

The obliquely contracted female pelvis, with an appendix on its most important vices of conformation ... / Translated from the German, by John Christie ... With the notes and plates of M. Danyau, the French translator.

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TRANSLATED EXPRESSLY FOR THE "BRITISH RECORD OF OBSTETRIC
MEDICINE," EDITED BY C. CLAY, M.D., MANCHESTER.

THE
OBLIQUELY CONTRACTED
FEMALE PELVIS,

WITH AN APPENDIX ON ITS MOST IMPORTANT VICES OF
CONFORMATION.

BY
F. C. NÆGELE, M.D.,
ORDINARY PROFESSOR OF MEDICINE AND OBSTETRICS, AND DIRECTOR OF THE
LYING-IN INSTITUTION AT HEIDELBERG, ETC. ETC.

WITH SIXTEEN ENGRAVINGS.

Translated from the German,
By JOHN CHRISTIE, M.D., M.R.C.S.E.

WITH THE NOTES AND PLATES OF M. DANYAU, THE FRENCH
TRANSLATOR.

"MULTUM RESTAT ADHUC OPERIS, MULTUMQUE RESTABIT: NEC ULLI NATO
POST MILLE SÆCULA PRÆCLUDETUR OCCASIO ALIQUID ADHUC ADJICIENDI."
—SENECA, EPIST. 64.

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MDCCCXLVIII.



TO

JOHN CADENHEAD, M.D.,

THIS TRANSLATION IS INSCRIBED,

AS

A MARK OF RESPECT FOR HIS PROFESSIONAL

ATTAINMENTS,


AND AN

EXPRESSION OF ESTEEM

FOR HIS PRIVATE WORTH,

BY HIS OBLIGED FRIEND,

THE TRANSLATOR.



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TRANSLATOR'S PREFACE.

THE translation of the following work was undertaken at the request of Dr. Clay, Editor of the *British Record of Obstetric Medicine and Surgery*, who was anxious to transplant into the medical literature of this country, the philosophical, and, at the same time, eminently practical, results obtained by Nægele, in examining the malformations of the female pelvis through the general laws of organization.

It is everywhere evidenced throughout the chain of animated being that there is a law of unity of composition—a fundamental type common to the whole series of organic systems. The tissues, animal systems, and organs of the animal body follow this great law of unity of plan in their development; and, consequently, an analogy and parallelism necessarily pervades the countless varieties of form and structure of the zoological classes, even when their development is abnormal.

The classes of animals stand one above another, each recommencing from below, so that the lower animals of a higher class are more stunted or rudimentary than the upper ones of a lower class, although nevertheless they stand higher than those of the lower classes, because they are characterised by a higher organisation.—(*Oken's Physio. Philosophy*. Ed. Syd. Soc. p. 658.)—Accordingly, St. Hilaire, Meckel, and Serres, have shewn that anomalies in one species can be reconciled to the natural state in another.

Subordinate to, and indeed, arising out of the law of unity of composition, there is the law of progressive development. One after another the organs are developed, and gradually pass through a series of changes, from the general and diffused, in the lower, until, in both structure and function, they become specialised in the higher classes of animals. But nature does not invariably follow out this law of development to its normal limits. Occasionally it either exceeds or falls short of them in reference to the development of an organ in a particular species; and in this way it may come to retain its embryonic or foetal character, and thus present a permanent resemblance to its state in some of the inferior species.

Of all the anomalies of development, those of the osseous system are perhaps, at the same time, the most interesting, both in a philosophical and in a practical point of view. Deviations from the normal state are very frequent, and in none are they more common than in the bones of the pelvis. It is often indeed very difficult to distinguish the accidental from the essential;

and so much is this the case with the pelvis, that Weber has maintained that in the female it bears a determinate relation to the form of the foetal and adult head, a theory, which, as Dr. Knox justly remarks, involves another not chiming in with it, viz. that there are four or five specifically distinct races of men.—*Med. Gazette*. Vol. xxx, p. 555.

The scope of the following work embraces an account of the physiological anomalies of the female pelvis; and the researches of the author have shewn that the *pelvis oblique ovata*, is only a permanent state of the embryonic type, which, again, corresponds to its normal development in the quadruped.

It is true, Nægele does not state his discovery in terms so precise, but he lays it down so definitely, as to prove, beyond question, that the special deformity of the pelvis, which is the principal object of his work, is due to an arrest of development in one or other of the lateral moieties of the pelvis.

Dr. Knox has written on the subject in the *London Medical Gazette*; and, carrying out Nægele's opinions and inferences to their legitimate extent, he is successful in proving, that the more common of the malformations and peculiarities in the adult male and female pelvis, are merely the persistence of the foetal, infantile, or juvenile forms, and of consequence repeated in the pelves of many of the mammalia.—Vol. xxx, p. 589.

It would be interesting to examine the physiological bearing of the subject at length, but this has been confided to a more competent hand than mine, and I can only in this place enlarge further on it, to exhort those engaged in obstetric practice, to apply themselves earnestly to the study of the interesting phenomena which are continually presenting themselves for examination in the course of their professional labours.

It is a great and fatal mistake to imagine that the obstetric department of medicine is second to its other branches. On the contrary, it embraces a range of subjects, the knowledge of which is all-important in the treatment of the maladies which the physician and surgeon have assumed to belong to their peculiar provinces. For, inasmuch as there is a unity of composition in the series of animated beings, so also is there a unity of disease; and he will minister to its relief best who has the widest knowledge of the phenomena of life.

Short as the course of the *British Record* has yet been, sufficient evidence has been furnished to the Profession that obstetrics take rank in the van of medicine, whether regarded as a science or an art; and I mistake greatly, if the minds of not a few of the "practical" professors of midwifery have not been opened to the vast and almost boundless extent of a science which, hitherto, they flattered themselves lay compressed within the boards of a pocket manual, or wrapped up in the narrow formulæ of an art.

The special object of Professor Nægele's work is the description of Oblique Contraction of the Pelvis, but he has added to it an appendix on the most important of the other faulty states which sometimes render labour a process of extreme danger and insurmountable difficulty. To this I have annexed the notes of M. Danyau, the French translator. They are all of considerable importance, either as confirmatory of Nægele's views, or giving a more extended notice of some of the points of which he has spoken somewhat briefly. They are, however, best described in his own words: "I have added," he says, "five somewhat extensive notes to this translation. The first relates to the

measurements I have taken on eighty females under my charge, whilst I was attached to the hospital of Lourcine; a labour undertaken with a view to enable me to determine the value of the diagnostic means proposed by M. Nægele for the discovery of oblique contraction of the pelvis in the living subject. The second relates to the inclination of the pelvis and the direction of its cavity; two points, of which an incomplete or false view is taken in the greater number of our elementary treatises. I have given, *in extenso*, in the third, two very interesting notes on exostosis of the pelvis, which the author has but slightly noticed, and for the details of which I have referred to some records not generally in the hands of French readers. The fourth treats in general of the contraction of the pelvis by obstruction. Finally, I have in the fifth, discussed, after the plan of M. Nægele, the reality of the inconveniences attributed by authors to the vicious inclination of the pelvis." M. Danyau, however, suppressed two of the plates of the original, and substituted for them two others, which he deemed of greater importance. In this translation copies of the whole of the original plates are given, as also of the two supplied by M. Danyau, in order that the work may appear in its English dress with every possible advantage.

With regard to my labours as a Translator, I am deeply sensible of my inability to render that justice to the great original which it merits; but my object has been to give it with almost literal fidelity, so that whatever might be lost as to elegance of style, shall be more than compensated by a faithful translation of the inimitable descriptions in which it abounds.

J. C.

Aberdeen, May 15th, 1848.

AUTHOR'S PREFACE.

ALTHOUGH I had firmly observed the "*nonum prematur in annum*," it was nevertheless my intention, but only after still further research, to publish a complete treatise on this subject, as already promised by me in a previous essay, ON A PECULIAR SPECIES OF VICIOUS CONFORMATION OF THE FEMALE PELVIS. *Heidelb. Klin. Annal.* Vol. x, part 4. I previously intended merely to redeem my promise to the readers of the Annals, by communicating to them the further instances of known and existing deformity, in order thus to gain time for more extensive investigations, and, especially, to wait for the opinions and views of competent judges. But during my investigations the subject assumed for me an ever increasing interest; and partly because I expected to advance the subject more by means of a regular treatise, a monograph permitting of a wider development, and usually attracting more of the attention of the scientific world than contributions to a journal; partly also because it was necessary for the more perfect understanding of the subject to annex plates, whose size would have been unsuited to the form of a periodical; and finally, because of the golden rule—that if the sun of the long day, which we call life, is past his meridian, one should no longer lightly delay to make known that which he deems useful. These and other similar reasons determined me to abandon my first design, and to pursue the road on which I now journey; and it is solely with a view to promote the advancement of the subject, that I now lay the results of my labours, continued since 1834, before the public.

An unforeseen coincidence of fortunate circumstances has furnished me with an opportunity of comparing together a considerable number of contracted pelves. This was an indispensable requisite for the perfect comprehension of the essential peculiarities which characterise these pelves; for without the minutest examination of numerous specimens, and the most careful comparison of the one with the other, it is utterly impossible to obtain a true representation, or clear perception, of their mutual relations. The present work will afford many opportunities of justifying this assertion, in case it is not already sufficiently apparent in the fact, that, after hours of attentive examination, experienced and skilful accoucheurs have failed to discover the peculiarities which are, nevertheless, common to the whole class of pelvic deformities; and, in the one or the other instance, merely depend on the greater or less degree of distortion. But, as with us, the essential peculiarities which escaped

us, in the sketch of the subject in our previous essay, have been also overlooked by many acute observers, with whom we have had repeated correspondence regarding it for many years, and who took a warm interest in it.

The most conscientious observation and the most careful study is, in the meantime, always necessary, in order to acquire a perfect conception of these abnormal deviations. It is in vain to imagine that a superficial examination of one or two cases will enable one to present an accurate portraiture of pelvic distortions to the profession; for nothing but the most profound study can supply the artist with the necessary tact, except in the instance of the more exaggerated deformities. The evil consequences to which such defective and false representations give rise may be easily inferred. What erroneous notions and conclusions do they originate,—to what misunderstandings and useless debates do they lead,—and how much are they the occasion of smothering the true interests of science, and of impeding the adoption and success of what is useful! Not less injurious, also, is the kindred influence of a certain kind of active and industrious pilferers and upstarts in the world of literature, who are always on the alert, ready to shew off, as the result of their own labours, every original idea and every new discovery, veiled in a deluge of magniloquent phrases, or disguised by some trifling additions of their own. Persons of whom it was said by Leibnitz (*Rer. Brunsw.* Vol. iii, p. 646,) in the words of an ancient ballad:

“To steal and rob is little shame—
The great are aptest at the game.”

Literary adventurers they are, pirates who infest the sea, and compel the honest mariner to hasten into the first and most secure port to discharge his cargo, careless of the profits which invite him elsewhere.

Were it merely on account of the subject itself, nothing could be of less consequence to me than who it was who first brought it under the notice of the Profession. Although I by no means fear such men, I am thoroughly disgusted with the man, who, whilst the honest traveller is expending his time, energies, and life, to climb the mountain, contrives to lay hold of his skirts, and, too indolent or too feeble to gain the height unaided, is thus drawn upwards; and when the traveller, weary and covered with perspiration, attains the summit, leaps on his shoulders, and cries out, laughing scornfully—“I see farther than thou!” Or shall I compare them to the mendicant, who, ashamed of the charitable gift, which he slips quickly into his pocket, turns instantly round on his heel, looking insultingly over his shoulder at the donor, no one suspecting, however uncivil he may be, that he is a person who has received alms?

The omissions and defects in this treatise would have been, of course, less had I been able farther to pursue or terminate my investigations, or could have waited to avail myself of the promised notices, descriptions, and preparations. But I shall still conscientiously endeavour to do all that my time and strength will permit, and shall publish every thing which comes to my knowledge on the subject. I look upon it as a duty to repeat in this place, the wish, that others may also make known the cases of which they are cognisant; and that the subject may excite in Germany, where the doctrines relating to the vicious formation of the pelvis are pursued

to a degree nowhere else attained, the attention it has done abroad and which it certainly merits on account of its importance. This I hope to be able to prove in the following treatise.

The peculiar species of deformity of the pelvis of which we treat, could, viewing it by itself, have been denoted more exactly on the title by means of a closer description of its essential characters; but I do not anticipate any misunderstanding on account of the brevity adopted, particularly, indeed, as accoucheurs are already acquainted with the subject, through the medium of my previously published essay.

It is with great pleasure that I repeat in this place, my thanks for the promptness and zeal with which my esteemed friends and former pupils, Doctors A. Chavannes of Lausanne, Al. Cuntz of Herborn, C. Kirchhoffer of Kiel, C. Mandt of Rodenberg, Em. Thibaut of Heidelberg, M. Unna of Hamburg, and V. Würzler of Bernberg, have had the kindness to assist me in my researches, in the mensuration of the pelvis in the living subject, and on preparations.

THE AUTHOR.

Heidelberg, December, 1837.

The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and interesting in the history of science, and that it has been the subject of much speculation and controversy.

The second part of the paper is devoted to a discussion of the various theories which have been advanced to explain the origin of life. It is shown that these theories are based on different assumptions, and that they are subject to different criticisms.

The third part of the paper is devoted to a discussion of the evidence which has been adduced in support of the various theories. It is shown that the evidence is not conclusive, and that the problem remains one of the most important and interesting in the history of science.

The fourth part of the paper is devoted to a discussion of the various theories which have been advanced to explain the origin of life. It is shown that these theories are based on different assumptions, and that they are subject to different criticisms.

The fifth part of the paper is devoted to a discussion of the evidence which has been adduced in support of the various theories. It is shown that the evidence is not conclusive, and that the problem remains one of the most important and interesting in the history of science.

The sixth part of the paper is devoted to a discussion of the various theories which have been advanced to explain the origin of life. It is shown that these theories are based on different assumptions, and that they are subject to different criticisms.

The seventh part of the paper is devoted to a discussion of the evidence which has been adduced in support of the various theories. It is shown that the evidence is not conclusive, and that the problem remains one of the most important and interesting in the history of science.

The eighth part of the paper is devoted to a discussion of the various theories which have been advanced to explain the origin of life. It is shown that these theories are based on different assumptions, and that they are subject to different criticisms.

The ninth part of the paper is devoted to a discussion of the evidence which has been adduced in support of the various theories. It is shown that the evidence is not conclusive, and that the problem remains one of the most important and interesting in the history of science.

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The eleventh part of the paper is devoted to a discussion of the evidence which has been adduced in support of the various theories. It is shown that the evidence is not conclusive, and that the problem remains one of the most important and interesting in the history of science.

THE
OBLIQUELY
CONTRACTED PELVIS.

BY F. C. NÆGELE, M.D.

TRANSLATED BY J. CHRISTIE, M.D.

SECTION I.—INTRODUCTION.

It is now thirty-four years since I had occasion to see the two first examples of the peculiar species of faulty formation of the female pelvis, which forms the subject of this memoir. The rare and singular conformation of these pelves—the striking and remarkable resemblance they bore to each other—the numerous characters by which they were distinguished from the rachitic pelvis—and also from the deformity resulting from malacosteon in the adult—and finally, the unhappy issue of labour, in both instances, were all so many circumstances that determined me to bestow special attention on the subject, and I took the notes which follow in Section III, under Nos. 1 and 2. The recollection of these cases was again vividly called to my mind by a pelvis which came into my hands in 1813; but still more was my attention arrested, when, in 1825, they were recalled anew to my mind by the description of a pelvis in the third volume of Madame Lachapelle's Memoirs. Unfortunately my desire to visit the large collections of pelves, and to institute researches after similar examples remained unsatisfied, because of some unlooked-for occurrences. On the other hand, it was an agreeable surprise to me to meet with a pelvis in my clinic, in 1828, so similar to the two already noticed, that, at the first glance, it would have been readily mistaken for one of them. That which had hitherto floated before me as a vague, shadowy idea, now shaped itself into a definite form; and it became indeed on the instant a settled conviction with me, that there was a determinate law, a common reason for this abnormal development, that it did not originate casually, and was not to be looked upon as a freak of nature. By this time I had become deeply interested in the subject, and I embraced every opportunity of speaking on it

with scientific men; and by collecting information and causing search to be made in museums, endeavoured in every possible way to make progress in this new field of research and to throw light on its obscurities. My labours were recompensed at one time by verbal, and at another, by written communications concerning similar pelves. It was thus I was enabled to institute comparisons, the results of which prompted me to announce the existence of a *new* and *peculiar* species of deformed pelves, at the sitting of the Society for Natural History and Medicine of this place, on the 24th November, 1832.* I specified the grounds on which, in an obstetric point of view, I held the knowledge of this deformity to be as important as that of malformations arising from rickets and adult malacosteon. And as further examples of it came to my knowledge, I have also submitted them to that society. Every time, for nine years, I have likewise treated of this singular deformity, in my lectures on the doctrine of the malformations of the pelvis; and have enjoined my pupils when, in the course of their travels, they should have an opportunity of examining museums, to bestow their attention on, and to communicate to me any examples of it they should discover.†

In consequence of the researches instituted by myself, and others with the greatest promptitude, the number of such cases which came to my knowledge increased so astonishingly in a short time that it became a duty for me to lay the result before the medical world, a duty which I endeavoured to discharge in my memoir *On a Peculiar Species of Faulty Formation of the Female Pelvis, with Four Lithographed Plates*.‡ I did not, however, cease to draw the attention of accoucheurs to the subject; and, accordingly, I made a communication on it, and exhibited some examples of the deformity, to the medical section of the Scientific Congress, at Stuttgart, on the 23rd September, 1834.

At first my intention was only to consign to the Annals the cases of which I had become cognisant since 1834, in order to fulfil the promise made in my first memoir to those who might be interested in the subject. I have already in the preface stated what has induced me to change my design, and now to publish the results of my labours in a special treatise. There does not merely follow in this treatise the description of the characters of this deformity, and what was said of its frequency, importance, &c., as continued in my former essay, or with only the addition of the cases I have collected since 1834. On the contrary, I have endeavoured to describe them all accurately, exhibit in detail what was previously declared wanting, as also to express myself definitely on what I, at that time, only guessed, as will be evident to every one who compares the descriptions which follow with those contained in my former memoir.

* Heidelb. Jahrb. d. Lit. Part 12. 1832.

† Vide Section III, for the result of these labours. I owe the knowledge of most of the pelves described by me in my first memoir, and the discovery of those which have become known to me since 1834, almost wholly to the praiseworthy zeal of my pupils, their love of science, and, I am proud to say it, to their attachment to me. And, in order to erect, as far as my feeble powers will permit, a monument to their noble sentiments and zeal for science, and, to testify as well my thanks to them publicly, it will be a pleasant duty to me to say how I have come to the knowledge of every one of the examples to be afterwards described.

‡ Heidelb. Klin. Annalen. Vol. iv., part 3, p. 449. Translated into the *London Med. and Surgical Journal*, Vol. vii, No. 168, the *Gaz. Med. de Paris*, Vol. iii, No. 2, and other Journals.

SECTION II.—SPECIAL CHARACTERS OF THE PECULIAR SPECIES OF THE FAULTY FORMATION OF THE FEMALE PELVIS WHICH IS THE SUBJECT OF THIS WORK.

The special characters of this peculiar species of deformed pelvis are principally the following:—

1. *Complete ankylosis of one of the sacro-iliac synchondrosis, or perfect fusion of the sacrum with one of the iliac bones.**

2. *Arrest or imperfect development of the lateral moiety of the sacrum, and narrowness in the width or contraction of the anterior sacral foramina on the side corresponding to the ankylosis.*

3. *Deficiency in the breadth of the os innominatum, and in the width of the sciatic notch of the same side.* The distance of the anterior superior spinous process of the ilium from its posterior superior spinous process, and also of the symphysis pubis from the ankylosed sacro-iliac synchondrosis, is, as shewn by a line (the *linea ileo-pectinea*) drawn from the latter, on the brim of the pelvis, along the *linea innominata* and the crest of the pubis to its symphysis, shorter than on the corresponding bone of the opposite side. Further, *that portion of the posterior part of the inner surface (the auricular surface of the normal bone) of the ankylosed iliac bone, by means of which it is connected with the sacrum, is less high, or does not descend so low as on the other side, or in the normally developed bone.* Or, in order to understand this still more clearly, perhaps, one may imagine that on the ankylosed side, the ilium and the sacrum are separate, but connected with one another, as in the normal state, by an intermediate layer of fibro-cartilage; hence, the articulating surfaces of the two bones will be less extensive, than on the side free from ankylosis, and will not reach so far downwards, as in the well-formed pelvis.

4. *The sacrum seems to be pushed towards the ankylosed side, to which its anterior surface is also more or less turned; the symphysis pubis being, at the same time, forced to the contrary side, and opposed to the promontory of the sacrum in an oblique, instead of a straight direction.*

5. *On the side on which the ankylosis exists, the inner surface of the lateral wall, and corresponding half of the anterior wall of the cavity of the pelvis, is less hollow, or plainer than in the normal pelvis.†*

We have never observed in the kind of pelvis of which we now speak, the bending inwards of the anterior half of its lateral wall, or of the horizontal ramus of the pubis especially, which occurs in the pelvis distorted in consequence of malacosteon.

* We only make use of the word *ankylosis* because of its aptness and currency in designating the above-mentioned special characters; and would explicitly state, that in using it we do not mean to assert, that the two bones have been originally well-formed, and subsequently fused together in consequence of disease.

† Or, in other words, and to render the matter perhaps still more obvious, the *os innominatum* of the side on which the ankylosis exists, is, so far as it contributes to the formation of the cavity of the pelvis, less excavated than usual; and in a high degree of distortion, almost even so flat, that a line, for example, drawn from the posterior part of the *linea innominata*, and continued along the horizontal branch of the pubis to its symphysis is nearly straight.

6. *The other lateral half of the pelvis, viz., that on which the sacro-iliac synchondrosis exists, likewise deviates from the normal standard.*

On the first view, particularly in the slighter degrees of distortion, one may be easily deceived, and induced to believe that this half of the pelvis is regularly formed. This, however, is not the case; for, if one divides a pelvis in which there is ankylosis of the left sacro-iliac synchondrosis, by a perpendicular section in the mesial line from before, backwards, and places the right lateral half of this pelvis in apposition with the left lateral half of a pelvis ankylosed at the right sacro-iliac synchondrosis, in such a way that the cut surfaces of the two sacral bones cover each other, the pubic bones will be separated from one another three or four inches. *The side of the pelvis free from ankylosis, participates also with that which is ankylosed, not merely in the abnormal position or direction of the bones, but likewise in its faulty form. A line, in fact, drawn on this side, from the middle of the promontory of the sacrum along the linea innominata and the crest of the pubis to its symphysis, is, in its posterior part less, and in its anterior more curved than in the normal pelvis.*

7. In consequence of the characters thus enumerated from two to four it results:—

a. *That the pelvis is contracted in an oblique direction, viz., in the oblique diameter which crosses that which extends from the ankylosis to the opposite acetabulum, whilst the latter is not diminished, or is, in the higher degrees of distortion, greater even than usual.* Consequently, the inlet of the pelvis, or, properly speaking, a plain, bounded by an imaginary line drawn along the crista of the ossa pubis, the linea innominata of the two iliac bones, and continued on the sacrum, together with the imaginary plain in the middle of the pelvic cavity, which is wont to be assumed as the *apertura pelvis media*, is, viewed from before, similar to an oval lying obliquely. The oblique or small diameter of this oblique plain, corresponds to the contracted oblique diameter of the inlet and cavity of the pelvis, and also its larger or long diameter to that of the other oblique diameter.*

In order to designate, most concisely, this pelvis according to its form, the appellation, *pelvis oblique ovata*, might therefore perhaps not be unapt.

b. *That the distance from the promontory of the sacrum to the region over the one or the other cotyloid cavity (sacro-cotyloid space†), as also that from the apex of the sacrum to the spinous process of either ischium, is shorter on the ankylosed than on the other side.*

* According to this, it is of course obvious, that lines drawn in the oblique pelvis, from the points between which the antero-posterior and transverse diameters of the normal pelvis are conceived to extend, do not intersect each other at right angles; and also, that in this pelvis we cannot speak of the antero-posterior and transverse diameters as they exist in the symmetrical pelvis.

† We shall make use of this appellation in the following work to denote, the cause of its conciseness, that distance which Burns, previous to Velpeau, thought proper to measure and to point out, in order to the furtherance of a perfect conception of the form of the inlet of the pelvis. When Velpeau utters the direct assertion (vide *Tocologie*, vol. 1, p. 16) that he was the first to point out this space, and wonders that no one before him had thought of it (*"il s'étonne que personne, n'en ait eu la pensée"*), it is so much the more to be wondered that he quotes from the same page of Burns, certainly for another purpose, viz., to find fault with him. Inasmuch as this assertion of Velpeau's is incorrect, so also is it improper to describe the space in question as a diameter, which it is not, and for which it is not taken by Burns. The latter not only earlier knew and described the sacro cotyloid space, but he also went further into the subject than Velpeau, and showed that a line drawn from the anterior end

c. *That the distance between the tuberosity of the ischium of the side on which the ankylosis exists and the posterior superior spinous process of the ilium of the other side; and also of that between the spinous process of the last lumbar vertebra and the anterior superior spinous process of the ilium of the ankylosed side, is shorter than the same distances on the opposite side.*

d. *That the distance of the inferior edge of the symphysis pubis, from the posterior superior spinous process of the ilium of the ankylosed side is greater than the distance between that point and the posterior superior spinous process of the ilium of the other side.*

e. *That below, the walls of the pelvic cavity converge, in some measure, in an oblique direction, and the arch of the pubis (because of the faulty direction of the ramus which is turned towards the flattened wall of the pelvis) is more or less contracted, consequently, it approaches the form of that of the male pelvis.*—Both these states, and also the contraction of the sciatic notch, the diminution of the space between the spinous processes of the ischium, and the imperfect development of the lateral half of the sacrum, take place in proportion to the degree of distortion. Finally—

f. *That the acetabulum is directed, on the flattened side more forwards than in the normal pelvis, and on the other side almost directly outwards; so that if one contemplates the pelvis from before, the view falls directly into the former, but passes by the latter, at least there is only a small part of its cavity visible.*

In order to give those who have never seen pelves of this kind as exact an idea of them as possible, we note, that at the first glance one is impressed with the belief that the deformity might have been produced by pressure, acting in an oblique direction, from without, inwards, and from below, upwards, on one of the anterior lateral halves of the pelvis and on the cotyloid cavity; whilst the other half appears at the same time to have had its posterior wall pressed from without inwards.

A further peculiarity of these pelves is, that they only differ from one another according to the degree of the distortion, and the side on which the ankylosis of the ilium with the sacrum exists; in other respects, however, viz. in all the essential peculiarities of the vicious development, they are as like to each other *as one egg is to the other*. This resemblance is so great, that an experienced person who is not aware of it, and if he has anywhere seen such a pelvis and afterwards happens to see an example of the same kind, is led to believe it to be the same as he had previously seen in the former place. It may indeed even happen to be difficult to disabuse his mind of this error, an instance of which we shall furnish in the sequel.

of one of the two diameters to the corresponding end of the other, is the chord of the anterior half of the inlet of the pelvis. This leads to the supposition that the respectable author of the *Tocologie*, has either allowed himself to quote at second hand, or else, has not read the books to which he refers with sufficient care,—a conjecture which only too often recurs to the experienced reader throughout the whole of the work. According to the measurements made by my friend, the worthy Professor Stoltz, of Strassburgh, on forty, and by myself on fifty-four examples of as well-formed pelves as we were in a position to obtain, the mean length of the sacro-cotyloid space is three inches and three to four lines. The Paris foot or "*Pied de roi*" is the measure made use of everywhere throughout this work. [The toise of six *pieds de roi* is equal to 1.9490 metre, or 2.1315 imp. yards, or about 6 feet 4 $\frac{3}{4}$ inches.]—TRANS.

The condition of the bones of this kind of pelvis, apart from the consideration of its vicious conformation, viz. their strength, size, solidity, texture, colour, &c., is the same as that which is peculiar to the bones of healthy young persons. It is to be particularly observed that there are no marks on the bones (either as regards the form or any other circumstance) such as are the result of rickets and malacosteon. When one imagines to himself that the faulty conformation is removed or does not exist, the pelves which have come to our knowledge belong in general to the normal class, and indeed the greater number to those of mean dimensions; the others, however, to those more or less above or below mean size. In none of the cases of which we had an *intimate* knowledge did a rachitic habit indicate itself; in none did we find the appearances, accidents, or pathological changes which are peculiar to, or follow rickets or softening of the bones after the commencement of puberty. Nowhere could the influence of external injuries, such as falls, pressure, or blows be discovered; and neither had pains in the lumbar region, the pelvis, nor the lower extremities, preceded. It has not been shewn that lameness has existed in any of these cases. A slight lameness, as we thought, was perceived in only one person whom we watched closely while walking; it was not however observed by others who were present at the examination, and the parents and brothers and sisters of this person also expressly declared they had never perceived anything of the kind.

In two of the pelves of this class known to us, and in which the lumbar vertebræ remain, the vertebral column is straight; but in the others it is inclined towards the side free from ankylosis. In all the pelves which belong to us, and in which the lumbar vertebræ exist, the anterior surface of their bodies is more or less turned towards their anterior side.

SECTION III.—DESCRIPTION OF ALL THE CASES OF OBLIQUE CONTRACTION OF THE PELVIS WHICH HAVE HITHERTO COME TO THE KNOWLEDGE OF THE AUTHOR.*

a.—FEMALE PELVES.—Nos. 1 and 2.

It was in this country, in 1803, that I saw the two first examples of this species of pelvis in the possession of an associated colleague. One of the cases was attended by himself. It was that of a strong, healthy, middle sized, primiparous country girl, aged nineteen years. Setting aside the diseases of childhood, she had always enjoyed the best of health, and everything appeared to promise a happy delivery. He was sent for twenty-two hours after the escape of the liquor amnii, and thirty-six hours after the patient had been seized with pains. He found the head, as he informed me, still standing very high in the inlet of the pelvis, although the pains had been continuous and vehement since the rupture of the membranes. The application of the forceps was very difficult, but after they had repeatedly slipped, the head was at last laid hold of, yet he was not able to advance it farther; he sent for a colleague, and after repeated attempts by both, and with the most powerful

* I commence this series with the examples Nos. 1 to 9, the descriptions of which I have already given in 1834, in the memoir quoted above, *On a Peculiar Species of Faulty Formation of the Female Pelvis*.

TABLE I.

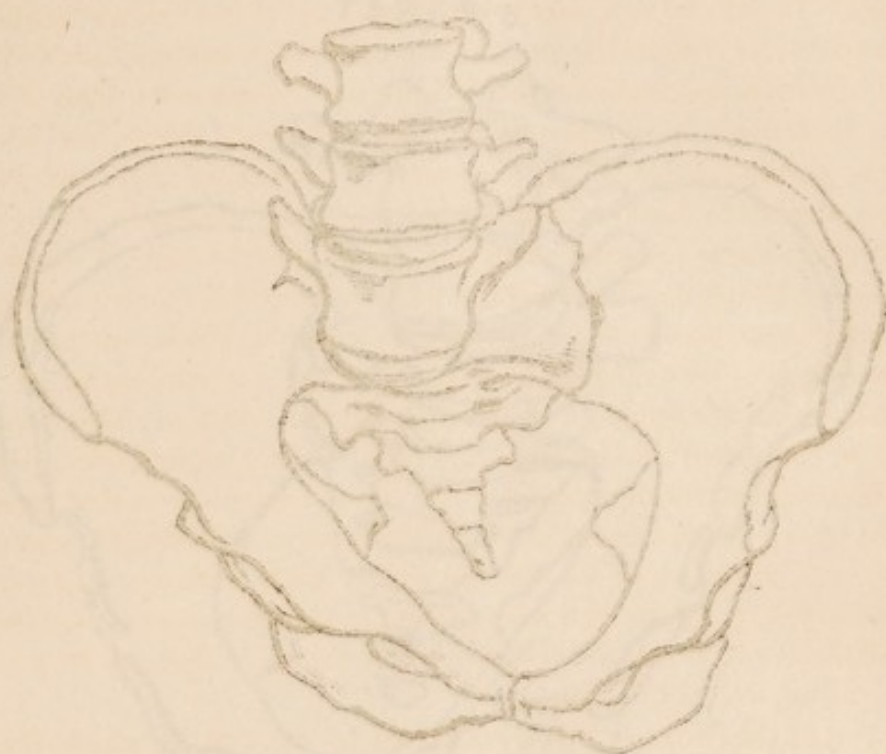


TABLE II.



TABLE 1.

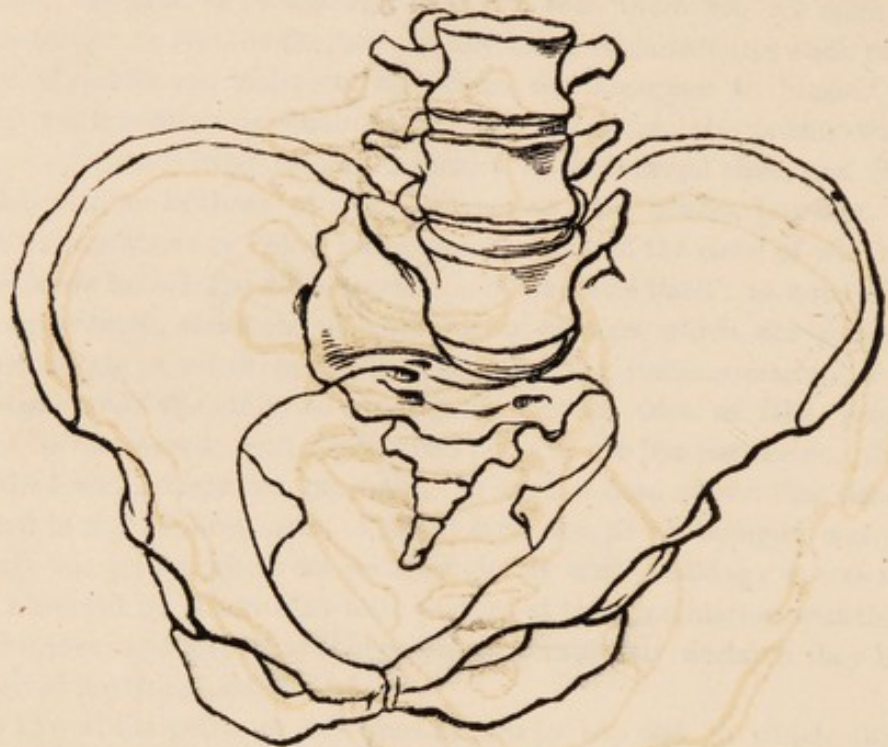


TABLE 2.

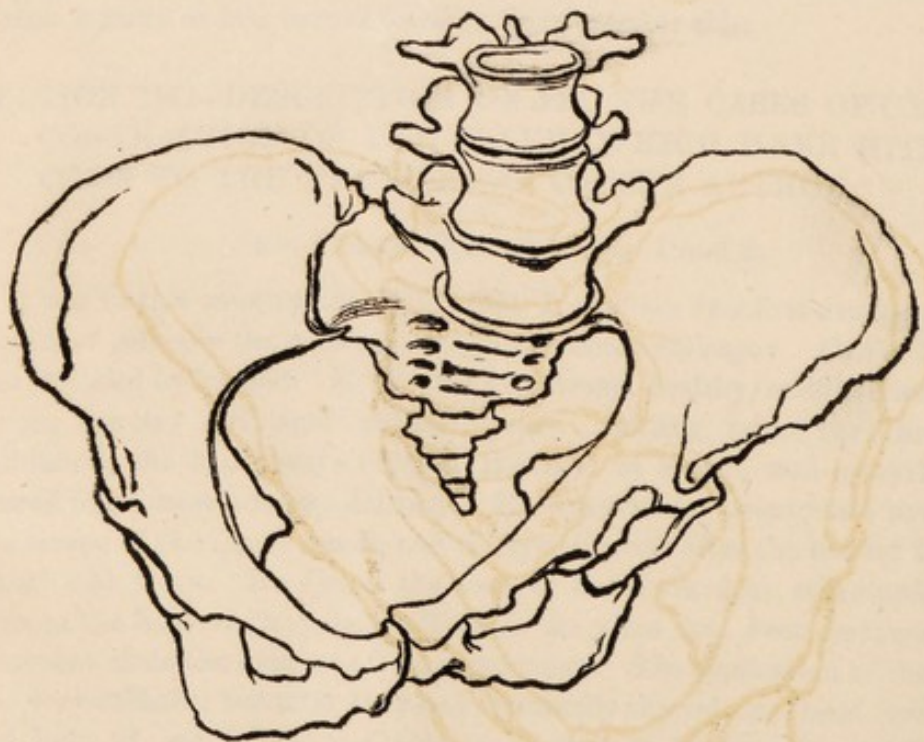


TABLE 3.

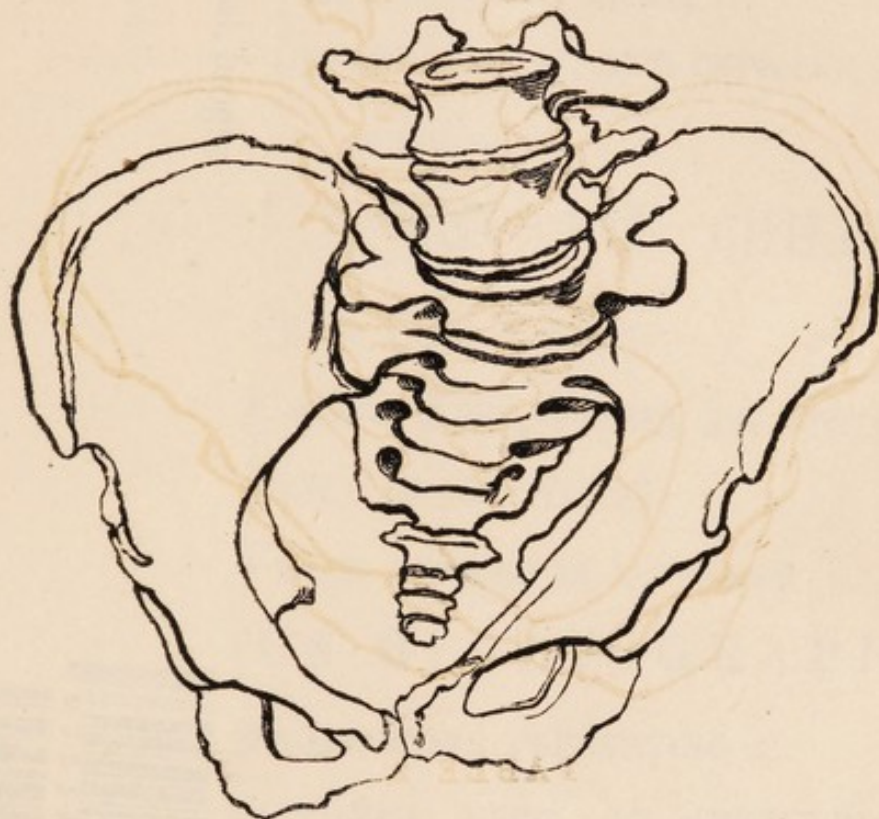
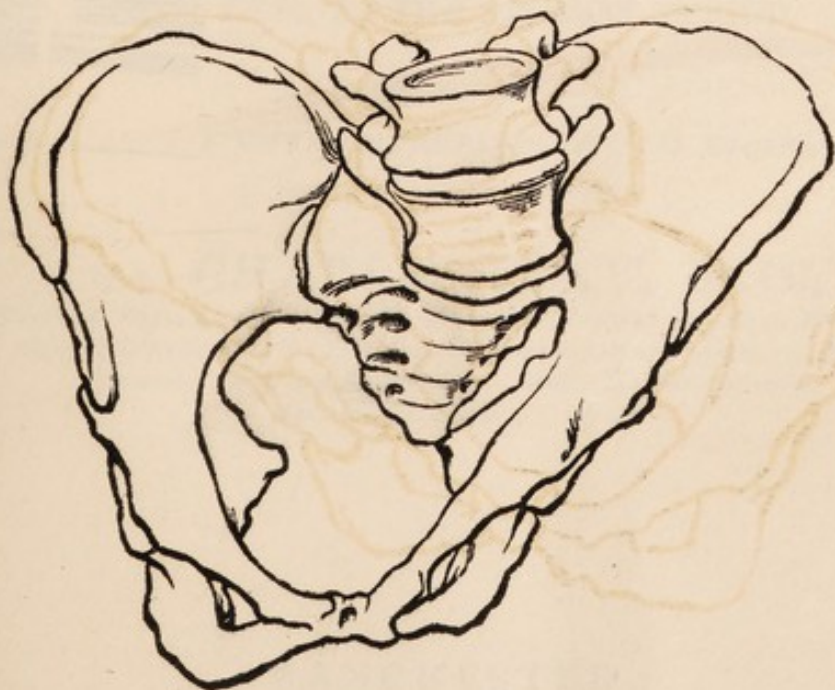
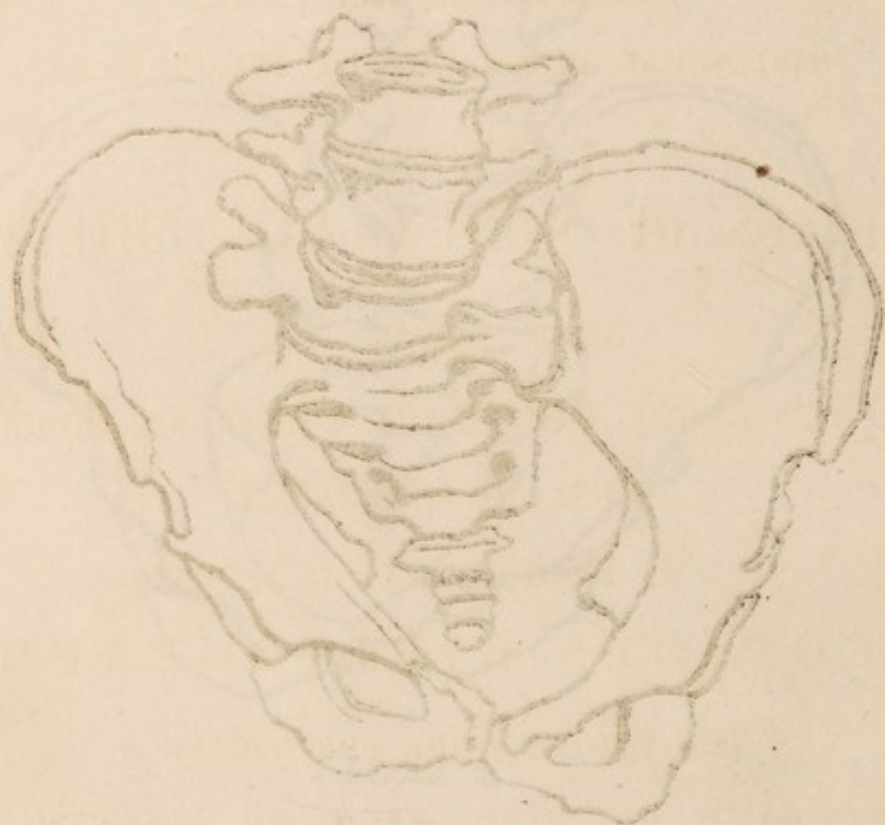


TABLE 4.



TAFEL 3



TAFEL 4

