

A CASE OF PROLONGED GESTATION, WITH AUTOPSY OF  
THE FETUS.

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BY

M. NUÑEZ ROSSIÉ, M.D.,  
Havana, Cuba.

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(With three cuts.)

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"HIPPOCRATES was a natural philosopher, and he said that the utmost time that pregnant women could preserve in their womb the product of conception was ten months. Wherefore, if the woman gives birth ten months after death of the husband, the new-born should be acknowledged as his child. But if the birth occurs on a day of the eleventh month after the death of the father, it should not be considered as his son."

The "Partidas," Spanish laws of the twelfth century, decreed the above. The Roman laws had already prescribed the following: "*Post decem menses mortis natus non admittitur ad legitimam hæreditatem*" (*Digesto*, lib. xxxviii., tit. vi.). The laws of modern Spain, France, Prussia, Austria, Scotland, and other countries are well known as leaving in doubt or rejecting the legitimacy of children born three hundred days after the last possibility of sexual intercourse in married life.

These beliefs, indorsed by law since such ancient date, are in our times supported by many scientific men. In the medical literature of the countries mentioned, there prevails amongst tocologists and medical experts a general opinion which repudiates the possibility of gestations prolonged beyond the time designed by law. As an ample proof, we have merely to refer to the assertions inserted upon the subject in the two excellent modern treatises on obstetrics published in Paris by Tarnier and Chantreuil, and by Charpentier. Even in England and in the United States, where the silence of legislation in this respect has called for an assiduous study thereon, and the consequent acknowledgment of prolonged gestation, nevertheless, authorities of so high standing as Matthews Duncan still repel that belief.

In consideration of the foregoing reasons, I have deemed it my duty to report the following case:

Maria X., native of the Canary Islands, of white race, 22 years of age, of low stature, well formed, strong and healthy, unmarried. Menstruation began in her fourteenth year and was always regular and painless. Her first act of coition took place on the 6th of May, 1884, on which day she was raped. Without any other intercourse, from that period her menstruation ceased. In August she was sure of her condition, having consulted a physician, who confirmed her suspicions of pregnancy, and anxiously desiring to hide her shame, she fled in October to Cuba.

These facts were gathered by my old friend and teacher, Dr. Valencia, Professor of Obstetrics in the Havana University, who was in charge of the clinic when the patient was admitted to the hospital. He placed reliance on her statements, and I also considered them true, in view of the sincerity and integrity of her behavior; and, on the other hand, I cannot see that she had any special interest in deceiving us, as she was entirely unknown in Cuba, and nobody had any relation with or knowledge of her family.

She enjoyed good health during her pregnancy.

At the end of January, Dr. Valencia took a leave of absence, and I was put in charge of the obstetrical clinic; Maria was presented to me as the case nearest to labor, and I was earnestly requested to avoid, as much as possible, explorations by the students, particularly vaginal examinations, which would be morally most painful to her. This latter means of exploration was, therefore, only once resorted to. We then found narrowness of the vagina, particularly of the fornix; the cervix, high up and pointing backwards, was large, of a conical form, and of unusually firm consistence, the external os being closed. The pelvic diameters were normal. Palpation showed the fetus to occupy the left occipito-anterior position, the head being entirely above the brim, and the whole child easily movable. Heart-sounds, 140 to 160 a minute, were heard, as usual, to the left.

About the middle of February, Maria suffered slight uterine pains, which appeared to be preliminary to labor; and although they acquired intensity at times, there never occurred a true commencement of labor. During the following days of February, and the first fortnight of March, we hardly paid any special attention to her, and we were led to infer, in spite of the reasons I had to believe the truth of her story, that she had mistaken the date of the coition.

At 3 A.M. on the 19th of March, labor began and proceeded very slowly, the os not being fully dilated until 4.30 A.M. of the 21st, the patient being at this time in good condition, vagina moist and temperature normal, no nervous depression, patient merely feeling a little tired. Membranes ruptured at 5.30 A.M. Amniotic fluid normal.

The occiput at this time was nearly on a level with the sub-pubic arch, and after about an hour, the pains growing weaker and no progress being made, forceps were applied by Dr. Valencia, and after strong traction the child was delivered, the perineum being extensively ruptured in spite of the greatest care in support, and the performance of episiotomy. Placenta and membranes expelled naturally. Serre-fines were applied to the perineum, but did not secure union. The temperature or pulse never reached 100, either during labor or after, convalescence being normal. After the patient was up and about, symptoms of subinvolution and prolapsus appeared. Examination revealed, besides the laceration of the perineum which had healed without uniting, a bilateral laceration of the cervix, extending on the left side nearly to the vaginal junction, with considerable eversion and thickening of the mucous membrane. About the middle of April I did trachelorrhaphy and perineorrhaphy, and on the 26th of July the patient left the hospital in good health, and so strong that she was employed as a wet-nurse.

The child was a male, of extraordinary dimensions, measuring 54 cm. in length, and weighing 5,300 gms.

The diameters of the fetal head were as follows:

Maximum diameter, . . . . .	144 mm.
Occipito-mental, . . . . .	134 "
Occipito-frontal, . . . . .	127 "
Suboccipito-bregmatic, . . . . .	99 "
Biparietal, . . . . .	102 "
Bitemporal, . . . . .	92 "

No measures were taken of the circumferences of the head. The blades of the forceps had caused strong marks of depression on a level with the left temporal and on the posterior part of the right parietal bones. There was a large hematoma at the occiput, and another over the right frontal bone; a depression of the bone being very evident.

The skin was free from sebaceous material, and the epidermic coating of the whole body was in a state of desquamation, which took place in very large semi-transparent scales. On the parts where the desquamation was more evident, the dermic mucous coat was not denuded, as the deeper corneal layer of the epidermic coating was always preserved. There was no blistering, softness, or maceration, nor any other pathological condition of the skin.

The nails greatly overtopped the ends of the fingers, and their tips were thin and getting loose on several of the fingers. The thumb-nails measured six millimetres from the root to the top, with an equal measure in their width.

The child was born partially asphyxiated, but was recuscitated; it, however, remained in a semi-tetanic state, and slowly passing into a condition of coma, died six hours after birth.

Many difficulties having to be overcome, the autopsy could not be made for several days, the fetus being meanwhile kept in alcohol. The external appearance has been already described.

The histological examination of the skin was performed, and confirmed our previous statement that the desquamation had only caused the loss of the superficial part of the corneal layer. In the abdominal and thoracic cavities, we only found congestion of both lungs and a slight degree of putrid decomposition of the viscera. The scalp being lifted up, the hematomata of the parts indicated were confirmed, the sanguineous effusion staining the bones markedly. Over the right frontal bone the periosteum was loose. Upon extracting the brains, a remarkable extravasation of blood in the interior of the cranium also became evident. In our necroscopic examination I have aimed to be most particularly descriptive of those parts of the skeleton from which I could derive a more accurate idea of the age of the fetus.

*Dry skull.*—Its large size was noticeable, its form was very regular, although some partial deformations could be perceived. On handling the cranium, its little compressibility, heavy weight, and firmness were at once striking.

My esteemed friend and colleague Dr. Montané, a favorite pupil of Broca, has enabled me to be more exact and to give more ample details in this respect, as he has had the kindness to take the anthropological measures of the cranium, and has also furnished me with original unedited data which will allow me to make comparative studies in the reflections accompanying this relation.

The excesses in the dimensions of this cranium are relatively greater in the antero-posterior and transversal diameters than in the vertical, which gives to it a flattened form. The regularity of its whole can be well appreciated by taking a view of its upper part.

The cranial dome is more depressed on the right side than on the left. This discrepancy of height, in the places where it is more remarkable, scarcely equals the thickness of the internal border of the bones, and therefore there is not a real overlapping in the sagittal suture.

The aforementioned depression in the right frontal is of a gutter form (*rinnenförmig*), commencing at about half a centimetre from the central line and one and one-half centimetre from the anterior angle of the great fontanelle, and reaching the frontal eminence. This furrow is two and one-half centimetres in length, and one and one-half in its greater width, and of such depth that, besides the disappearance of the remarkable natural convexity of this region, it has caused a concavity of two and one-half millimetres. The outer table in this place is not fractured, but the inner one shows a fracture which follows the direction of one of the nutrient vessels of the bone.

The overlapping of the parietals upon the occipital bone is very considerable, being  $7\frac{1}{2}$  mm.

The sutures are almost serrated, the bones being frequently dovetailed and presenting projecting points and recesses, so that the joints show little or no motion. This arrangement is by far

more noticeable in the posterior part of the sagittal and in the coronal suture, particularly on the right side. There are small Wormian bones in the sutures, twelve being found in the coronal. In some of the places where there is overlapping, this appears to have caused the tearing of the fibrous tissue that unites the edges of the bones.

The posterior fontanelle does not exist.

The anterior is not of the usual rhomboidal form, the advanced ossification of the antero-superior angle of both parietal bones having led to the disappearance of the triangle that would have been formed in its posterior half. In consequence of this loss, this fontanelle has the form of a triangle, two sides of which are curved and its surface thereby further diminished. Its height is 18 mm., and its base 15 mm.

The thickness of the parietal and the frontal bones measures generally  $1\frac{1}{4}$  mm. The compact consistency of the outer and inner tables is evident. Interiorly we can perceive with the finger shallow cerebral impressions. In the upper and lower jaws the septum that divides the first and second molars is entirely formed, and the one destined to separate the second from the third is half formed. In the inferior maxilla, the mental foramen stands on a level with the first molar.

The other parts of the skeleton that have appeared to us more worthy of notice are the centres of ossification, the dimensions of which we give below, their osseous structure being evident.

Centres of ossification.	Length.	Width.
Of the lower epiphysis of the femur,	$9\frac{1}{2}$ mm.	6 mm.
“ “ upper “ “ tibia,	8	$4\frac{1}{2}$ “
“ “ astragalus,	10	$5\frac{1}{2}$ “
“ “ cuboid bone,	4	$3\frac{1}{2}$ “
“ “ upper epiphysis of the humerus,	3	2 “

I have submitted the reasons that have led me to entertain the belief that a single coition occurred, and that the exact date of its occurrence is known. However, there are so many motives of the greatest delicacy and complexity that might prevail in a woman to induce her to fall into a mistake or to misrepresent in this respect, that there is always some point of doubt or objection left in the mind of the reader of such histories from the most competent authors. Even in cases where the physician has been able to observe the appearance of the earliest signs of pregnancy, there are possible causes leading to error. Any illness may bring about an amenorrhea and the pregnant state might immediately follow. Lusk pointed out a case in the Obstetrical Society of New York. And we cannot affirm that a diagnosis of the real cause of the amenorrhea can be properly pronounced, because we think

right to repeat after Emmet—"it may be questioned if amenorrhea can take place in health."

The justice of the doubts that like cases bring forth is so clearly appreciated by me, that I cannot refrain from admiring the scientific self-denial and fortitude of physicians who, having had the good fortune to have in their own marriage the chronology of such a scientific curiosity as we now study, have published the case. I believe that under such circumstances there would prevail an anxious desire of keeping secret the occurrence, as, even with the support of silence, there might be reason left for uneasiness. Fourdes says in this respect, in his excellent article "Natalité" inserted in the "Dictionnaire Encyclopédique des Sciences Médicales," "Nul n'est témoin dans sa propre cause"—"Nobody can be witness in his own cause."

In our case we find the diagnosis of pregnancy given by a physician in the month of August, but we cannot attach to it any great reliance, as we do not know the doctor, nor have we the certainty that he perceived the heart-sounds at such an early date, and he might have ventured an affirmation based on signs of mere probability. The pains and contractions suffered when the pregnant woman was at the end of her ninth month, according to her report and calculation, might also be taken into account, even with due regard to the expectant attention that prevailed in her, and to the fact that said pains were never so intense as to constitute a missed labor. On the whole, these antecedents lead us to believe that the labor commenced 317 days after the coition that caused the pregnancy, but we do not consider them such as to allow us to entertain the idea that this case offers a better warrant of certainty than others already published.

The course of labor was that already indicated in cases of dystocia consequent upon excessive volume or advanced ossification of the fetal head. It should not appear strange that the diagnosis should then have been delayed until after the delivery.

Dr. John Ellis Blake, in an article published in this JOURNAL, Vol. XII., 1879, pointed out the deficiency of classical books in this respect and the difficulty of making a diagnosis. Furthermore, it is known that notabilities of so high reputation as Peaslee

have pronounced these as cases of retarded labor, and Thomas, who enjoys the merit of having twice diagnosed an advanced ossification before labor had taken place, did so only after repeating in vain tractions with the forceps. In fact, it was almost impossible to act in our case otherwise than we did. Pajot, in an excellent article upon the excessive retardation of labor and referring to real tedious labor, says: "when a labor progresses slowly it is never delayed." "The pulse, the mother's temperature, the fetal inspection must guide us in deciding whether to act or to remain in expectancy."

These were the prevailing conditions up to the morning of the 21st, and our behavior can be described after the expression of Pajot—"surveillance, expectation." I am firmly convinced that there was no reason to interfere until, after the rupture of the bag of waters, we obtained the confirmation of the position; and the labor, instead of being more speedy, became more slow. Some advantages could have been derived from craniotomy: the death of the fetus as well as the ulterior sufferings of the mother allow us to say so. Moreover, even if the fetus had been saved, its life would have been worthless, on account of the deep lesions of the nervous system consequent on such dystocia, as has been so well demonstrated by Jacobi and Blake. We call attention to the fact that the suboccipitobregmatic diameter could make its way through the pelvis, whilst the suboccipito-frontal did not pass, as is shown by the position of the frontal depression. This confirms the importance given by Duncan to said suboccipito-frontal diameter, and shows us that labor would have terminated quite naturally if the overlapping in the coronal suture could have been possible.

The repeated careful examinations of the genital organs of this woman after labor allow us to conclude that none of the parts had any vice of conformation or any other pathological condition, except those that are generally consequent upon cervical and perineal laceration. We specially watched in this respect, from the commencement, the uterine cervix, because during labor we came to the belief that the upper part of the cervical canal had not expanded during pregnancy, nor had it become part of the uterine cavity, as usually happens when the formation of Braune's canal takes place.

The fetus' weight, length, and all the diameters of its head are excessive. A study of comparative or statistical data, however numerous, confirms this assertion. Pinard says that out of the 20,000 children born at the Paris Maternity there was only one weighing up to 5,300. Of the 208 cases that Ribemont and Budin have taken as the basis in their investigations upon the fetal head, there is not any one of such a weight as ours, and only two or three reached equal dimensions in length of body or size of head.

The excess of volume has not been of constant occurrence in like cases, and we must add that the small size has been pointed out as the cause of prolonged gestation by two ancient and renowned expert physicians (P. Zacchias and Foderé) who believed that they had observed cases of prolonged gestation in their own wives. But the excess of volume has been observed in other cases referred to by Klein, Rob, Siebold, Liegard, Feltz and Rate, Cailletet, Leishman, Delore, Henderson, etc.

The epidermic desquamation commencing in a living fetus still in the uterine cavity is very rare. The desquamation usually begins in the newborn after the second day, and reaches its maximum on the tenth day (Depaul), and at times it is not properly completed until the thirtieth or fortieth day. Briande and Chaude and Billard do not admit the ante-partum desquamation; there are, however, authentic cases thereof. Depaul has seen it seven or eight times, and gives full details of one of them; Charrière published another one in 1878; Hanks also reported a case in the Obstetrical Society of New York, and Parrot mentions another case of Baer, in which the exfoliation was completed on the first day. It would appear that of these cases we should exclude Hanks', in which a pathological condition seems to have existed, as the dermis, entirely denuded, was besides congested and had a dark-red appearance. Charrière's case would appear, at first reading of his narrative, as a case similar to Hanks', because he states that the epidermis came off as in a macerated fetus; but surely the new-born must have merely lost the superficial layers of the epidermis, so long as he remained alive, in spite of the exfoliation having extended to the whole body; otherwise under such an extensive loss of the total thickness of the epidermis, death would have inevitably taken place, for the very same reasons that



burns of the second degree of an extensive tegumental surface are necessarily mortal.

Depaul asserts that these cases of premature desquamation are due to the action of the amniotic fluid under some alteration, rendering it *irritating, acrid, and corrosive*, and he adds that this alteration might be caused by its mixture with urine or meconium. The meconium has in fact been expelled in some of the cases of Depaul, in Charrière's, and in our case under review, but this simultaneous occurrence of both facts does not permit us to admit the theory, because the expulsion of meconium, the fetus remaining more or less time immersed in the amniotic fluid mixed with the meconium, is of quite frequent occurrence, whilst the premature desquamation is certainly very rare.

At all events, and leaving aside the conclusions that may be arrived at upon the foregoing hypothesis, it is our principal aim to establish the fact that the phenomenon of desquamation that generally takes place when the new-born is already several days old, occurred in my case when the fetus was still in the uterine cavity.

The excessive size and growth of the nails and the loss of their free ends is also a fact of an importance similar to that of the phenomenon of the skin. Kölliker has demonstrated that the most outjutting and thinnest part of the nail which normally drops after birth has a different structure than the rest of the nail because it corresponds to a previous period of embryonic life.

On referring to the examination of the osseous system, we have to say that its importance to enable us to determine a fixed age in the new-born has been admitted already as a basis for medico-legal investigations. We have not, however, found in the observations, that we have been able to read relative to prolonged pregnancy, that any of them has afforded the opportunity of giving minute details and measurements on this point. Authors generally limit themselves to reporting that the fontanelles and sutures have been found closer than usual, and that the cranial bones were of excessive hardness.

I deem of importance the following comparative statement kindly afforded to us by Dr. Montané, in which he gives the anthropological measures of nineteen fetal craniums at term,

taken by him in the Paris Museum of Natural History in the year 1872. We have added the averages of the same as well as the measures furnished by the cranium in our case, which our friend had the goodness to take. He makes the following remarks: 1st, In all the measures, including that of the curvature, Broca's method has been followed; 2d, in selecting the craniums above referred to in the Paris Museum, the preference was given to those in which the overlapping was not much noticed, though this does not imply that those of large dimensions were excluded; 3d, in the curvature of our present case, it is evident that the measures have been lessened by three causes, viz.: A, the considerable overlapping of the parietals upon the occipital; B, the intercranial membranes being partially loose interfered and obstructed the cavity, wherefore the quantity of bird shot used to measure might have been diminished; C, the depression of the right frontal bone.

Measures.

	Measures taken in the Paris Museum of Natural History.																				Average.	Measures of our case.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
Capacity of the cranium.....	375	385	445	505	315	335	340	350	348	335	405	410	310	330	430	355	400	340	372/93	415		
Diameter:																						
antero-posterior maximum.....	120	110	108	114	118	104	105	101	108	110	104	109	114	108	104	108	111	105	112	109/	114	
transversus maximum.....	92	86	88	90	100	82	86	85	84	88	88	89	90	88	83	89	98	86	88	88/89	96	
bitemporal.....	82	76	79	90	90	70	73	72	71	78	82	82	78	77	77	79	86	78	82	79/05	87	
bi-auricular.....	68	64	64	72	72	58	60	60	61	65	64	64	66	68	62	60	68	66	68	64/73	65	
frontal maximum.....	80	70	70	84	78	67	74	70	72	74	70	78	70	78	80	69	78	70	80	75/36	82	
frontal minimum.....	66	60	55	67	64	58	57	58	62	62	62	62	60	66	59	60	61	60	66	61/31	63	
vertical bacillus bregmaticus.....	92	82	76	79	82	73	73	74	77	74	72	77	74	79	68	70	78	72	74	76	83	
occipital maximum.....	64	56	54	62	76	54	53	55	60	60	56	72	60	60	56	60	60	60	60	64/63	66	
Curvature:																						
frontal cerebral total.....	89	98	76	78	77	71	75	69	65	77	65	74	74	76	66	66	75	68	74	73/10	75	
parietal.....	96	90	78	85	90	86	80	80	82	80	80	80	81	81	82	85	80	90	83/05	90		
occipital.....	88	68	68	78	78	66	72	69	69	68	74	71	76	78	69	69	75	70	64	71/78	70	
horizontal total.....	356	312	318	335	347	292	304	291	310	320	309	324	330	322	307	310	370	303	324	318/10	340	
transverse total.....	304	276	270	298	302	258	266	260	270	274	272	272	284	271	251	260	260	264	284	275/36	280	
Occipital foramen length.....	21	17	20	21	26	19	20	21	21	21	22	19	21	24	23	23	22	24	...	21/38	22	
width.....	16	16	12	16	17	13	14	14	17	16	15	17	16	16	16	15	18	14	...	15/44	18	
Naso-basilar line.....	62	58	58	59	60	52	53	50	58	54	57	58	56	56	54	52	56	53	...	55/88	58	

It is seen that the measures of the skull we report upon always exceed the average of the others, except that of the occipital curve. (This line is taken by anthropologists from the posterior

boundary of the occipital foramen to the superior angle of the lambdoidal suture.) Were we to take into account the decrease of this line caused in our case by the overlapping of the parietals upon the occipital ( $7\frac{1}{2}$  min.), and should we make a compensating correction, this exception would disappear. On establishing a separate comparison between the cranium of our case with each of the nineteen of the foregoing statement, we see that in only three of them, almost all the measures are somewhat larger. But if we again consider the overlapping and the reducing influence it has upon the head diameters, we find that the cranium we write upon attains the size of the three we refer to which greatly differ from the average.

Apart from the measuring, and amongst the several peculiarities observed in the skull, the reduced dimensions of the fontanelles is not certainly that to which we attach most importance; Curtois, in his Paris thesis of 1870, published many measurements of fontanelles in which great diversity can be observed, and they bore no relation to the age of the child. Budin and others have also noted the great variations in the size of the fontanelles. Parrot has, besides, demonstrated the reducing action that *atropsia* has upon the dimensions of the fontanelles. We find of undoubtedly greater importance the manner in which the cranial bones are united, their considerable thickness, the presence of the cerebral impressions on their interior surface, the formation of the septum between the second and third molar teeth, and the situation of the mental foramen on a level with the first molar tooth, and not with the canine. All these special circumstances are not usually found at time of birth (see Sappey).

In regard to the centres of ossification of the limbs, dimensions of which have already been given in the foregoing clinical observations, we judge proper to insert what we read upon their development in several authors.

*The inferior epiphysis of the femur.*—The absolute importance attached to this centre of ossification by Beclard as determining the age of a fetus at term is certainly exaggerated, as has been demonstrated by Hecker and Hartmann, but the presence of said centre of ossification of five mm. extension at birth is the general occurrence. Almost all expert physicians agree in this respect. We concur in Pinard's opinion that

“this sign, isolated, should be seriously taken into consideration, but is insufficient.”

Sappey says: The epiphysis of the tibial extremity shows its development towards the end of the last month of pregnancy. At birth, it has the size of a chick-pea.

Quain: A single nucleus for the lower extremity appears several weeks before birth.

Gray: Centres of ossification in the lower end of this bone at the ninth month of fetal life.

Kölliker: At the end of the fetal period, a nucleus appears in the inferior epiphysis.

*Superior Epiphysis of the Tibia.*—Sappey says: It is already in state of germ at the moment of birth of almost all children, but then it is very small. The osseous point in the corresponding extremity of the femur is thicker, and appears generally twelve or fifteen days earlier.

Quain: Appears more frequently before, but sometimes after the birth.

Gray: The centre of the superior epiphysis appears at birth.

Kölliker: At birth, its two extremities are yet cartilaginous.

*Astragalus.*—Sappey: The osseous point that is found in the centre of the astragalus appears at the end of gestation, and there is already a trace of it at birth.

Quain: The nucleus of the astragalus appears in the seventh month.

Gray: In the astragalus about the seventh month.

Kölliker: The astragalus (seventh month).

*Cuboid.*—Sappey: It appears in the sixth month (extrauterine life).

Quain: That of the cuboid at birth.

Gray: In the cuboid at the ninth month.

Kölliker: The tarsal bones that are ordinarily ossified before birth are the calcaneus (sixth month), the astragalus (seventh-month), and frequently the cuboid.

*Superior Epiphysis of the Humerus.*—Sappey: The osseous nucleus of the humeral head appears some months after birth, more usually in the third or fourth month, and it grows rapidly.

Quain: At about the second year the nucleus of the head appears.

Gray: At birth, the extremities remain cartilaginous. Between the first and second year, the ossification commences in head of the bone.

Kölliker: The two epiphyses are yet cartilaginous at birth. During the first year, a nucleus appears in the superior epiphysis.

Upon a comparison of the foregoing opinions, discrepancies arise, and they certainly command new investigations. These

may perhaps have been made and are yet unknown to me. But in spite of the differences that may occur in these observations, it is evident that the centres of ossification that we have studied and inserted in the accompanying cuts show more development and growth than the corresponding ones at birth.

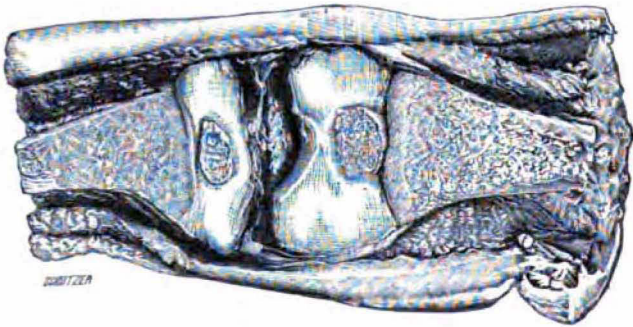


FIG. 1.—Showing advanced centres of ossification of inferior epiphysis of femur and of superior epiphysis of tibia. (From photograph.)

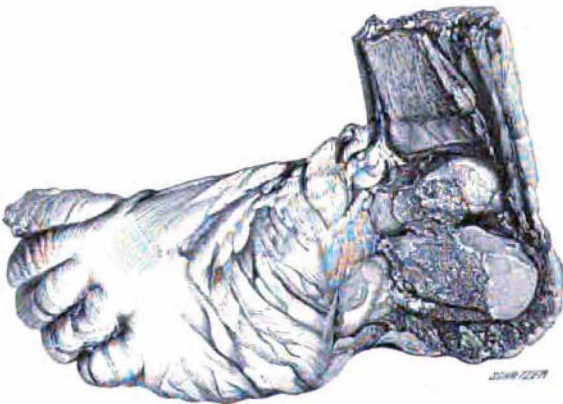


FIG. 2.—Showing centres of ossification in astragalus and cuboid (cuboid not well shown). (From photograph.)

We thus find in the inferior centre of ossification of the femur a longitude ( $9\frac{1}{2}$  mm.) nearly double that it generally has (5 mm.). The superior centre of the tibia, existence of which is doubtful at birth, and if it be found it is frequently very small, exists in our case, and its size is considerable. The point of ossification of the astragalus is not of so much import-

ance, though it measures 1 cm., because, according to several authors, it appears as early as the seventh month. That of the cuboid is not of constant appearance at birth, and in our case it is of considerable size. But the appearance of the point of ossification in the superior epiphysis of the humerus is certainly most remarkable, even if it be of the small size it shows in our case. Celebrated anatomists believe that its appearance



FIG. 3.—Showing centre of ossification in superior epiphysis of humerus. (From photograph.)

is delayed until the second year. Sappey, who has made the most valuable investigations in his careful studies in numerous skeletons, of different ages, for the Museum of Orfila, believes, however, that it appears in the third or fourth month. If we adhere to this opinion, the existence of the small nucleus appearing in our case is easily explained.

We think that from the foregoing reflections we are justified in establishing the following conclusions in favor of the diagnosis of *prolonged gestation*:

1st. The duration of pregnancy from a single coition (according to the reports of the mother) was 317 days, if we count up to the commencement of labor, and of 319 until its termination.

2d. The weight and length of the fetus and the dimensions of the head were greater than usual.

3d. In the epithelial system (skin and nails) there were changes that generally occur after birth.

4th. The careful study of the fetal head bones, and of several centres of ossification in the limbs, shows a development of the osseous system more advanced than that which corresponds to the usual time of birth.

TEJADILLO, 18, HAVANA, Sept. 16th, 1885.