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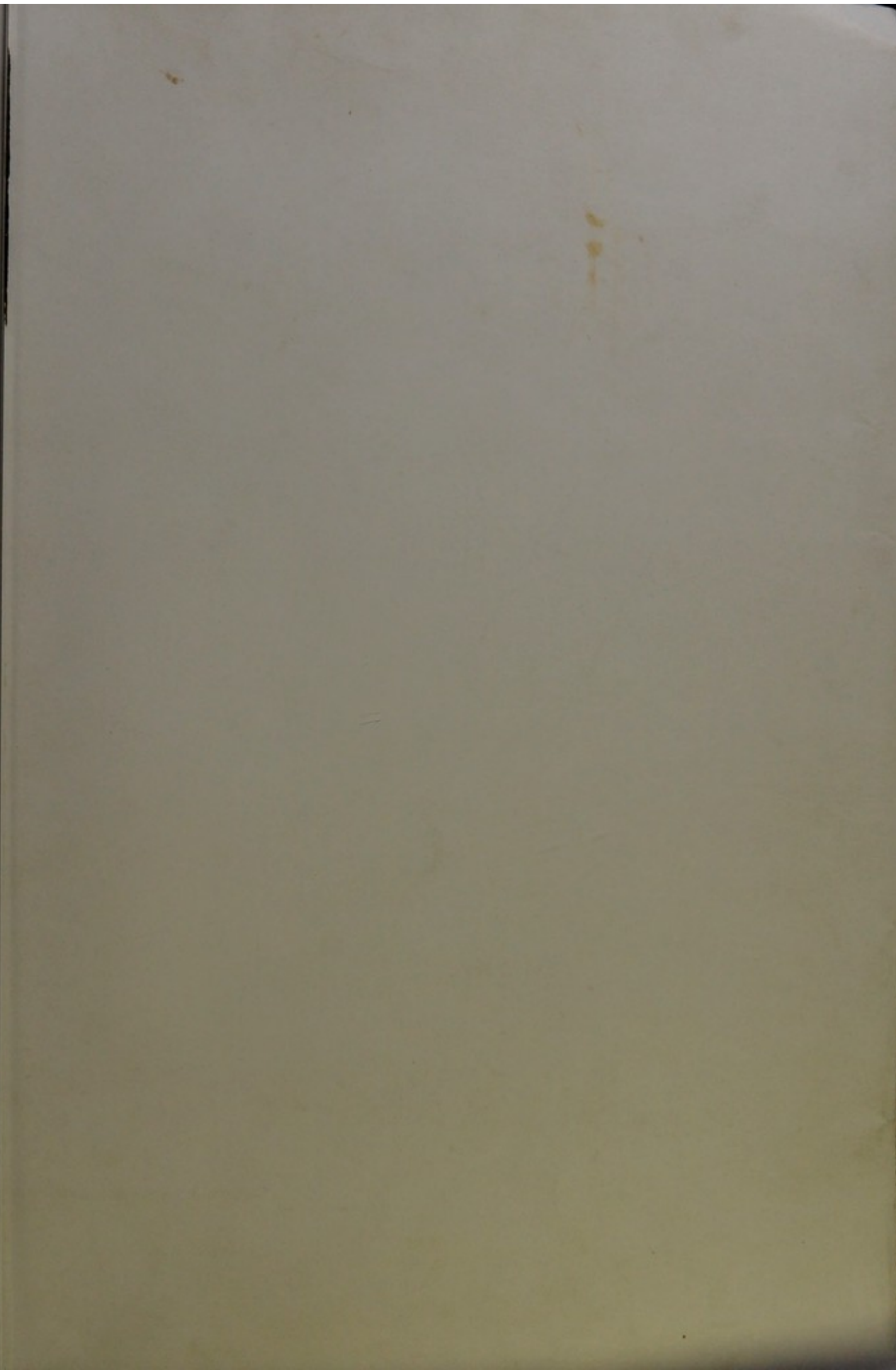
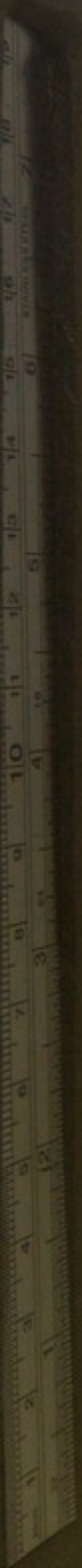
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A CRITICAL INQUIRY

(4)

REGARDING

SUPERFŒTATION,

WITH CASES.

BY

GEORGE LINDSAY BONNAR, M.D.,

CUPAR-FIFE.

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PHYSICAL DEGENERATION

The question of the possibility of degeneration is one which has been discussed in the medical world. It is a subject which has been debated and denied by many eminent authorities, while on the other hand its possibility is no less strenuously asserted and defended by many others. Especially deserving the respect and attention of the medical world is the fact that the records of genuine degeneration are few, and those are fewer still which are sufficiently distinctly recorded as to enable us to trace the many arguments which opponents may urge to explain them away. They have been mixed up, too, with many other narratives related as instances of degeneration, but which are obviously applicable to other and generally received grounds, and this has led to a great number of doubts on the whole matter. But these all stand out a few recorded narratives which do not seem to be instances of all disbelievers, and which have necessitated their resort to unwarrantable imputations against the honesty or veracity of both of the narrators, rather than give up some general theory which to be true, must necessarily depend on their making out the others to be wrong.

The subject of physical degeneration and a careful scrutiny of all the evidence for and against the possibility, the frequency and the manner of its occurrence. Like many other medical questions, professional opinion seems at different times to have ebbed and flowed with regard to it. Our ancestors were firm in their belief as to its possibility—nay, comparative frequency. About forty or fifty years ago a general scepticism seems to have prevailed the profession regarding it, and now, it would appear, the tide is again setting in towards a general recognition of its reality. Especially since the revelations of degeneration have been better understood by a more advanced pathology, and a more minute pathology, cases which have been recorded as instances of degeneration are being referred into these ranks.

There are two groups of cases which have been born at the same time, and which are often referred to as being the offspring of the same parent. The first group consists of the cases now examples of degeneration, and the second of the cases now examples of degeneration. The first group is the one which is now referred to as being the offspring of the same parent. The second group is the one which is now referred to as being the offspring of the same parent.

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INQUIRY REGARDING SUPERFŒTATION.

THE question of the possibility of superfœtation is one which seems to be still undecided in the medical world. Its occurrence is doubted and denied by many eminent authorities, while, on the other hand, its possibility is no less strenuously asserted and defended by many others equally deserving the respect and confidence of their brethren. It is undoubtedly true that the recorded cases of genuine superfœtation are few, and those are fewer still which have their *facts* so sufficiently distinctly recorded as to enable us to meet the many arguments which opponents may urge to explain them away. They have been mixed up, too, with many other narratives, related as instances of superfœtation, but which are obviously explicable on other and generally received grounds, and this perhaps has tended to cast undeserved doubts on the whole matter. But there still stand out a few recorded narratives which defy the explanations of all disbelievers, and which have necessitated them to resort to unwarrantable imputations against either the honesty or competency, or both, of the narrators, rather than give up some favourite theory, which, to be *right*, must necessarily depend on their making out the others to be *wrong*.

The subject is one demanding careful investigation, and a candid weighing of all the evidence for and against the possibility, the frequency, and the manner of its occurrence. Like many other medical doctrines, professional opinion seems at different times to have ebbed and flowed with regard to it. Our ancestors were firm in their belief as to its possibility—nay, comparative frequency. About forty or fifty years ago, a general scepticism seems to have pervaded the profession regarding it, and now, it would appear, the tide is again setting in towards a general recognition of its truth, especially since the mysteries of procreation have been better understood, by a more advanced physiology, and a more minute pathology.

Cases which have been recorded as instances of superfœtation resolve themselves into three kinds.

1st, Where two mature children have been born at the same time, but bearing evident marks of being the offspring of different parents. This fact is undisputed, but the cases are examples of *contemporaneous conception*, or *superconception*. The only question which concerns us here is, What is the period up to which this occurrence may take place, and beyond which, according to the opponents of superfœtation, it cannot? for it is obvious the latter and superconception are the same phenomenon, occurring only at different periods in relation to the primary conception.

2d, Where a twin has been aborted, leaving its fellow still in utero to be matured and given birth to in due time; or when a twin

is destroyed, or arrested in its development and retained, until afterwards expelled with its mature fellow.

Cases of this description are by no means rare, and it is perhaps because so many of them have been recorded as instances of superfœtation, and so obviously erroneously, that the latter doctrine has fallen so much into disrepute. Probably the misleading proof of the impossibility of the blighted fœtus belonging to the same conception as its fellow, consisted in the complete absence of putridity or decomposition in connexion with it, thereby apparently showing that its death had been but very recent; but putrefaction in the womb does not necessarily result when death of the fœtus has taken place. Dr F. Ramsbotham says, while advocating this mode of explaining away many recorded cases of superfœtation, "The only point requiring explanation is the fact that in no instance, so far as I know, has a *secondary fœtus* been expelled putrid, although it had died some months previously; and this even may be accounted for by the powerful vital principle which is resident in the uterus, and which is in fervid operation for the purpose of bringing to perfection the living being it contains, protecting the dead mass from the ordinary changes of decay."¹

Setting aside these cases, then, we come to the third division of our subject, instances of true superfœtation.

3d, Where a *mature* child has been born, and an immature fœtus, the product of a different conception, has either been left in the womb until its period of maturation, or, if expelled along with the other, has presented no marks of wasting, or of arrested development. We leave altogether out of consideration those cases where this phenomenon depends on double uterus, or extra-uterine conception.

In a case of genuine superfœtation, then, a woman must bear two (or more) *mature* children, with an interval of weeks or months between the birth of each; or if she part with the whole contents of the uterus at the first delivery, the difference of the ages of the fœtuses, or the mature child and the fœtus, as the case may be, must be unmistakable, and there must be the absence of all marks of blight of the latter, so as to leave no doubt that, had it remained in utero, it would have gone on to perfect maturity.

Velpeau quotes the "Recueil de la Société de Médecine" for the case of a woman named "Arles," who, in 1796, gave birth to a child at the *full time*, and five months afterwards to another, which was also thought to be at the full time.

The only author we have met with who takes notice of this case, is Campbell,² who wisely makes no attempt to explain it away, but summarily dismisses it with the announcement, that unless "Arles was possessed of a double uterus, it is unworthy of belief,"—a mode of getting rid of a difficulty not the most philosophic, but a bold and dashing attempt to cut what he could not untie.

In the fourth vol. of the London Medical Transactions, p. 161, Dr Maton communicated to the College of Physicians that Mrs

¹ Medical Gazette, vol. xvi. p. 216.

² Campbell, p. 95.

T——, an Italian lady, was delivered of a male child at Palermo, on the 12th November 1807, which had every appearance of health, but lived only nine days. On the 2d February 1808, within a few days of three kalendar months, or 82 days after the birth of the first child, she was delivered of a second completely formed, and apparently in good health. Both children were born perfect and mature.¹

This case has created a great deal of discussion amongst those whose investigations have been brought to bear on the subject. Beck, with his wonted candour, admits that he does not pretend to explain it. Campbell² presumes that the first child was immature, born at the close of the seventh month, and the second retained two or three weeks after the general period required for human gestation. Dr Granville,³ in a paper he wrote in the Philosophical Transactions for the year 1818, on the Malformation of the Uterine System, says that this case “merely goes to prove the occasional co-existence of separate ova in utero, and proves nothing farther. The lady,” he goes on to say, “whose prolific disposition is much descanted on in Dr Maton’s paper, and with whom twin cases was a frequent occurrence, was delivered of a male child sometime in November 1807, *under circumstances very distressing to the parent, and on a bundle of straw*, and again in February 1808, of another male infant completely formed! Mark the expression,” continues Dr Granville, “for it was not made use of in describing the first. The former died, Dr Maton tells us, without any apparent cause when nine days old, the other lived longer. Now,” reasons he, “can we consider this otherwise than as a common case of twins, in which one of the fœtuses came into the world at the sixth, and the other at the ninth month of pregnancy, owing to the ova being quite distinct and separate? Had this not been the case, the *distressing circumstances* which brought on the premature contraction of the womb, so as to expel *part* of its contents in November, as in the simplest cases of premature labour, would have caused the expulsion of the whole, or, in other words, of both ova in that same month, and we should not have heard of the second *accouchement* in the following February, which led the author of the paper in question to bring the case forward as one of superfœtation, in opposition to what he has called ‘the scepticism of modern physiologists.’ Had it been proved that the child of which the lady in question was delivered had *reached the full term of utero-gestation*, and that she had brought forth another child one, two, or three months afterwards of equally full growth, then a case something like superfœtation would have really occurred, and scepticism would have been staggered.”

Casper,⁴ in his efforts to disprove the doctrine of superfœtation, to which he seems to have a great repugnance, takes the same method of explaining away Maton’s case. “It is evident,” he writes, “that this case of a woman who bore twins twice is nothing more

¹ Campbell, p. 95; Beck, p. 88; Paris, vol. i. p. 262. ² P. 96.

³ Paris, vol. i. p. 263.

⁴ Casper, Forensic Med., iii. p. 374.

than a third conception of twins. The 'proper maturity,' which is an uncertain expression, might very well be possessed by the first-born child at the end of, say two hundred and ten days; and as the other twin was born eighty-one days subsequently, it, as a late born child of two hundred and ninety-one days, would certainly be 'perfectly mature,' and the whole case would resolve itself into what has been so often mistaken for superfœtation, namely, a twin pregnancy, one of which (alive or dead) has been born prematurely, and the other some time after."

Now, as the case must stand or fall by the degree of maturity to which the first child had reached, and as the three authorities whom we have quoted, indirectly, and one of them, indeed, avowedly, hang their objections on the want of details in the original history of the case on this very point, and take full advantage of the omission, it is obvious that further information obtained from the first source must determine the exact nature of the case in dispute. Accordingly, and in consequence of the observations already quoted from Dr Granville's paper, Dr Paris made *personal inquiry* of Dr Maton for a further explanation of those particular points on which the merits of the case would seem to turn, and he states, "the fact is, that both *the children were born perfect*, the first, therefore, *could not have been a six-months child.*" He further states, "Dr Granville seems to have fallen into an important error with respect to the *distressing circumstances* which attended the delivery."¹ They were not the *cause* of the labour, as Dr Granville insinuates, but the natural result. The lady could not obtain proper accommodation at the time, although it was not so sudden but that the accoucheur was in attendance, and it was not premature, for it was thought by all that the natural time of utero-gestation had been completed; and Dr Paris concludes by stating, that there cannot exist any good reason for questioning the veracity of the husband, who furnished Dr Maton with all the particular circumstances of the case, nor the justice of the conclusions arrived at.

Unless we charge the narrators with dishonesty, and refuse to believe their statements, it must be admitted that this case proves our point.

The narrative, however, which has been the principal battlefield of the advocates of superfœtation and their opponents, is the following, which we shortly give, in order to notice the objections which have been urged against it by Campbell and Casper.

Dr Desgranges,² of Lyons, says:—"Madame Villard, of Lyons, had married at twenty-two, and five years afterwards became pregnant. She had a miscarriage at seven months, on the 20th May 1779. In about a month thereafter, she conceived again, and on the 20th January she brought forth a living child. No milk appeared in her breasts, the usual discharge was absent, and the abdomen did not seem to diminish in size. Two surgeons who

¹ Paris, Med. Juris., p. 264.

² Campbell, p. 94; Beck, p. 89; Paris, p. 263; Casper, p. 373.

were in attendance became puzzled, and called Dr Desgranges, who declared there was a second child in the womb. This opinion was much doubted, yet three weeks after her delivery she felt the movements of the child, and was delivered of another living daughter on the 6th July 1780, five months and sixteen days after the first birth. Dr Desgranges adds, although there seems little necessity for it, that it was impossible the last infant could have been conceived after the expulsion of the first, 'car le mari n'avait renouvelé ses caresses a sa femme que vingts jours apres,' which would only have given to the second infant four months and twenty-seven days." This case has been the subject of great controversy, and exhibits great ingenuity on the part of the opponents to the doctrine, inasmuch as the difficulties to be overcome in setting it aside are formidable.

Beck, while admitting his inability to explain the case, says that it is one of the strongest yet adduced in favour of the opinion, and that its credibility would seem to be established from the character of the reporter, and the publicity attending it.

We are told in the narrative that the mother and both children, two years afterwards, appeared before a notary at Lyons¹ to attest the fact in a legal manner, and because, it is stated in this declaration, that it was also "partly to prove her (the mother's) gratitude to Dr Desgranges, and partly to give women who may find themselves in a similar predicament, and whose husbands may be deceased previous to the birth of both of the children, a precedent in favour of their virtue and the legitimacy of the child, Casper, without one reference to the facts of the case as recorded by Desgranges, and which are detailed by him altogether irrespective of any further connexion with the woman herself, dismisses the whole thing in this summary way—"For my part, I confess that this remarkable proceeding of this woman, so 'virtuous,' and so grateful to her doctor for having delivered her (!) renders the whole case perfectly incredible."

It is surely not unreasonable to expect something like *argument* in opposing the establishment of a disputed point such as this; but where an author and authority so justly looked up to as Casper condescends to let his opinions be guided by circumstances so foreign to the real merits of the case, as in this instance, he only strengthens the position of his opponents, by making it manifest that he has not one word of any value wherewith to confute them.

Campbell dissents from believing this case on other grounds. He at once assails, not the character of the mother, as Casper, but the veracity of the historian, and states that "we may conclude either that it is misstated, or that the woman possessed a double uterus," and as a ground for the imputation, he assumes the following hypothesis as fact—"We are told," he writes, "that she was impregnated a month after her premature birth; but this is

¹ Casper, p. 374.

very improbable, if not impossible, supposing that she had but a single uterus; for the organ could not be so easily restored to its healthy condition as to have enabled this woman to conceive in such rapid succession. I think it would be difficult," continues he, "to produce a properly-attested instance of a woman conceiving in so short a period as a month after delivery." We cannot see any force in this conjecture of Dr Campbell's; and, setting aside the questions whether parturition is itself but the return of a catamenial period, and, if so, whether the bursting Graafian follicle is then about to discharge an ovum, which it is quite possible to vitalize by contact with the spermatozoa,—questions which yet hang trembling in the balance of medical theory,—we proceed to prove by citation of facts that Campbell's statement is wrong; and as it is a matter of much interest, and of considerable medico-legal importance, we shall examine the question with some care.

Were the statement true that the female procreative organs were not capable of exercising their functions for at least 30 days after parturition, and reckoning the period of utero-gestation to extend from the 274th to the 280th day, it would follow that no woman could bear a mature child sooner than the 304th, or from that to the 310th day after the date of her last confinement. Let us see.

Every medical man of any standing has, within the range of his own experience, had instances of repeated confinements within the 365 days.

An interval of 353 days elapsed between the births of the two eldest of the present Royal family.

The source of the following instances is principally Lodge's Peerage and Baronetage, which seemed to us a ready and an authentic authority for supplying materials for not only refuting Campbell's objection to the truth of Desgranges' case, but also of adducing many facts in support of the doctrine of superfœtation itself:—

Lady Margaret, second daughter of the 5th Earl of Balcarres, was born on the 14th February 1753, and her brother on the 25th January 1754, being an interval of 345 days.

Between a younger son of the same nobleman, the Hon. James Stair, who was born on the 16th December 1758, and his brother, Hon. William, born on the 21st November 1759, there is an interval of only 340 days.

The Hon. and Rev. Augustus George Legge had two sons, William, born on the 29th July 1802, and Henry, on the 29th June 1803, showing an interval of 335 days.

The present Baron Stourton, County of Wilts, was born on the 13th July 1802, and his elder sister on the 16th August preceding, 331 days being the interval.

The present Earl Annesley, born on the 21st February 1830, had a brother stillborn in the previous April, date not recorded, but allowing it to be early in the month, say the 2d, this would bring the interval down to 325 days.

The Earl of Carlisle had two younger sisters, one born on the

24th June 1803, and the other on the 10th May 1804, leaving an interval of 320 days.

The two youngest brothers of the Marquis of Normanby, one born on the 7th December 1808, and the other on the 18th October 1809, had only 316 days between them.

The two eldest children of the present Baron Clarina, Anna Emily and Hon. Eyre-Challoner-Henry, were born on the 23d June 1829, and the 29th April following, respectively, bringing down the interval to 310 days.

We pause here to notice an objection which may be taken to our illustrations, Are we prepared to authenticate that the second births of the instances related above were those of mature children? We are not. But the examples from which we have culled the above list are *so numerous*, that we conceive the objection to have little force.¹

Lest, however, it be urged, we refer to a case in which we know and testify that both children had arrived at the full period of utero-gestation. The Rev. John B., in Fife, had a daughter born on the 9th February 1827, and a son on the 11th December of the same year, there being an interval of 306 days between the births, only two days beyond the minimum period required to refute the objection of Dr Campbell.

The late Earl of Buckingham had a daughter born on the 16th September 1832, who died on the following day, and another on the 17th July 1833, who attained maturity, diminishing our last interval by another day.

The present Earl of Beverley had two elder sisters, the first born on the 3d June 1776, and the other on the 31st March 1777, who survived two years, this being an interval of 302 days.

The lady of the Hon. and Rev. Charles Dundas, rector of Epworth, had a daughter born on the 18th May 1834, and a son, Henry, on the 8th March 1835, who attained manhood, showing an interval of 294 days.

The Hon. Lieut.-Col. Dawson, who was killed at the battle of Inkermann (5th Nov. 1854), left a son, Vesey John, who was born on the 4th April 1853, having been preceded by a brother, still-

¹ After noting 13 instances of intervals between consecutive births, varying between 340 and 350 days, they appeared to be following each other so frequently, that we did not think it worth while to pursue the inquiry further between these periods.

The instances between 330 and 339 days are 20, the second children all having arrived at maturity.

Between the 320th and 329th days the instances are 23, all of whom attained maturity.

We have 13 instances between the 310 and 319 days, all the products of the second birth having attained maturity.

Between the 300 and 309 days we have ten cases, all the second births having lived more than six months, and the majority having reached adult life.

From 290 to 299 days we have two instances; both attained maturity.

From 280 to 289 days we have four instances; all attained maturity.

The intervals less than these we have noticed afterwards individually.

born, on the 29th June 1852, being 289 days previous. The same interval exists between G. W. Hill and his brother, Clement Lloyd, of Omberley, Worcestershire, the former of whom was born on the 20th July 1843, and the latter on the 5th May following. Both attained maturity.

An interval of one day less occurs between the births of Mabel and Gerald Anthony Addington, grandson of Viscount Sidmouth, who were born on the 14th November 1853, and the 29th August 1854, respectively.

The present Earl of Ellenborough had a brother born in July 1804, day unrecorded, but giving it all latitude, and taking it for granted that it was the *first*, his sister, the Hon. Frederica-Selina, was born on the 6th April following, which shortens the interval to 280 days. The latter lived, and married in August 1829.

This reduces the interval to the natural period of gestation, and it follows either that there had been no cessation at all of the procreative function; that the phenomena of parturition were merely the renewal of a true catamenial period, leaving the organs immediately thereafter susceptible of impregnation; or, that the second product was born a short time before the completion of maturity.

Even allowing that at parturition there is a detachment of an ovum by bursting of a Graafian follicle, as occurs in menstruation, although we are not aware of any pathological proofs on the subject, yet we think from the pathological changes which the uterus itself has undergone during gestation, and the abnormal condition in which it is in relation to that which is usually termed its unimpregnated condition, it will generally be conceded that a certain time must elapse ere it is rendered a fit receptacle for an impregnated ovum; and as, in the instances adduced, we have no positive evidences that they had arrived at the full period of utero-gestation, we will conclude that they were immature.

We think the fallacy of Dr Campbell's first objection to Madame Villard's case has ere this been fully demonstrated, and rather than follow him to refute his second and only other objection, which is pure unsupported asseveration, viz., that the mother must have had a double uterus, we rather pursue our present inquiry, which becomes increasingly interesting and important.

At this stage, two questions must be disposed of before we can proceed further with our citations.

What is the shortest interval likely to elapse after parturition before impregnation can again take place?¹ And at what age of

¹ "Dr Keiller remarked that Dr Bonnar had bestowed great labour on the subject in preparing this paper, which was one of great interest. He had started in it quite a new question, viz., How soon after delivery could a woman again become pregnant? He (Dr K.) must confess, that although he had lectured on medical jurisprudence and midwifery for a number of years, the question had never occurred to him till put, a short time ago, in a letter he had received from Dr Bonnar. He thought it must greatly depend upon the rapidity of the disappearance of the discharges. Some women have the lochia for a very short time only. Dr Sidey had informed him, that he

uterine life is it possible for a child to be reared to such a period as to show that it had at least outlived the accidents and liabilities necessarily attendant on premature birth?

With regard to the first, there are, especially in medico-legal works, many cases detailed of the rapidity with which all signs of recent delivery disappear. So long, however, as the indications of such an occurrence are perceptible to sight and touch, we presume it will be conceded that impregnation, physiologically, cannot take place. We, of course, allude to such signs as affect the internal organs, the most important of which are these three: the tender and swollen vaginal canal; the enlarged uterus, with its open and relaxed os; and the lochial discharge; and they usually disappear in the above order.

The state of the vagina is a sign on which little dependence can be placed, for the size of the child, the frequency of previous births, the constitution of the mother, and a variety of other considerations which will suggest themselves to every mind, may so influence a delivery, and cause so slight a disturbance of the natural conditions of this canal, that in the course of a few days it may have regained all its former size and firmness.

The state of the uterus is of great importance in this inquiry. Within the first few days it may be felt enlarged above the pubis. In eight or ten days it generally disappears into the pelvis, the cervix retracts, and the os regains its usual size; so that, in so far as the *dimensions* of that organ are concerned, they would then indicate a return to its usual conditions, and fitness for being the cradle of a new foetus.

But we consider that so long as the lochial discharge is secreted, this function of the womb cannot, in the nature of things, be exercised. Great variations are observed in regard to the time of its cessation, and from one to three or four weeks seems to be the period during which this discharge may in general be said to exist. It is usually observed that where nursing is dispensed with, it continues longer and more abundant than in other cases, and in the instances under our consideration, we may presume that the function of lactation was not encouraged; we therefore think we cannot be overstating the time when we say that the *fourteenth* day after delivery is the earliest period at which the functions of the uterus can be so restored as to render it again capable of performing its part in procreation.

The *second* question is one not so readily settled. When Dr Wm. Hunter was interrogated on this point, he replied, "a child (Dr S.) had attended one woman in a second delivery exactly nine months after delivery of the previous child—both children being at the full time. Ten months, he believed, was very common. In the lower animals we had frequently cases of a female becoming pregnant immediately after delivery. Breeders of horses believe that a mare is most susceptible of impregnation nine days after foaling."—*Ex. Proceedings of the Ed. Obs. Soc.*, 23d Nov. 1864. (We have endeavoured to procure particulars of Dr Sidey's case, as to the marks of development of the second child, but as yet unsuccessfully.)

may be born alive at any time after three months; *but we see none with powers of living to manhood*, or of being reared, before seven kalendar months (210 days), or near that time; at six months it cannot be." With this opinion medical authorities generally have agreed, although a few cases have been put on record where at earlier periods of gestation children have been born and reared. To these we shall afterwards recur, but in the meantime shall take 210 days as the earliest period at which a child then born can be reared, and shall deduct from the intervals between the consecutive births in our illustrations the period of *fourteen days*, being the shortest possible time necessary to fit the uterus, after delivery, for a new impregnation.

In the following citations we have been most particular in reference to the correctness of the extracts, corroborating their authenticity as taken from Lodge's Peerage, by a reference to subsequent editions of the same work, or to Burke and Debrett; and we especially refer to the length of time the *second child survived* in each case, as taken from the same sources.

It will be remembered that we brought the last interval down to 280 days, or more truly, deducting the 14 days, to 266 days. To continue—

The Hon. George, fourth child of the first Lord de Blaquiere, Londonderry Co., who married Miss Dobson of Annegrove, Co. Cork, was born on the 27th July 1782. His younger brother, Hon. Peter Boyle, was born on the 26th April 1783, and was alive in Upper Canada in 1859. This is an interval of 273 days, or, less 14, 259 days.

The Hon. and Rev. Thos. J. Twistleton, D.D., Archdeacon of Colombo, had, by his first wife, Charlotte-Ann-Frances Wattell, a daughter, born on the 17th October 1789, who reached maturity, and a son, Francis-Henry-Thomas, born on the 26th June 1790, who died on the 12th July 1792, having survived upwards of two years. This interval consists of 252 days, *minus* 14, or 238 days.

The Hon. Arthur Cole-Hamilton, second son of first Lord Mount Florence, married in 1780 Letitia, daughter of Claudius Hamilton, Esq., and had a son, born on the 7th July 1781, who lived to maturity, and a daughter, Letitia, born on the 5th January 1782, who lived, and married Major Stafford; this interval being one of only 182 days, which, diminished by 14, leaves 168; *and is less by 42 days than we have seen it is generally esteemed possible to rear a child born prematurely.*

But the accumulation of facts having materially altered opinion regarding the *earliest* period of utero-gestation at which a child can be reared, this question must be determined ere the last quotation from the Peerage, or any others which may be adduced, can be set down as cases of superfoetation. We have collected and tabulated all the instances of premature births we could find recorded, as follows:—

Tabulated View of Cases of Premature Births of Living Children.

Those marked * died sooner than 24 hours after birth; those with † survived more than 8 days.

AUTHORITY.	Where Recorded.	Where referred to.	Date of Birth.	Date of Death, or Age if Living.	Date of Gestation in Days.
	Brit. and For. Med. Rev., ii. 236, . . .	Taylor's M. J., 570, . . .	...	Born alive.	120
* M. Maisonneuve, . . .	Jour. de Méd.; 1846.	Med. Gaz. xxxix. 97.	...	L. 6 h.	125
† Dr Rodman, Paisley, . . .	Ed. M. J., vol. xi. & xii.	Kinghorn Trial, . . .	Ap. 19/15	L. 21 mo.	133
† Capuron (Fortunio Liceti), . . .	M. Leg. des Ac., . . .	Do., 61 A., 143 A., . . .	...	L. 80 y.	135
* Mr Smythe, . . .	M.-Ch. Rev., July 44,	Taylor's M. J., 571, . . .	...	L. 12 h.	147
* Collins, Dublin, TWO	Dub. Ly.-in Hosp. R.	Kingh. Tr., 100 B. C,	EACH	L. 3 min.	150
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 2 h.	150
Dominico Meli, TWO	An. d'Hygiène Pub.	Kingh. Trial, 127 A,	EACH	Lived. (?)	150
† Capuron (Mar. de Rich.) . . .	Med. Leg. des. Ac., . . .	Do., 143 A., . . .	Mar. 13, 1696	L. 19 y.	150
Dr Cochrane, Edinburgh, . . .	Ed. Mon. J. Mar. 42,	...	Oct. 19/41	L. 6 d.	150
Dr Rüttel, . . .	Henke Zeit., 44, 241,	Taylor's M. J., 572, . . .	...	L. 24 h.	150
† Dr Barker, Dumfries, . . .	Med. Tim., Sept. 50,	Do., 572 . . .	...	L. 3½ y.	158
* J. B. Thompson, Alva, . . .	Med. Gaz., xix. 665,	...	Jan. 27/37	L. 3½ h.	165
* Nottingham Assizes, 1848,	Do., xli. 471,	...	Aug. 12/47	L. 5 h.	165
† Brouzet, . . .	Own writings, . . .	Kingh. Tr., 146 B. C,	1748	L. 16 mo.	166
* Prof. Christison, . . .	Kingh. Trial, 147 H,	...	...	L. 8½ h.	167
† Prof. Fleischman . . .	Henke's Zeit., vi. 12,	Kingh. Tr., 147 C. G,	...	L. 8 d.	168
† Rev. F. Jardine, Kinghorn.	Kinghorn Trial, . . .	Taylor's M. J., 573 . . .	Aug. 24/35	L. 7½ mo.	174
Zittman, . . .	Do., 99 B., . . .	Kingh. Trial, 99 B., . . .	...	...	177
Ammon, . . .	Do., . . .	Do., . . .	...	...	178
Velpeau, . . .	Do., . . .	Do., . . .	...	...	180
* Collins, Dublin, TWO	Dub. Ly.-in Hosp. R.	Do., 100 C., . . .	EACH	L. 5 min.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 1 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 6 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 9 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 10 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 11 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 12 h.	180
* Collins, do., . . .	Do., . . .	Do., . . .	EACH	L. 16 h.	180
Collins, do., FIVE	Do., . . .	Do., . . .	EACH	L. 1 d.	180
* Whitehead, SEVEN	M. Gaz. de Strasb. 48,	Med. Tim., Sept. 50,	...	L. 1 d.	180
* Dr Rüttel, one of TWINS	On Abortion, . . .	Taylor's Med. J., . . .	EACH	L. 6 h.	180
† Dr Rüttel, TWINS	Henke's Zeit., 44, 241,	Do., 572, . . .	...	L. 3 h.	180
† Dr Halpin, Cavan, . . .	Do., . . .	Do., . . .	...	L. 1 y.	180
† Belloc, TWO	Dub. Q. J., May 1846,	Do., 574, . . .	...	L. 4 mo.	180
† Thatcher, THREE	Cours de M. Légale,	K. Tr., 143 G., 126 F., . . .	EACH	L. 15 y.	180
† Ar. Millar, Edinburgh, . . .	Kinghorn Trial, 97,	Do., 97 A., . . .	1835 EACH	L. 2 y.	180
† Js. Aitken, Ceres, Fife, . . .	Do., 110,	Do., 110 D., . . .	Ap. 9/38	L. 4 mo.	180
† Whitehead, . . .	Do., 124,	Do., 124 A., . . .	Sep. 12/35	L. 6 w.	180
† Wm. Mayne, Glasgow, . . .	On Abortion, . . .	Taylor's M. J., 572, . . .	...	L. 10 d.	180
Kopp, . . .	Kingh. Trial, 131, . . .	Kingh. Trial, 131 B., . . .	June 13/63	L. 11 d.	180
† Dr W. Buchannan, Greenk.	Med. Jurisp. (J. of), . . .	Do., 146 D., . . .	...	L. 5 d.	180
† T. Hutchins, dentist, Edin.	Kingh. Trial, 116, . . .	Do., 116 C., . . .	About 1799	L. to adult.	183
† Dr Ontrepont, Bomberg, . . .	Do., 108, . . .	Do., 108 B., . . .	1824	L. 14 y.	187
† Mr Annan, Kinross, . . .	Buch. Beit. ii. 104, . . .	Do., 145, footnote, . . .	...	L. 50 h.	189
† Dr W. Whirter, Edin., . . .	Henke's Zeits., . . .	Do., 144 D., . . .	About 1822	L. 11 y.	189
* Pupil of Dr Taylor's, . . .	Lancet, 1851, 177, . . .	Taylor's M. J., 573, . . .	1850	L. 4 mo.	190
† Dr J. S. Combe, Leith . . .	Med. Times, Sept. 48	Do., 572, . . .	...	L. 4 mo. 1 w.	190
† Capuron, . . .	Gaz. des Hos., 1851,	B. & F. M.-Ch. R. ix. 558,	Dec. 27/50	L. 16 mo.	190
† Capuron, . . .	Kingh. Trial, 122, . . .	Kingh. Tr., 122 A., . . .	1820	L. at 18½ y.	190
† Prof. Fleischman, TWO	Do., 117, . . .	Do., 117 F., . . .	Jan. 13/21	L. 1 d.	191
† Merriman, . . .	...	Taylor's M. J., 576, . . .	...	L. 14 h.	195
† Scotch gentleman, . . .	M. Tim., 16 Feb. 50,	...	...	L. 38 h.	195
* Collins, Dublin, FOUR	Kingh. Trial, 119 A,	...	...	L. 1 y.	195
* Collins, do., . . .	M. Lég. des Ac., 162,	Do., 571. K. T. 145 F,	1818	L. 2 y.	195
* Collins, do., . . .	Do., 168,	Do., Do., . . .	...	L. 10 y.	195
* Collins, do., . . .	Henke's Zeit., vi. 12,	King. Tr., 145, note,	EACH	L. 2 d.	196
* Collins, do., . . .	Baillie's divorce bill,	Do., 53 B., . . .	...	L. to mat.	198
* Collins, do., . . .	Taylor's M. Jur., 573,	Taylor, p. 573, . . .	...	L. to adult.	210
* Collins, do., . . .	Dub. Ly.-in Hosp. R.	Kingh. Tr., 100 C., . . .	EACH	L. 5 min.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 15 min.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 3 h.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 4 h.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 6 h.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 9 h.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 12 h.	210
* Collins, do., . . .	Do., . . .	Do., . . .	...	L. 13 h.	210
Collins, do., . . .	Do., . . .	Do., . . .	...	L. 26 h.	210
Collins, do., THREE	Do., . . .	Do., . . .	EACH	L. 36 h.	210
Collins, do., SIX	Do., . . .	Do., . . .	EACH	L. 1 d.	210
Collins, do., FOUR	Do., . . .	Do., . . .	EACH	L. 2 d.	210
Collins, do., THREE	Do., . . .	Do., . . .	EACH	L. 3 d.	210
Collins, do., SIX	Do., . . .	Do., . . .	EACH	L. 4 d.	210
Collins, do., TWO	Do., . . .	Do., . . .	EACH	L. 6 d.	210
Collins, do., TWO	Do., . . .	Do., . . .	EACH	L. 7 d.	210

112 cases, of which 35 died within the first 24 hours; 13 more before the completion of one week; 1 in 6 weeks; 4 in 4 months. The following lived or were living at date of report.—1, 7½ mo.; 8 from 1 to 2 years; 1, 3½ years; 5 from 10 to 15 years; 6 to adult age; 5 "lived" not stated how long.

We all now and again meet with cases of early birth where, to all *external* appearances, the infant shows signs of even vigorous life, and where the energetic movements and strong cry, and even the readiness with which nourishment is imbibed, foster fond hopes that the little stranger may survive the disadvantages under which it is ushered into the world; but, notwithstanding the greatest care and most delicate management, in a short time, generally about the third or fourth day, the voice gets more plaintive, the features become pinched, and the little subject gradually sinks, unable to contend successfully with those conditions necessarily involved in the commencement of an active and separate life. Therefore, from all the information we have been able to acquire, and from our own experience, we think that before a child born prematurely can be said to have outlived the immediate obstacles to independent animal existence, and before the respiratory and digestive organs be pronounced fit for sustaining the life and promoting the growth of the infant, in other words, before an immature child, born alive, can be pronounced *viable*, a period of at least eight days must be allowed to pass.

In the foregoing table, the first case calling for attention is that of Dr Rodman of Paisley. On examining into its details, it will be found that the only criteria he has for assuming that the infant had only arrived at the 133d day of gestation, were the statement of the mother's impressions, and the premature appearances of the child. But, unfortunately for the truth of the latter, he gives two facts which go to show the impossibility of its being so premature a production. He states that three weeks after birth (its life having been sustained with such difficulty that the presumption is, it could not have grown at all during that time, especially considering that it then laboured under the gum and the thrush, and was dosed once or twice daily with castor oil) it was weighed and measured. The weight was 39 ounces, without clothes, and the length 13 inches, and these are the average weight and measurement, according to Taylor and Casper, of a small production of the 7th month, or 210th day; so that we must conclude that a grave mistake has been made by this practitioner in his estimate of the period of uterine life of this infant.

We next refer to two cases recorded in Capuron's *Méd. Lég. rel. à l'Art des Accouch.*, those of Fortunio Liceti, and the Maréchal de Richelieu, the one said to have been born on the 135th day of gestation, and the other on the 150th. Although mentioned by that author, and referred to by many subsequent writers, no dependence is placed on their authenticity, because the narratives do not contain any evidence that the immaturity of the children was accurately ascertained; and on that account, as well as because they did not fall under his own observation, but were communicated to him by others, Capuron himself rejects them as of no value.

The two cases referred to by Meli in the *Annales d'Hygiène*

Publique, stated to have been born on the 150th day of gestation, are given by him on mere hearsay evidence also, his authorities being two Italian practitioners. Although it is stated that Meli had confidence in his informants, yet in the absence of any details of facts relative to the development of these children, so that we may form an independent opinion for ourselves on the ground of said facts, the mere affirmations of any third party, however much respected, cannot for a moment be received as conclusive evidence of the correctness of statements which are susceptible of sterner proof; and accordingly, so far as we have observed, no reliance is placed on these cases in medico-legal investigations. It is not stated how long the children survived.

The case recorded in the Edinburgh Medical Journal by Dr Cochrane, in which the offspring said to have been born about the end of the *fifth* month (150 days) lived for six days, is one which within the narrative itself contains ample means of confuting the opinion of the author, as to the term of uterine life at which the child had arrived. The weight was two pounds eight ounces, and the length of the body fourteen inches, which, despite the term "only," with which Dr Cochrane qualifies both statements, show that the child had reached the close of the *seventh* month or 210th day.¹

Dr Barker of Dumfries has recorded a case in the Medical Times of September and October 1850, in which a child was alleged to have been born 158 days after conception and was alive at $3\frac{1}{2}$ years. The weight and measurement are given, with other particulars. The former was one pound, the latter eleven inches. The nails were rudimentary, and there was almost no hair except at the back of the head, where it existed in small quantity and of a reddish colour. The eyelids were closed but opened the second day. The upper part of the body was plump, the limbs rather shrivelled, skin pliant and of a purple colour.

On a comparison of these details with the appearances recorded of fœtuses of 180 days (six months) there can be little doubt that the child in the present instance had arrived at that period of uterine life.

Taylor,² Beck,³ and Paris⁴ give the weight of a fœtus of 180 days as varying from one to two pounds, and measuring from 9 to 12 inches. The nails are often wanting (Beck), or slightly formed; the hair is thin, white, and silvery; the membrana pupularis (of which Dr Barker took no notice at the time of birth, but *retained an impression* that the pupil was not perfect for six weeks) present, and the eyes agglutinated. Casper, whose mode of computing the stages of pregnancy differs from the above, gives for 168 days⁵ the weight from $1\frac{1}{2}$ to 2 pounds, and the length from 12 to 13 inches.⁶

¹ Taylor's Med. Juris., 385. ² Med. Juris., pp. 383-385.

³ Med. Juris., p. 113. ⁴ Med. Juris., iii. 58. ⁵ For. Med., iii. 16.

⁶ The actual duration of human pregnancy varying from 274 to 280 days, it is usual in English works on Midwifery and Medical Jurisprudence to divide

All the data Dr Barker seems to have for fixing the age so exactly is that the birth was *so long after an intercourse* which was followed by sensations which led the mother, taught by previous experience, to fix on it as the precise *coitus* which resulted in conception. But this is, to say the least of it, very unsatisfactory and inconclusive evidence, in the face of the above comparison of its development with children of more mature age on the one hand, and universal experience on the other, especially when one considers that the husband and wife were living amicably together.

Brouzet, of Fontainebleau, physician to Louis XVI., narrates a case in which a woman gave birth to a child just six months after another delivery. Allowing a fortnight in this case, as in our previous citations, for the uterus to fit itself for again becoming the receptacle of the ovum, we have a child born, and living for 16 months, which had arrived at 165 days only of utero-gestation. The details of this case are given so circumstantially, and the date of the previous delivery fixes so accurately the period of the commencement of gestation, that there is no room for doubt in respect of the facts, and the only question which may be raised, is, whether it is not a case of superfœtation. In the narrative it is implied that the product of the previous confinement was mature; had it been an abortion of a fœtus in a very early stage there might have been a conjecture that it had left a fellow behind, which continued other six months in utero; but assuming that the former was at or near the full time, we think, in the absence of all marks, weights, and measurements to guide us, that it is the least of two marvels to look on this child as the second product of a case of superfœtation, than as the one solitary instance on record of a fœtus surviving for any length of time, born so early as the 165th day of utero-gestation.

Professor Fleischman's narrative, which is the next case in the table in which the child survived for any length of time, bears that the birth took place at the beginning of the 25th week about the 168th day of gestation. But we take exception to the accuracy of his opinion according to the appearances and details he gives in the history of the case. Referring to works on Legal Medicine, we find the "brownish hair," the "moderately firm bones of the head," the "face free of wrinkles," the "nails of due length, though not yet projecting" the "length 11½ inches and weight 1 lb. 5 oz.," which is a summary of the principal appearances as given by Fleischman,

the whole period into *nine* equal portions of thirty days and a fraction each, and calculate the *monthly* development of the fœtus accordingly; and the appearances noted as indicative of the age of the fœtus, at the different *monthly* stages of its existence, correspond with this calculation. In Casper's work the term of pregnancy is divided into *ten* equal parts of 28 days each, and the details of monthly progress in the development of the fœtus are referable to *lunar* months. This causes a considerable discrepancy in the descriptions given in different works as to the appearances noticeable in the latter months of gestation, which it is necessary to notice in order to account for them.

are all characteristic of children between the sixth and seventh month. Besides all the data in this case for fixing the time of conception, as reported by Fleischman, is, that "the woman miscarried in the third month, and not quite two months afterwards conceived again, and continued well till the 23d week. About ten days before the 25th week she was attacked with shivering, etc. With the 25th week she was easily delivered of a Sunday evening. The child was a girl." It is much more probable that conception took place here immediately after the first catamenial period, and not before the second, as the above account would seem to imply. The appearances as described would then be indicative of the true age of the child, about 189 days.

The next case demanding notice is the famous Kinghorn one, in which, it was alleged, the birth of a child occurred 174 days after marriage, and survived for $7\frac{1}{2}$ months. We have not, as in Brouzet's case, the alternative of superfœtation to account for this extraordinary occurrence, but those who disbelieve in the doctrine, and give credence to Brouzet's narration, and the conclusion he himself arrived at, can have no difficulty in homologating the verdict which absolved the defendant on the occasion alluded to.

Passing over two cases, one on the 177th and the other on the 178th day, about which we have no details, we come to such a number of instances of children surviving for periods between 8 days and 15 years (11), having been born at the conclusion of the sixth month, or on the completion of 180 days, that we deem it unnecessary to pursue the investigation further in an upward direction. We cannot think that all these cases originated in mistake, and although the ideas of the parents in calculating the dates of impregnation may be, as they generally are, erroneous and untrustworthy, yet the idea that *all* the instances in the tabular statement can be deceptive, is inadmissible, especially when the calculations of the mothers were checked by the opinions of intelligent medical men.

We thus arrive, then, at the conclusion, that, under favourable circumstances, *when the child is well developed and healthy*, the period of 180 days may be set down as that at which, AT SOONEST, a child may be born and reared.

But it will be recollected that before this digression, our last citation brought down the interval between consecutive births to 182 days, and the age of the fœtus (*minus* 14) to 168 days, being *12 days less* than the least possible period at which, according to all experience, a premature child can be reared.

We have only two other instances to quote, and to these would draw special attention.

William, first Baron Auckland, married Eleanor, second daughter of Sir Gilbert Elliot, Bart., and sister of Gilbert, first Earl of Minto, by whom he had fourteen children, amongst whom the fourth was the Hon. Caroline, born on the 29th July 1781, who lived 60 years, and the fifth, the Hon. William-Frederick Elliot,

who was born on the 19th January 1782, who survived 28 years; this is an interval of 173 days, from which fall to be deducted 14 days as before, leaving 159 days as the period of gestation in this instance, being 21 days less than the point of infantine viability.

Lord Cecil James Gordon, brother to the present Marquis of Huntly, married the eldest daughter of Maurice Crosbie Moore, Esq., County of Tipperary, Ireland, and had a child on the 19th September 1849, Evelyn, and a son, Cecil-Crosbie, on the 24th January 1850, who are alive now; the interval between these two births being only 127 days, which is further reduced to 113, by deducting 14 as formerly, being less by 67 days than the said point of viability.

Of course we have no details here of the weights and measurements of these three last children; these are unnecessary. The previous births are quite sufficient to limit the period of conception far more accurately than the mere notions and feelings of the mother, however these may be verified by the appearances of the offspring; for the latter may vary as widely at an early age, and, speaking comparatively, as they are known to do in respect of children carried to maturity.

We cannot conceive how these last three cases can possibly be explained except by the doctrine of superfœtation. In these and all the other instances adduced, where the interval between the births was less than the natural period of utero-gestation, it has been taken for granted that the second children were premature, although there was no proof whatever that this was really the case. And we have gone on diminishing the period of intro-uterine life necessary for the viability of the child to the lowest possible point, and allowed only 14 days in our calculations for the womb to be rendered fit again for its procreative functions after delivery; and yet we have adduced *three* instances in which the children survived and lived to maturity, whose periods of intro-uterine life, unless they be acknowledged instances of superfœtation, must have been respectively 12, 21, and 67, *days less* than the *shortest period* it has ever been proved that a prematurely-born child has survived; the second of which is *less by six days* than that of Brouzet, even granting that his is not, what we, in the course of this argument, have endeavoured to show it *must have been*—a clear case of superfœtation—but the ONE solitary instance of a viable child having been born so early as the 165th day after impregnation; and the third, *less by 20 days* than the only case on record, of a child *alleged* to have been born on the 133d day after conception—that of Rodman of Paisley, but which case has been by universal consent pronounced to be fallacious,¹ not only on the ground of the recorded facts of the child's development being against the opinion of the narrator, but because of the impossible

¹ Reply to Rodman's Case, Ed. Med. and Surg. J., xii. 126. Beck's Med. Jur., 120, footnote. *Vide* Evidence of Christison, Ziegler, Campbell, and Hamilton, in Kinghorn Trial.

nature of the occurrence itself. In our argument, we think controversy has been disarmed by concession. Aware of the weakness of uncertain premises, we have retreated step by step before such objections as might have been reasonably urged against the doctrine in which we believe, and which we have sought to prove, rather than do battle on physiological grounds, well knowing that if the doctrine be first made sure by *facts*, much trouble and many words will thereby be rendered unnecessary.

In support of this doctrine, which we have taken rather an out-of-the-way method to prove, yet a method which we think cannot be fallacious, we would, in conclusion, and for the sake of completeness, adduce such other cases of superfœtation as we have met with, and sift such objections as have been raised against them.

In Velpeau's Elements of Midwifery there is a case related of a Madame Begaud who, on the 30th April 1748, gave birth to a living male child, "small and delicate," but which survived for 2½ months, and on the 17th September following, was delivered of another child, "living and lively," which lived twelve months.

The only comment we have found on this case is in a small paragraph in a footnote of Campbell's Midwifery,¹ where he attempts to explain it away by saying that, "admitting that the case is correctly stated, the first child must have been born about the middle of the *sixth* month, and the birth of the second protracted about two months beyond the usual term," *i.e.*, a pregnancy of 343 days! When one has a purpose to serve, or a theory to support, it is wonderful how many inconsistencies creep into his views. The same author, in his chapter on the "Duration of Pregnancy," says "the term (of gestation) is by no means restricted to nine kalendar months; on the contrary, it may be exceeded by a week or a *month*." "I have for several years," he says, "devoted much attention to the subject. In four cases where the evidence was clear, in one of them pregnancy was protracted *eleven days*, in a second *thirteen*, and in a third *eighteen days*." And yet, to suit his theory, he extends the period in Begaud's case to sixty days!

In many authors numerous fabulous stories are detailed of instances of pregnancy twelve, fourteen, sixteen months, up to three years, of which last a case is gravely detailed by Petit in his "Collection of Instances relative to the Question of Protracted Gestation," published at Amsterdam, 1766; but the general opinion of modern jurists is, that 293 days is the *ultimum tempus* to which human gestation has yet been beyond doubt ascertained to extend. The Code Napoleon allows 300 days; the Prussian law 302 days. A case has recently been decided in the United States, and recorded in the American Journal of Medical Science for October 1845, in which gestation was said to be protracted to 317 days. Professor Simpson, in the Edinburgh Monthly Journal for July 1853, records four cases occurring in his own experience, in two of which every

¹ Campbell's Mid., p. 95, footnote.

fallacy calculated to mislead in forming a correct estimate of the actual duration of pregnancy was avoided, and in these labour came on, in the one case, 336, and in the other, 319 days after the last catamenial discharge; and allowing 23 days as the average time between the cessation of one catamenial period and the commencement of another, at which time impregnation may have taken place, the actual minimum period of utero-gestation in these instances would be 313 and 296 days respectively. But these fall far short of the term to which Campbell refers in his untenable explanation of the above case.

In the *Recueil de la Société d'Emulation*, there is a case cited by Churchill, of a woman of Strasburg, æt. 37, who was delivered of a lively child on the 30th April.¹ The lochia and milk were soon suppressed. On the 17th September of the same year, about four and a half months after the first delivery, she brought forth a second apparently mature and healthy child. It is stated that after death the uterus was found single.

The following case occurred to Madame Boivin, accoucheuse in the Maternité at Paris, and is related by Cassan.² "On the 15th of March 1810, a woman aged 40 gave birth to a female infant weighing about four pounds. As the abdomen still remained bulky, Madame Boivin introduced her hand, but could find nothing in the uterus.³ But her examination led her to suspect that there was another fœtus, either extra-uterine, or contained in a second cavity in the womb. At length, on the 12th May, a second female infant was born, weighing not more than three pounds, feeble, and scarcely able to respire." The mother assured Madam Boivin that she had had no connexion with her husband (from whom she had been some time separated) except thrice in two months, viz., on the 15th and 20th July, and on the 16th September 1809; but as this case is explainable by concluding that the woman had a double womb, we shall pass it over without comment, merely remarking, that Casper (iii. 377) refuses to admit it either as a double uterus case or one of superfoetation, but explains it as a common twin case, the date of conception being on the 16th September, and the birth of the first twin being the 15th of March, and the second on the 12th of May, being six and eight months children respectively; seemingly forgetful of his own tables, which set down the weight of a six-months fœtus at from one pound and a half to one and three-quarters, while the first born child in the instance before us weighed four pounds, whereas the second, which, according to Casper, was born in the eighth month, and ought to have weighed five pounds, was only three.

In the *Gazette Medico-Chirurgicale*⁴ it is recorded that C. F. L.,

¹ Quoted in *Edin. Med. Journal*, iii. 539.

² Quoted in *Edin. Med. Journal*, iii. 539.

³ Casper, iii. 376.

⁴ *Medical Times*, vol. xiv. p. 206. June 1846.

æt. 32, tall, thin, and well formed, had never born any children. She had regularly menstruated up to the month of June 1845, when the menses were suppressed. In August they returned twice at a fortnight's interval—a circumstance which removed all idea of pregnancy. Vomiting and sickness appeared, with other more positive signs, which caused her medical attendant to return to his former opinion of her state. On the 28th of February she was delivered, after a slow labour, protracted by premature rupture of the membranes, of a full-grown but stillborn female child. Nine hours after accouchement she experienced the sensation of some substance descending through the vagina. The midwife, summoned in haste, found a second foetus, aged four months and a half or five months, furnished with a cord, placenta, and a complete set of membranes. This was also a female foetus.

There is a case of superfœtation recorded in the *Dublin Quarterly Journal*, Feb. 1859, p. 221, to which we can only refer, as we have not a convenient opportunity for procuring the details.

It is reported in the *Lancet*, August 2, 1862, that at the Obstetrical Society of London, Mr Langmore exhibited a supposed twin abortion, with the following history.¹ A lady aborted on May 22d; a foetus of about four months gestation was expelled. It was flattened, more or less atrophied, and had been dead some time. The placenta was removed, and afterwards a smooth soft body was peeled off the upper part of the uterine cavity, which proved to be a second bag of membranes. The chorion and amnion were unruptured, healthy, and transparent, and through them an embryo of about five or six weeks could be plainly seen floating in clear liquor amnii. The embryo appeared fresh and perfect, and not at all atrophied. Was this an instance of twin pregnancy or of superfœtation?

Drs Harley and Tanner were directed by the Society to investigate the question. Their report concludes as follows:—"We are led to assume that the case under consideration is an example of superfœtation for this reason; if the second healthy six weeks ovum were the product of the same conception as the first four months foetus, which had been dead some time when expelled, and manifested symptoms of putrefaction (decay?), yet the small second ovum died when six weeks old, was retained for about ten weeks afterwards, and, nevertheless, when removed, was perfectly healthy, and did not present any trace of decomposition (decay?)." The editors of the *Year Book of the Sydenham Society for 1862*, from which this last case is extracted, conclude their notice of the case as follows: "As theoretically we see no physical obstacle to the occurrence of superfœtation during the first three months of pregnancy, so we think the specimen now reported upon proves, as far as anything of the sort can prove, that superfœtation is a positive fact."

¹ *Year Book, Syd. Soc. 1862*, p. 322.

The first thing that struck me when I stepped
 out of the car was the smell of the sea. It was
 a clean, fresh smell, but it was also a little
 salty. I had never smelled anything like it
 before. The air was cool and crisp, and it
 felt like a blanket. I took a deep breath
 and felt my lungs expand. It was a good
 feeling. I had been in the city for so long
 that I had almost forgotten what it was like
 to breathe fresh air. I had been so busy
 with work and school that I had never had
 time to go to the beach. Now I was here,
 and I was finally getting a taste of what
 life was like in a different place.

I had heard that the beach was beautiful,
 but I had never seen it before. The sand
 was a golden color, and it felt soft under
 my feet. The water was a deep blue, and
 it looked so inviting. I had heard that
 the waves were perfect, but I had never
 seen them before. I had heard that the
 sun was always shining, but I had never
 seen it before. I had heard that the
 people were friendly, but I had never
 met anyone before. I had heard that the
 food was delicious, but I had never
 eaten anything before. I had heard that
 the weather was perfect, but I had never
 felt anything before. I had heard that
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