

was no more abdominal rigidity than might be accounted for by local bruising, but the pain was said to be greater; liver dulness in no way diminished. I gave instructions for the pulse to be taken every hour, and asked the house surgeon to send for me should any more serious symptoms develop. I was summoned at 9 P.M. because the symptoms had become more marked. The patient was then obviously in need of surgical intervention. Pulse 108, temperature 99·6°. He had vomited thrice during the day. The abdominal wall was rigid and did not move with respiration. Pain was severe and was now more marked in the hypogastric zone. As felt per rectum the pelvic peritoneum was tender. There was no distension, but the liver dulness was obliterated. The urine was in no way abnormal.

Operation was undertaken 20 hours after the accident. A vertical epigastric incision of 3 inches, just to the left of the middle line, gave a good approach. The peritoneal cavity was full of fæculent material and gas. A perforation on the antimesenteric border of the jejunum about 2 feet from the duodeno-jejunal junction was sewn up with two layers of sutures. The tear was of about the size of a three-penny bit, and the mucous membrane had pouted into the opening so as to occlude it partially. Plastic lymph had also helped to limit the escape of the intestinal contents. The epigastric incision was sewn up in layers, but a large drainage-tube was inserted into the pelvis by a suprapubic incision. No irrigation was performed.

After the operation the patient was propped up and given large quantities of saline both subcutaneously and per rectum. For a week he was in danger of his life; the epigastric incision broke down and had to be brought together by strapping. The temperature was above normal for a fortnight, but the highest record was 101·6°. He left hospital quite well on Dec. 12th, having been in hospital for 6½ weeks, and has remained well up to the present time.

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Weymouth-street, W.

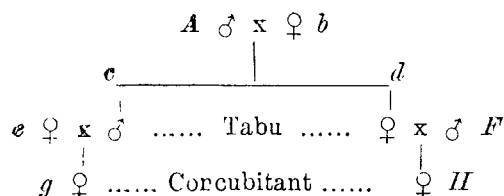
THE QUESTION OF "CONCUBITANCY" IN COUSIN MARRIAGES.

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IN an article entitled "The General Practitioner and Deaf Mutism"¹ MacKay suggested a possible explanation of the somewhat divergent opinions of those who have studied the subject of consanguineous marriage, based upon the investigations of Basil H. Thomson into the marriage customs of Fiji. Thomson's original paper, "Concubitaney in the Classificatory System of Relationship"² approaches the Fijian system of relationship from the point of view of compulsory or obligatory marriage, round which central idea the system practised in Fiji appears to circle. There are two systems of kinship nomenclature current amongst this race, one indicating consanguinity, and the other kinship in relation to marriage. Among the latter is *gane*, which is the relationship of a male and female of the same generation between whom marriage is forbidden—i.e., brother and sister, both real and artificial. Thomson calls these *tabu*. This *tabu* relationship occurs: (1) between the son and daughter of the same parents; (2) between children

respectively of two brothers or the children respectively of two sisters, such children being male and female. From the Fijian point of view this relationship is exactly the same in both cases. The father's brother and the mother's sister share with the father and mother an almost equal degree of paternity. Those whose kinship is such as to make them marriageable are called by the natives *veindavolani* (*vei*, affix of reciprocity; *davo*, to lie down), or, as Thomson terms it, *concubitant*. It occurs between persons whose parents respectively were brother and sister. The opposition of sex in the parents not only breaks down the barrier of consanguinity, but even constitutes the child of the one a marital complement of the child of the other. The young Fijian is from his birth regarded as the natural husband of the daughters of his father's sister and of his mother's brother. The girls can exercise no choice; they were born the property of their male concubitant if he desires to take them. Thus the custom if generally followed would enclose the blood of each family within itself, and obstruct the influx of a new strain at every third generation. The natural tendency towards the renovation of the blood would be checked and its stagnation be continued. Thus:—



Had *d* been a male who had married *F* a female, their children *g* and *H* would have been *tabu*. It will thus be seen that the concubitant and *tabu* alternate generation after generation. The children of concubitants must be *tabu*, and the children respectively of *tabu* must be concubitant. If concubitants do not marry, the system takes no note of it and their children are *tabu*. The most striking feature in the system is this oppressive intolerance. Although the practice has decreased with Christianity and settled government, 30 per cent. still marry their concubitants. Most of the remainder appear now to commit adultery; 50 per cent. of the cases of adultery are concubitant.

The origin of this marriage custom is not discussed by Thomson, who is concerned rather with its results. According to statistics gathered from a census taken of 12 villages, chosen from widely separated provinces and dealing with 448 families, concubitant marriages are greatly superior to any of other classes in *relative fecundity* and in *relative vitality*. The figures given are as follows:—

133 concubitant couples had 438 children, of whom 232 survived and 206 died.

55 families of relations had 168 children, of whom 72 survived and 96 died.

144 families of townspeople had 390 children, of whom 212 survived and 178 died.

116 families of natives of different towns had 321 children, of whom 163 survived and 158 died.

Thus the relations of other than concubitants show the highest fecundity next to the concubitants, but their rate of vitality was the lowest of the four classes. It is remarkable that the two extremes of vitality should occur in the two classes in which inbreeding prevails. Possibly it is to be accounted for by the better care of concubitants' offspring, as other relational marriages, being regarded as incestuous, care less for their children.

Thomson thus summarises the points of interest.

¹ The Practitioner, October, 1908.

² Journal of the Anthropological Institute, vol. xxiv.

Is the classificatory system of relationships, after all, more logical than our own? Is there really a wide physical difference between the relationship of cousins who are offspring of a brother and sister respectively and that of cousins whose parents respectively are two brothers or two sisters? Ought marriage in the one case to be allowed or even encouraged, and in the other case as rigidly forbidden as if it were incestuous?

With a view to ascertaining whether this classification of consanguineous marriages is really important, I collected recently statistics relating to 68 marriages of first cousins, and I propose to give here a short analysis of their study. I take this opportunity to thank those gentlemen who, in response to a request published in THE LANCET and *British Medical Journal*, kindly sent me information from various parts of the United Kingdom, France, Germany, China, and Portugal. The material at my disposal comprises 61 families, of which 57 showed one consanguineous marriage each, 2 showed two such marriages each, 1 showed three and 1 four. The total number of cousin marriages thus represented was 68, of which 33 were concubitant and 35 were tabu. Following Thomson's method of showing relative fecundity and relative vitality—

33 concubitant couples had 165 children, of whom 146 survived and 11 died.

35 tabu couples had 137 children, of whom 108 survived and 29 died.

These results correspond fairly closely with those of Thomson. At first sight it would appear from both investigations that concubitant marriages are greatly superior, but when the averages are taken the difference is not anything like so marked.

Average Fecundity and Vitality.

Thomson's Cases.

133 concubitant couples averaged 3.29 children, of whom 1.74 survived and 1.54 died.

55 tabu couples averaged 3.05 children, of whom 1.30 survived and 1.74 died.

Author's Cases.

33 concubitant couples averaged 5.00 children, of whom 4.42 survived and 0.58 died.

35 tabu couples averaged 3.62 children, of whom 3.08 survived and 0.54 died.

It will be noted that the averages of the two sets of examples correspond, but that any superiority of fecundity is accentuated in my own figures. The greater vitality shown in both concubitant and tabu families in the latter examples is probably due to the fact that my figures relate entirely to civilised peoples, which presupposes greater care of offspring, whilst Thomson deals only with a savage race. Moreover, consanguineous marriages amongst civilised peoples being contracted without any reference to concubitancy or the reverse, care of offspring would not be likely to be greater in one more than the other.

As regards the influence of concubitancy as a factor of importance in the occurrence of deaf-birth, the evidence afforded by my cases is inconclusive. Of the 68 first cousin marriages, 26 showed deaf-birth, of whom 15 were concubitant and 11 tabu. Reliable evidence of deaf-birth in other generations or in collateral branches was obtainable in only two instances (both concubitant). Of the remainder, most of the deaf-births were probably sporadic; some may have been really cases of early acquired deafness from such causes as meningitis, syphilis, &c. Syphilis, too, may have accounted for a proportion of those born deaf. Except in the two examples

mentioned, the hereditary nature of the deafness was, therefore, extremely doubtful. Analysis of the cases gives the following results:—

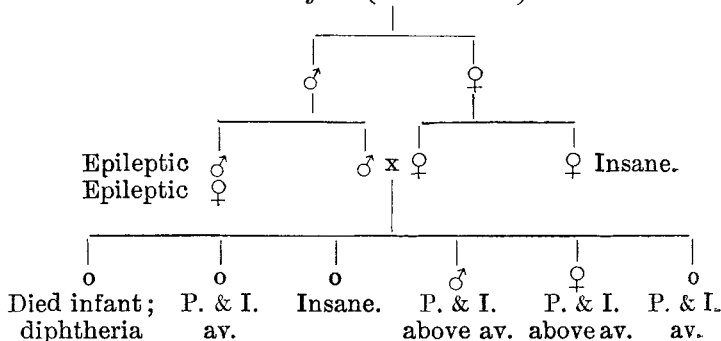
15 concubitant couples had 83 children, of whom 71 survived and 22 were deaf. Averages: 5.53 children, of whom 4.73 survived and 1.46 were deaf.

11 tabu couples had 48 children, of whom 38 survived and 15 were deaf. Averages: 4.36 children, of whom 3.45 survived and 1.36 were deaf.

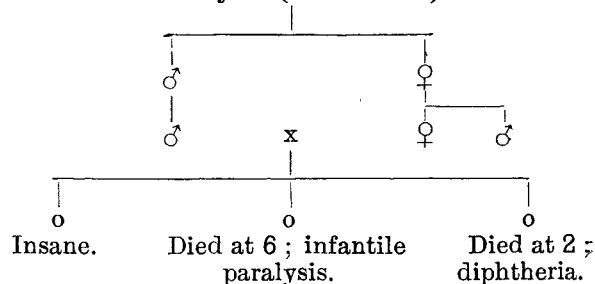
The concubitants therefore showed a greater proportion of deaf-births. The results are, however, of very little value in determining the influence of concubitancy as a factor influencing the production of deafness in consanguineous marriages. It is already well known that consanguineous marriages of the *hereditarily deaf* produce a greater proportion of deaf-births than do those in which the parents are not related.

From these results and from an examination of the family trees of my 68 first cousin marriages, I am inclined to the opinion that concubitancy or the reverse is of little influence, and that the results of such marriages is largely a question of *stock*. I have selected eight examples to illustrate this conclusion. (In these trees P. = physique; I. = intelligence; av. = average.)

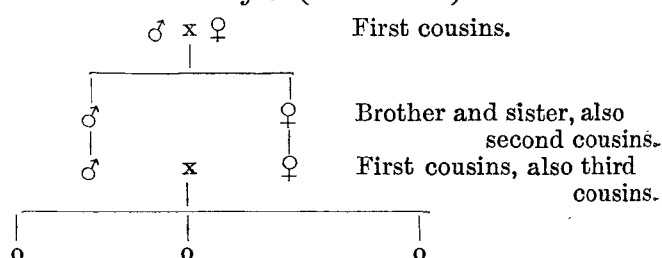
Family A. (Concubitant).



Family B. (Concubitant).

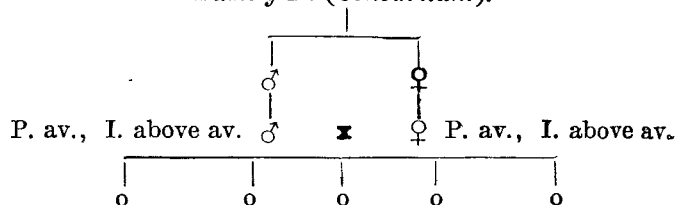


Family C. (Concubitant).

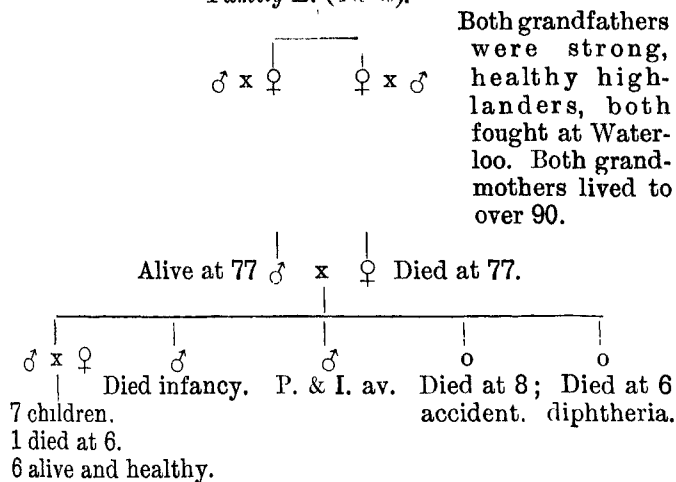


A family all of whose members are notable for physical beauty. They are tall, well-developed, normal people, without a trace amongst them of neurosis or degeneracy.

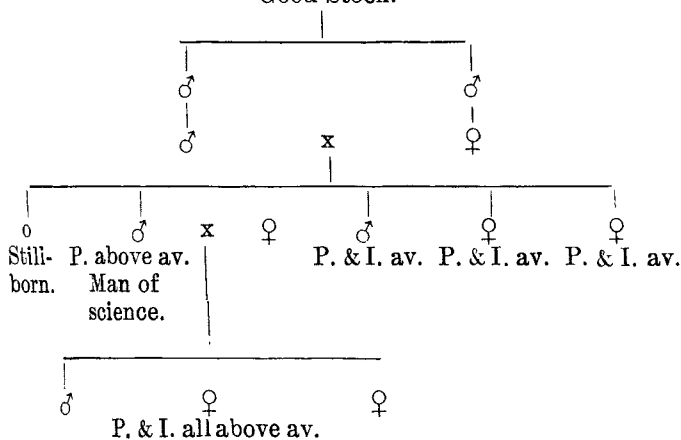
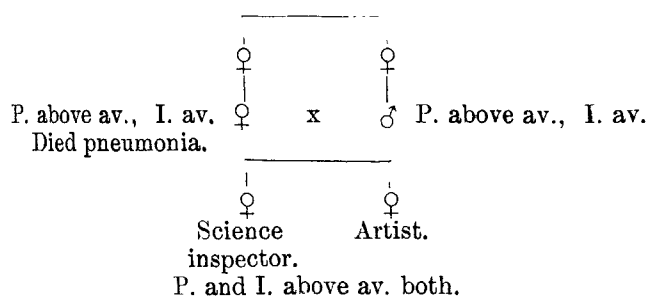
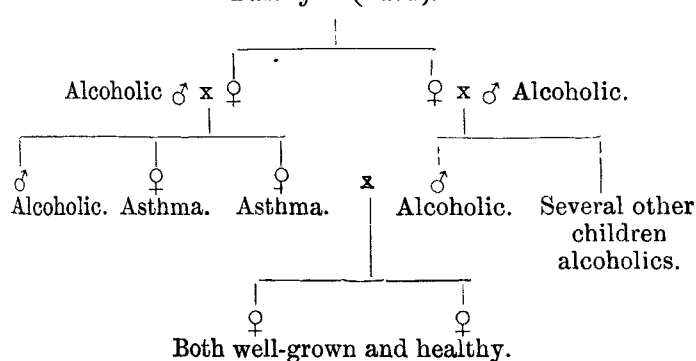
Family D. (Concubitant).



All of average physique and above average intelligence.

Family E. (Tabu).*Family F (Tabu).*

"Good Stock."

*Family G. (Tabu)**Family H (Tabu).*

These eight examples show instances of good and bad stock in both consanguineous and tabu families, and suggest that quality of stock is all-important. Arguing upon Mendelian lines, if the stock is good and free from taint of hereditary deafness, there is no reason why the offspring of a consanguineous marriage should show deafness, because that character (shown by Kerr Love to be recessive) is not present; whereas, if deafness should happen to be present as a family taint, the union of two blood relations, both of whom may carry—although they may themselves be hearing—the recessive character in their germ cells, would be likely to accentuate it, and recessive offspring would occur with a frequency

which would follow the Mendelian hypothesis. That is to say, they would act as "impure dominants," giving rise to three dominants to one recessive, of which the recessives would breed true and of the three dominants two would be impure.

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RECURRENT INTUSSUSCEPTION:

THE RECORD OF A CASE WHICH WAS OPERATED UPON THREE TIMES.

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I HAVE been prompted to record the following cases as the result of reading an annotation on the subject in THE LANCET of Dec. 20th, 1913.

The patient (Reg. No. 1040) first came under my care at the Royal Infirmary on June 13th, 1907, being at that time 8 months old. On the day preceding admission the baby vomited and was rather restless during the night. About 4 A.M. he awakened suddenly, and the mother thought he looked very pale and ill. The bowels were moved, and blood was noticed on the napkin. From this time the child kept tossing about and crying. At 11 A.M. a medical man saw the patient and, finding an intussusception per rectum, sent the child straight into hospital, where I operated at 1 P.M. The invagination extended from the ileo-cæcal valve to the rectum; the appendix was not involved, so that it was of the ileo-colic variety. Reduction was effected by manipulation, but to complete the process it was necessary to bring the involved bowel outside the abdomen. The lower end of the ileum was found to be much thickened, and there was a very definite indentation at one point, while the glands in the mesentery were enlarged. The child made an uninterrupted recovery, and in July was seen and found to be perfectly well in every way.

On Oct. 8th of the same year the child was again admitted with a recurrence of the intussusception. He had been very well until the day of admission at 3 P.M., when he had an attack of abdominal pain and passed blood per rectum. When seen the patient was found to be in good condition, but was evidently uneasy in the abdomen, and a mass could be felt in the epigastrium, but there was nothing per rectum. At 9 P.M. I opened the abdomen through the old incision. The intussusception was of the same variety as before, the ileum entering the large bowel as far as the middle of the transverse colon. This time reduction was very easy. The lower two inches of the ileum were very much congested and thickened, and felt almost as though there might be a polypoid growth inside. The bowel was opened at this point, and a small portion removed for microscopic examination; there was no polypus, but the wall was much thickened. At the same time an enlarged gland was removed from the mesentery. Under the microscope both gland and bowel only showed evidences of inflammatory oedema and congestion, but neither was stained for the tubercle bacillus. In the hope of preventing a recurrence of the invagination the lower four inches of the ileum was stitched closely to the cæcum in front of the mesentery, interrupted suture of fine chromicised catgut being used. The abdomen was closed with through-and-through silk worm gut sutures, and again the child made a good recovery.

On May 30th, 1908, just about a year after the first operation, this patient was again admitted with a recurrence of his previous symptoms. Since the last operation he had kept very well until noon of the day before admission, when the mother noticed that the child held the abdomen as if in pain, but did not vomit. The bowels were moved naturally, and he passed a good night. All went well until about two hours before admission, when he passed blood and vomited, and from that time there had been continuous straining and further vomiting. When admitted the patient was found to be a big, fat, strong-looking boy in good condition. A mass typical of intussusception was felt in the abdomen, but nothing per rectum. For the third time the abdomen was opened by an incision through the old scar. The intussusception extended from the ileo-cæcal valve to the middle