

NOTES ON HUMAN FERTILITY

BY W. W. BAUER, M.D

JAMES MONROE HARRIS and his wife made the headlines in 1937 because of a spectacular achievement. Born to Mrs. Harris when she was 39 years old were twin boys, Thomas Jefferson Harris and Robert E. Lee Harris, named in honor of their father's *Confederate war service*. According to the father, the babies were "sound as a dollar." A daughter of these same parents, Vera Lee, was six years old at the time, and another son, James, was eleven years old. At the times his children were born he had been, respectively, 81, 86 and 87 years old.

Skeptics have long classified as legendary the Biblical story of Sarah, who laughed sardonically when she was told that she would give Abraham a son. She said: "After I am old shall I have pleasure, my lord being old also?"

. . . Now Abraham and Sarah were old, and well stricken in age, and it had ceased to be with Sarah after the manner of women." But "Sarah conceived . . . and Abraham was a hundred years old when his son was born unto him."

Some headlines in the modern press sound strangely like this passage from the Book of Genesis. There was George Isaac Hughes, of New Bern, North Carolina, who became a father at 94 and again at 96. He boasted that he would live at least to the age of 110, as his grandmother had done. He claimed, and his appearance bore him out, that he was in full possession of his health and faculties. Unfortunately, he succumbed to publicity and notoriety. With his first child, then 16 months old, he attended a baby show, was the principal attraction of a festival at Asheville, and appeared on a nation-wide radio hook-up. It was feared that he would not live to witness the birth of his second child. He survived an influenza attack at that time, but died a year later from a respiratory infection and a heart attack, at the age of 97.

In Detroit, James S. Hornshaw, who was 69 years old in 1938, announced that his wife, then 50, had presented him with twins for the second time in twenty months. Smoking

W. W. BAUER, M.D., is director of the Bureau of Health Education of the American Medical Association. He has been, at various times, an officer in the U.S. Army Medical Corps, a practicing physician, and health commissioner of Racine, Wisconsin. He is the author of many books and magazine articles, his last previous contribution to the *MERCURY* being "What Doctors Know about Arthritis," which appeared in the issue of September 1945.

a big black cigar when the reporters interviewed him, he announced that these twins were no inferior specimens, either; they weighed seven pounds apiece. They brought the total of his children to thirteen, of which nine had been borne by his second wife. Eleven of these children were living, including one of the first set of twins; the latter weighed 33 pounds at the age of approximately eighteen months.

And then there was the recent publicity about Queen Wilhelmina of Holland, which mentioned the fact that she had been born when her father was 61 years old.

II

In the general population, approximately four babies out of every hundred are born to mothers who are over 40 at the time of the birth. Male fertility is not infrequently manifested beyond the age of 60. However, maternity is rare past the age of 50, and is sometimes difficult to verify in the absence of birth records for persons born a half century or more ago. This difficulty is greatest when the births occurred in rural areas, or in poorly organized communities, and in families where no Bible records of births or baptisms were preserved. All the cases of maternity or paternity at ages beyond the usual child-bearing span must be taken on the assumption that verification has been carried as far as possible, but that a reasonable question of doubt may be entertained as to the exact ages of the parents.

There is the case, for example, of

Mr. and Mrs. Leonidas H. Moore, reported from Spring Mountain, Koshocton County, Ohio, on January 9, 1928. In the newspaper clipping Mr. Moore was said to be 72 and his wife 52 when there was born to them a daughter. When this statement was checked by the Registrar of Vital Statistics, the actual ages proved to be 70 for the father and 51 for the mother. But for our purposes, these minor discrepancies are obviously of less importance than the fact that the inspector found these relatively aged parents to be a very active and healthy couple. This daughter was their third child. The mother was a leader of many activities in the community and the father, an ex-schoolteacher, was an active farmer.

Probably the oldest parents in the world, if we can believe the records, were Margaret Krasionna, of Konin, a village in Poland, and her husband. She died in 1763 at the age of 108. At the age of 94 this woman is said to have married her third husband, Kasper Raycol, who at that time was 105 years old. They lived together for fourteen years, during which time she bore him two boys and a girl. Another aged mother was reported in the chronicles of Louis XV of France. La Belle Paule Fiesche, a Parisian woman was said to have become a mother at the age of 90.

A considerable amount of superstition and fear surround the topic of parenthood occurring beyond the ordinary age limits. Some of it is justified and some is not. The three chil-

children born after the age of 94 to Margaret Krasówna were said to have shown plainly the marks of the advanced ages of their parents. These children were described as gray-haired, without teeth, and without sufficient strength to eat solid food. They were supposed to have been the correct size for their ages, but to have pallid complexions, bent backs, and 'all the other external symptoms of decrepitude.' The facts regarding these incredible children are said to be certified by the parish registers in the village of Czyuszyn in the district of Stench in the palatinate of Sandomierz.

In modern investigations of the effect of parental age on children we find some definite indications, and many indefinite suggestions, that it might be just as well, if one had the choice, to be the child of young parents, or, at any rate, of a young mother. Studies of 1000 patients at a state hospital for mental diseases showed that practically 10 per cent had mothers who were over 40 years old when the patients were born. This is almost three times the percentage of births to mothers over 40 in the population as a whole. It is virtually three times the percentage of patients with mothers over 40 in a parallel control study of psychoneurotic, but not mentally deficient, patients. This study also revealed that 174 of these 1000 patients had mothers who died before the patients were twenty years old. This would seem logical from the large percentage of elderly mothers, but there is one confusing statistic in

these studies. A high death rate occurred among the younger mothers, not the more elderly ones, among whom more deaths might have been expected. The authors advance no explanation for this finding.

Other studies have indicated that 37 per cent of the mothers of Mongolian idiots were 40 years of age or more when the defective offspring were born, whereas only 2 per cent of mothers were over 40 in a control series, that is, in a series of mothers of non-Mongolian offspring. Young mothers do occasionally give birth to Mongolian idiots, but such births are frequently followed by one or more births of normal children. Advanced maternal age is by no means the sole cause of Mongolian idiocy, but it is evidently a contributing factor. Let me hasten to add that Mongolism is rare and is not expected even in elderly mothers, except in extremely unusual circumstances.

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The order in which children are born may also affect their health. The first child, even of young parents, and especially of very young parents, is not likely to be as well-favored biologically as the subsequent children. On the other hand, it appears that there may be something called reproductive exhaustion, and that the last of a long series of children may not be as robust physically, or as talented mentally, as the earlier children of the same series. These variations are usually minor, however, and exceptions are

numerous. For example, I have personal knowledge of a mother whom I delivered at the age of 47 years of her eighteenth child. The baby showed no signs of abnormality. The mother made a quick, uneventful recovery.

Amram Scheinfeld, in his book, *You and Heredity*, discusses the effect of maternal age upon the child and attributes the differences to environment, not to heredity. A child born when the mother is in the mid-forties and the father has reached or passed sixty is not infrequently frail and sickly. Scheinfeld attributes this not to weakness in the sperm or egg cell of the parent, but to the following principal factors, all environmental and some pre-natal:

- (a) The older mother provides less favorable intra-uterine environment;
- (b) The older mother has had greater opportunity to become affected by disease which may in turn affect the pregnancy and the offspring;
- (c) Late births are generally undesired, and they tend to occur under unfavorable conditions.

Scheinfeld further points out that the child of old age often grows up among older and more mature brothers and sisters and their friends. The parents are older and further removed from the child's young world. The late child is thus often brought up in a special world of his own, and so it is not surprising if he shows signs of being precocious, high-strung, and otherwise abnormal. But his heredity is as good or bad as the heredity of any other child of the same parents, regardless of parental age.

In his *Study of British Genius*, Havlock Ellis indicates that eldest children or youngest children in large families are most likely to attain eminence. In his group of families studied, 30 per cent of children who became famous were oldest and 21 per cent youngest, while only 47 per cent came from the much more numerous intermediate groups. (He had studied families ranging in size from two to thirteen.) When survivors only were considered, the youngest children occupied a still more conspicuous position. Since youngest children, especially in large families, are the most likely to have aging parents, these studies deny the popular belief that the children of aging parents inherit weakened mental or physical qualities.

Ellis cites the case of Charles Leslie, an eminent British clergyman whose father was 79 at the time of his birth. This was the oldest father among the 299 parents of British geniuses studied by Ellis. The most common age of fatherhood, he found, was from 30 to 34 years. But for every man who fathered an eminent child during the average ages of paternity, there are nearly three individuals who became the fathers of eminent children later in life.

Francis Galton's study of 100 British men of science showed that the average age of the fathers when these men were born was 36, and the maximum number were born of fathers between the ages of 30 and 35. In the general population the maximum fertility is at the parental ages of 20 to 24

ears. In other words, older parents infinitely seem to supply an environment that is conducive to genius.

IV

Not only the years beyond the menopause, but also those prior to the development of the ordinary menstrual cycle, sometimes witness the birth of a child. On June 3, 1866, Clementine Aimée Pernon, an eight-year-old French girl, gave birth to a perfectly developed child, as reported by Dr. Max J. Schroeder of New York. Another remarkable French report was authenticated by the Obstetrician of the French Royal Court, on July 4, 1756 and notarized by the Minister of Police and Royal Notary. These officials certified that one Magdelaine-Charlotte Jacquette-Renaud, nine years old, was delivered by operative measures of a male child, and that she survived. The child was reported to be well and "in every respect like the child of a normal mother." The mother received a pension of 1500 francs and was placed in a convent after her recovery. The father died in the interim; he would otherwise have been severely punished.

Probably the youngest of all mothers is a Mohammedan girl of Delhi, India. The record is certified by Dr.ilda L. Keene, of the Victoria Zenana Hospital, Delhi. Her age of seven years was verified by municipal records. She was delivered by Caesarian operation of a living girl weighing four pounds and three ounces. Except for some very natural fright, the young

mother recovered perfectly and nursed her baby for nine months. When the baby was weaning she weighed a little over eleven pounds.

This record for young mothers is, however, contested by a girl in Lima, Peru, who was reported to have given birth to a baby in 1939 at the age of five, or at the most, six years. The child was said to have shown signs of sexual maturity, including regularly established menstrual function, at seven months. This report was strongly supported by the Peruvian medical profession and just as strongly doubted by North American physicians. There the matter seems to rest.

Other variations from normal fecundity are found in some rather dubious old records. One girl is said to have given birth to one child the first year, twins the second, triplets the third, and so on until the sixth year, at which point she gave up and died. This story was certified under the authority of no less a personage than Dr. Ambroise Paré, the pioneer military surgeon in the reign of King Henry IV of France.

The record for total production probably goes to a remarkable woman formerly living near the Austro-German border, who was the mother of 69 children, of which not one was born singly. This mother had four sets of quadruplets, seven sets of triplets, and sixteen sets of twins. The indomitable husband of this woman evidently survived her, because he had eighteen additional children by his second wife. The father was re-

ported by one investigator to be "hale and hearty and 77 years old." He had sired a total of 87 offspring!

Fertility depends upon the production of living male and female cells of sufficient vitality so that when impregnation occurs the fertilized ovum will be capable of growing and developing into an adult organism of sustaining life. There is little doubt that heredity has much to do with the length of the reproductive cycle in a given individual. It is well known that the approximate beginning, duration and ending of a woman's menstrual life can be calculated fairly closely from a knowledge of the experience of her mother, grandmother and older sisters. With few exceptions, fertility runs parallel to menstruation because the menstrual function, in most cases, is merely the external evidence of fertility. Few women are fertile far beyond the menopause; and those who are fertile before the onset of the menstrual function are genuine rarities.

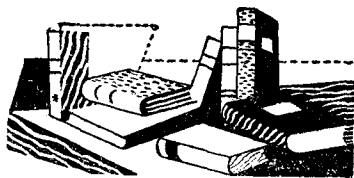
In men, fertility lasts far longer than in women. One has only to read the monotonous "begat" chapters in Genesis to realize this. We find no modern records indicating motherhood much beyond the age of 50, but we do find in our own time paternity well verified in the 90s. One woman

of my acquaintance, searching the genealogical records to establish her eligibility for membership in the DAR, found that the ancestor who made her acceptable had become a parent, and thus started her branch of the family, at the age of 89 years after being comfortably retired from his duties in the Revolutionary Army.

To sum up briefly: Medical record seem to indicate that the best parent are young parents, but not too young. The best years for parenthood are probably between 20 and 35 for women, and between 25 and 45 for men. Although many of the old superstitions about the children of older parents are without foundation, there is some evidence to show that the best parents are those at the height of youthful maturity. The child whose parents are elderly may suffer environmental, though probably not hereditary, disadvantages. Furthermore younger parents have a greater life expectancy and are therefore more likely to live until their children have grown up. Younger parents have more vitality for guiding and enjoying the boundless energy of growing children. Younger parents are not so far removed from the experiences of their own childhood, and are far less likely to experience difficulty in understanding their children.



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THE CASE OF HARRY HOPKINS

by **BERTRAM D. WOLFE**

WHO was Harry Hopkins? I have just gone through nearly a thousand pages of his memoranda, state papers, autobiographical fragments, and broadcasts from the center of the whirlwind, all edited, glossed, interpreted and rounded out by the professional writing of his friend and admirer, Robert E. Sherwood. [*Roosevelt and Hopkins: an Intimate History*, by Robert E. Sherwood. \$6.00, Harper.] I have learned that he wore a battered hat, was an ulcerous type, had a frail body, a salty wit and an ardent and indomitable will; that he liked race tracks and night clubs; that he was brash, self-confident, ill-informed, quick to learn and a quick thinker; that he lived through the troubled war years on injections, protein concentrates, packets of pills and borrowed time; and that, slumped sick and exhausted in the bottom of a plane seat, he flew to Moscow, London, Teheran and Yalta, where his wisdom or lack of it contributed

powerfully to the making of the present "peace." Yet I still do not sense the living man or find properly estimated his rôle and place in history.

This is due to the failure in writing and thinking of Robert Sherwood. A dramatist, he does not know how to develop his protagonist's character through the latter's speeches and actions. A stylist, his style bogs down in a mass of undigested papers and his own too uncritical admiration for his hero. This Pulitzer Prize winner permits himself such rhetorical horrors as "essential essence" and "Stalin was not talking through his own or anyone else's hat." Wherever the Hopkins notes are set side-by-side with the Sherwood interpretations, it is Sherwood who is stale, flat and unrevealing. Thus when Hopkins was worrying about the effect of his divorce upon his Presidential aspirations, Sherwood writes that Hopkins was consoled by President Cleveland's having survived "a damaging scandal." But a photostat illustration shows that Hopkins actually wrote the words: "Cleveland — bastard." Again, Sherwood tries to explain Hopkins' Socialist vote in 1917: "Hopkins