the removal of hemorrhoidal tumors, and prefers it to the nitric acid. He applies it to the tumor, after having seized it with his clamp forceps. (*Op. cit. p.* 51.) I have also had some experience in its use for this purpose, and am inclined to think very favorably of it. It must be applied to the tumors in the same manner the nitric acid is.

As to the sulphate of copper, chloride of zinc, chromic acid, and carbolic acid, I have no experience in their use, in the treatment of hemorrhoidal tumors.

5. Issues or Setons. The treatment of hemorrhoids by issues or

setons has found but very few advocates. Inasmuch as hemorrhoids themselves are considered by many authors as natural and salutary outlets or emunctories, for the prevention and cure of disease, especially when they bleed, it would therefore seem altogether useless to establish an additional artificial outlet for the same purpose, or for the relief of themselves. There might, however, be some little show of reason in adopting this treatment in the cases of hemorrhoids which do not bleed, or afford any other discharge, *Hæmorrhoides Cæca*, or as they are commonly called, *blind or dry hemorrhoids*. This practice for the treatment of hemorrhoids, whether there is bleeding or not, is in my opinion reprehensible, being tedious, inconvenient, disagreeable, as well as useless. Riverius says that an issue made in the leg is good for those who are subject to hemorrhoids. (*Op. cit., Lib. x., Cap.* 10.) Dr. Bushe says that the insertion of issues in the thighs for the treatment of hemorrhoids, as recommended by some French authors, is a useless and wanton practice. (*Op. cit., p.* 196.)

Dr. R. M. Collins of Feliciana, Louisiana, reported a case of hæmorrhoides cæca, which he treated successfully in 1827 by the use of setons; and as his remarks and treatment are interesting, I will present them entire. Dr. Collins says:—"In the treatment of no class of diseases have I discovered greater difficulty than in the different hemorrhoidal affections; and the frequent failure of the practice recommended by the books, in the removal of these affections, at once not only declares their difficulty, but the necessity of more attention being bestowed on this subject. With this view I offer to the consideration of the profession the following case, inasmuch as I have seen in no work the recommendation of setons, for the cure of piles.

"In the spring of 1827, I was consulted, says Dr. Collins, by S. D., a man of about thirty-four years of age, of good constitution and athletic frame, for what he supposed an affection of the kidneys; having been so informed by his physicians, prior to his visiting me. He informed me that about eighteen months previously he had labored under a dysenteric affection; and that on its disappearance, he was continually distressed with a dull pain in the region of the kidneys, playing backward and forward to the anus, creating a desire to go to stool very frequently, and a like desire to void urine. His stools when not under the influence of cathartic medicines, were

scanty and of a semi-gelatinous consistency and complexion ; his urine was voided in small quantities, of a very high color, and for the last three months before I saw him, its discharge was attended with great pain at the neck of the bladder. This pain, which at first was only felt when discharging the contents of the bladder, soon became constant, and so very severe that at no time could he enjoy any respite, except while lying with the lower part of the abdomen across the top of a chair.

"I was induced to believe his case was hemorrhoidal, from the circumstance of its having been ushered in by a dysentery, and that the affection of the urinary organs was secondary, or rather sympathetic. I so informed him, and gave him some general directions, with an expectation that he would remove to a situation where I could attend him constantly. He, however, placed himself under the care of my friend Dr. P., who put him under a mercurial course, together with the routine practice in such cases, without affording any relief. His case was now considered hopeless, and so pronounced. He remained 'in statu quo,' or getting rather worse, until the 19th of November, when I was requested to visit him. On arriving I found him lying across a chair, and in great agony. I immediately made an examination per rectum, and found my conjectures had been right ; for the whole of the intestine, as far as I could reach, was thickly studded with small tumors, with a very considerable enlargement of the prostate gland. He was now much emaciated, laboring under continued fever and no appetite.

" Being aware that the course recommended by the books had been unsuccessfully pursued in his case, I resolved to try the counter-stimulating plan by the insertion of setons. This I did by introducing one on each side the os coccygis, a small distance above the verge of the anus. He was directed to use, as an almost constant drink, molasses and water, and to make his diet entirely of molasses and mush or rice ; with the occasional use of supertartrate of potassæ.

" On the 26th I visited him, and found the setons discharging freely ; made an examination per anum, and had the satisfaction to find that the tumors were disappearing, the patient being much better in every respect. On the 14th of December, the patient says he is well, being able to attend to his business. I directed him to continue the dietetic course prescribed, and to wear the setons for a considerable time yet. These were not removed until some time in January,

when all symptoms of his disease had vanished, and he has remained entirely exempt from any attack until this time, February, 1829.

"I have had no opportunity to try the efficacy of this course since, but am fully of opinion that in all cases where the disease does not depend on an obstruction in the liver, to the free return of the blood from the inferior extremities, that this course will succeed, in a shorter and more effectual manner than any I have heretofore tried. I would at least be glad to have it fairly tested; for I must acknowledge that I have been often mortified at a want of success in the treatment of these affections." (*Transylvania Journal of Medicine, Vol. II., p.* 139, 8*vo*, *Lexington*, 1829.)

6. Écrasement.—Among the very numerous surgical methods of extirpating hemorrhoidal tumors employed by the ancients, was that of pinching, crushing, tearing them off, or separating them with the fingers, when the tumors were of a soft or friable nature, as internal hemorrhoids, and even condylomata of those parts sometimes are. This rude operation of theirs might, therefore, with great propriety be termed *torsion*, *avulsion*, *evulsion*, or *écrasement*. The *écraseur*, in this instance, consisted of the fingers.

This unique proceeding was advised to be done without telling the patient anything about it, and even to engage him in conversation about other matters, whilst the operation was being performed. All this will appear evident from the following language, found in the book on hemorrhoids attributed to Hippocrates by some authorities, and denied by others; its very great antiquity, however, cannot be denied. If Hippocrates did not write the book, it was evidently the work of some of his cotemporaries:—"Alter curationis modus. Venæ sanguinem fundenti et tuberosam quandam eminentiam habenti, veluti mori fructus adnascitur, et si quidem tuberosa eminentia foras valde prominet, ei circumcirca operculum carnosum adhærescit. Homine igitur in genua super duos lapides teretes inclinato, anum inspice. Inuenies nanq.; loca inter nates medias circa sedem tumefacta, sanguinem'q., ex interioribus partibus procedere. Si ergo tuberosa eminentia sub tegumento mollis sit, digito ea auferenda est. Neque enim maiore negotio id fiet, quam si dum pellis oui detrahitur, digitum inter pellem et carnem medium immittas. Id'q.; inter loquendum simul'que non aduertente ægro faciendum. Sublatum tuberculum sanguinis cursus omni ex parte ablata necessariò consequitur. Vino austero in quo gallæ maceratæ fuerint, cito

locus perluendus est, venaq.; sanguinem fundens unà cum tuberculo recedet, et operculum in pristinum statum restituetur. Quoque vetustior morbus est, eo facilior curatio futura est." (*De Hæmorrhoïdibus Liber. Foës. Op. cit., Tome I., p.* 893.) It is thus seen that the method, recently introduced of removing tumors by either avulsion, evulsion, or écrasement, was fairly anticipated by the ancients.

In relation to écrasement, I would further remark that it is a fact well-known that some animals through instinct perform it by *biting* off the umbilical cord, when they give birth to their young. The contusion and laceration the part undergoes in this natural écrasement, tends to prevent, like the ligature, all hemorrhage from the cord; and thus the life of the animal is preserved until the circulation of the blood is accommodated to that changed condition which is necessary after birth, when the fœtus becomes a perfect breathing animal.

"*Écrasement Linéaire.*" The removal of internal hemorrhoidal tumors by the écraseur of the celebrated M. Chassaignac, of Paris, was, a few years ago, highly extolled as a substitute for the knife in these cases, upon the presumption that it afforded complete exemption from serious hemorrhage; but it has since then been abundantly proved, that in all highly vascular tumors it affords no better security against hemorrhage than the knife does. The mangling and the bruising which it inflicts, are evils which would be scarcely tolerable, even if it secured safety from bleeding, which in reality it does not do, for serious secondary hemorrhage is exceedingly liable to follow its use. When the base of the tumor is very large and destitute of a pedicle, it is difficult to first pedicularize it by ligature or clamp, so as to be able to encircle it with the chain of the écraseur. This instrument should never be employed for the removal of entero-external and external hemorrhoidal tumors, in consequence of their cutaneous covering in which the cicatrices, which follow the operation, are so very liable to produce permanent contractions and deformities, with great disturbances and irregularities of the functions of the anus, as I have witnessed in a number of cases. In such instances, it is impossible to obtain a primary union of the mangled integument, or sometimes of maintaining a cutaneous covering over the wound.

Écrasement linéaire is therefore better adapted, if adapted at all,

for submucous and pediculated tumors, than for subcutaneous and broadly rooted ones—that is, it is practicable only when the attachment of the tumor is smaller than its body, thus affording a neck as it were, for the support of the chain.

The following figure represents the *écraseur* of M. Chassaignac:—

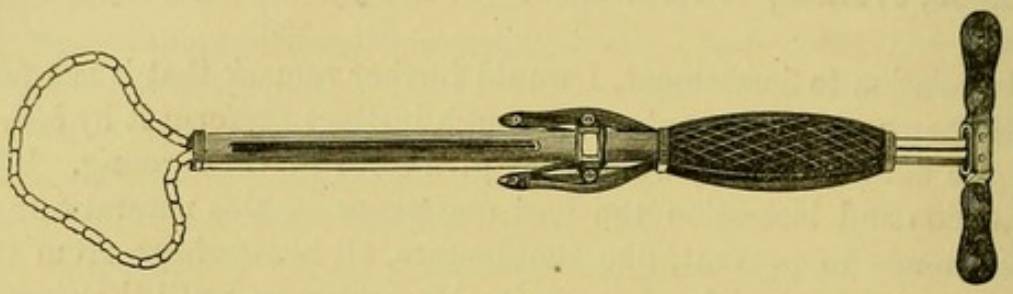

Fig. 28.

It consists of a flat tube of steel, several inches long, having two steel rods passing through it to its distal extremity. To the end of each of the rods, the end of a chain, composed of the finest links, is attached. The chain is passed round the base of the hemorrhoidal tumor to be amputated, and the rods are retracted by a ratchet movement at the proximal end of the tube. The chain steadily tightens around the tumor, and slowly crushes its way through it. This operation is too slow and too painful to be performed, without the aid of anæsthesia. It is so simple in its execution that it requires no further explanation. (Chassaignac. *Traité de l'écrasement linéaire*, 8*vo*, *Paris*, 1856.)

Mr. Pollock, surgeon to the St. George Hospital, London, advocates a new method of crushing internal hemorrhoidal tumors by means of a powerful forceps, constructed especially for the purpose, which, when applied in full force, completely severs the tumor in an instant. He argues that no pain attends this operation, upon the principle of the absence of pain in a part after sudden and severe crushing, in which the life of it is immediately extinguished. He has sometimes found it necessary, however, after crushing tumors in this manner, to apply the ligature to arrest serious hemorrhage. One might suppose, too, that, as a very serious consecutive accident, *coarctatio ani vel recti* would also ultimately and certainly follow such a powerful crushing process.

7. Dilatation of the Anal Sphincters.—The treatment of hemorrhoids by the dilatation of the sphincters of the anus, whether gradual, instantaneous, or forcible, is founded upon the theory that

the involuntary contraction of one or both of these sphincters is an exciting or an efficient cause of the hemorrhoidal disease, or that it, at least, exerts great influence in its production and continuance; consequently that the dilatation of the anal sphincters is a rational method of cure, doubtless upon the principle that by the removal of the cause the effect itself will cease. But the effect of a certain cause sometimes becomes itself a disease, and exists independently of the cause or disease which first produced it; so that the removal of the original cause in such a case, will not remove the original effect, which has now itself become an independent entity. With regard to the hemorrhoidal affection, when accompanied by regular organized tumors, if caused by involuntary contraction of the sphinctores ani, I hold that the removal of the contraction alone will not remove the tumors, one of the original effects of it. Indeed, if ever hemorrhoids are caused by involuntary contraction of the anal sphincters, dilatation of these muscles can only act efficiently as a therapeutic remedy in the early stage of the disease, before extravasation of the contents of the turgid vessels into the cellular tissue has taken place, and before organized tumors have formed. It will be shown hereafter that even the most zealous advocates of forcible dilatation of the anal sphincters do not rely upon this remedy alone as a cure of hemorrhoids, when organized tumors exist, but combine with it cauterization by the galvano-cautery or by some other process. In such a case, if any cure at all is effected, it is the result solely of the cauterization, and not of the dilatation. Why, then, combine the two methods? I would observe, however, that it is the practice of some surgeons, in case of hemorrhoids, to employ forcible dilatation or rupture of the anal sphincters, not as a therapeutic, but merely as a diagnostic measure, to enable them the better to explore with greater ease the seat of the affection, and to operate with greater facility.

I would here remark that the generic term, *forcible dilatation*, coined by French surgeons, includes two or three methods of dilatation, which differ essentially from each other, both with regard to the *modus operandi* and the amount of force to be used; hence the meaning of the term is understood and explained differently by different French authors. Some declare that the dilating force should be carried to the extent of forcibly rupturing or lacerating the sphincters; while others, again, declare that the dilating force should be limited to a point short of any injury whatever to the dilatable parts,

knowing that when the limits of the dilatability of the anal sphincters is reached, any further expansion is gained only at the expense of the continuity of the membranes and muscular fibres. The term *forcible dilatation*, then, is not specifical enough in either case, inasmuch as it does not indicate how much or how little force should be employed in the process of dilatation. I would therefore suggest to those who explain the term to mean the rupture of the muscles, to employ the word *overstrain* the anal sphincters, instead of the term *forcible dilatation* of them. The word *overstrain* would indicate the amount of force required to produce what they call *forcible dilatation*. With these few prefatory remarks, I will now proceed to give a brief history of the dilatation of the anal sphincters, both gradual and instantaneous or forcible; their *modus operandi;* the anatomy and physiology of the sphinctores ani upon which the operation is performed; the effect upon these muscles by the operation, together with the involuntary contraction of them, as an efficient cause of hemorrhoids.

a. Gradual Dilatation. The treatment of hemorrhoids by the dilatation of the anus and anal canal, by means of bougies gradually increased in size, was practised many years before instantaneous or forcible dilatation was thought of for the same purpose. The bougie as an efficacious local remedy in diseases of the canal and orifice of the anus, was employed a century ago in Italy. Palletta thus briefly alludes to its use: "Ma piu direttamente opereranno i locali remedii introdotti nell' ano: tra quali trovai protamente efficace una candeletta di cera spalmata di burro impastato con molta polvere di galla di quercia." ("*Instituzione Chirurgiche di Monteggia*," *parte tezza, sezione seconda, p.* 521, 8*vo*, *Milano*, 1805.)

In our own country, I find that compression and dilatation were successfully practised for the cure of hemorrhoids by a physician of the State of Maryland in 1804. ("*The Medical Repository*," 2*d Hexade, vol. I., p.* 339, 8*vo*, *New York*, 1804.)

Mr. Copeland, of London, previous to 1810 successfully employed dilatation of the anus and anal canal by means of bougies in the treatment of numerous cases of hemorrhoids. He highly recommended the practice. ("*Observations on the Principal Diseases of the Rectum and Anus*," *p.* 67. *Second edition*, 8*vo*, *London*, 1814.)

Mr. Quain also speaks in high terms of the use of dilatation of the

anal canal by means of bougies in certain cases of hemorrhoids. (" *The Diseases of the Rectum*," *p.* 18. *Second edition*, 12*mo*, *New York*, 1855.)

I have for a number of years employed dilatation of the anus and anal canal by the use of bougies for the treatment of the incipient stage of the hemorrhoidal disease, with good results. If judiciously employed at an early stage, before organized tumors have formed, it may prove the means of destroying the morbid condition of the vessels, and overcoming any undue contraction of the anal sphincters, and thus preventing the further progress of the disease.

For this purpose, besides using the English bougies, I have employed, as a bougie, my rectal exploring sound of different sizes. The following figure represents the instrument :—

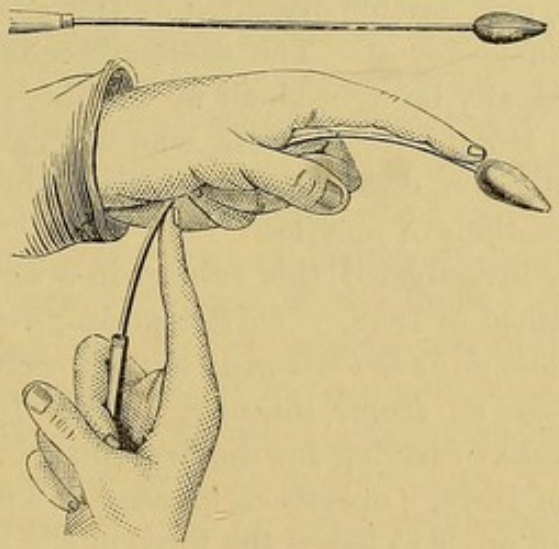

FIG. 29.

The influence of the bougie in removing the morbid sensibility, and in relaxing the rigidity of the sphincters, as well as facilitating the return of the blood from the turgid, congested, and varicose vessels, is often surprising ; and if torpor of the rectum and obstinate constipation obtain, which are not unusual in such cases, it soon induces a natural action of the bowels, an object so very desirable in such instances.

b. Instantaneous or Forcible Dilatation. It is known that more than half a century ago the able and distinguished French surgeon, M. le Baron Boyer, maintained the theory, that in what he called *anal fissure*, the spasmodic or involuntary contraction of the sphincter ani was the primary, as well as the principal morbid condition.

He considered the spasmodic or arbitrary contraction of the anal sphincter to be the real substantive disease itself, and the lesion of the mucous membrane, if existent, to be the mere result or effect of it; so that whenever the two affections co-existed, they stood in the relation of cause and effect. His treatment therefore corresponded with his theory, that is, he practised and advised the complete division of the anal sphincter, for the cure, not only of the spasmodic contraction of the muscle, but for the cure of the fissure also. (*Journal Complémentaire du Dictionnaire des Sciences Médicales, Tome II., p.* 24, 8*vo*, *Paris*, 1818; *et* "*Traité des Maladies Chirurgicales.*" *Cinquième edition, Tome VI., p.* 605, 8*vo*, *Paris*, 1849.)

Some considerable time after the introduction of M. Boyer's operation for anal constriction and fissure, it was generally laid aside by French surgeons, and forcible dilatation of the anal sphincters was gradually substituted for it. The commencement of this radical change was principally brought about by the able and ingenious M. Récamier, of the Hôtel Dieu of Paris, who was the first French surgeon to apply extension, distention, and massage in the treatment of the morbid contractions of muscles.

He thoroughly investigated this subject in a very able and valuable article published in 1838. (*De l'extension, du massage et de la percussion cadencée dans le traitement des contractures musculaires. In Revue Médicale de Paris, Janvier*, 1838.) In this production M. Récamier speaks of having for the first time, in anal fissure, employed, instead of Boyer's operation, massage or kneading upon the anal sphincters, in order to lessen the force of the spasmodic muscular contraction which obtains in that disease, and which he considered to be the real cause of the suffering. He also employed dilatation of the anal sphincters by the use of bougies, gradually increased in size. A lady consulted him who had long suffered severely from a fissure of the anus, for which M. Boyer had divided the anal sphincters. The operation did not prevent a relapse, and the patient continued to suffer dreadful pain in the rectum, especially when stooling. M. Récamier employed dilatations of the anal sphincters, and inferior portion of the rectum, by means of bougies, and ultimately succeeded in effecting a perfect cure in this interesting case. He reports several other cases of anal fissure, which were complicated with hemorrhoids, in which the same treatment was speedily followed by complete recovery.

It is very evident from the observations of M. Récamier that he did not contemplate, by either gradual, instantaneous, or forcible dilatation of the anal sphincters, any rupture of the muscular fibres, or any laceration or tearing of the mucous membrane of the rectum, as some authors have attributed to him. M. Monod, when discussing the subject of the forcible dilatation of the anal sphincters in anal fissure, and after explaining what he considered the *modus operandi* of M. Récamier's process to be, says that "in it there occurs no rent of the mucous membrane, nor rupture of the fibres of the sphincters, but simply a modification, or a sudden change in the nervous state of the muscles, from which a momentary paralysis results, followed by the return again to the normal state." ("*De la Dilatation Forcée comme moyen de Traitement de la Fissure de l'Anus avec Constriction du Sphincter.*" 8vo, *Paris*, 1849.) About a quarter of a century subsequent to the introduction of M. Récamier's process of anal dilatation, which, by-the-by, never met with any favorable reception, M. Maisonneuve, the able successor of M. Récamier at the Hôtel Dieu, revived, as it were, this long-neglected method of his predecessor, by making a striking change in its *modus operandi*. Instead of dilating the anal sphincters by means of bougies, or rapidly dilating them by means of the fingers, as practised by M. Récamier, he conceived the very original and unique idea of instantaneous or forcible dilatation of the anal sphincters. This he effected by gradually insinuating his right hand, finger by finger, into the anus, and up into the *ampoule rectale*, then firmly clenching it, and forcibly withdrawing the fist; thus producing instantaneous and forcible dilatation of the anus and anal canal, and, of course, inflicting more or less injury upon the mucous and muscular tissues of the same. This repulsive proceeding of M. Maisonneuve, before chloroform was introduced, met with no favor whatever, and was soon consigned to oblivion. He, however, some years subsequently, greatly modified it, as I will now proceed to show. M. Maisonneuve in 1851 maintained the theory that involuntary contraction of the anal sphincters, besides being a cause of anal fissure, was also a frequent cause of hemorrhoids. He believed that in almost all cases of hemorrhoids this morbid contraction played a most conspicuous and painful part in their production; hence, his remedy *par excellence* was forcible dilatation of the anal sphincters, by means of the two thumbs, or the two index fingers, instead of the fist. He was

the first surgeon, so far as my reading extends, who practised and recommended forcible dilatation of the anal sphincters, as a therapeutic remedy in hemorrhoids. (*Clinique Chirurgicale, Tome II.*, 8*vo*, *Paris*, 1864.)

M. Lepelletier, the friend and *interne* of M. Maisonneuve, in a most remarkably able thesis on this subject, reports a number of cases of hemorrhoids which M. Maisonneuve had successfully treated by forcible dilatation of the sphincter ani. ("*De la Contracture du Sphincter Anal, et de son Traitement par la Dilatation Forcée.*" Thèse de Paris, 1851.)

M. Verneuil, the present able and distinguished French surgeon, after discarding, like many of his French *confrères*, the usually accepted theory of the etiology of the hemorrhoidal disease, as being entirely too inadequate to assign the true origin and cause of the varicose enlargements of the hemorrhoidal vessels, proceeded to devote his attention to a diligent search for the true predisposing cause of that affection in the anatomy and physiology of the rectum itself. He declares he has discovered the true and only predisposing cause of hemorrhoids in the peculiar distribution of the hemorrhoidal veins, and the course they pursue in the coats of the rectum, a few inches above the anal orifice ; and to this predisposing cause, together with involuntary muscular contraction, he attributes all the varicose enlargements which take place in the hemorrhoidal veins. According to M. Verneuil, then, the true predisposing cause and the efficient cause of all hemorrhoids are solely founded in the anatomical structure and physiological action of the rectum, as he has demonstrated by dissection. He embodied his views upon the subject of these causes, especially that of involuntary muscular contraction, in the pathogeny of hemorrhoids, in an able production, which he communicated to the Anatomical Society of Paris in 1855. (*Anatomie Pathologique des Hémorrhoïdes. In Bulletin de la Société Anatomique. Tome XXX., p.* 175 *et* 191, *Paris*, 1855.)

M. Verneuil maintains that the superior hemorrhoidal veins are only in connection with the portal system, and form only internal hemorrhoids, while external hemorrhoids are formed from the middle and inferior hemorrhoidal veins, which are connected with the general venous system, and do not, except perhaps in the most remote degree, form connections with the superior hemorrhoidal veins, thus in effect cutting off all communication between the portal and

general venous systems. He further maintains that the superior hemorrhoidal veins commence at the superior border of the external sphincter ani, and lie under the mucous membrane of the rectum, and at the height of ten or eleven centimetres abruptly perforate, as it were, the muscular coat of the rectum. At this particular point of the canal M. Verneuil claims to have discovered that these veins pass abruptly through veritable buttonhole apertures in the muscular coat, and in consequence of these muscular apertures not being invested by any protective fibrous tissue, have the power of contracting, and thus causing such congestion and stasis in the superior hemorrhoidal veins which pass through them, as to constitute the primary cause in the formation of internal hemorrhoids. These contractile apertures, says M. Verneuil, constitute not only the passive, but also the active cause of hemorrhoids. Any intestinal irritation will produce violent and spasmodic contractions of the muscular apertures, and these contractions are communicated to the levator and sphincter ani muscles, and a rapid development of internal hemorrhoids is the consequence. M. Verneuil founded his peculiar views of the etiology of hemorrhoids upon his own and the dissections of MM. Gosselin in 1864, Dubrueil and Richard in 1868 (*Veines du Rectum. Physiologie Pathologique des Hémorroïdes. In Archives de Physiologie. Tome I., p.* 233. *Paris*, 1868), and Duret in 1877 (*Recherches sur la Pathogenie des Hémorroïdes. In Archives Générales de Médecine de Paris, Decembre*, 1879, *p.* 641). Hence upon this plausible theory, as demonstrated by the dissections of his own, and those of his able coadjutors, he established his favorite treatment of hemorrhoids by the forcible dilatation of the anus.

The theory deduced from these important and valuable rectal dissections is a very ingenious and plausible one, yet not altogether an entirely new one, as I will attempt to show; nor is it any less specious than that on the same subject, advocated more than a century ago by many of the old surgeons. Soon after the illustrious Harvey had more fully demonstrated the circulation of the blood, great importance was attached to the supposition entertained by some surgeons of that epoch, that internal hemorrhoids were in immediate communication with the splenic and great mesenteric branches of the vena porta, and that they alone depended upon this source for their origin, existence, and growth, while the external hemorrhoids were alone the

result and production of the dilatation and engorgement of the terminating hypogastric branches of the vena cava. This theory finally attracted the attention of the celebrated De Haen of the eighteenth century, who established upon it the following axioms: namely, that hemorrhage from the external hemorrhoidal vessels directly and promptly depleted the sanguineous system in general; while, on the contrary, bleeding from the internal hemorrhoidal vessels directly and promptly disgorged the vena portal system. De Haen says: "Fluxu hæmorrhoïdum externarum fit directa, cita ac generalis totius systematis vasorum (præter systema venæ-portæ quod tunc et lentius, et parcius depletur), depletio, id est imminutio plethoræ universalis. Et contrà fluxu hæmorrhoïdum internarum fit directa, cita et copiosa depletio systematis venæ-portæ; lenta vero, ac parca totius reliqui systematis vasorum; ut proindè hoc fluxu, plethora totius non adeo imminuatur." ("*Thèse Pathologicæ de Hemorrhoïdibus*," *cap. I., sec.* 3, 8*vo*, *Vindol onæ*, 1759.) Alberti maintained that the internal hemorrhoidal veins were derived from the inferior mesenteric, while the external hemorrhoidal veins were branches of the hypogastric. ("*Tractatus de Hæmorrhoïdibus*," *cap. V., p.* 74, 4*to*, *Halæ*, 1722.) M. Gosselin declares that internal hemorrhoids are due to varices of the superior hemorrhoidal veins, whilst external hemorrhoids are formed by the inferior hemorrhoidal veins ("*Leçons sur les Hémorroïdes*," *Paris*, 1866).

According to Virchow, the plexus hemorrhoidalis is the portion of the venous apparatus in which the true hemorrhoidal disease is developed, and it is the tributaries of the vena cava rather than those of the portal system that suffer. (*Die Krankhaften Geschwülste*, *Band CXI., Hälfte* 1, *Berlin*, 1867.)

The plausible theories of these several distinguished authors, however, cannot well be considered in any other light, than that of a more or less fanciful character. Indeed, in my opinion, they cannot be satisfactorily demonstrated, either by dissection or experiment, in consequence of the insuperable barrier presented by the interminable intersecting, interlacing, and the innumerable anastomosing of all the hemorrhoidal blood-vessels, which abound as an intricate plexus in the middle and inferior portions of the rectum. It therefore seems to me that as yet, it still forms, as it were, a complete Chinese puzzle to determine positively what particular hemorrhoidal blood-vessels produce either internal or external hemorrhoids, or

what particular hemorrhoidal blood-vessels deplete the system in general, or the vena portal system in particular.

c. The Proceeding of M. Verneuil. M. Verneuil was one among the ablest advocates for the treatment of hemorrhoids by the forcible dilatation of the anus; but, in order to success, he was compelled, in the majority of cases, to combine with it the galvano-caustic method. The proceeding of Verneuil, in certain cases, comprises two distinct processes: first, the anal dilatation; and second, the interstitial cauterization of the tumors. I am, however, only required to give his first process here, having already given his second, in the article, "*Galvano-cautery*," p. 212.

On the evening of the day previous to the operation, M. Verneuil requires the patient to take a purgative, and on the next day, just before the operation, an enema is to be administered. After the rectum is completely emptied by these means, the patient should be put under the influence of an anæsthetic, and placed on his left side, in the position required for the operation of fistula in ano, and a bivalve speculum introduced into the rectum fully up to the superior border of the internal sphincter ani; then the blades, forcibly opened, should be slowly withdrawn from the rectum. Afterward two fingers of each hand may be introduced into the anus, and forcibly stretching the external sphincter, by which its dilatation will also be the more thoroughly effected. The patient is now put to bed, and compresses, dipped in cold water, are to be constantly kept applied to the anus.

According to M. Verneuil, this operation is done in a minute, and does not give place to any serious complications. There is no fear of hemorrhage nor of purulent infection, nor contraction of the rectum. The pain that follows the operation is not severe, and only lasts for a few hours. For two or three days the dilated sphincter does not completely close the anal orifice, and allows the mucous membrane to protrude at the anus in the form of a hernia; the sphincter, however, gradually regains its contractile power, and at the end of five or six days it has again resumed its normal form and activity, and the patient is completely cured (*op. cit.*).

M. Duret, a former *interne* of M. Verneuil, also very ably investigates this subject by plainly showing the manner in which the involuntary contraction of the anal sphincters acts in the production of hemorrhoids (*op. cit.*).

According to the testimony of M. Lartisien, M. Verneuil for

several years employed forcible dilatation of the anal sphincters, combined with the galvano-cautery, in the treatment of hemorrhoids. ("*Du Traitement Chirurgical des Hémorröides et de la Cauterisation intersti, en particulier.*" *Thèse de Paris*, 1873.)

M. Gosselin also employed forcible dilatation of the anal sphincters in the treatment of hemorrhoids. The cases, however, in which he used it, were, it seems, complicated with anal fissure; and it was doubtless more for the cure of the fissure than for the cure of the hemorrhoids that he employed it (*op. cit.*).

Hemorrhoids and anal fissure are two affections which often coexist, and the theory of the French surgeons is, that when such is the case, forcible dilatation of the anal sphincters cures both diseases I have shown, however, that their theory and their practice do not correspond. M. Fontan, a distinguished French surgeon of Lyons, commenced treating hemorrhoids in 1875 by the forcible dilatation alone of the anal sphincters, by means of the fingers, carefully guarding against any injury to the dilatable parts. To this mild operation of M. Fontan, which will prove just as effectual as the rupture of the anal sphincters, no valid objection can be urged. It is the same operation which I myself practised and recommended previous to 1868, in certain cases of anal fissure; the patient always being first placed under profound anæsthesia; for the anal sphincters, in consequence of their functional activity in such cases, are, as a general rule, the last to relax or yield to the influence of anæsthetics. I then said, "Instead of the thumbs, I introduce into the anus the index finger of each hand, and forcibly dilate the contracted muscles, first antero-posteriorly and then laterally, at the same time taking care to preserve the integrity of the membranes." ("*Anal Fissure*," *p.* 135, *imp.* 8*vo*, *New York*, 1868.)

M. Fontan, in his valuable productions on this subject, refuses to give credit to either M. Maisonneuve or to M. Lepelletier for priority in the suggestion or the employment of forcible dilatation of the anal sphincters as an especial and rational treatment for hemorrhoids. He says that this is a pending question. (*Moniteur Thérapeutique de Paris, Novembre*, 1875; *et* "*Du Traitement des Hémorröides par la Dilatation Forcée des Sphincters de l'Anus*," 8*vo*, *Paris*, 1877.)

M. Cristofari, a recent French author on this subject, employs forcible dilatation of the anal sphincters in the treatment of hemorrhoids, and he very *forcibly* advocates this fashionable French

method. (" *Du Traitement Chirurgical des Hémorroïdes, et en particulier de la Dilatation Forcée*," 8*vo*, *Paris*, 1876.)

The following figure represents the late Dr. Thebaud's instrument for producing forcible dilatation of the anal sphincters:—

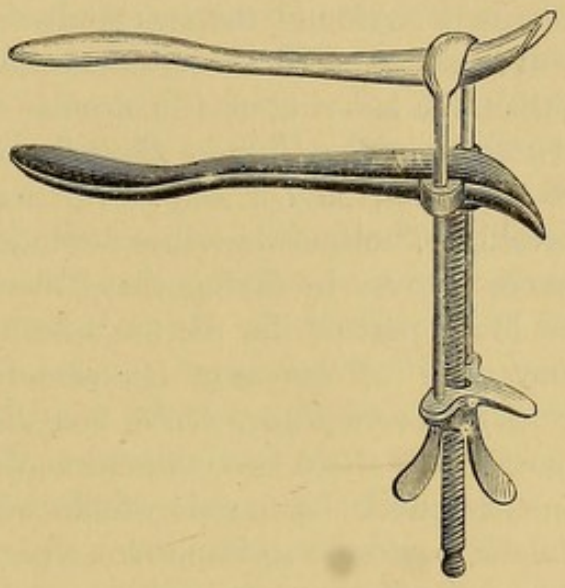

FIG. 30.

c. Anatomy and Physiology.—I will now give in as brief a manner as possible the anatomical disposition and the physiological and pathological action of the internal and external sphincters of the anus, the only sphincter muscles proper to the terminal outlet of the rectum. I use the designation *internal sphincter* with a full understanding and conviction that it is a sphincter, although I am aware that some able authors who are anatomists, and some who are not, deny sphincteric functions to it, and some even deny the existence of such a muscle. These authors declare that no such property or function exists in, or can be claimed for, the aggregation of the bundles of circular muscular fibres, which, like a band, encircles the inferior extremity of the rectal pouch, and which comprises that which has been denominated *sphincter ani internus*. They maintain that this collection of circular muscular fibres differs in no respect whatever, so far as its function is concerned, from that of the ordinary circular fibres of the intestinal canal; that it, like them, performs the office merely of a detrusor, and not that of a sphincter. There can be no dispute as to the existence of this collective body of circular muscular fibres, and that it is normal and constant. The

only controversy is in relation to its real function. I therefore, in this connection, deem the subject of sufficient importance, anatomically, physiologically, and surgically, to enter into it somewhat in detail.

A number of anatomists neither describe nor indorse the internal sphincter ani, and many confound the two sphincters by describing them as one. Cruveilhier says: "The sphincter internus of authors is nothing more than the last ring of the circular fibres of the rectum." ("*The Anatomy of the Human Body*," *p.* 380. *American edition, by G. S. Pattison, M.D., Imp.* 8*vo*, *New York*, 1844.) Cloquet, like Cruveilhier, neither describes nor indorses the internal sphincter, but passes it over by saying that "many anatomists describe around the lower part of the rectum a fleshy ring under the name *inner sphincter*." ("*A System of Human Anatomy*," *p.* 618. *English version. By Robert Knox, M.D.*, 8*vo*, *Boston*, 1813.) It is in this brief manner that these two eminent anatomists dispose of the internal sphincter muscle—a muscle which, with its colleague, the external sphincter, performs so important a part before, during, and after the act of defecation.

This very distinct sphincter muscle was correctly described, however, at an early date by several able authors. Albinus, an eminent anatomist of the seventeenth century, denominates the bundle of circular fibres of the muscular coat of the rectum, which encircles the inferior extremity of the rectal pouch, *sphincter ani internus*, which he describes as distinct from the *sphincter ani externus*. ("*Tabulæ Sceleti et Musculorum Corporis Humani*," *Lib. II., Cap.* 3, *folio*, *Lugduno-Batavorum*, 1747.) The celebrated anatomist Winslow, of the eighteenth century, when speaking of the internal sphincter of the anus, says: "The intestinal or orbicular sphincter of the anus consists merely in an augmentation of the inferior portion of the circular fleshy fibres of the extremity of the rectum. ("*An Anatomical Exposition of the Structure of the Human Body*," *Vol. II., p.* 149. *English Version. By G. Douglas, M.D.*, 4*to*, *London*, 1732.) Mr. Douglas, another able and distinguished anatomist of the eighteenth century, and the translator of Winslow's "Anatomy," says that "the anus has two sphincters. The first may be called *externus* or *cutaneous*, which surrounds the anus about the breadth of an inch, being placed immediately below the integument. The second is named *internal*, whose fleshy circular

fibres encompass the lower end of the intestinum rectum. Its use is to prevent the involuntary excretion of the fæces, by shutting up or closing the passage of the rectum." ("*Descriptio Comparata Musculorum Corporis Humani et Quadrupedis.*" *Versio Latini. Cap. XXIII.*, 8*vo*, *Lugduno-Batavorum*, 1738.) Albinus, Winslow, and Douglas were the first anatomists, so far as my reading extends, who correctly described and named the internal sphincter as a distinct muscle. Wilson says, with regard to the circular fibres of the superior and central portions of the rectum, "There are no circular fibres in these portions of the rectum, they appear to have slipped downward to the lower end of the intestine, and to have formed there a thick muscular ring, the internal sphincter ani." (*The Dissector*, *p.* 56. *Edited by P. B. Goddard, M.D.*, 8*vo*, *Philadelphia*, 1844.) Professor Horner says that "the circular fibres form a complete coat, and just below the pouch of the rectum are multiplied so much for eight or ten lines as to be a perfect internal sphincter-muscle." ("*Special Anatomy and Histology*," *Vol. II.*, *p.* 46. *Eighth edition. Imp.* 8*vo*, *Philadelphia*, 1851.)

I will now briefly describe the internal and external sphincters. The internal sphincter ani is a flat and slightly oval muscular ring, composed of numerous bundles of the circular fibres of the rectum, so multiplied and so closely set together as to form a complete coat, encircling like a belt the superior extremity of the anal canal, so that it may be regarded as an aggregation of bundles of circular fibres. It bears considerable resemblance to the ring of fleshy fibres which encircles the pyloric orifice of the stomach, denominated by some authors the pyloric muscle. It is situated just below the terminal pouch of the rectum, after this viscus has left the level of the prostate gland, and it varies from seven to fifteen lines in breadth, and from one to three in thickness. At its superior margin, it is quite thin, being continuous with the corresponding plane of the muscular coat of the rectum; but as it descends it becomes thicker, more distinct, and more fully developed, so that, by the time it reaches its inferior border, where it is embraced by the fibres of the superior part of the external sphincter, it becomes quite strong and well-marked. It is at this point where its greatest power of contraction resides, and it closes the canal here with considerable exactness and firmness. When this muscle is examined carefully *in situ*, it is infundibuliform, having its superior opening, or wide mouth,

presenting upward toward the prostate gland and *bas fond* of the bladder, and its inferior opening, or neck, presenting downward, varying in length from eight to fifteen lines, and forming about one-half of the canal of the anus. Internally, this muscle is separated from the mucous coat by the hemorrhoidal plexus of veins, some branches of which traverse the substance of it. The internal sphincter ani is wholly composed of circular fibres, which are capable, of themselves alone, of completely closing the anal canal, as a sphincter, at its inferior border.

The external cutaneous sphincter ani is composed of elliptical fibres, which form a broad, flat band, about ten lines in breadth and about the same in thickness, and placed immediately beneath, and intimately united to the integument of the anus, the orifice of which it completely circumscribes. This muscle originates in the narrow fasciculus of tendinous fibres attached to the posterior face of the last bone of the coccyx, and extends to the anus. From this source, passing downward and forward, it separates into two semi-elliptical fasciculi of concentric fibres, whose direction is outward at an acute angle, expanding on each side of the anus into the ischio-rectal fossa, nearly as far out as the tuberosity of the ischium; then, bending forward, they produce the arch of a circle, and in front of the anus become blended with each other, and are attached to the tendinous raphé of the perineum, at the point where the several perineal muscles unite, thus forming anteriorly an angle similar to that at which they parted posteriorly. The long diameter of the ellipsis extends from the os coccygis toward the symphysis pubis, having its angles very much elongated. The lateral diameter is in the centre of the interval between the ischiatic tuberosities, and occupies about one-half that space. The point of the greatest contraction of the external sphincter ani is near its inferior margin.

The interlacing of the fibres of the two anal sphincters, which sometimes, though rarely, occurs, doubtless gave rise to the erroneous idea entertained by some anatomists that these two sphincters were in reality but one. Nothing, however, is more easily demonstrated than the fallacy of this, the one consisting entirely of circular, and the other of elliptical fibres, and differing anatomically in many other respects.

M. Velpeau, in his description of what he calls the external sphincter ani, makes the singular declaration, if I understand his language,

that this single muscle contains within itself two distinct sphincters—one composed entirely of circular, and the other of elliptical fibres—thus correctly, as it were, describing both the external and internal sphincters of the anus, but apparently under the impression that these two sphincters compose but one muscle. I have rendered his language thus: "If we carefully," says M. Velpeau, "dissect the external sphincter, we find that it is composed of two orders of fibres. The one, forming complete and regular circles, is applied immediately on the exterior surface of the intestine and the integuments which enter the cavity of the canal; the other, united at right angles in front and behind, is separated into two fasciculi by the anal orifice. The first, being a continuation of the fleshy tunic of the organs of defecation, is alone capable of completely closing the anal opening, and producing the concentric cutaneous wrinkles in its vicinity, and at the same time preserving its annular form; the second, composed of elliptical fibres, forming the proper sphincter, can only circumscribe an elliptical opening, and would reduce the anus permanently to a more or less elongated fissure, did not the circular fibres modify its action." ("*Traité d'Anatomie Chirurgicale ou Anatomie des Régions*," *Tome II.*, *p.* 272, 8*vo*, *Paris*, 1826.) M. Velpeau again says: "The fleshy tunic of the rectum is almost wholly formed of longitudinal fibres, which predominate as far as the prostate gland, and of annular fibres, gradually increasing in number from this point toward the skin, where they form that which I have called *little sphincter*." (*Op. cit.*, *Tome II.*, *p.* 323.)

As to the anus itself, I would remark that its direction is downward and backward, and, when in the quiescent state, it has the appearance, externally, of a linear or curvilinear orifice, with its long diameter in the antero-posterior direction, and its edges closely approximated; but when it is distended by the passage of hard fæces, or by the finger or bougie, it becomes what its name imports, *circular*. Indeed, by inserting the finger into the anus and dilating it, an elliptical figure may be converted into a round or circular one.

d. The Internal Sphincter of Lisfranc. Besides the internal sphincter already described, M. Lisfranc, a number of years ago, announced the existence of another internal sphincter-muscle, about four inches above the verge of the anus. He, however, never demonstrated or described such a sphincter, but merely imagined its existence from the fact that he had observed the power of contraction

and retention possessed by the rectum, at that height without incontinence of fæces taking place after he had, in several instances, removed three or four inches of its inferior extremity, on account of cancer. (Malgaigne: "*Traité d'Anatomie Chirurgicale et de Chirurgie Expérimentale*," *Tome II.*, *p.* 343, 8*vo*, *Paris*, 1838.) I would observe, however, that M. Amussat explains this power of rectal retention of fæces upon a very different principle altogether. He was of the opinion that the interior outlet of the body is naturally disposed to obey the will, independently of its muscular apparatus, so as to favor voluntary retention of the fæces; consequently, that the power of retaining and controlling the discharge of the fæces does not solely depend upon the sphincter-ani muscles. (*Gazette Médicale de Paris*, *p.* 753, *Novembre* 28, 1835.)

The internal sphincter announced by M. Lisfranc was subsequently described by M. Nélaton, and verified by M. Velpeau, who thus speaks of it: "I have proved the existence of a kind of sphincter of the rectum described by M. Nélaton. It is a fleshy ring placed about four inches above the anus, exactly at the spot where stricture of the rectum—above the anal region—most frequently occurs. If, after having everted the rectum so that its mucous surface becomes external, we slightly inflate it, we see this muscle, which M. Nélaton proposed to name *superior sphincter*, is formed of fibres united into a fasciculus. It is thickest in front, where the fibres seem collected in the retiring angle corresponding to the union of the first with the second curve of the rectum, whilst posteriorly they are disseminated over its convexity." ("*Anatomy of Regions*, *p.* 515, *Hancock's English Version*, *Imp.* 8*vo*, *London*, 1838.)

Professor Horner, in speaking of this new internal sphincter, says: "I doubt very much the uniformity of the distinct existence of such a muscle, not having been able to find it in the dissections which I have instituted for the purpose, unless a portion of the ordinary circular fibres should have been collected for that designation, in which case several other sphincter-muscles may be said also to exist." (*Op. cit.*, *Vol. II.*, *p.* 46.)

A number of years ago, I also made diligent search for this sphincter-muscle at the place designated by Lisfranc, Nélaton, and Velpeau, but failed to find it. I therefore concluded with Professor Horner that, if it ever exists, it does not do so uniformly; that it is neither normal nor constant. The place these authors

point out as the exact locality of this muscle is that part of the rectum just above its pouch, at which, according to M. Velpeau, and as far as my own experience goes, organic stricture of the rectum most commonly occurs.

In my dissections of the rectum and colon, I have found much stronger evidence of a *superior sphincter* at the juncture of the colon with the rectum, than at the place so much lower down mentioned by these authors. At the termination of the colon, there always exists a narrow neck or contraction, marked externally by a slight circular depression, and internally in the same situation by a little projection of the mucous lining. This narrow neck or annulus which distinctly marks the boundary of the rectum and the colon, and which has been described by others, seems to a certain extent to possess the power and to perform the office of a sphincter; so that the description which Velpeau gives of Nélaton's superior sphincter, if applied to it, would, in several respects, quite appropriately describe it. I consider this fleshy annulus as the normal condition of this part of the intestine, and not as preternatural, or as a congenital malformation, as believed by several authors. Indeed, it very much resembles in character and in function the pylorus of the stomach, for a remora of the contents of the sigmoid flexure of the colon takes place at this point previous to their entrance into the rectum, as the contents of the stomach do previous to their entrance into the duodenum. Mr. O'Beirne also notices this peculiar contraction at the inferior extremity of the colon, and attributes to the part very extraordinary "physiological phenomena." (" *New Views of the Process of Defecation*," *p.* 31, 8*vo*, *Dublin*, 1833.)

Hyrtl, a distinguished German anatomist, has of late revived the subject of the internal sphincter of Lisfranc, by devoting much time, labor, and talent in endeavoring to demonstrate and prove the uniform existence of this sphincter, which he denominates *sphincter ani tertius*. (" *Handbuch der Topographischen Anatomie*," *Band II.*, *Sec.* 36, *page* 162, *imp.* 8*vo*, *Wien*, 1882.)

e. Is the Sphincter Ani Internus Merely A Detrusor?—The number of bundles of the circular fibres which compose the internal sphincter ani, and which impart more or less thickness and body to it, is a positive evidence that it is intended for a different purpose than that merely of the ordinary circular fibres of the intestinal canal. Indeed, the augmentation of volume, and consequently of

power, proves that this aggregation of the bundles of the circular fibres is a sphincter or constrictor muscle, and fully corresponds with its function, being especially armed and equipped for the purpose. Furthermore, there appears to be an obvious necessity for a sphincter muscle immediately at the termination of the rectal ampulla and commencement of the anal canal, or short narrow neck of the rectum, for the purpose of arresting and retaining the fæces in that depository for the time being, or until nature calls for their evacuation. Apparently the same necessity exists for a sphincter at the commencement of the neck of the bladder, the neck of the uterus, and at the pyloric end of the stomach.

Now it is not necessary that the circular fibres of the rectum should always completely surround it to enable them to perform the office of detrusors or accelerators, for in some parts of it they are arranged in semicircles or in segments of circles, and yet efficiently perform their function of urging on, by their peristaltic motion, the contents of the canal onward and outward. It is, however, essentially necessary that the circular fibres of the rectum should completely surround it, in sufficiently aggregated bundles to enable the collection thus formed, to perform efficiently the office of a sphincter or constrictor, as it does in the formation of the internal sphincter ani, which possesses the power of completely closing the anal canal at the bottom of the rectal pouch.

Some authors consider that the bundles of circular fibres composing the internal sphincter are wholly of the involuntary character; whereas the elliptical fibres composing its colleague, the external sphincter, are entirely of the voluntary character. With regard to the character of the internal sphincter, they reason, inasmuch as it is connected with the common intestinal plane of arched fibres, and is analogous to the pylorus and the cervical fibres of the bladder and the uterus, that it therefore of necessity cannot act as a voluntary muscle. It is true, that from analogy one would naturally be inclined to consider the internal sphincter as immediately under the control of the splanchnic, and the external sphincter under that of the cerebro-spinal centres. But the truth is, and it has been verified, that the functions of these two sphincters are of a mixed character, partaking in part both of voluntary and involuntary motion; but the exact proportion, however, in which each possesses the power or the ability of voluntary or involuntary motion bestowed upon it by the

two classes of nerves, has not as yet been demonstrated. I therefore consider the internal sphincter not wholly independent of the will, as it has been represented to be, but it, with its colleague, is one of those muscles which acts imperceptibly, yet is subjected more or less to the will, as the muscles of respiration. The tonic contraction of the two anal sphincters which is intended to close the canal and retain the fecal matters in the intestine is always involuntary, and not under the influence of the will. They, however, may be stimulated to act directly by volition, as when they do so to prevent a strongly impending evacuation of the bowels; or indirectly by reflex irritation, the one action being voluntary and the other involuntary.

f. Cause of the Involuntary Contraction.—As to the cause of the involuntary contraction of the anal sphincters, it is always produced by reflex nerve-action, consequent upon sympathetic hyperæsthesia of the inferior extremity of the rectum, induced by some stimulating or irritating agent operating upon the mucous membrane or muco-cutaneous tissue of the canal and orifice of the anus; such as an anal fissure, an inflamed or irritable hemorrhoidal tumor; or irritation or inflammation of the mucous membrane of the canal of the anus. This arbitrary contraction is also sometimes due to reflected irritation from some of the genito-urinary organs, being consecutive to a morbid sensibility, or a disease in some one of them. The rationale of the phenomenon then is, that the anal sphincters are brought into this exalted action solely in consequence of the highly sensitive and irritated condition of the tissues in their vicinity, through reflex nerve-action. The sensitive nerves being shocked by the reflex action, from whatever cause, an involuntary contraction of one or both sphincters takes place, and continues in proportion to the intensity of the irritation and pain of the primary cause, the contraction thus continuing and varying in degree with the nature of the reflected excitation. This exalted contraction of the anal sphincters resembles that of the orbicularis palpebrarum in strumous ophthalmia, provoked by the stimulus of the strong rays of light. It is in this manner, then, that the involuntary contraction of the anal sphincters may be provoked by the stimulus which is exercised upon the mucous membrane, or muco-cutaneous tissue of the anal canal, by any preternatural exciting cause whatever.

I would further remark, in illustration of this intricate subject, that physiology, as now taught, satisfactorily accounts for the phe-

nomenon of spasmodic or involuntary contraction of the anal sphincters in all the variable degrees of irritation or excitation to which the efferent nerves, which have their origin at the seat of the morbidly sensitive parts, are subjected. The impression communicated to the peripheral distribution of the nerves of sensation is transmitted to the spinal centres, where, according to the primary laws of reflex nerve-action, a motor impulse is produced, and the fibres of the sphincter muscles in the immediate vicinity of the source of the irritation are impelled to contract spasmodically to a greater or less degree.

g. "*Sphincteralgie.*"—Some of the French surgeons now denominate the spasmodic or involuntary contraction of one or both anal sphincters, in anal fissure or hemorrhoids, *sphincteralgie*, and treat it as an entity—a disease in itself. But, I ask, is the pain or disease in such cases really in the sphincters themselves or outside of them, in the morbidly sensitive and painful parts so violently grasped and compressed by them? I unhesitatingly answer that the pain in such cases is not in the constricted sphincter or sphincters, but in the morbidly sensitive and painful parts themselves, which are subjected to this mechanical grasping and compressing, and by which additional and most agonizing pain is communicated to the already painful parts. As an evidence of this, the involuntary contraction immediately ceases, without dividing or breaking the anal sphincters, or subjecting them to any treatment whatever, on simply removing or allaying, by proper or judicious measures, the morbid sensibility and irritability of the constricted parts, which are in reality the primary cause of the spasmodic contraction. And, furthermore, this spasmodic contraction of the anal sphincters also spontaneously ceases, on the subsidence, sooner or later after the act of defecation, of the pain and irritability in the affected parts themselves, occasioned by the passage of acrid and stimulating fæces, and the straining efforts and tenesmus attending their evacuation. Now, if this theory, in such cases, is true, then the name *sphincteralgie* is a misnomer.

h. Spasmodic Contraction of the Anus as a Cause of Hemorrhoids.—The involuntary contraction of the anal sphincters may either be a cause or an effect of hemorrhoids. When it is the cause of them, some other cause than hemorrhoids must first produce it. When the contraction is the effect of hemorrhoids, they themselves, of course,

produce it by their own morbid sensibility and irritability, through reflex nerve action.

French authors generally now declare that this spasmodic contraction is not only an exciting or an efficient cause of the hemorrhoidal disease, but that it is almost the only cause of that affection. I admit that it is sometimes a cause of hemorrhoids, but that it is a frequent, or the most frequent cause of them I do not for a moment believe. In my judgment, it is greatly exaggerated as a cause of hemorrhoids by these authors. Indeed, instead of the involuntary contraction of the anal sphincters being a primary cause of hemorrhoids, it is, in the majority of instances, only the effect of them; for it cannot be denied that in every case of irritable hemorrhoids there is more or less spasmodic contraction of the anal sphincters, solely induced by the irritation of the hemorrhoids themselves, hemorrhoids being first produced by some other cause, then spasmodic contraction of the anal sphincters, through reflex action, as the result of their irritability and excitability.

It is not the normal condition or tonic contraction of the anal sphincters, but the hyper or exalted contraction of them, which, under the stimulus of reflex nervous irritation, tends, more or less, to interfere with the free circulation of the blood in the hemorrhoidal vessels within the grasp of the active sphincters, thus tending sometimes to the production of the hemorrhoidal disease by inducing turgescence, hyperæmia, congestion, or stasis in some of those vessels. This contraction may also sometimes prove an efficient cause of hemorrhoids, in consequence of the violent straining efforts to evacuate the bowels which this active state of the sphincters induces. In such a case, a part of the mucous membrane of the rectum, together with the vessels it contains, is protruded beyond the sphincters at each time of the expulsion of the fæces, and being there caught by the spasmodic contraction of the muscles, its vessels become engorged or strangulated. The repeated occurrence of this circumstance, especially when assisted by constipation, is quite sufficient to produce a varicose condition of the hemorrhoidal vessels.

I would observe here that any defect, too, of the muscular power of the sphincters may also prove a cause of hemorrhoids, perhaps even as much so as the too powerful action of them. When atony of the anal sphincters exists, the dilatations, turgescence, or tumors form on those parts of the anal canal invested by them. For the want

of the natural support which the tonic contraction of these muscles affords, the hemorrhoidal vessels in this depending situation become relaxed, and allow of over-distention, by undue quantities of blood entering into them; hence the necessary concomitants of this condition are dilatation, turgescence, hyperæmia, congestion, stasis, and tumors. Indeed, the tonic contraction and compression of the anal sphincters, when in their normal condition, upon the parts of the canal within their circumference or grasp, prevent, to a great extent, any undue quantity of blood, or its elements, from entering into and enlarging the vessels of those parts. With regard to the spasmodic contraction of the anal sphincters, more or less inflammation and nervous irritation in the surrounding parts are always present; and to ascertain to a certainty that involuntary contraction of the sphincters obtains, it is only necessary to attempt to insert the finger into the anus, when it will at once encounter obstinate resistance, and cause more or less pain. When the resistance, however, has been partially overcome, and the finger fairly entered into the anal canal, it will be firmly grasped by the sphincters as by a vice.

[The preceding article appeared in the New York *Medical Record* of the 13th and 20th of May, 1882.]

8. Injection.—The method of treating hemorrhoidal tumors by injecting them with coagulant, hemostatic, and cicatrizant solutions is of quite recent date. From the great excitement lately manifested by a few fanatics concerning this method, some were inclined to raise the cry, *Eureka*, or led to believe that it, like Aaron's rod, was destined to swallow up all the other methods. It may be remarked, however, with regard to this new candidate for fame, that, as yet, it has no status in surgery, and it is questionable whether it ever will prove a real benefit to or an advancement in that science, as it regards a safe and certain remedy in the treatment of hemorrhoids more especially. The profession, in general, are not yet sufficiently acquainted with its *modus operandi*, or in possession of sufficient data, to pronounce a positive judgment, as to its merits or demerits; but I have no doubt all are quite willing to give it a fair field and wait for results.

I will now attempt to show how the injection of hemorrhoids was first thought of, and the manner in which it was most likely brought about. It is known that the morbid growths termed *nævi* have been treated by injection by some eminent surgeons for the

last forty-five years, and it is also known that some hemorrhoidal tumors partake largely of the nævoid structure, or what Mr. John Bell called *aneurism by anastomosis*. These circumstances, then, gradually and eventually led to the idea of injecting hemorrhoids also, the transition from the one to the other being so very natural and so very simple and easy that it was, as it were, but a short or an imperceptible step to take.

The injection of nævoid growths was for the first time advocated and executed by Mr. Lloyd, as it appears in a very valuable paper entitled, "Observations on the Treatment of Vascular Nævi Materni," in the *London Medical Gazette* for October 1st, 1836. Mr. Lloyd used a syringe fitted with tubes of different sizes. The point of the tube was introduced through the skin at a little distance from the growth, and various fluids injected, such as nitric ether, nitric acid, in a solution of six drops of the acid to one drachm of water; solutions of the chloride of lime, sulphate or acetate of zinc, hydrochlorate of ammonia, aromatic spirit of ammonia, or iodide of potassium. A number of other substances were soon added to the list, and among them the perchloride of iron, after M. Malgaigne had introduced that preparation in surgical practice. It subsequently proved to be safer and more effectual as an injection in nævi than almost any other substance. M. Bérard injected nævi with nitric acid, as well as with the acid nitrate of mercury. (*Bouchut on Diseases of Children. English Version by Bird, p.* 644, 8*vo*, *London*, 1855.) Mr. Tyrrell injected nævi with a strong solution of alum, first making a puncture with a lancet, and then inserting an Anel's syringe. (*Op. cit., p.* 647.) If I mistake not, I have read the statement somewhere that the late and lamented Professor Brainard, of Chicago, recommended the lactate, instead of the perchloride of iron as an injection in nævi, for the reason that the elements of the lactate are normal constituents of the blood.

Now, it will be observed that, with but little variation, the same intentions or indications, the same kind of fluid substances, and the same kind of instruments which obtained forty-five years ago in the injection of nævi, now obtain in the injection of hemorrhoids.

So far as my reading extends on the subject, we are indebted to Mr. William Colles, Surgeon to St. Stephen's Hospital, Dublin, for first introducing the practice of injecting hemorrhoidal tumors. Mr. Colles, considering such tumors as vascular growths, resembling

nævi in children, or erectile tissue in adults, conceived the idea of treating them by injection in the same manner we do nævi or erectile tissue. He put this conception into practice in a case in 1874, by injecting into the tumors the tincture of the chloride of iron, with the intention of exciting in them a certain amount of inflammation, and secure the coagulation of the blood in the minute vessels composing the growths, and their subsequent absorption. He says: "The hemorrhoids being protruded, I injected about twenty minims of the ordinary tincture of the chloride of iron into each hemorrhoidal tumor by means of a hypodermic syringe, which caused but little pain. Four weeks afterward the section was examined by means of a speculum, and no trace of the tumors could be discovered except three nodules of cuticle, each the size of a shrivelled currant." (*Dublin Journal of Medical Science, June*, 1874.)

I was solely induced to present the subject here of injecting morbid growths, including hemorrhoidal tumors, in consequence of the late and repeated reports, setting forth that a number of empirics and quacks in our country were employing the method of injecting hemorrhoids, and impudently setting up the fraudulent claim that they were the original inventors of this method, and that it owes its paternity exclusively to them. No quack, in my opinion, ever originated the idea of injecting hemorrhoids, or of inventing this practice; if there is such a one, I would like to see his name and the record. All that these empirics and quacks have really done was merely to avail themselves of the numerous experiments and the practical information on this subject already extant, and to appropriate them to their own use. They have, therefore, done nothing whatever in this affair worthy of being commended, appropriated, or imitated.

I do not wish it to be understood that I am wholly opposed to the method of treating hemorrhoids by injection. Far from it, for it may perhaps hereafter be found valuable in certain cases, but for the present we have a long-tried, a much safer, a more certain, and a more effectual method in ligation.

Never having treated a case of hemorrhoids by the method of injection, I have, therefore, no experimental knowledge of it. Within the last five or six years, however, eighteen cases, from different parts of our country, have come under my observation, in which this treatment had been tried by others and utterly failed. Among these cases were five which were in their results the most unfavor-

able to the operation, and which I here again briefly repeat, after having reported them on a former occasion. One of them had an anal abscess to follow the first injection; another had an anal fissure and an abscess as the result of several injections; two had anal fissure of a very aggravated kind, doubtless caused by the escape of the carbolic acid through the orifice of the puncture; and in the fifth case, the first injection was followed by extensive sloughing of the cellular membrane in the vicinity of the tumor, and by a persistent hemorrhage. In all these cases, so far as I could learn, the carbolic acid, in different degrees of strength, was the agent which had been used.

The principal objections I therefore make to the method of injecting powerful agents into hemorrhoidal tumors are;—first, the extreme liability of such to result in embolism, pyæmia, or both, in consequence of the free communication existing between such tumors and the general vascular or lymphatic system. No surety can be given that this result will not take place, especially in weak and debilitated subjects;—second, such injections thrown into the cellular membrane, which is very prone to take on inflammatory and suppurative action, and hence so very liable to result in anal abscess and fistula;—third, a drop or two of such injection is liable to escape at the orifice made by the puncture, when the syringe is withdrawn, and come in contact with the mucous membrane, and cause anal fissure or ulceration of the rectum;—fourth, the injection of such active agents into the internal tumor is liable to be followed by extensive sloughing of the cellular tissue in its vicinity, and by persistent hemorrhage;—fifth, in some instances the pain which follows the injection is terribly agonizing and prolonged, requiring the patient to remain in bed, or on a couch for several days;—sixth, the injection does not remove the tumor, but simply shrivels it for the present, leaving a nodule behind, to be the nucleus for subsequent development and future mischief, as cases of this character are now frequently presenting themselves.

The following are some of the agents which have been and are being employed as injections into internal hemorrhoidal tumors:—crystallized carbolic acid, perchloride of iron, ergot, chloral, alcohol, etc.

The Process of Professor Andrews.—Dr. Andrews, of Chicago, who more than any one else has devoted the most time and attention

to the investigation of this subject, says that he made a laborious inquiry into the results of over three thousand cases of hemorrhoids treated by injection, as reported to him by about three hundred empirics and quacks. From a study of these cases, he comes to the conclusion that, if the rules which he gives be strictly observed, the method of treatment by hypodermic injection is a valuable contribution to scientific knowledge, and that the cautious injection of hemorrhoids with carbolized solutions will remain as one of the permanent operations of surgery.

The operation is to be performed in the following manner: the tumor being exposed to view, and the anus smeared with an ointment to prevent smarting in case the fluid should chance to drop, the operator then takes a sharp-pointed hypodermic syringe charged with the carbolized liquid, which has been used in varying strength, from one part of crystallized carbolic acid to thirty parts of olive oil or glycerin up to equal parts, and slowly injects a few drops into one of the tumors. The pipe is left in the puncture a few minutes to prevent the fluid from running out, and to allow it to become fixed in the tissue. The tumor turns white, and in the most successful cases withers away without pain, suppuration, or sloughing. Only one tumor is treated at a time, and about a week is allowed between the sessions, until all are cured. Most of the cases thus operated on, suffer a sharp temporary smarting, and a few have a terrible and prolonged agony. The majority are cured, however, without interrupting the patient's business.

The following rules should be strictly observed: 1, inject only internal tumors; 2, use diluted forms of the remedy at first, and stronger ones only when these fail; 3, treat one tumor at a time, and allow from four to ten days between the operations; 4, inject from one to six drops very slowly, having previously smeared the membranes with cosmoline to guard against dripping and keep the pipe in place a few minutes to allow the fluid to become fixed in the tissues; 5, confine the patient to bed the first day, and also subsequently if any severe symptoms appear. Prohibit any but very moderate exercise during the treatment. (*American Journal of the Medical Sciences, July*, 1879, *p.* 268, *and Chicago Medical Journal, May*, 1879.)

Process of Dr. Adams.—Dr. J. Q. Adams, of Carmel, N. Y., makes some pertinent remarks on the process of injecting hemor-

rhoidal tumors, which we transcribe as follows: "Quite recently I noticed a description of a new method of treating hemorrhoids, which was a reprint of an article by Professor Andrews, originally published in the *Chicago Medical Journal and Examiner*. It was by injecting carbolic acid and olive oil or glycerin into the hemorrhoidal tumor by means of the hypodermic syringe. It was claimed that the acid would coagulate the blood, set up inflammation, and occlude the vessel. The strength recommended was three parts of carbolic acid to one of olive oil or glycerin. It struck me as being a very ready means of getting rid of those exceedingly troublesome tumors, and I at once put the treatment to the test, with very gratifying results. I found two objections, however, to the hypodermic syringe for that purpose. First, it was too short to reach internal hemorrhoids through the speculum, and secondly, the calibre of the needle was too small to admit of the easy flow of the carbolic mixture. To obviate these difficulties, I applied to Messrs. J. Reynders & Co. to make me a syringe as shown in the accompanying woodcut, and which I have named the *hemorrhoidal syringe*.

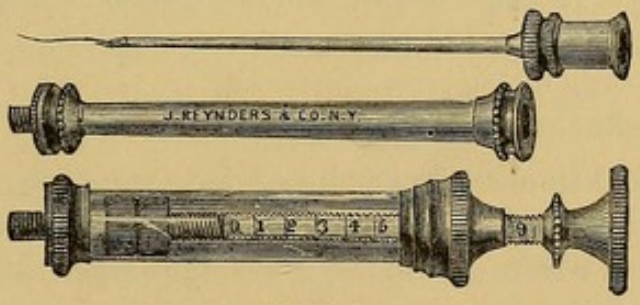

FIG. 31.

"The capacity of this syringe is ten minims. The cylinder is one and a half inches in length. Cylinder and piston, when closed, two inches; a small canula attached to the cylinder, two inches, and to this a needle two inches long, making the whole length of the instrument six inches. The calibre of the needle is about twice that of the hypodermic syringe. With this I can readily reach any internal hemorrhoid likely to occur, since these tumors are formed almost always by the dilatation of loops of veins, rather than in the straight longitudinal veins, and hence are seldom situated more than one or two inches from the anus. The injection of carbolic acid is appropriate wherever the ligature is appropriate for oblit-

erating the dilated vessel before stasis occurs, before a clot is formed. After complete stasis and formation of a firm clot, the lancet is the most ready means of relief. I believe, in most instances, the injections are equally as effective as the ligature, and possess advantages over it. First, by causing very much less pain, and secondly, by being much more easily applied, especially above the sphincter. Then there are ten who will submit to the injection to one who will submit to ligation; at least, I think it is so in my practice. Then again the bowels need not be shut up as after ligation. The patient can go about attending to light work; the morning after the operation take a saline laxative, and have a passage from the bowels without the slightest pain or hemorrhage, provided you have selected the right tumor for operation. In regard to the quantity of the mixture (carbolic acid, ʒ iij.; olive oil, ʒ i.) to be injected into the tumor, it should never exceed five minims at one time. By the use of eight minims I have, in two instances, seen suppuration follow. I now use from two to five minims, according to the size of tumor; never inject a tumor a second time until the inflammation has completely subsided, say ten days or two weeks, then if shrinkage has not taken place, inject a second time." (*New York Medical Record, June* 1*st*, 1878, *p.* 436.)

(c.) SPONTANEOUS REMOVAL OF HEMORRHOIDAL TUMORS.

Hemorrhoidal tumors, especially of long standing, whether external or internal, are sometimes naturally or spontaneously removed. This change, in external tumors, is brought about by inflammation, consolidation, and subsequent absorption of the lymph. Sometimes internal tumors in like manner spontaneously subside, the change taking place so gradually and imperceptibly, and without pain, that the patient does not know what has become of them, as they cease to be felt, and no longer appear externally when stooling. If, however, a visual examination now be made of the inferior portion of the rectum, these tumors will be found completely shrivelled, and nothing remaining of them but the elongated membranes which had formed their envelope. Many such cases have come under my own observation. The spontaneous removal of internal hemorrhoidal tumors is also sometimes affected by strangulation, mortification, and sloughing. The tumor or tumors are prolapsed, and cannot be returned in consequence of the resistance of the sphincter muscles

which encircle them firmly like a ligature, thus completely strangling them, and cutting off their circulation. Mortification soon takes place, sloughing follows, and the tumors are destroyed. This is, however, an exceedingly painful process. The powerful contractions of the sphincter ani muscles upon the protruded tumors, in some instances, occasions the greatest agony. I have myself often witnessed cases of this kind. The surgeon, instead of looking on and waiting to see the result of this natural painful process, should at once, if nothing contraindicated it, incise the protruded and strangulated tumors, and scoop out their contents, by which the pain will at once be relieved, and the result will be most happy generally; or the surgeon should put the patient under the influence of ether, and firmly stretch the anal sphincters. All such cases, therefore, should be treated properly at once, if possible, in order to relieve the patient of protracted torture, and not suffered to pass on through the stages of mortification and sloughing, as is too often done.

Sir Benjamin C. Brodie, in one of his lectures, gives a case in point. He says, "The late Dr. Pearson, who was for many years physician to this hospital (St. George's), was the physician and friend of the celebrated Mr. Horne Tooke. Many years ago I was dining with Dr. Pearson, and after dinner he gave an account of Horne Tooke's illness. He said he had long suffered from piles, that at last mortification had taken place, and that there was no chance of his recovery, and he added that he had that morning seen him for the last time. I remember that, in the middle of this history, there came a knock at the door, on which Dr. Pearson said: 'Here is a messenger with an account of my poor friend's death.' However, it was some other message; but by-and-by a messenger did arrive, saying that Horne Tooke was the same or a little better. It turned out, as I have been informed, that the piles sloughed off, and from that time he never had any bad symptoms. In fact, if I have been correctly informed, he was cured of a disease which had been the misery of his life for many years preceding, and he lived for some years afterwards." (*Op. cit.*, *p.* 311.)

Mr. Howship says: "Spasmodic contraction of the sphincter in the inflammatory or irritable state of hemorrhoidal swellings, is sometimes a distressing symptom, aggravating considerably the sufferings of the patient. Mr. Heaviside has, in the course of his prac-

tice, in two instances, been consulted where inflammation taking place in tumors of this description from exposure to fatigue, the violence of spasm in the sphincter produced complete strangulation, the parts undergoing spontaneous mortification, and the patients obtaining the advantage of a radical cure without the fatigue of an operation." (*Practical Observations on the Diseases of the Lower Intestines and Anus, Third Edition, p.* 210, 8*vo, London*, 1824.) M. De Montègre says that gangrene of hemorrhoidal tumors is not always so grave an accident as it may be considered (*op. cit., p.* 193), and cites a case which is reported by Brambilla of a woman in whom strangulated hemorrhoidal tumors became gangrenous. The surgeon made several incisions, dressed them with a mixture of digestive ointment and basilicon, and gave Peruvian bark internally. By following this treatment, the patient was completely cured in three weeks. (*Tratato Chirurgico-practico sopra il Flemone ed il suo esito, ed altri punti importanti di Chirurgia, Tome II., Cap.* 4, 4*to, Milano*, 1777.)

CHAPTER XIII.

BIBLIOGRAPHY.

It will at once be observed, by consulting this bibliographical index, how exceedingly copious is the literature of the hemorrhoidal disease, and yet it by no means includes even the moiety of that which is extant. It will be seen that the literature ranges from the remotest antiquity down to the present day; and it is presented here with the view of directing the inquiries of students, who might wish to consult original authorities, and also for the convenience of reference.

In this chart the titles of the works are given in full, so that no mistake can be made. Most of the old Latin dissertations on the hemorrhoidal disease, the titles of which are given below, may be found and consulted in the splendid library of L'Ecole de Médecine of Paris. Many of the recent French theses on the same disease may be found in the magnificent Astor Library of New York.

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———Et Ganzland. Dissertatio de Hæmorrhoïdum insolitis viis. Halæ, Magd., 1718.
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"There are grave consequences sometimes attending some of the recommended methods of treating anal fissure, as that of rupturing the sphincters by forcible dilatation, and it would be well for all physicians, at least before resorting to any operative procedures for relief, to read this little work of Dr. Bodenhamer."—*Leavenworth Medical Herald.*

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"The author of this work does not lay claim to any new or startling views regarding the disease of which he treats, but he does claim to furnish the profession with a systematic and practical treatise on the subject. He is of opinion that much is still to be learned in regard to anal fissure, but he endeavors to set forth in as brief a manner as possible all that is known about it at the present time. Hence he has given all the methods of treatment from the

earliest times, ending with that which, according to his own experience, he deems best. The first chapter gives a comprehensive review of the history of anal fissure, with a definition of the term, and the means of distinguishing between anal spasm and fissure. In the second chapter the term is more fully defined and the disease is carefully described. The third chapter takes up the ætiology of fissure; and the fourth gives a classification of the disease according to its anatomical and pathological characters, with its symptoms and means of diagnosis.

"The fifth chapter is an excellent résumé of the various methods of treatment, including precautionary and palliative measures. The treatment recommended by the author, and practised by him for twenty-five years, consists, in brief, of topical medication combined with dilatation and sometimes incision or scarification. 'The chief indication,' he says, 'in the treatment of anal fissure, is to modify the surface of the ulcer and transform it into a simple or a common sore, which then, under ordinary circumstances, will heal like any other solution of continuity.' As an application, the author has obtained the most uniform and satisfactory results from nitrate of silver, in a solution of one drachm to the ounce. He has also employed *liquor potassæ*, which allays the irritability in an astonishing manner, but does not leave the parts in so favorable a condition for cicatrization as the silver. Where dilatation is necessary, he has decided objections to forcible laceration by the thumbs, which operation he considers dangerous and uncertain. In the worst cases, he believes it only necessary to incise the mucous membrane and submucous cellular tissue, in order to effect all that is claimed for the more formidable operation of dividing the anal sphincters by stretching or by the knife. On this point, as our readers are aware, there is much difference of opinion among able and experienced surgeons. The experience of Dr. Bodenhamer, who reports in his concluding chapter a large number of cases satisfactorily treated, certainly gives some weight to his opinions in regard to a disease to which he has devoted so much attention."—*Medical Record, Feb. 15th*, 1871.

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