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Paternity and Prolonged Pregnancy

Irwin N. Perr, M.D.*

THE FOLLOWING ARTICLE recently appeared to the amusement of a nationwide audience:¹

Chicago (UPI)—A Superior Court Judge consulted a book on medical curiosities yesterday and ruled that a child can be born to a husband and wife 15 months after they have separated.

Judge Harry G. Hershenson said a 15 month pregnancy is possible—medically and legally.

He ordered Elmer Richter, 26, a gas station attendant, to pay \$15 a week support for a child born to his wife, Patricia, 15 months after they separated.

That's how long Richter claimed they were separated. His wife said it was only seven months. She was granted a divorce.

The time lag really didn't matter because Richter's attorney agreed with the judge that a baby can be born as much as 20 months after conception.

The judge said a book entitled "Anomalies and Curiosities of Medicine,"² tells of pregnancy periods lasting more than 15 months.

"We acknowledge paternity because there is that possibility," said Richter's attorney.

Not long ago, I heard from an acquaintance that a friend whose husband had died fifteen months previously had had a baby—this, the friend had explained to questioners, was due to a process known as "delayed conception," obviously an innovation brought forth by laymen to cover a multitude of sins. Necessity was the mother of more than one thing in this instance.

The question of paternity and prolonged pregnancy is a subject not only of great professional interest to lawyers and physicians, but is one that all of us find sometimes intriguing, sometimes humorous, and sometimes tragic.

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¹ Cleveland Press, Oct. 10, 1958.

² Gould, G. M. and Pyle, W. L., *Anomalies and Curiosities of Medicine*. Sydenham Publishers, New York (1937).

Some Historical Notes

Before proceeding with the subject at hand, a few comments are in order concerning the quoting of old books and in a context alien to the subject matter. The book, *Anomalies and Curiosities of Medicine*, is a gold-mine of odd pieces of information; it is a compilation of reports dating back to antiquity. However, it does not fully evaluate or substantiate reports. As such, it should have no standing in a law court. This book, published in 1937, reports a case from a textbook³ printed in 1864. Surprisingly enough, the 1864 book was misquoted. Not so surprisingly, the earlier volume was in turn quoting a book⁴ written in 1805. This author could not obtain a copy of the 1805 book, so the chain of proof was interrupted. In any event, the utilization of a medical book written in 1805 as a medicolegal authority is, to say the least, a questionable practice.

This paper is limited to a pregnancy resulting in a viable fetus. Retention of a dead fetus, either intrauterine or extrauterine, does occur sometimes. When such a fetus calcifies (a lithopedion), remnants of the fetus may remain indefinitely to be found on death of the woman. Thus cases have been reported of retained dead fetus of a duration as much as 28, 48, and even 60 years.

In discussing prolonged pregnancy, *Anomalies and Curiosities of Medicine* (mentioned above) illustrates the genesis of some reports which become sanctified by the passage of time, thus:

The question of retardation of labor, like that of premature birth, is open to much discussion, and authorities differ as to the limit of protraction with viability. Aulus Gellius says that, after a long conversation with physicians and wise men, the Emperor Adrian decided in a case before him, that of a woman of chaste manners and irreproachable character, the child born eleven months after her husband's death was legitimate. Under the Roman law the Decemviri established that a woman may bear a viable child at the tenth month of pregnancy. Paulus Zacchias, physician to Pope Innocent X, declared that birth may be retarded to the tenth month, and sometimes to a longer period. A case was decided in the Supreme Court of Friesland, a province in the northern part of The Netherlands, October, 1634, in which a child born three hundred and thirty-three days after the death of (the) husband was pronounced legitimate. The Parliament of Paris was gallant enough to come to the rescue

³ Hodge, H. L., *Principles and Practice of Obstetrics*, Philadelphia, 1864.

⁴ Dewees, W. P., *Medical Miscellanies*, Philadelphia, 1805.

of a widow and save her reputation by declaring that a child born after a fourteen month's gestation was legitimate. Bartholinus speaks of an unmarried woman of Leipzig who was delivered after a pregnancy of sixteen months. The civil code of France provides that three hundred days shall constitute the longest period of legitimacy of an infant; the Scottish law, three hundred days; and the Prussian law, three hundred and one days.

Gould and Pyle⁵ report an "incredible" case of three years' gestation from the *Histoire de l'Academie des Sciences*. Another reference⁶ from the seventeenth century quotes an earlier author who related a twenty-three month pregnancy. "Aventium (reported) one after two years; and Mercurialis, a birth after a four years' gestation which is, of course, beyond belief." Thormeau (Tours, 1580) and Santorini (Venice, 1721) report twenty-three month pregnancies. As time went along, reports became less fantastic. Thus in the seventeenth and eighteenth centuries, reports of five 12 month, one 14 month, one 19 month pregnancies are reported, and the nineteenth century could report only rather undramatic pregnancies of 308, 319, 332 and 336 days with only one of 420 days to provide much comment. This sad state of affairs is indicated by reports in days rather than in the months and years of the earlier, more dramatic eras.

Other reports in the eighteenth and nineteenth centuries mention pregnancies of 11 (four), 12 (three), 13 (one), 15 (two), 17 (one), and 18 (one) months. Many of these were retained dead fetuses.

For practical purposes, this material is only of historical interest. Certainly, in view of the millions of births since the turn of the century, more current scientific appraisals can be obtained.

The Attitude of Law Towards Prolonged Pregnancy

Gestation or pregnancy is the period from conception to birth. Since the moment of conception is difficult to measure, various standards are used—which will be discussed under the section dealing with medical comments. Because of the short fertility span of human spermatozoa, conception takes place within a day of coitus.

⁵ Gould, G. M. and Pyle, W. L., op. cit. supra, n. 2.

⁶ Jonston, J., *Thaumatographia naturalis*, 1665.

Gestation, in the courts, has been described in various manners. In *Dazey v. Dazey*,⁷ the court states,

The word "gestation" is defined by the dictionary as being the period of time in which a woman carries a fetus in her womb, from conception to birth. But as used in all medical authorities, this phrase does not mean the actual number of days from conception to birth. One cannot take the date of birth as a starting point and count backwards so many days and say that a child was conceived on any particular date and even within limitations of as much as sixty days. The average period of "gestation" which the medical term connotes is from 270 to 290 days from the last menstrual period of the mother. As a medico-legal term, this phrase does not mean now, nor has it ever meant that "length of gestation" is from the date of conception to the date of birth of a child. The actual duration of pregnancy is not yet known, but ordinarily 280 days, or 10 lunar months, elapse between the commencement of the last menstrual flow and the onset of labor, though a considerable number of children are born shortly before or after the expiration of that period.

As the problem faces the law courts, the key point is the possibility of a pregnancy of a duration from a specific last date available for intercourse of the parties.

Entering into this consideration is the attitude of the law towards paternity. One of the strongest presumptions in law is that a child born in wedlock is legitimate. It is the policy of the law to favor the legitimacy of children and to declare them legitimate if it may fairly be done. This rule is so well entrenched that it has been enunciated in a vast number of cases. The cases below⁸ are a sampling of post-war cases (since 1946). Ohio follows

⁷ *Dazey v. Dazey*, 50 Cal. App. 2nd 15, 122 P. 2d 308 (1942).

"The most reliable datum from which to estimate the beginning is the date of fruitful coition, and, reckoning from this day, pregnancy has been found to vary from 220 to 330 days, the average being 270 days. From time immemorial women have reckoned 280 days, 10 lunar months, or 9 calendar months, from the first day of the last period as the length of normal gestation, and for practical purposes, this may be accepted because in the majority of cases it holds true, but one must remember and admit the exceptions. No doubt some children require a longer time in the uterus for full development than others. Some seeds in favorable soil grow faster than others. The writer has delivered children that were carried eight months that were as matured as full-term infants, and also in one case, he delivered a child weighing 3½ pounds which was fully three weeks over term."

⁸ Presumption of legitimacy—*Ray v. Social Sec. Bd.*, 73 F. Supp. 58 (D. C., S. D. Ala., 1947); *Block v. Ewing*, 105 F. Supp. 25, (D. C. S. D., Calif., Central Div., 1952); *Darrell v. U. S.*, 82 F. Supp. 18 (D. C. E. D. Mo., 1949); *Faggard v. Filipowich*, 248 Ala. 182, 27 So. 2d 10 (1946); *Taylor v. Taylor*,

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249 Ala. 419, 31 So. 2d 579 (1947); *Butler v. Butler*, 254 Ala. 375, 48 So. 2d 318, (1950); *Jackson v. Jackson*, 259 Ala. 267, 66 So. 2d 745 (1953); *Balance v. Balance*, 261 Ala. 97, 72 So. 2d 851 (1954); *Carnegie v. Carnegie*, 261 Ala. 146, 73 So. 2d 556 (1954); *Arthur v. Arthur*, 262 Ala. 126, 77 So. 2d 477 (1955); *Morrison v. Nicks*, 211 Ark. 261, 200 S. W. 2d 100 (1947); *West v. King*, 222 Ark. 809, 262 S. W. 2d 897 (1953); *Serway v. Galentine*, 75 Cal. App. 2d 86, 170 P. 2d 32 (1946); *People v. Kelly*, 77 Cal. App. 2d 23, 174 P. 2d 342 (1946); *Murr v. Murr*, 87 Cal. App. 2d 511, 197 P. 2d 369 (1948); *People v. Hamilton*, 88 Cal. App. 2d 398, 198 P. 2d 907 (1948); *Cinders v. Lewis*, 93 Cal. App. 2d 90, 208 P. 2d 687 (1949); *Williams v. Moon*, 98 Cal. App. 2d 214, 219 P. 2d 902 (1950); *Hill v. Johnson*, 102 Cal. App. 2d 94, 226 P. 2d 655 (1951); *In re Marshall's Estate*, 120 Cal. App. 2d 747, 262 P. 2d 42 (1953); *Peters v. District of Columbia*, 84 A. 2d 115 (D. C., 1951); *In re Ruff's Estate*, 159 Fla. 777, 32 So. 2d 840 (1947); *Steed v. State*, 80 Ga. App. 360, 56 S. E. 2d 171 (1949); *Stephens v. State*, 80 Ga. App. 823, 57 S. E. 2d 493 (1950); *Thomey v. Thomey*, 67 Idaho 393, 181 P. 2d 777 (1947); *Lewis v. Lo Chirco*, 350 Ill. App. 394, 112 N. E. 2d 917 (1953); *Crawford v. Beatrice*, 122 Ind. App. 98, 102 N. E. 2d 915 (1952); *Williams v. Williams*, 311 Ky. 45, 223 S. W. 2d 360 (1949); *Shepherd v. Shepherd*, 314 Ky. 575, 236 S. W. 2d 477 (1951); *Ousley v. Ousley*, - Ky. -, 261 S. W. 2d 817 (1953); *Little v. Little*, - Ky. -, 275 S. W. 2d 588 (1955); *Succession of Gains*, 227 La. 318, 79 So. 2d 322 (1955); *Monahan v. Monahan*, 142 Me. 72, 46 A. 2d 706 (1946); *Dayhoff v. State*, 206 Md. 25, 109 A. 2d 760 (1954); *State v. E. A. H.*, 246 Minn. 299, 75 N. W. 2d 195 (1956); *Boone v. State*, 211 Miss. 318, 51 So. 2d 473 (1951); *Bernheimer v. First Natl. Bank of Kansas City*, 359 Mo. 1119, 225 S. W. 2d 745 (1949); *In re Oakley's Estate*, 149 Neb. 556, 31 N. E. 2d 557 (1948); *Hudson v. Hudson*, 151 Neb. 210, 36 N. W. 2d 851 (1949); *Ormachea v. Ormachea*, 67 Nev. 273, 217 P. 2d 355 (1950); *In re Rogers' Estates*, 30 N. J. Super. 479, 105 A. 2d 28 (1954); *In re Thompson's Estate*, 271 App. Div. 570, 67 N. Y. S. 2d 374 (1946); *Lane v. Eno*, 277 App. Div. 324, 98 N. Y. S. 2d 789 (1950); *People ex rel. Schacter v. Schwartz*, 279 App. Div. 896, 111 N. Y. S. 2d 70 (1952); *Thompson v. Nichols*, 286 App. Div. 810, 141 N. Y. S. 2d 590 (1955); *Lockwood v. Lockwood*, - Misc. -, 62 N. Y. S. 2d 910 (1946); *Altomare v. Altomare*, - Misc. -, 63 N. Y. S. 2d 71 (1946); *Kingsbury v. Kingsbury*, - Misc. -, 75 N. Y. S. 2d 699 (1947); *Berntsen v. Berntsen*, - Misc. -, 87 N. Y. S. 2d 855 (1949); *P. V. Department of Health*, 200 Misc. 1090, 107 N. Y. S. 2d 586 (1951); *C. V. C.*, 200 Misc. 631, 109 N. Y. S. 2d 276 (1951); *People ex rel. Louvar v. Convent of Sisters of Mercy in Brooklyn*, - Misc. -, 109 N. Y. S. 2d 846 (1951); *Anonymous v. Anonymous*, 208 Misc. 633, 143 N. Y. S. 2d 221 (1955); *In re Olson's Estate*, - Misc. -, 73 N. Y. S. 2d 876 (1947); *In re Adoption of Anonymous Minor Child*, 192 Misc. 359, 77 N. Y. S. 2d 121 (1948); *In re Niles' Will*, - Misc. -, 99 N. Y. S. 2d 238 (1950); *In re Opperman's Estate*, - Misc. -, 115 N. Y. S. 2d 503 (1952); *In re Bilotta's Estate*, - Misc. -, 110 N. Y. S. 2d 331 (1951), affirmed 281 A. D. 887, 120 N. Y. S. 2d 248 (1953); *People on Complaint of Fischer v. Jones*, - Misc. -, 101 N. Y. S. 2d 317 (1950); *People on Complaint of E. V. P.*, 201 Misc. 820, 105 N. Y. S. 2d 521 (1951); *People v. Towns*, 201 Misc. 322, 115 N. Y. S. 2d 39 (1951); *Saratoga Co. Com'r v. V. A. B.*, 205 Misc. 1004, 131 N. Y. S. 2d 634 (1954); *Bygland v. Gouse*, - Misc. -, 134 N. Y. S. 2d 328 (1954); affirmed 285 A. D. 1069, 141 N. Y. S. 2d 503 (1955); *Mills v. Mills*, 186 Misc. 855, 62 N. Y. S. 2d 344 (1946); *Saks v. Saks*, 189 Misc. 667, 71 N. Y. S. 2d 797 (1947); *Dunbar v. Dunbar*, 191 Misc. 236, 77 N. Y. S. 2d 586 (1948); *Gilpin v. Gilpin*, 197 Misc. 319, 94 N. Y. S. 2d 706 (1950); *Houston v. Houston*, 199 Misc. 469, 99 N. Y. S. 2d 199 (1950); *Panza v. Panza*, - Misc. -, 112 N. Y. S. 2d 262 (1952); *Lawrence v. Lawrence*, - Misc. -, 132 N. Y. S. 2d 529 (1954); *Plato v. Plato*, 206 Misc. 497, 132 N. Y. S. 2d 829 (1954); *State v. Bowan*, 230 N. C. 203, 52 S. E. 2d 345 (1949); *Storm v. Storm*, - North Dakota -, 75 N. W. 2d 750 (1956); *Winget v. Winget*, 202 Okla. 298, 213 P. 2d 288 (1949); *In re McKee's Estate*, 378 Pa. 607, 108 A. 2d 214 (1954); *In re Thorn's Estate*, 353 Pa. 603, 46 A.

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this general principle.⁹ The law will even, at times, go so far as to presume a former marriage to make a child legitimate and not a bastard.¹⁰ Thus, the law will attempt to declare children legitimate unless there is gross unfairness.¹¹

Nonetheless, the presumption of legitimacy may be overcome, with numerous cases affirming this principle.¹² Clear and

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2d 258 (1946); *Peoples Nat. Bank of Greenville v. Manos Bros., Inc.*, 226 So. C. 257, 84 S. E. 2d 857 (1954); *Carnes v. Kay*, - Tex. Civil Appeals, *Amarillo* -, 210 S. W. 2d 882 (1948); *Byrd v. Travelers Ins. Co.*, - Tex. Civil Appeals, *San Antonio* -, 275 S. W. 2d 861 (1955); *Carfa v. Albright*, 39 W. 2d 697, 237 P. 2d, 795 (1951); *State ex rel. Lipscomb v. Joplin*, 131 W. Va. 302, 47 S. E. 2d 221 (1948); *In re Aronson*, 263 Wisc. 604, 58 N. W. 2d 553 (1953).

⁹ *Powell v. State*, 84 O. S. 165, 95 N. E. 660 (1911); *State ex rel. Walker v. Clark*, 144 O. S. 305, 58 N. E. 2d 773 (1944); *State ex rel. Hoerres v. Wilkoff*, 157 O. S. 286, 105 N. E. 2d 39 (1952); *Snyder v. McClelland*, 83 O. App. 377, 81 N. E. 2d 383 (1948); *Lynn v. State*, 47 O. App. 153, 191 N. E. 100 (1934); *Harris v. Seabury*, 30 O. App. 42, 164 N. E. 121 (1928); *Dirion v. Brewer*, 20 O. App. 298, 151 N. E. 818 (1925); *Waggoner v. State*, 3 Ohio L. A. 181, (1925); *Sieg v. State*, 1 Ohio L. A. 814, (1923); *La Roche v. La Roche*, 10 Ohio App. 242, (1917); *Johnson v. Dudley*, 4 Ohio Dec. 243, 3 O. N. P. 196 (1896).

¹⁰ *Steed v. State*, 80 Ga. App. 360, 56 S. E. 2d 171 (1949).

¹¹ *Stevenson v. Washington's Adm'r*, 231 Ky. 233, 21 S. W. 2d 274 (1929); *Tinsley v. Tinsley*, 193 Ky. 324, 235 S. W. 730 (1921); *Stein v. Stein*, 32 Ky. L. R. 664, 106 S. W. 860 (1908); *In re Stanton*, - Misc. -, 123 N. Y. S. 458 (1910); *Dirion v. Brewer*, 20 Ohio App. 298, 151 N. E. 818 (1925); *Commonwealth v. Moska*, 107 Pa. Super. 72, 162 A. 343 (1932).

¹² *Block v. Ewing*, 105 F. Supp. 25 (D. C., S. D. Calif. Central Div., 1952); *Butler v. Butler*, 254 Ala. 375, 48 So. 2d 318 (1950); *Jackson v. Jackson*, 259 Ala. 267, 66 So. 2d 745 (1953); *Carnegie v. Carnegie*, 261 Ala. 146, 73 So. 2d 556 (1954); *Arthur v. Arthur*, 262 Ala. 126, 77 So. 2d 477 (1955); *Morrison v. Nicks*, 211 Ark. 261, 200 S. W. 2d 100 (1947); *West v. King*, 222 Ark. 809, 262 S. W. 2d 897 (1953); *Serway v. Galentine*, 75 Cal. App. 2d 86, 170 P. 32 (1946); *Murr v. Murr*, 87 Cal. App. 2d 511, 197 P. 2d 369 (1948); *People v. Hamilton*, 88 Cal. App. 2d 398, 198 P. 2d 907 (1948); *Cinders v. Lewis*, 93 Cal. App. 2d 90, 208 P. 2d 687 (1949); *McGillis v. Hofeditz*, 101 Cal. App. 2d 760, 226 P. 2d 372 (1951); *Hughes v. Hughes*, 125 Cal. App. 2d 781, 271 P. 2d 172 (1954); *In re Young's Estate*, 132 Cal. App. 2d 25, 281 P. 2d 368 (1955); *Peters v. District of Columbia*, - D. C. -, 84 A. 2d 115 (1951); *Jones v. State*, 88 Ga. App. 790, 78 S. E. 2d 88 (1953); *Pilgram v. Pilgram*, 118 Ind. App. 6, 75 N. E. 2d 159 (1947); *Pursley v. Hirsch*, 119 Ind. App. 232, 85 N. E. 2d 270 (1949); *Gross v. Gross*, - Ky. -, 260 S. W. 2d 655 (1953); *Little v. Little*, - Ky. -, 275 S. W. 2d 588 (1955); *Clark v. State*, 208 Md. 316, 118 A. 2d 366 (1955); *Boudinier v. Boudinier*, 240 Mo. App. 278, 203 S. W. 2d 89 (1947); *Hudson v. Hudson*, 151 Neb. 210, 36 N. W. 2d 851 (1949); *State by Doloff v. Sargent*, 100 N. H. 29, 118 A. 2d 596 (1955); *Groulx v. Groulx*, 98 N. H. 481, 103 A. 2d 188 (1954); *Cortese v. Cortese*, 10 N. J. Super. 152, 76 A. 2d 717 (1950); *In re Pinder's Estate*, 271 App. Div. 302, 65 N. Y. S. 2d 274 (1946); *People on Complaint of Vasek v. Guley*, 281 App. Div. 927, 119 N. Y. S. 2d 825 (1953); *Benti v. Benti*, - Misc. -, 62 N. Y. S. 2d 239 (1946); *Urguhart v. Urguhart*, 196 Misc. 664, 92 N. Y. S. 2d 484 (1949); *Cairgle v. American Radiator and Standard Corp.*, 366 Pa. 249, 77 A. 2d 439 (1951); *Com. v. McMillen*, 178 Pa. Super. 581, 115 A. 2d 816 (1955); *Com. v. Oldham*, 178 Pa. Super. 354, 115 A. 2d 895 (1955); *Barr's Next of Kin v. Cherokee, Inc.*, 220 S. C. 447, 68 S. E. 2d 440 (1951).

convincing proof is necessary to establish illegitimacy.¹³ The presumption of legitimacy can be removed by evidence that the husband was entirely absent, at the period during which the child must, in the course of nature, have been begotten; or only present under such circumstances as afford clear and satisfactory proof that there was no sexual intercourse.¹⁴ In addition to impotency or absence of the husband, where sterility is capable of definite determination, a conclusive presumption of legitimacy arising from the marital relationship is not properly applicable.¹⁵ Conclusive proof that the husband had no powers of procreation, or that circumstances were such as to render it impossible that he could be the father, is necessary to bastardize a child born in lawful wedlock.¹⁶

The presumption that a child conceived during the existence of a lawful marital relation is legitimate may be rebutted by clear and convincing evidence that there was no sexual connection between the husband and the wife during the time in which the child must have been conceived.¹⁷ Thus, in an Ohio case,¹⁸ where a plaintiff in a bastardy proceeding had been divorced only six months before a child was born to her, testimony as to the impossibility of intercourse between the plaintiff and her former husband within the period of possible conception was admissible. Where inaccessibility is clearly inferable, the presumption of parenthood is overcome.¹⁹ Nonetheless, the courts will strain the laws of nature or the indicia of the evidence presented in order to maintain legitimacy.²⁰

¹³ *Schlenker v. Ferdon*, 21 Ohio App. 222, 153 N. E. 113 (1926).

¹⁴ *Hargrave v. Hargrave*, 9 Beav. 552, 50 Eng. Rep. 457 (1846).

¹⁵ *Hughes v. Hughes*, 125 Cal. App. 2d 781, 271 P. 2d 172 (1954).

¹⁶ *Powell v. State*, 84 Ohio S. 165, 95 N. E. 660 (1911).

¹⁷ *State ex rel. Walker v. Clark*, 144 O. S. 305, 58 N. E. 2d 773 (1944); *McGhee v. McGhee*, 45 Ohio L. A. 465, 64 N. E. 2d 254 (1945).

¹⁸ *Yerian v. Brinker*, 33 Ohio L. A. 591, 35 N. E. 2d 878 (1941).

¹⁹ *In re Veselich*, 22 Ohio App. 528, 154 N. E. 55 (1926).

²⁰ *People v. Hamilton*, 88 Cal. App. 2d 398, 198 P. 2d 907 (1948)—Where the laws of nature make it possible that the husband is the father of the wife's child, the presumption of legitimacy is conclusive, but where the laws of nature do not, only a disputable presumption applies, and evidence by proper parties is admissible.

Williams v. Moon, 98 Cal. App. 2d 214, 219 P. 2d 902 (1950)—Where the husband had access to his wife during the crucial period although the parties were separated, a child born less than six months after the interlocutory divorce decree was entered for the wife, must be conclusively presumed to be legitimate, notwithstanding that the wife during the crucial period had intercourse with a third person.

Even proof of a wife's adultery while cohabiting with her husband cannot overcome the presumption of legitimacy of the offspring.^{21, 22}

The burden of proof is on the one alleging illegitimacy of the child.²³

It is readily apparent that the question of length of pregnancy can enter into the legal determination of many cases. This comes up often in paternity proceedings, disposition of estates and wills, divorce, separation, adultery proceedings, and even in rape cases.²⁴ During the war, with its numerous separations, births at variable periods following such separation initiated much litigation. The same holds true where children are born after divorce, separation, or death of the husband, or after supposed sterility on the part of the husband or illness rendering the husband impotent. Yet in all these cases, the question is determined by a judicial decision on the duration of pregnancy.

Legal Opinions on the Normal Length of Gestation

In *Dazey v. Dazey*,²⁵ the court measured the period of gestation from the beginning of the last menstrual period. This is used as a reference for lawyers as it is included as authority in *Words and Phrases*²⁶ in which it is also stated that the "period of gestation" may be safely stated as a general proposition at from 252 to 285 days. Allowing the greatest latitude of inquiry, I think it should be confined to a period of time between the lowest period

²¹ *Monahan v. Monahan*, 142 Me. 72, 46 A. 2d 706 (1946); *Sayles v. Sayles*, 323 Mass. 66, 80 N. E. 2d 21 (1948); *In re Adoption of Anonymous Minor Child*, 192 Misc. 359, 77 N. Y. S. 2d 121 (1948); *In re Miller*, - Misc. -, 114 N. Y. S. 2d 304 (1952); *Cairgle v. American Radiator and Standard Sanitary Corp.*, 366 Pa. 249, 77 A. 2d 439 (1951); *Barr's Next of Kin v. Cherokee, Inc.*, 220 S. C. 447, 68 S. E. 2d 440 (1951).

²² *Boughner v. State*, 6 Ohio L. A. 597, -----, (1928)—Evidence that from 279 to 281 days elapsed between the date that the husband occupied the home with his wife and the date of birth, raised a conclusive presumption of legitimacy which could not be overcome by other testimony regarding absence of intercourse on the part of the husband or adulterous relations by the wife with other men.

²³ *Schlenker v. Ferdon*, 21 Ohio App. 222, 153 N. E. 113 (1926).

²⁴ *State v. John Imperiale*, 14 Misc. 2d 887, 180 N. Y. S. 2d 814 (1957)—Here one element of defense was that the birth took place 282 days after the last intercourse and that a limit should be placed at 280 days. The court said that the 280 day rule is not a hard and fast one and there may be a reasonable variation, such as a few days, of the normal period of gestation without the necessity of invoking expert medical testimony.

²⁵ *Dazey v. Dazey*, *supra*, n. 7.

²⁶ 32 *Words and Phases* 87.

of time above stated and that of 300 days before the birth of the child.²⁷

Some courts have taken judicial notice of supposed norms while others refuse to do so. For instance, one court²⁸ will say "A court may take judicial notice that the period of human gestation is about 280 days or 9 calendar months"; a second²⁹ will say, "Courts judicially notice the ordinary period of gestation; but such period is subject to many exceptions, and neither the mean nor the extremes of such period is so commonly and precisely known as to permit judicial notice"; while a third³⁰ states, "the Court of Appeals would take judicial notice of what medical science has determined to be the normal periods of gestation and will consult medical books for that purpose." Often courts will state that the normal period of human gestation is 280 days, but that that period is subject to some variations.³¹ Another court³² states bluntly that the minimum period of gestation is 240, the average 273, and the maximum 300 days.

While many European nations set limits on the alleged length of pregnancy by statute, English and American courts utilize all possible information in making pertinent decisions instead of being bound by an arbitrary number. Thus, considering length of time alone, opinions vary widely. An example of a case involving the importance of time illustrates this well.

In *Goss v. Forman*,³³ a child was born on January 3, 1885. It appeared that the mother had left her husband's house on April 4, 1884, and never saw him again, he dying on June 3, 1884. The mother testified that she had sexual intercourse with her husband on April 3, 1884. The husband was afflicted with Bright's disease and dropsy from November, 1883, until his death. His attendant

²⁷ *Souчек v. Karr*, 78 Neb. 488, 111 N. W. 150 (1907), quoting and adopting definition in *Masters v. Marah*, 19 Neb. 458, 27 N. W. 438 (1886).

²⁸ *Fuller v. U. S.*, 65 A. 2d 589 (Mun. App., D. C., 1949).

²⁹ *Spears v. Veasley*, 239 Ia. 1185, 34 N. W. 2d 185 (1948), also *Bell v. Bell*, 240 Ia. 934, 38 N. W. 2d 658 (1949).

Harward v. Harward, 173 Md. 339, 196 A. 318 (1938)—Neither the mean or extremes of the period of gestation in a woman is so commonly known that the courts may take judicial notice of them for the purpose of supplying a basis for a decree which will determine the status or rights of parties to a marriage or the issue thereof.

³⁰ *Steed v. State*, 80 Ga. App. 360, 56 S. E. 2d 171 (1949).

³¹ *Silke v. Silke*, 325 Mass. 487, 91 N. E. 2d 200 (1950); *Boudinier v. Boudinier*, 240 Mo. App. 278, 203 S. W. 2d 89 (1947); *In re Niles' Will*, - Misc. -, 99 N. Y. S. 2d 238 (1950); *Bowers v. Bailey*, 273 Ia. 295, 21 N. W. 2d 773 (1946).

³² *People v. Case*, 171 Mich. 282, 137 N. W. 55 (1912).

³³ *Goss v. Forman*, 89 Ky. 318, 12 S. W. 387, 8 L. R. A. 102 (1889).

physician testified that he could not have had sexual intercourse after January, 1884, owing to his swollen condition. His physician visited him on March 31 and April 8, 1884 and frequently before and after, and found him growing worse constantly. The nurse who was with him night and day testified that his swelling did not abate between March 31st and April 8th, and that he did not have sexual intercourse with his wife on April 3rd, nor at any other time for several months before. The wife had had sexual intercourse with another man on April 4, 1884 and several times thereafter. Held, that the child was illegitimate.

Some Courts have used a limit of ten calendar months—variously, after alleged intercourse, after dissolution of the marriage, or after death of the husband.³⁴

Cases will be presented where pregnancies of specific lengths were upheld as compatible with a presumption of legitimacy. Terminology varies but often the court states that an alleged pregnancy of so many days did not overcome the presumption of legitimacy.

Thus courts have allowed alleged pregnancies of 313 days after conception,³⁵ 301 days,³⁶ 299 days,³⁷ 313 days,³⁸ 321 days³⁹ 320 days,⁴⁰ 324 days,⁴¹ and 336 days.⁴²

On the other hand, courts have ruled adversely in consideration of the following alleged lengths of pregnancy—one year,⁴³

³⁴ *In re Walker's Estate*, 176 Cal. 402, 168 P. 689 (1917); *State v. Coliton*, 13 N. D. 582, 17 N. W. 2d 546 (1945); *Erickson v. Schmill*, 62 Neb. 368, 87 N. W. 166 (1901).

³⁵ *State v. Banik*, 21 N. D. 417, 131 N. W. 262 (1911).

³⁶ *Franks v. State*, 26 Ala. App. 430, 161 So. 549 (1935)—In a bastardy prosecution, limiting the inquiry as to intercourse of prosecutrix with other men within two hundred and eighty days before the birth of the child was held erroneous, since the child could have been conceived within three hundred and one days preceding birth.

Also *Foster v. Cook*, 3 Brown's Rep. Edin. 347, 29 English Rep. 575 (1791).

³⁷ *Luscombe v. Pettyjohn*, Exeter Summer Assizes (1840).

³⁸ *Commonwealth v. Hoover*, 3 Clark (Penna.) 514, 6 Pa. Law J. 195 (1846).

³⁹ *Taylor v. Taylor*, 15 Tenn. App. 563 (1932).

⁴⁰ *State v. Van Patten*, 236 Wisc. 186, 294 N. W. 560 (1940).

⁴¹ *Ousley v. Ousley*, - Ky. -, 261 S. W. 2d 817 (1953).

⁴² *Pierson v. Pierson*, 124 Wash. 319, 214 P. 159 (1923)—The fact that 336 days elapsed between the time when the husband and wife ceased to cohabit and the time of birth did not conclusively show illegitimacy.

⁴³ *Bowen v. Parsons*, 73 W. Va. 791, 90 S. E. 336 (1916)—No recovery can be had in a bastardy proceeding by a married woman in absence of proof that she had lived separately from her husband for one year or more, had not cohabited with him within that time, and was delivered of a child after the expiration of such period and while separation continued.

322 days,⁴⁴ more than 10 months,⁴⁵ 321 days,⁴⁶ 320 days,⁴⁷ 316 days,⁴⁸ 310 days,⁴⁹ 307 days,⁵⁰ 305 days,⁵¹ and 304 days.⁵²

A New York court accepted as legitimate a pregnancy of 355 days,⁵³ while the *Preston-Jones* peerage case in England was one where the husband sued for divorce on the grounds of adultery, the date of last coitus necessitating a pregnancy of 360 days if legitimacy were to be upheld. After the Divorce Commissioner dismissed the husband's case, he went through two rehearings before finally being granted a divorce.^{53a}

Thus considerable contrast is found as to time allowed for duration of pregnancy in contrast to the definitiveness found in Europe, such as the 300 days allowed in Scotland, France, Switzerland, and Italy. American flexibility allows for the evaluation of other evidence—which is most important in making a decision—for instance, the fact of known adultery would be an important consideration. The number of pregnancies lasting 300 days from conception (not from the last menstrual period) is assuredly less than one per cent. If there were no coitus by the husband within 300 days and there was definite evidence of adulterous rela-

⁴⁴ *Duck v. The State ex rel. Dill*, 17 Ind. 210 (1861).

⁴⁵ *Dean v. State*, 29 Ind. 483 (1868)—Evidence that the husband was absent from his wife (in the army) from January, 1864, until June 1865, and that the child was born in November, 1865, is sufficient to establish its illegitimacy.

⁴⁶ *In re Aronson et al., Finley et al. v. Nelton*, 263 Wisc. 604, 58 N. W. 2d 553 (1953).

⁴⁷ *Gillis v. State*, 206 Wisc. 150, 238 N. W. 804 (1931).

⁴⁸ *Boudinier v. Boudinier*, 240 Mo. App. 278, 203 S. W. 2d 89 (1947)—So greatly extended a period of gestation as one of 316 days claimed by the wife in a divorce action wherein the husband charged adultery was not of such common knowledge as to warrant judicial notice.

⁴⁹ *Commonwealth v. Watts*, 179 Pa. Super. 398, 116 A. 2d 844 (1955).

⁵⁰ *Commonwealth v. Cicerchia*, 177 Pa. Super. 170, 110 A. 2d 776 (1955)—In a bastardy case, wherein the prosecutrix was a married woman, the commonwealth's proof that the husband had had no access to the prosecutrix for 307 days prior to the birth of the child was sufficient to sustain the burden of rebutting the presumption of legitimacy, even though so protracted a pregnancy was a possibility.

⁵¹ *Commonwealth v. Kitchen*, 299 Mass. 7, 11 N. E. 2d 482 (1937).

⁵² *In re McNamara's Estate*, 181 Cal. 82, 183 P. 552, 7 A. L. R. 313 (1919)—Evidence that a child was born 304 days after its mother left her husband to cohabit with another, together with evidence of other facts, was sufficient to overcome the prima facie presumption regarding legitimacy of children born during wedlock, and sustain a finding of illegitimacy.

⁵³ *Lockwood v. Lockwood*, - Misc. -, 62 N. Y. S. 2d 910 (1946).

^{53a} *Preston-Jones v. Preston-Jones*, 65 T. L. R. 620, 47 L. G. R. 696, 93 S. J. 497 (1949). *Mews' Annual Digest of English Case Law*, Col. 106.

tions, then the mathematical presumption would be at least 100 to 1 in favor of illegitimacy.

Medical Aspects of Prolonged Pregnancy

Not counting the innumerable births of the past, births since the turn of the century number in the billions. The United States alone has over 4 million births a year, the world 80 million. In a country like ours, with fairly adequate medical recording, we have had about a hundred million births since 1930. Therefore, it is reasonable to assume that pregnancy is a subject about which medical science should have vast accumulations of information. Medical knowledge has been scanned for the purpose of this paper, but it should be commented that the information here does not represent a complete review of the subject. It is presented rather as an overall picture of the subject.

Pregnancy occurs when the spermatozoon unites with the ovum—within 24 to 48 hours following intercourse. Within several days, the ovum becomes embedded in the wall of the uterus, where it remains for the duration of the pregnancy. The average woman menstruates every 28 to 30 days, though there is considerable variation. She usually ovulates about 14 days prior to the following menstrual period—so that if a woman has periods at 35 day intervals, she will ovulate nearer the 21st day following the preceding period. The converse would hold true in those who have 21 day periods. With those who are irregular, no general statement can be made.

Beck⁵⁴ states,

Although ovulation unquestionably takes place about fourteen days before the end of the menstrual cycle, the exact date of its occurrence is not known. The beginning of pregnancy, accordingly, cannot be estimated from the rather indefinite time that the egg leaves the ovary. Likewise the date of fruitful coitus usually is unknown and therefore cannot be used in estimating the time of fertilization, and since we have no means of knowing when this event occurs, the exact length of pregnancy cannot be determined.

He reports variations in pregnancy from 230 to 329 days from the beginning of the last period. The approximate length

⁵⁴ Beck, A. C., *Obstetrical Practice*. The Williams and Wilkins Co., Baltimore, 1951 (5th Ed.).

of gestation would be 14 days less than this number. Kerr⁵⁵ agrees: "When we consider the conception—delivery interval . . . , we have as yet no means of knowing the exact date of fertilization of the ovum." Nonetheless, as will be shown, it is possible to determine this often within a day or two of the exact date.

For practical purposes, most obstetricians use the date of the last period in calculating an expected date of delivery. The most common formula is the Naegele rule, which computes such a date by subtracting three months from twelve, and adding seven days. Thus, if the last normal period began on January 10, the expected date would be October 17 (or to use numbers, if the last period were 6/15, the expected date would be 3/22). This rule is very helpful as a guide, but there may be wide variations (see Table 1). Thus, using this rule, less than 1%

TABLE 1

(after Eastman)

Deviation from Calculated Date of Confinement. According to Naegele's Rule, of 4,656 Births of Mature Infants.

DEVIATION IN DAYS		EARLY DELIVERY	DELIVERY ON CALCULATED DATE	LATE DELIVERY
0			189 4.1%	
1-5	860	18.5%		773 16.6%
6-10	610	13.1		570 12.2
11-20	733	15.7		459 9.9
21-30	211	4.5		134 2.9
31 and over	75	1.6		42 0.9

The menstrual cycles of the mothers were 28+ or — 5 days.

The infants were at least 47 cm. in length and 2,600 gm. in weight. (Buerger and Korompai.⁵⁶)

go beyond 300 days from the last menstrual period or about 286 days from conception. In Strand's study,⁵⁷ 2.7% exceeded 301

⁵⁵ Kerr, J. M. M., *Obstetrics and Gynecology*. The Williams and Wilkins Co., Baltimore, 1946 (4th Ed.).

⁵⁶ Buerger, K. and Korompai, I., *Die Bewertung der Berichnung des Geburtstermines nach Naegele auf grund unsurer heutigen Kenntnisse*, 63 *Zentralbl. f. Gynak.* 1290 (1939).

⁵⁷ Strand, A., *Prolonged Pregnancy*, 35 *Acta Obst. Gynec. Scand.* 76 (1956).

days using the Naegele rule (in 10,151 deliveries). Burkons⁵⁸ found that in 2,600 cases, 159 or 6.1 per cent exceeded 295 days from the last normal menstrual period. Nesbitt,^{59, 60} reports that utilizing the above rule, 25 per cent exceed 41 weeks; 10-12%, 42 weeks; and 3-4%, 43 weeks or more. Of 7,415 births, 812 or 11% lasted more than 294 days (or about 280 days from conception)—this number dropped to 7.3 per cent when all pregnancies over 20 weeks were included. It has been found that when intervals between periods are longer than the usual, the pregnancy lasts a few days longer and vice versa.⁶¹ Higgins⁶² found in 9,277 mature pregnancies, that 1.2% lasted over 44 weeks and that 57.5% delivered in the forty and forty-first weeks. He states: "Records of grossly prolonged pregnancy with a normal foetus are exceedingly rare. I have not been able to trace any reports in British literature." Walker states:⁶³

It is notoriously difficult to be certain of the gestational age of any pregnancy when the decision has to be made after about 24 weeks, in labour, after delivery, or in any way in retrospect. In any hospital population even with excellent systems of assessment 18 to 20 per cent of cases have 'doubtful' dates of delivery. A good menstrual history along with clinical assessment of uterine size before the 16th week is the only method of establishing a clinical duration of a given pregnancy and it is at the first visit that such a decision should be made.

In any event, utilizing the Naegele rule and subtracting a reasonable time for the interval before conception, most cases center around pregnancies of 266-270 days. Other means of estimating length of pregnancy are measuring the size of the abdomen or the date of quickening (about 22 weeks in those having a first child or 24 weeks in those with previous children). These are very gross yardsticks. Another means of ascertaining pregnancy is afforded by the various hormonal tests which may be positive two to four weeks after onset of pregnancy.

⁵⁸ Burkons, H. F., Prolonged Pregnancy, 53 Ohio M. J. 1151 (Oct., 1957).

⁵⁹ Nesbitt, R. E., Jr., Postmature Pregnancy, Clinical Obstetrical Aspects, 165 J. Am. M. Assn. 1656 (Nov. 23, 1957).

⁶⁰ Nesbitt, R. E., Jr. Postmature Pregnancy, 8 Obst. Gyn. 157 (Aug., 1956).

⁶¹ Brown, L. T., Duration of Pregnancy, 53 Rocky Mountain M. J. 541 (May, 1956).

⁶² Higgins, L. G., Prolonged Pregnancy, 63 J. Obst. Gyn. Brit. Empire 567 (Aug., 1956).

⁶³ Walker, J., Prolonged Pregnancy, 180 Practitioner, Lond. 658 (June, 1958).

Various textbooks of obstetrics point out the difficulties of measurement.⁶⁴

It is important to exclude variations due to obstetrical monstrosities. For instance, anencephalic monsters (lack of development of brain and head) may be quite delayed in time of delivery. Higgins⁶⁵ reports a case of 389 days duration, but such cases are noted by the physical abnormality which must be taken into account. Unable to find English cases of prolonged duration, he reports on several German cases in the literature.⁶⁶

Another factor to be considered is the syndrome of prolonged pregnancy or postmaturity which is arbitrarily measured by including all cases more than two weeks or three weeks beyond the expected date (depending on the author). There are numerous anatomic and physiologic features which are part of this syndrome which are not relevant to the purpose of this article, which is concerned only with the factor of duration—information of which has been extracted where possible from discussions of postmaturity. Those interested are referred to the articles by Strand⁶⁷ and Lindell.⁶⁸ For those who can afford a prolonged vacation, the reader is referred to an article by Nesbitt⁶⁹ which lists no less than 416 articles on the subject.

The dearth of cases of prolonged pregnancy (beyond 300

⁶⁴ (a) Wilson, J. R., Beecham, C. T., Forman, I., and Carrington, E. R., *Obstetrics and Gynecology*, C. V. Mosby Co., St. Louis, 1958.

(b) Titus, P., *The Management of Obstetrical Difficulties*, C. V. Mosby Co., St. Louis, 1945 (3rd. Ed.). Instances of pregnancy lasting 11 lunar months usually are merely an error in the patient's calculation.

(c) Kerr, J. M. M., *Obstetrics and Gynecology*, The Williams and Wilkins Co., Baltimore, 1946 (4th Ed.). He quotes cases of 313, 320, 331 days from the commencement of the last period.

(d) DeLee, J. B. and Greenhill, J. P., *Principles and Practice of Obstetrics*, W. B. Saunders Co., Philadelphia, 1951 (10th Ed.)

⁶⁵ Higgins, L. G., *Prolonged Pregnancy*, 2 *Lancet* 1154 (Dec., 1954).

⁶⁶ (a) Von Schubert, E., 11 *Geburtsh. U. Frauenheilk* 334 (1951) - 337 days.

(b) Kirchoff, H., 1 *Geburtsh. u. Frauenheilk* 187 (1939) - 3 cases of 321 to 338 days.

(c) Tausch, M., 93 *M Schr. Geburtsh. Gynak.* 137 (1933) - 343 days with a minimum of 315 days since conception.

(d) Wittenbeck, F., 51 *Zbl. Gynak.* 2094 (1927) - 360 days in an anencephalic foetus.

⁶⁷ Strand, A., *supra*, n. 57.

⁶⁸ Lindell, A. E., *Prolonged Pregnancy*, 35 *Acta Obst. Gynec. Scand.* 136 (1956).

⁶⁹ Nesbitt, R. E. L., Jr., *Prolongation of Pregnancy: A Review*, 10 *Obst. Gynec. Survey* 311 (1955).

See also Benson, R. C., *The Postmaturity Problem*, *Bull. Vancouver Med. Ass.* (Sept., 1957).

days after conception) in English and American medical literature is striking. Inasmuch as pregnancy is easy to diagnose within the first month, one would expect verified reports of such cases if they occurred with any frequency.

Most of the dates mentioned were those from the last normal menstrual period—a very inaccurate gauge of pregnancy. Women do not become pregnant in relation to the period, but in relation to ovulation with subsequent fertilization. Thus if ovulation could be measured accurately, a much finer yardstick would be available inasmuch as fertilization takes place within about one day of ovulation (a factor which is utilized in the various rhythm systems of birth control). It is known that at the time of ovulation, there is an abrupt rise of body temperature. The importance of this will be explained below.

Medical Opinion As Reflected in a Questionnaire

With the unsatisfactory information available, a questionnaire was designed to ascertain general medical opinion. These questionnaires were sent to the professors of obstetrics at eighty-four medical schools in the United States. Replies were received from thirty-eight professors.⁷⁰ Unfortunately it was not specifically asked that responses were to indicate pregnancy from estimated date of conception rather than the last normal menstrual period. Therefore, responses are undoubtedly based on both measurements. As will be seen, this is not too important as far as this study is concerned.

⁷⁰ Questionnaires were returned by the Professors of Obstetrics of the following medical schools:

Albany Medical College	University of Louisville
Baylor University	University of Maryland
Chicago Medical School	University of Miami
College of Medical Evangelists	University of Michigan
Cornell University	University of Missouri
George Washington University	University of North Carolina
Jefferson Medical College	University of North Dakota
Johns Hopkins University	University of Oklahoma
Marquette University	University of Oregon
Medical College of Georgia	University of Pittsburgh
Medical College of Virginia	University of South Dakota
New York Medical College	University of Southern California
Tufts University	University of Vermont
Tulane University	University of Washington
University of Arkansas	University of Wisconsin
University of California (San Francisco)	Wake Forest College (Bowman Gray School of Medicine)
University of Chicago	Washington University of St. Louis
University of Iowa	Wayne State University
University of Kansas	Western Reserve University

The five basic questions asked were:

- (1) In your experience, what is the longest verified pregnancy that you have encountered?
- (2) In your talking with fellow obstetricians, what is the longest verified pregnancy that you have heard mentioned?
- (3) In your reading of the literature, what is the longest verified pregnancy that you have encountered?
- (4) What would be your guess as to the maximum period of pregnancy possible in the human female?
- (5) Where do you think that courts should draw the line?

The results of this questionnaire are tabulated in Table 2. For purposes of brevity, comments and explanatory notes have been omitted from the chart.

TABLE 2
Results of Questionnaire on Duration
of Pregnancy—38 received

PREGNANCY IN DAYS	TOTAL RESPONSES	280- 289	290- 299	300- 309	310- 319	320- 329	330- 339	340- 349	350- 359	360- 369	Over
Question 1	35	1	4	16	6	3	3	1	1	0	0
Question 2	29	1	2	15	4	3	3	0	1	0	0
Question 3	18	0	0	3	3	2	2	1	3	2	2(389)
Question 4	25	0	3	6	6	4	1	1	3	0	1(455)
Question 5	26	0	5	6	0	4	2	3	4	1	1(455)

Some observations are in order. It must be stressed that this was not a scientific study, but a collection of opinions. Many of the letters commented that the word "verified" made dubious many of the responses, and often the difficulties in measurement were mentioned. The biggest response was obtained on Question 1, which was based on personal experience. The vast bulk of opinion was in the 300-320 day range. On Question 2, which was also based on personal experience (by hearsay), the results were basically the same. On Question 3, there was much greater variability. The striking element was the sparsity of responses, less than one-half answering. It was apparent that many isolated reported cases are simply not believed. Two referred to the case previously reported by Higgins of an anencephalic monster (another defect of the questionnaire was that it did not stipulate

that information was desired only about viable non-monsters). Many questions were raised as to the validity of reported cases, and some while reporting them indicated disbelief.

The answers to Questions 4 and 5 were most striking—one being on estimates of the possible duration of human pregnancy and the other on recommended limitations for the use of courts. A very wide expression of opinion was obtained, with one professor indicating that a pregnancy of 455 days was possible. Several commented that the legal problem was not to pick a number, but that each case must be evaluated in accordance with the medical information available, the types of people and the problem involved, and the utilization of all pertinent information.

To sum up the results from this small sampling:

(1) About two-thirds reported pregnancies in the 300-319 day range (However, how many represented estimates in accordance with the Naegele rule is not known. Many criticized this system of measurement).

(2) Most do not believe published reports as to unusual periods of gestation.

(3) There is a very wide range of opinion as to duration of pregnancy.

This study points up what has already been alluded to—the failure thus far of accumulation of scientific data, primarily because of lack of measuring tools.

Use of Basal Temperatures in Studying Length of Pregnancy

Stewart⁷¹ has written an oft-quoted article on the duration of pregnancy. He discusses the problem of measurement and defines *postmaturity* as those pregnancies extending fifteen or more days beyond the expected date of confinement. In his study, he kept basal temperature records to indicate ovulation in 135 pregnancies. In this group, all pregnancies terminated in 250 to 285 days from ovulation, with an average of 266 to 270 days. He presents a case of a woman, age 21, in her first pregnancy who menstruated on two occasions during the month preceding the last normal menstruation. A female baby, weighing 3930 gm., was delivered 344 days later. Basal temperatures showed ovulation on the 66th day, and the duration of pregnancy from that

⁷¹ Stewart, H. L., Jr., Duration of Pregnancy and Postmaturity, 148 J. A. M. A. 1079 (1952).

date was 278 days. "Life was believed present at the 18th week from menstruation and, as so often found in many cases of this study, is an unreliable symptom on which to base any calculations." Another case, whose pregnancy as measured from the last menstrual period was 349 days, was only 250 days measured from ovulation.

Postmaturity among the 135 cases in this study did not exceed three weeks. There was no evidence to support the alleged prolongation of human pregnancy to 10, 11, or 12 months—delay in ovulation accounting for all such instances in this study. He feels that postmaturity is short and does not extend beyond three weeks.

He commented on the 300 day limitations in Switzerland, Scotland, France, and Italy, 307 days in Austria, and 302 days in Germany, feeling that they are liberal yardsticks. He discusses several English and American cases,⁷² where much longer periods were involved.

Stewart concludes that the maximum duration of pregnancy as determined by ovulation, which is the closest measurement of actual pregnancy, is 285 days. He feels that 300 days might be used as a reasonable limitation. "Longer periods seem most questionable and are conspicuous by the complete absence of any supporting data from this study."

Conclusions

The question of paternity and prolonged pregnancy is a common one in the courts. While many European nations stick to firm rules, English and American courts have individualized each case so that there is great variance. In general, our courts of law favor legitimacy where possible, and so they usually attempt to favor the woman (e.g., loose standards) where possible. Thus in all probability, there are many men in England

⁷² Gaskill v. Gaskill, L. R. (1921) Prob. 425, English Probate Division, 90 L. J. P. 339, 21 A. L. R. 1451 (1921) ---- 331 days.

Lockwood v. Lockwood, 62 N. Y. S. 2d 910 (1946) (Where 355 days were ruled possible).

Wood v. Wood, Divisional Court, Eng. 1947, L. R. (1947) Prob. 103—Eng. Probate Division, Vol. 117 (1948) Law Journal Reports 784 (346 days). Preston—Jones v. Preston Jones, House of Lords, Eng. Dec. 49, 65 T. L. R. 620; 47 L. G. R. 696; 93 S. J. 497—CA, 1949 Mews' Annual Digest of Eng. Case Law 107 (360 days, divorce finally granted). Lord Simonds said, in this case, "It is repugnant that a court of Justice should be so little in accord with the common notions of mankind that it should require evidence to displace fantastic notions."

and the United States whose only claim to paternity rests on a court order.

However, while the law has fared poorly with this problem, medical science has done even more poorly. It is a humorous and almost fantastic situation that we cannot delimit this problem more clearly in the face of billions of births and generations of study. Much medical research remains to be done. One avenue of approach is the measurement of large numbers of pregnancies by the time from ovulation as indicated by temperature studies. If obstetrical staffs at large medical centers could enlist the support of as many patients as possible, it would seem simple to accumulate a significant number of pregnancies—for example, one hundred thousand. Analysis of these figures could give all concerned a clearer idea of the problem at hand.

Until that time, the present individualized method seems the appropriate manner to handle these cases. It might be helpful in cases where delivery of a child takes place more than 300 days following an alleged last intercourse to eliminate the presumption of legitimacy rule, since statistically the odds are so much greater that there was subsequent copulation. Because something is theoretically possible does not mean that it is reasonably possible. There should be supporting data in cases of indicated prolonged pregnancy—the best help available being the information obtained by the physician early in the pregnancy.

In any event, this is one medicolegal situation where medicine and law are equally matched—and equally confused.

After innumerable millenia of reproduction, we are in much the same position as a curious Adam might have been, had he turned to his mate and asked: "Say, Eve, how long does a pregnancy last?"