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HOUR OF BIRTH

A Discussion as to the Hour Which Birth Most Often Occurs

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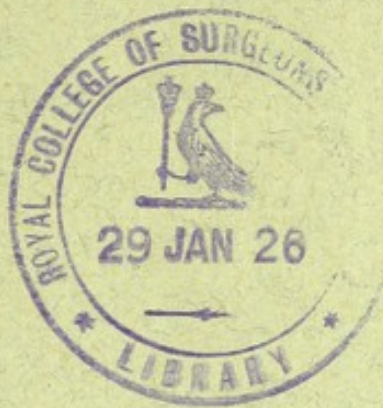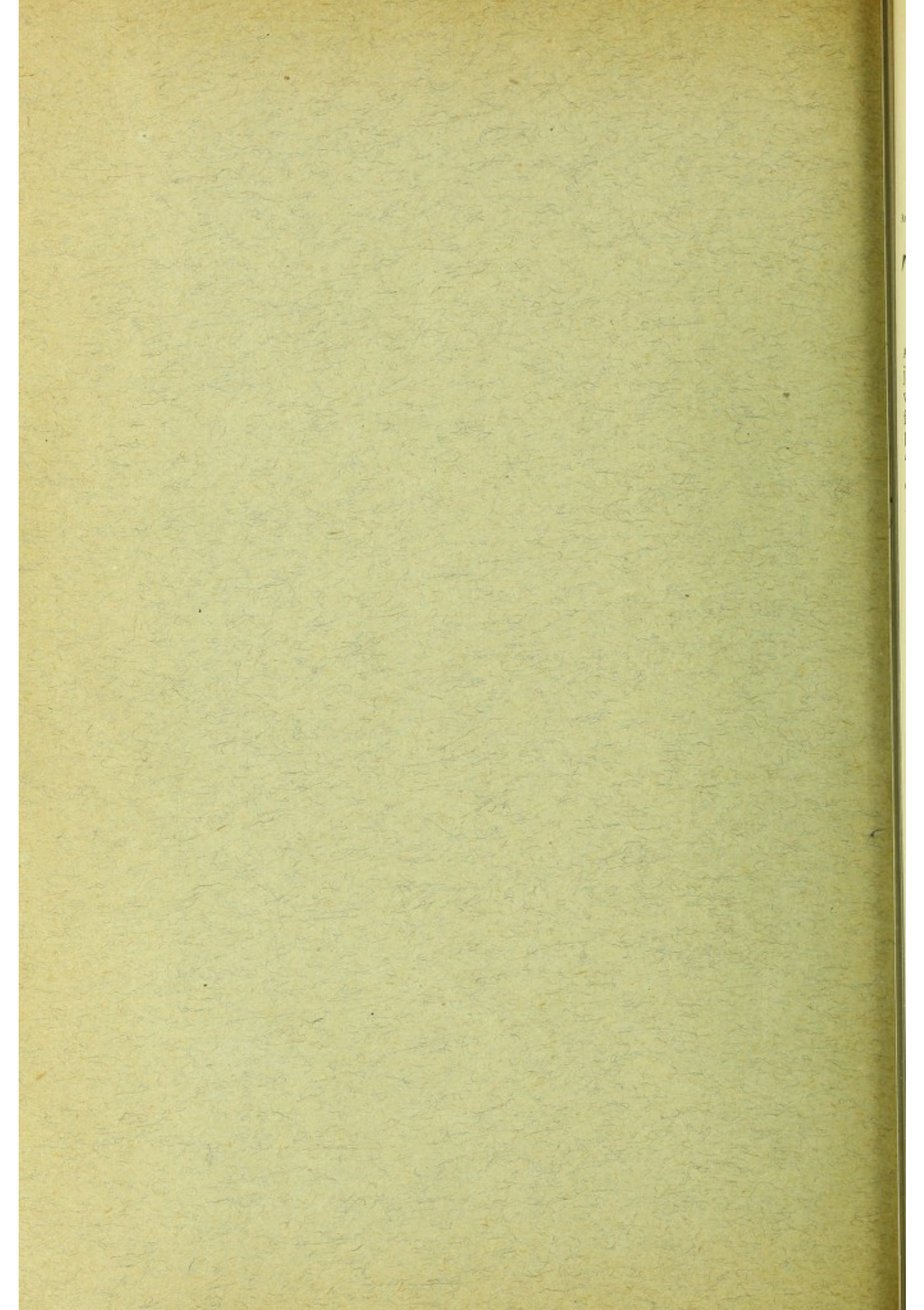
HOUR OF BIRTH[1]

A Discussion as to the Hour at Which Birth Most Often Occurs

By FRANK W. LYNCH, Chicago, Illinois

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THE majority of obstetrical treatises which refer to this subject state that birth usually occurs at night, and most commonly takes place at 3 o'clock A. M., and with this simple statement the subject is generally dismissed. In the text-books which enter farther into this matter, we most frequently find the diction which is commonly, but erroneously, credited to Spiegelberg. "Labor usually begins in the evening, most often between 9 and 12 P. M., terminates generally in the night, the maximum number of births occurring between 12 and 3 A. M." Moreover, some authors, as Jewett, quote Spiegelberg to the effect that "the end of labor occurs twice as often between 9 P. M. and 9 A. M. as in the other twelve hours. There is little wonder then that this idea has become prevalent among the laity, medical students and majority of general practitioners.

Yet if we turn our attention to even a theoretical consideration of this subject, we find it difficult to believe in the truth of the prevailing idea. There are so many variable factors in ovulation, insemination, pregnancy, and labor, that it is difficult to believe that they can be timed to such a nicety as to result in the birth of the majority of cases at any one hour of the day.

At the present time we believe that ovulation occurs independently of menstruation, and although many, as Leopold, Zweifel, and others, hold in its physiological periodicity for individuals, our knowledge of the histology and physiology of the ovary scarcely warrants us in believing that the ovum periodically escapes from the follicle at a certain definite and fixed moment, in each individual. Unfortunately our knowledge concerning the ripening of the human ovum is scanty; nor do we know the limit of time the spermatozoa retain their activity in the female generative tract, or the ripened ovum resist the entrance of the male element. We are ignorant, moreover, of the place of fertilization of the ovum in any given case, and if fertilized about the ovary or in the tube, do not know how long it may take for the egg to reach the uterine cavity. Yet it does not seem logical in the light of observations of other physiological phenomena, such as menstruation, lactation, etc., to assume that the combination of the factors essential for fertilization is ordained to take place within any one group of hours rather than another.

Although we are unable to accurately determine the duration of pregnancy, we may conclude from clinical studies that it presents considerable variations. The calculation of the time elapsing between a single coitus and labor has done little more than emphasize this fact. Thus, Duncan analyzed 46 such cases and found the average of the periods to be 275 days. Faye in 63 cases found it to be 270.6 days. Löwenhardt in 578 cases found it 272.2 days. Ahlfeld in 425 cases obtained an average of 271 days, but called attention to the fact that there was a difference of 99 days between the longest and shortest periods. Hecker in 108 cases figured an average of 273.5 days, with a difference between the longest and shortest period of 63 days. Veit in 43 cases showed an average of 276.4 days, with a difference between the extreme periods of the series of 36 days.

In the breeding of domestic animals in which conception as a rule follows a single act of sexual congress, similar variations have been noted by Tessier, Krahmer, Spencer, and others. Thus the average duration of gestation in rabbits is 31 days, the variation 8 days; in sheep an average of 151 days, with a variation of 26 days; in cows the average gestation is 283 days, but calving may occur between the 183d and 356th day; in mares the average period is 347 days, but foaling may occur between the 287th and 419th day.

[1] Read at the May meeting of the Chicago Gynecological Society.

A.M.=4.8, or .6 more than 1/24 of total, and
3 cases cases from 5 P.M. to 6 P.M.=3.6 or
less than 1/24 of total.

GREATEST AND LEAST NUMBER OF BIRTHS AT ONE HOUR

SERVER	TOTAL NO. OF CASES OF SERIES	GREATEST NO. BETWEEN	PER CENT OF TOTAL	LEAST NO. BETWEEN	PER CENT OF TOTAL
it	14,036	1 to 2 A.M.	4.9	5 to 6 P.M.	3.6
rlinski	809	{ 4 to 5 A.M. / 1 to 2 P.M.	4.9	{ 7 to 8 A.M. / 8 to 9 P.M.	3.33
nch	1,508	8 to 9 A.M.	5.4	1 to 2 P.M.	3.11

There is, however, a fairly constant per cent
increased birth rate during the night hours
7 P.M. and 7 A.M. Thus we find the rate to
:

	Cases	Per Cent	Born Between
it	14,036	52.6	7 P.M. and 7 A.M.
rlinski	809	51.4	7 P.M. and 7 A.M.
nch	1,508	51	7 P.M. and 7 A.M.
hite	4,000	50.5	8 P.M. and 8 A.M.

Recasting these 20,353 cases to conform to
hite's period of 8 P.M. and 8 A.M., we find
per cent more than 50 per cent were born
ring the 12 hours which include the night
0,653 to 9,700).

We find in the literature records of nearly
,000 labors classified roughly according to
e hour of birth.

TABLE SHOWING HOURS OF BIRTH IN 22,837 CASES

	A. M.				P. M.				
	12–3	3–6	6–9	9–12	12–3	3–6	6–9	9–12	
it and rlinski	2,164	1,956	1,025	1,744	1,709	1,668	1,713	1,966	14,845
etelet .	445	353	299	315	270	295	351	343	2,680
ck.	159	131	141	90	101	76	101	138	931
nken . . .	137	129	119	85	97	88	117	118	890
est	266	302	277	267	218	185	231	273	2,019
nch	203	202	221	184	165	178	177	187	1,508
	3.374	3,073	2,982	2,684	2,360	2,484	2,690	3,025	22,873

All combinations have been attempted with
ese figures, and the result obtained shows
at from 1.5 per cent to 3.5 per cent more than
lf of the cases were born during any 12 hours
hich contain the night hours.

The following conclusions may be drawn
om the above tables:

1. That the birth rate per hour is fairly
niform in a large series of cases.

2. The extreme variations between the birth
te per hour for any 2 hours is 1.2 per cent of
tal.

3. That in 12 of the 24 hours the extreme
variation is less than $\frac{1}{2}$ of 1 per cent.

4. That more births occur in the total hours
of the night than any equal number of hours
of the day, but the extreme variations in any
such combination is less than 7 per cent.

5. Four per cent more births occurred be-
tween 7 P.M. and 7 A.M. than in the other 12
hours in 16,353 collected cases. The same
variation occurs in 20,353 cases between 8
P.M. and 8 A.M., and 8 A.M. and 8 P.M.

6. That the statements made on this subject
in many text-books are incomplete and errone-
ous.

AHLFELD. Beobachtung über die Dauer der Schwan-
gerschaft. Monatsschr. f. Geburtsk., bd. xxxiv, s. 208.
BERLINSKI. Dissertatio, de nascentium morientium-
que numero, etc. Quoted from Veit.
BUCK. Quoted from Veit.
DUNCAN. Practice in the Prediction of the Day of Con-
finement. Edinburgh Med. Jour., March, 1871.
DUNCAN. Fecundity, Fertility and Sterility. Second
edition, p. 433, 435.
FAYE. Quoted by Ahlfeld, Monatsschr. f. Geburtsk.,
bd. xxxiv, s. 208.
HECKER. Klinik der Geburtskunde, 1861, s. 33.
ISSMER. Über die Zeitdauer der menschlichen
Schwangerschaft. Achiv f. Gynäk. xxxv, s. 310.
JEWETT. In the Amer. Text-book of Obstetrics, Ed.
1897, p. 340.
LEOPOLD UND MIRONOFF. Beiträge zur Lehre von der
Menstruation und Ovulation. Archiv f. Gynäk.,
bd. 45, s. 506.
LÖWENHARDT. Die Berechnung und Dauer der
Schwangerschaft. Archiv f. Gynäk., bd. iii, p. 458.
QUETELET. Über den Menschen. Deutsche Ausgabe
von Riecke., s. 88.
RANKEN. Quoted from Veit.
ST. CYR. Traité d' obstétrique vétérinaire., pp. 107 et
seq.
SPIEGELBERG, O. Bericht über die Leistungen der
Gynäkologischen Klinik und Poliklinik in der Uni-
versität zu Breslau in den Studienjahren vom
October 1865 bis ebendahin 1867. Monatsschr. f.
Geburtsk., 1868, No. 32, s. 279.
SPIEGELBERG. Lehrbuch der Geburtsh., ii (Sydenham
translation).
TESSIER. Memoire de l'Acad. royale des Sciences,
1817. Tome ii.
Veit. Beiträge zur geburtsh'n Statistik. Monats-
schr. f. Geburtskunde, 1855, v., s. 344.
VEIT. Über die Dauer der Schwangerschaft u. s. w.
Verhand. d. Gesel. f. Geburts. in Berlin, 1852, h. 6.
WEST. Quoted from Veit.
WHITE. The Relation of Conception and Birth to
Season and Hour. Amer. Jour. of Obstetrics, No.
52, p. 527.