

Historical Notes on the Inclined Inverted or So-called Trendelenburg Position

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THE use of the position in which the patient lies on the back on a plane inclined at about 45°, the pelvis higher than the head, probably derives from the gelding and spaying methods applied in animal breeding. Aristotle (384–322 B.C.), in fact, recommends suspending the sow, which is to be spayed, by its hind legs, “τῶν ὀπισθίων σκελῶν.”¹ It is true that most Latin versions render this passage by “suspensa pernis prioribus,” thus repeating an error explained by Giordano (1935) as follows: “All it needed was that a scribe when faced with the word *posterioribus* in which *poste-* was represented by the letter *p* combined with the conventional signs of contraction, should omit the latter and simply write *p-rrioribus*: all later copyists would inevitably repeat his *prioribus*. . . .”

The reader is likewise referred to Giordano's statements according to which Aulus Cornelius Celsus (first century A.D.),² Paul of Ægina (seventh century),³ and Abulcasis (tenth century)⁴ hinted at the use of the inclined inverted position in operating for hernia.

Just such an operation is dealt with in the first incontestable document regarding the position discussed here; indeed, the text is accompanied by a miniature whose interpretation cannot be doubtful. The document intended is a thirteenth century codex⁵ of the *Chirurgia Rolandina*, a widely circulated manual of the Middle Ages which saw many new editions in the early days of printing. A cursory glance at the picture (Fig. 1) shows that it depicts an operation for hernia (“magister incidit crepaturam”). This is borne out by the caption: “in primis patiens collocetur in banco caput et humeros habens depressos, ut tota intestina descendant ad pectus.”

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¹ πρὸς ζώων λοτοῦλας (*De historia animalium*), IX, 50.

² “At, cum infra incidi oportet, resupinato homine. . . .” *De medicina*, VII, 19.

³ “. . . homine resupinato. . . .,” *De re medica*, VI, 65.

⁴ “Tum jaceat in cervicem suam inter manus tuas et elevet crura sua” (*De chirurgis*, II, 65). In Lucien Leclerc's (1816–1893) French translation (*La chirurgie d'Abulcasis*, Paris 1861) this is rendered as: “puis on le fait coucher sur le

dos, les cuisses élevées.” Another passage (II, 62) from the same work also bears on this context.

⁵ *La chirurgia di M.° Rolando da Parma detto dei Capessuti. Riproduzione del codice latino n. 1382 della R. Biblioteca Casanatense, Roma. Volgariamento e note del Dott. Giovanni Carbonelli*. Roma, 1927. Folio edition of 23 pages with 28 reproductions in color. The miniatures of this thirteenth century codex are invaluable as they give a clear picture of the surgical procedures and the respective instruments of the period.



Fig. 1. Operating for hernia ("magister incidit crepaturam") with the patient in the inverted position. From Roland of Parma's *Chirurgia*. Latin codex No. 1382 in the Biblioteca Casanatense, Rome.



Figs. 2, 3, 4, and 5 (corresponding to Figures 267, 271, 266 and 268, in that order, of the facsimile edition of "*Practica copiosa . . .*" of Caspar Stromayr). Hernia operations in the inverted position and Stromayr's operating table.

Little is known of Roland, the author. Born at Parma in the twelfth century, he is said to have gone to Salerno to study under Roger Frugardi, and subsequently to have practised and taught surgery at Bologna. Certain it is that his "Chirurgia," however modified and added to, is, in essence, a "glossa" on the work of Roger, the Salernitan master of the second half of the twelfth century who may justly claim the title of "Father of Western Surgery."

It has just been pointed out that Roland's text and illustration represent the earliest documentary and quite incontestable evidence of the use of the inverted position in human surgery.⁶ This fact assumes particular importance when the part played by the School of Salerno in the history of medical thought and practice is remembered: these men derived their learning directly, or through the mediation of the Arabs, from the springs of Graeco-Roman medical wisdom, and transmitted this lore to the medieval West.

In the matter of the inverted position also, it is legitimate to presume that the Salernitan masters were inspired by classical and Arabian authors. In this connection signal interest attaches to the already quoted observations of Giordano on the relevant passages in Aristotle,¹ Celsus,² Paul of Ægina,³ and Abulcasis.⁴

As it is, Trendelenburg himself would seem to agree with Giordano, since he regards the Latin "resupinato corpore" as referring to a body in the inverted position. Recalling that ". . . die Beckenhochlagerung schon von den alten Chirurgen bei der Taxis eingeklemmter Brüche angewandt wurde . . .," Trendelenburg adds, in fact: "So empfahl Fabricius ab Aquapendente, den Kranken an Händen und Füßen aufzuhängen, den Kopf hintenüber und das Becken höher als den Thorax, und den Schwebenden tüchtig zu schütteln."⁷

The quotation from Trendelenburg apparently refers to the following passage from Gerolamo Fabrizio d'Acquapendente (?1537-1619): "His non conferentibus," that is, if reduction of the hernia by means of soothing baths and cataplasms fails, "aeger, manibus pedibusque prehensus, concutiendus, ut intestinum sursum revolvatur, resupinato corpore, capiteque deorsum vergente,"⁸ a manoeuvre exhibiting a certain analogy to that recommended by Giovanni Andrea dalla Croce (?1509-1575) for putting back the protruding intestines in cases of abdominal laceration.⁹

⁶ Giordano and Alfieri therefore suggest that the inclined inverted position be styled "Roland of Parma's position."

⁷ *Samml. klin. Vortr.*, 1890, no. 355, 3379.

⁸ *Pentateuchos chirurgicum* (or *Chirurgia universalis*), I, 24. Another reading is "urgente" instead of "vergente."

⁹ *Chirurgia Universale*, lib. II, tratt. 5.

If, therefore, the Salernitan masters may have inherited the inverted position from the classical authors, they are, on the other hand, its demonstrable transmitters to posterity. It is sufficient to recall in this context the precept mentioned by Giovanni da Vigo (1450-1525): "Si distenda il paziente sopra un banco col capo chinato verso la terra poscia leghisigli le mani, et i piedi, et i sottoscagli al predetto banco";¹⁰ this differs little from Roland's precept. But the surgeon of Giuliano della Rovere (later Pope Julius II) affirms that in his treatise he has described the operation for hernia only for the sake of completeness, seeing ". . . che ufficio sia d'un prudente cirugico lasciar (come dice Guido da Cauliago) cotal cura di tagliar et cavar la pietra della vescica, et anco curar la catarata a cirugici vagabondi, et che vanno peregrinando et facendo solamente questa arte. . . ."

Two "cirugici" of this complexion, Pierre Franco and Caspar Stromayr, both belonging to the sixteenth century, have left highly interesting documents on the operative surgery of their time.

Pierre Franco, a native of Provence and born about the year 1500, was a herniotomist and lithotomist of the first order. Following his itinerant trade in Provence, Burgundy, and Switzerland, he seems to have settled ultimately at Lausanne and subsequently in Provence. In his *Petit Traité*,¹¹ which contains the cream of his surgical experience, he describes the position of the patient to be operated on for abdominal hernia: ". . . il faut qu'a ieun il soit couché à la renverse dessus une table ou chose semblable ayant la teste un peu basse."

In the town library of Lindau (on Lake Constance) a manuscript¹² is preserved entitled *Practica copiosa von dem rechten Grundt dess Bruch-Schnidts mit sambt denn Figuren darneben etliche Imposturas vüeler vnerfarnen Schnidvt vnd Wundartzvt anzaigt mit grossem Vleis beschriben durch Casparum Stromayr Schnidvt vnd Augen Artzt*, written in the local dialect of the period and embellished with numerous drawings in color, probably done by the author. The information available regarding his person and career is meagre in the extreme. All that is known is that he was a practising

¹⁰ *La pratica universale in cirugia*, II, 71.

¹¹ *Petit traité, contenant une des parties principales de chirurgie laquelle les chirurgiens hernieres exercent* . . . Lyon, 1556. This deft and highly interesting little treatise, even more famous than the *Traité très ample*, also by the same author, was reprinted towards the second half of the last century, once in 1885 in an edition prepared by the editors of the *Revue de Chirurgie*, as well as in an earlier edition, by the

Viennese surgeon Eduard Albert (1841-1900) in *Dtsch. Arch. Gesch. Med.*, 1881, 4, 74-87, 161-181, 273-296, 385-397, followed by a commentary in 1882: 5, 1-21, 147-155, 249-254.

¹² This manuscript was published by Walter von Brunn as *Die Handschrift des Schnitt- und Augenarztes Caspar Stromayr in Lindau im Bodensee*. Berlin 1925, 364 pp., 168 facsimile plates in color.

surgeon at Lindau, that he completed his manuscript on July 4, 1559 and dedicated it to his colleague Petter Hafner of Zürich. From his manuscript he would indeed appear to have been a most skilful and experienced representative of the class of surgeons mentioned by Giovanni da Vigo. The bulk of the treatise is devoted to hernia, and, with a wealth of detail, describes its anatomical aspects, its symptomatology, the procedure when examining the patient, the opportune moments for intervention, the relevant surgical instruments, and so forth.

The inverted position is shown in upwards of forty colored drawings (Figs. 2, 3, 4, and 5), and is more than abundantly described in the passages on pages 55 and 56 of von Brunn's edition. These are translated here from the sixteenth century dialect though it is well realized that translation must inevitably mar that ingenuous freshness which in no small measure contributes to the manuscript's interest:

. . . the patient should lie with his head low and his posterior elevated. Now if you were to speak up and ask why the patients must lie with their heads low and their posteriors high I should answer you: because in this way the hernia is reduced and remains reduced. . . . Likewise, you must place on the table a square piece of wood. Having tied the patient on the board you must slip the piece of wood under that end of the board which comes to rest on the table so that his posterior may be raised. . . . (Fig. 3). Likewise you should have a very useful and practical instrument made for you in your home. I myself ordered such a one to be made and used it in many operations. By means of this contraption you may place the patient with his posterior high or low just as is most convenient. Such an apparatus should be built as follows: have your joiner cut a pole of wood, square in section and resting on a broad tripod as is used with "*Bulbretter*" [probably the same as "*Bügelbretter*"—ironing-boards], and seven spans high, and in this pole you should have some five or six long holes made, and a plug which may be inserted in any of the holes. Next, have a clean board cut and planed, and at one end of the board let a square hole be made of such dimensions that it (the board) may be moved easily up and down the pole, and place the other end of the board on a form. By means of the plug you may fix the contraption high or low as you will. . . . (Figs. 4 and 5).

This crude device which precedes Trendelenburg's table by more than three centuries was to undergo a further improvement in the eighteenth century. This is an operating table cleverly built for varying angles of inclination (Fig. 6) and kept at the medico-chirurgical museum of the monastery of San Vitale in Ravenna.¹⁸ Its chief advantage "si è di abbassare quanto fa d'uopo la estremità della tavola, che corrisponde alla testa dell'ernioso, facendo passare il mentovato cilindro di ferro nei fori *aa* inferiori

¹⁸ *Descrizione degl'instrumenti, delle macchine, e delle suppellettili raccolte ad uso chirurgico e medico dal P. Don Ippolito Rondinelli*

ferrarese, Monaco Casinese in S. Vitale di Ravenna. Opera di Don Mauro Soldo bresciano, Lettore nel detto Ministero. Faenza, 1766.

delle due assicelle laterali" (p. 48). The instrument was intended for the operative reduction of strangulated hernia: "Dovendo venire al taglio per la reposizione degl'intestini nell'ernia incarcerata dello scroto, si stende sulla descritta tavola il paziente, e vi s'adatta nel modo, che assai distintamente appalesa la statua sovrappostale" (p. 48). The author adds: "Due volte il Signor Gaetano Bianchini coll'uso di questo ordigno ha eseguito valorosamente il taglio dell'ernia incarcerata dello scroto" (p. 49). The two operations were performed in October 1761 and December 1763 respectively.

A simpler arrangement for operative intervention in hernia, and more in line with Stromayr's illustration No. 271 (Fig. 3), is that figured by Johann Scultetus (1595-1645), a pupil at Padua of G. F. d'Acquapendente, and for that reason ranged by A. v. Haller¹⁴ with the "schola italica." His *Armamentarium chirurgicum 43 tabulis ornatum* was published posthumously at Ulm in 1653 and went through a number of editions. Not only is the inverted position clearly pictured (Fig. 7) but it is minutely described in the text as well: "Modus operandi includit primo collocationem ægri, et secundo ipsam Chirurgi operationem. I. Implorato Divino auxilio, patiens (A.) in labro satis calefactus super Tabulam (B.) longam, linteo quadruplici (p.) tectam, mensaeque (c.) aut ejus trabi (E.) et scamno (D.) firmiter innixam collocatur supinus, ita ut pedes ejus sursum, et caput deorsum spectent. Hic patientis situs intestini prolapsi juvat repositionem, et restituti facilem aliàs recidentiam impedit."

According to Boulanger, the first to suggest the use of this position in obstetrical and gynecological surgery was François Rousset, who studied at Montpellier, was physician-in-ordinary to the Duke of Savoy, and ultimately practised as a surgeon in Paris. Among his books devoted to Cæsarean section, a procedure he advocated with conviction, the best known is the *Traité nouveau de l'hysterotomotokie ou enfancement césarien*, Paris, 1581. It contains a direction to place the patient "située sur la rive du lit, un peu renversée en arrière."¹⁵

An incident of the very greatest interest in this connection was the successful extraction of a dead foetus of 21 months in a case of tubal pregnancy accomplished at Franeker in 1694 by the "expertissimus vir"¹⁶ Abraham Cyprianus and described by him in an "Epistola."¹⁷ In this "exiguum

¹⁴ *Bibliotheca chirurgica*. Basileae et Bernae, 1774, I, 355-357.

¹⁵ "Supra lecti extimam partem in dorsum inversa et inflexa," according to the text consulted by me, i.e., the Latin translation prepared and published by Caspar Bauhin in *Gynaeciorum*

. . . libri. Argentinae (i.e., Strasbourg), 1597.

¹⁶ Morgagni, *Epist. I in A. C. Celsum*.

¹⁷ *Epistola historiam exhibens foetus humani post XXI. menses ex uteri tuba, matre salva ac superstite, excisi; ad ampliss. virum D. D. Thomam Millington . . . Lugduni Batavorum, 1700.*

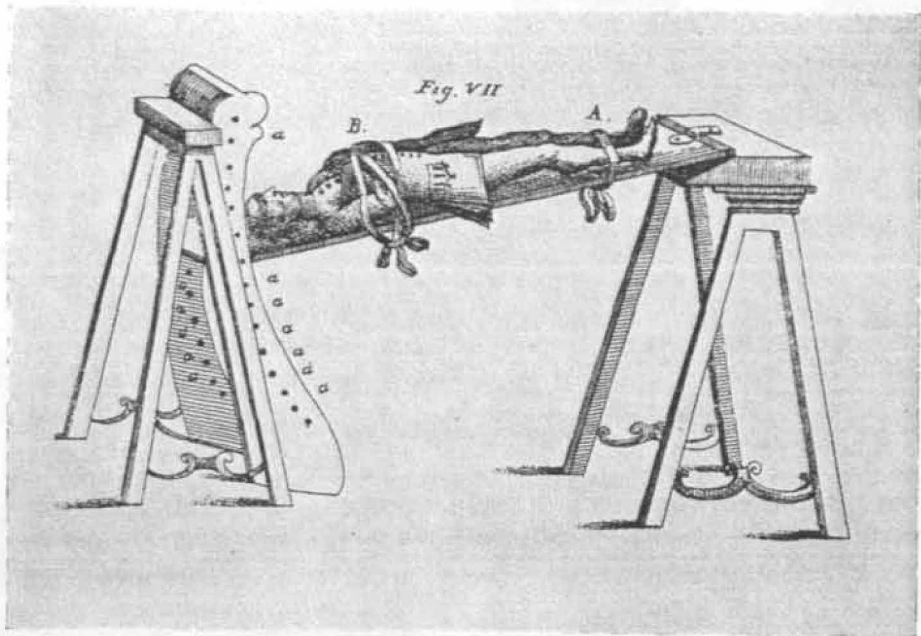


Fig. 6. The eighteenth-century prototype of Trendelenburg's operating table. Fig. VII in Plate XXXIII in the work cited in Note 13.



Fig. 7. Hernia operation showing the inverted position. Fig. 1 of Plate IX (p. 26) in *Auctarium ad armamentarium chirurgicum* Johannis Schulteti, Amstelodami, 1669.

sed pretiosum opusculum," as A. v. Haller¹⁸ called it, the author relates on page 10: "Quin etiam in majorem cautelam, ne intestina delaberentur, ægram ita collocaveram, ut superiores corporis partes aliquantulum essent depressæ; imo in eodem hoc fere situ permansit Muliercula, donec prorsus convalesceret ad vitandam scilicet Herniam Ventralem." It is perhaps not out of place to recall that Abraham Cyprianus, who was born at Amsterdam between 1650 and 1660 and graduated at Utrecht in 1680, first practised as a surgeon in his native town where he made a great name for himself first and foremost as a lithotomist. (In twelve years he is said to have performed 1,400 lithotomies.) In 1693 he was nominated professor at Franeker, but returned to Amsterdam in 1695. In the following year he was called to England to perform lithotomy on the King's own physician, sixty-eight-year-old Sir Thomas Millington, to whom he subsequently dedicated the "Epistola" just quoted. Having won the respect of his English colleagues, he settled in London. Allardus Cyprianus, father of Abraham, had also been an extremely skilful lithotomist. In his operations he used to apply the so-called method of the "great apparatus" ("apparatus magnus" in contradistinction to Celsus' "small apparatus") devised around the year 1520 by Giovanni de Romanis da Casalmaggiore (Cremona), but often styled "sectio Mariani" because it was divulged by his pupil Mariano Santo da Barletta (born 1488; died not earlier than 1565), who, in Rome, also had received instruction from the already quoted Giovanni da Vigo.

As regards urology, mention must again be made of Pierre Franco who in those cases where a stone got wedged in the neck of the bladder advised "mettre les jambes plus haut que la teste, et les secourre à fin de reculer la pierre du col de la vessie," a procedure similar to that advanced by G. F. d'Acquapendente for the reduction of hernia. In lithotomy, Franco invented the so-called "apparatus altus" (epicystotomy). Sauveur-François Morand (1697-1773) discussed this apparatus in a treatise¹⁹ in which, among other things, he came out in support of a modification suggested by the English surgeon William Cheselden (1688-1752), viz., the preventive filling of the bladder with water. In his treatise, Morand gives a detailed description of an operation for stone performed by him on a sixty-eight-year-old man at the Hôtel Royal des Invalides in Paris on May 27, 1727. The passage regarding the patient's position is reproduced here (p. 232 in Morand): "je mis sous le matelas et aux pieds du lit un autre matelas en travers, et entre les deux une planche posée dans un plan incliné des pieds

¹⁸ *Bibliotheca Chirurgica*. Basileæ et Bernæ, 1774, I, 446.

¹⁹ *Traité de la taille au haut appareil*. Paris, 1728.

à la tête; je fis mettre le malade sur ce lit, dans une situation telle que la poitrine fut plus basse que le ventre, et la tête plus basse que la poitrine. . . .”

Passing from lithotomy to lithotrity, it is worth noting that the latter became a current method of intervention only in the first half of the nineteenth century, thanks mainly to the French School of J. Z. Amussat, J.-J.-J. Leroy d'Etiolles, Jean Civiale, and Charles-Louis-Stanislas Heurteloup (1793-1864). Among the achievements for which the latter was awarded the 1828 prize of the Académie des Sciences the citation mentions the invention of the “rectangular operating table” (Fig. 8) which permitted the

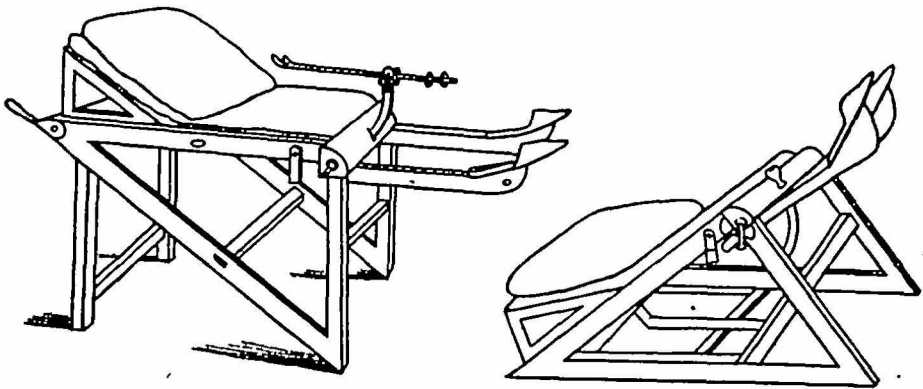


Fig. 8. Rectangular operating table after Heurteloup. Horizontal position, left; inverted position, right. From Plate VII of a monograph by Luigi Porta (1800-1875), entitled *Della litotrixisia*, Milan, 1859, a mine of historical information on its subject. This table is reproduced faithfully in the medal commemorating the first operation of lithotripsy by percussion performed at Milan after Heurteloup's method. (See author's paper, "Two nineteenth-century Italian medals figuring surgical instruments." *Bull. Hist. Med.*, 1949, 23, 253-262.)

so-called somersault manoeuvre ("culbute"): by folding down the two legs supporting the head-end of the table it was in fact possible suddenly to transfer the patient into the inverted position, thus enabling the stone to be seized more readily with the blades of the lithotrite. The rectangular operating table proved of particular usefulness when Heurteloup invented the method of lithotrity by percussion, awarded a prize by the Académie des Sciences in 1833.

Turning again to the field of gynecology, we next have Maximilian Joseph Gutberlet (born in 1783), first an Austrian army surgeon and later deputy chief medical health officer of Würzburg. In 1814 he published an

article²⁰ on the extirpation of the carcinomatous uterus, the subject of a prize competition arranged by the Imperial Academy of Medicine and Surgery "Josephinum" founded in Vienna in 1785 at the instigation of Giovanni Alessandro Brambilla (1729-1800). Gutberlet, after disclaiming extensive experience of the condition in his own practice, restricts himself to suggesting a method of intervention in the description of which one reads the following: "Man giebt nun der Kranken auf einem Tische oder erhöhten Bette eine horizontale Lage, bey welcher das Becken durch einen untergelegten Polster etwas erhöht wird; durch diese Lage schon wird bey der nachfolgenden Ausschneidung der Gebärmutter der Andrang der Gedärme in das Becken verhütet."

Towards the end of the last century a steadily increasing number of surgeons used the inclined inverted position in extirpating the carcinomatous uterus—Wilhelm Alexander Freund (1833-1917), originally a gynecologist at Breslau and later a professor at Strassburg,²¹ Joseph Kocks (1846-1916), a Bonn gynecologist,²² and Domenico Peruzzi, a surgeon at Lugo.²³ As may be gathered from the thesis of his pupil, Nicolaus Lentz,²⁴ Freund himself used the position in gynecological diagnostics as well. For this purpose the patient was placed on the operating table in a horizontal position and anesthetized with chloroform. Two assistants then passed their arms underneath the patient's knees and thus raised her until only the shoulders and the head supported the body on the bed ("examination by suspension"). According to Lentz, folk medicine in certain districts of Silesia had since the earliest times used an analogous method of suspending the patient for reducing strangulated hernia. The patient was made to hang upside down and back to back, from the shoulders of a sturdy assistant in such a way that the hollows of the knees of the patient rested on the shoulders of the assistant while the "operator" attempted manual reduction of the hernia. Fundamentally identical was the position used for operations

²⁰ Ueber die Methode, die krebshafte Gebärmutter auszurotten. *Journal für Geburtshülfe, Frauenzimmer- u. Kinderkph.* von Siebold, 1814, 1, 228-243.

²¹ Eine neue Methode der Exstirpation des ganzen Uterus. (Communicated at the meeting of April 9, 1877 of the Gesellschaft für Geburtshülfe und Gynäkologie in Berlin). *Berl. klin. Wschr.*, 1878, 15, 417-418. Eine neue Methode der Exstirpation des ganzen Uterus. *Samml. klin. Vortr., in Verbindung mit deutschen Klinikern herausgegeben von R. Volkmann*, 1878, no. 133, 911-924. Cf. also the article by Toeplitz: Beitrag zur Totalexstirpation des carcinomatösen Uterus

nach der Freund'schen Methode. *Breslauer aerztl. Z.*, 1879, 1, 21-24.

²² Ueber die Totalexstirpation des Uterus. *Arch. Gynaek.*, 1879, 14, 127-155. Later the author posed a question of priority: Ueber die Beckenhochlage und ihre Verwerthung. durch Herrn Prof. Trendelenburg. *Dtsch. med. Wschr.*, 1890, 16, 351-354.

²³ Sopra un caso di estirpazione totale di utero canceroso . . . *Il Raccogliore Medico* (Forlì), 1881, 15, 129-144.

²⁴ Beitrag zur gynäkologischen Untersuchung: die Untersuchung in Suspension. Inaug.-Dissert. Strassburg, 1880. 39 pp.

on the interior of the bladder, since 1880, by Friedrich Trendelenburg (1844-1924), professor of surgery in the Universities of Rostock (1875-1882), Bonn (1882-1895), and Leipzig (1895-1911). After epicystotomy, he would place the patient as illustrated in Figure 9, in order to obtain a clearer view of the interior of the bladder. From 1884 onwards, Trendelenburg adopted this as the routine position for epicystotomy as well, and, beginning in the winter of 1887-1888, for all laparotomy operations on endopelvic organs. This position was for the first time illustrated (Fig. 9) and published²⁵ under the name of "raised position of the pelvis" ("Beckenhochlagerung") by Willy Meyer (1854-1932), at the time Trendelenburg's assistant and later professor of clinical surgery in New York.

Meyer's publication was followed by that of another assistant, Karl Eigenbrodt,²⁶ and by Trendelenburg's own statement, serving as a basis for discussion, at the Berlin congress of the Deutsche Gesellschaft für Chirurgie on April 17, 1888.²⁷

Meanwhile the writings of the Trendelenburg school commanded more and more attention. It inspired those of the gynecologists Mendes de Leon of Amsterdam²⁸ and Johann Veit (1852-1917) of Berlin,²⁹ and above all the note by Friedrich Lange (1850-1927) of New York³⁰ which constituted the first article of a review published in German in New York and destined for medical practitioners in North America.

It was in those days that the inverted position began to be known throughout the world as "Trendelenburg's position." The designation became ever more firmly rooted after 1890 when Trendelenburg wrote a short monograph³¹ on the subject, and demonstrated to a subsequent Berlin congress³² the operating table he had devised for bringing about more readily the position he had evolved (Fig. 10).

It will have become apparent that the evolution of the inverted position

²⁵ Ueber die Nachbehandlung des hohen Steinschnittes sowie über Verwendbarkeit desselben zur Operation von Blasenscheidenfisteln. *Arch. klin. Chir.*, 1885, 31, 494-525.

²⁶ Ueber den hohen Blasenschnitt. *Dtsch. Ztschr. Chir.*, 1888, 28, 61-168.

²⁷ *Verh. dtsch. Ges. Chir.*, 1888, 17, 101-105.

²⁸ Ein neues Untersuchungsverfahren. *Zbl. Gynäk.*, 1888, 12, 337-338.

²⁹ Ueber die Technik der Laparatomie. *Berliner Klinik* (Samml. klin. Vortr. . . . hrsg. von E. Hahn u. P. Fürbringer), 1889, Heft 15, 1-24.

³⁰ Zur Blasen- und Harnblaseoperationen im Becken. *Med. Mschr. (N. Y.)*, 1889, 1, 1-9.

³¹ Ueber Blasenscheidenfisteloperationen und über Beckenhochlagerung bei Operationen in der Bauchhöhle. *Samml. klin. Vortr.*, 1890, no. 355, 3373-3392.

³² Demonstration eines neuen Operationstisches. *Verh. dtsch. Ges. Chir.*, 1890, 19, 53-54. This communication, which was made on April 10, 1890 at the 19th Congress (in Berlin) of the Deutsche Gesellschaft für Chirurgie, is summarized also on p. 28 of the "Beilage" to fasc. 25 of *Zbl. Chir.* of 1890 (vol. 17), where, on pp. 29, 30 and 31 are also reproduced three clear illustrations of the operating table. More figures are contained in the two plates of the later article: *Operationstisch zur Beckenhochlagerung. Beitr. klin. Chir.*, 1892, 8, 225-230.

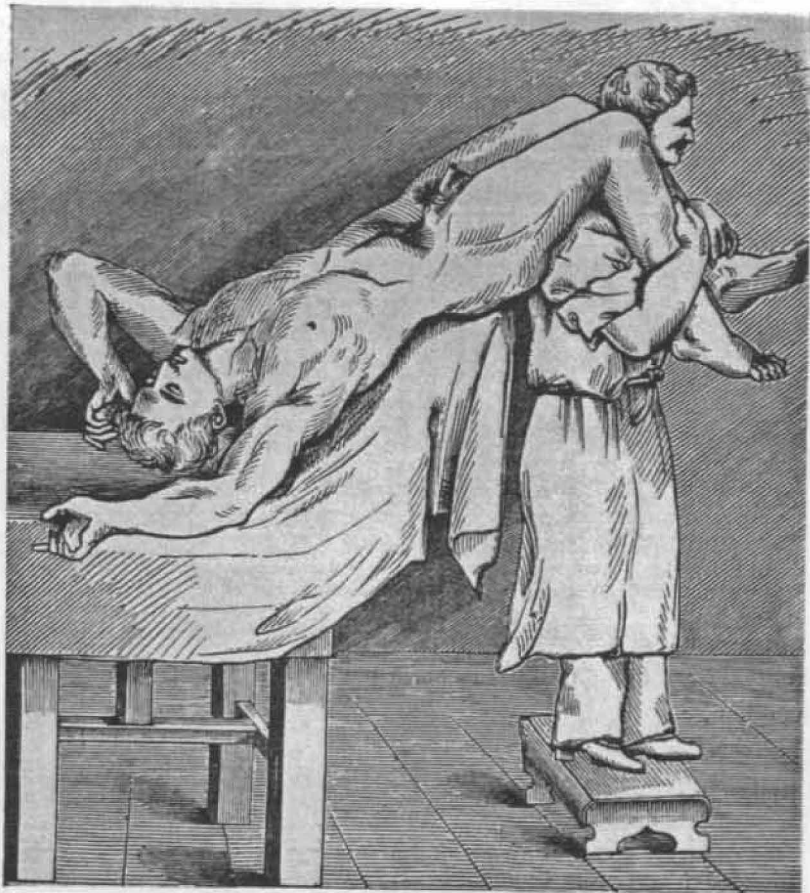


Fig. 9. Wood-cut from Meyer's paper (1885) illustrating the primitive method originally employed by Trendelenburg for effecting the inclined inverted position. After a sketch by "Doctor Sticker." This probably refers to Georg Sticker, who was born in 1860, graduated at Bonn in 1884, and from 1922 was professor of the history of medicine in the University of Würzburg.

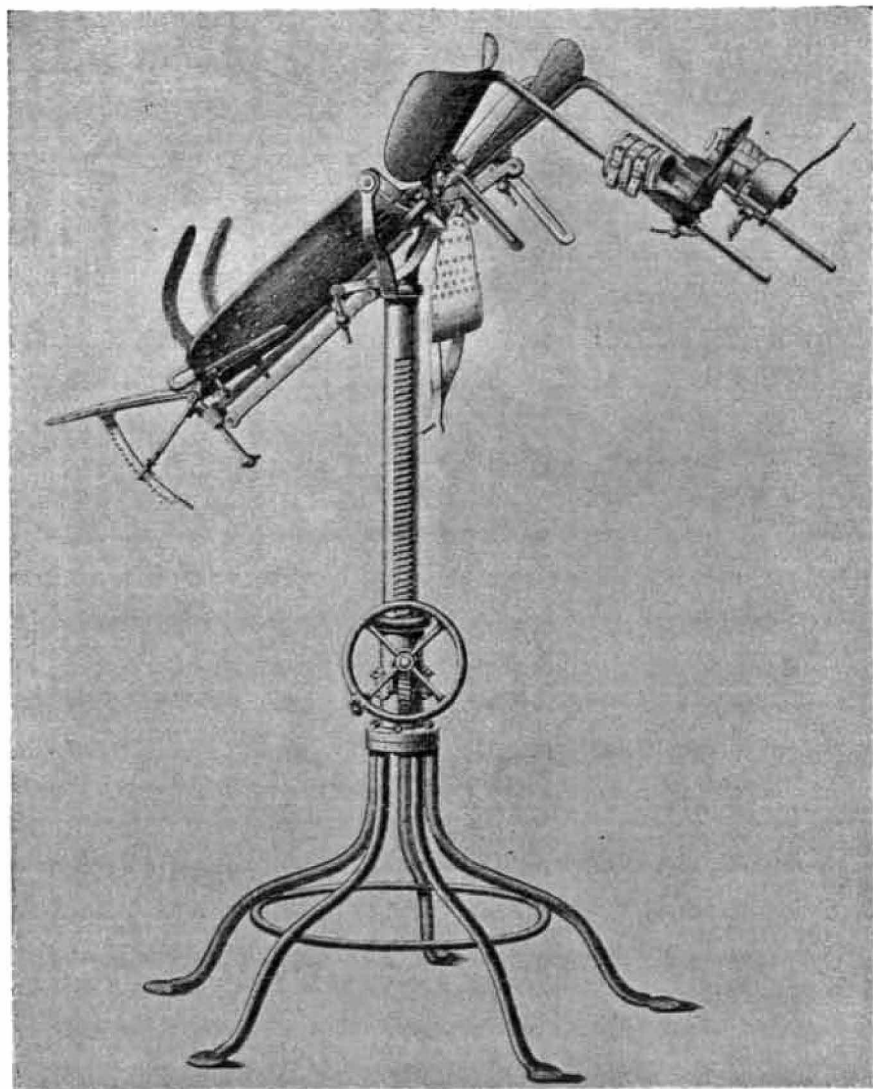


Fig. 10. Trendelenburg's operating table fixed in the inclined position. After *Zentralblatt für Chirurgie*, 1890, p. 30.

covers every stage, so to speak, of past medical thought. Taking its origin in Greece, perhaps, and Rome, the position reached Salerno, partly by way of Islamic medicine. One thing is certain: the School of Salerno (Roger and Roland) were familiar with the position and spread its use in western Europe.

The literary and iconographic materials presented here could no doubt be easily multiplied in any survey, undertaken with that aim, of the immense medical literature of the past centuries. They are, however, sufficient to demonstrate that, at least since the time of Salerno, there existed not only among learned doctors, but equally or even more so among the so-called barber-surgeons ("bassi chirurghi") a "tradition" regarding the inverted position; of this the specially devised and constructed operating tables of the sixteenth (Figs. 4 and 5), eighteenth (Fig. 6), and nineteenth centuries (Fig. 8) furnish the best proof.

This brings us to the late nineteenth century, the stage at which anesthesia and asepsis have made intervention in the pelvis minor by means of laparotomy a current procedure. From the subconscious tradition of common sense, as it were, Trendelenburg recovers the use of the position; with the tenacity of his race he perfects it step by step throughout a decade and makes himself its public advocate: thus is born "Trendelenburg's position."

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