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THE best way to destroy thistles is to cut through the roots just before the buds form, with a spade, at a point 2 inches below the surface.

DARWIN ON CONSANGUINEOUS MARRIAGES.

There are few questions in social economy which have given rise to more scientific discussion than that of the intermarriage of near relations. While some attribute to those marriages no sinister results, others, on the contrary, affirm that they are fraught with the gravest danger to society, and that the offspring are, as a rule, disposed to be lymphatics, deaf mutes, idiots, epileptics, or sufferers from some one of the maladies of the nervous systems. Various investigations have been set on foot from time to time with a view of reaching some definite data on which to base a general law, without, however, attaining the desired object. A large number of instances of marriages between first cousins were at one period collected in France, among which were some terrible examples. In a Protestant family of the Isle de Ré, three brothers married three sisters, the parties bearing the above-stated relation. Out of eighteen children, the issue of these alliances, but one was exempt from infirmity; of the others, some died young, and the rest dragged out wretched lives as idiots and invalids. On the other hand, a French physician, Dr. Bourgeois, gives a history of his own immediate family, in which there were records of seventy-four consanguineous marriages, not one of which resulted in misfortune to the descendants.

Some new investigations on this important subject have recently been undertaken by Mr. George Darwin, the son of the celebrated naturalist, and carried through in a striking and novel manner. The questions to be settled were, first: What is the rate of consanguineous to ordinary marriages in the entire English population? And second: In asylums for idiots, deaf mutes, and the blind, what is the proportion of inmates, who are the offspring of consanguineous marriages, to the total population of the institution? It is clear that, if the second ratio should exceed the first, danger in consanguineous marriages might be inferred. If, on the other hand, the ratios should appear equal, such alliances might be considered as free from harmful results.

In beginning his work, Mr. Darwin counted all the marriages announced in the *Pall Mall Gazette*, a London journal, and especially noted such as were contracted between persons of like name, regarding such as taking place between first cousins, and intending to use the data as a basis for his calculations. The objection, however, at once suggests itself that many persons have the same name but are not at all related to each other; but this Mr. Darwin foresaw, and provided for. By consulting the English census of 1853, which showed the frequency of different family names in England, he discovered, for example, that out of every seventy-two persons there is one Smith; out of every seventy-six persons, one Jones, and so on. Now by the law of probabilities, which teaches that a composite event has for probability the product of the probabilities of the events of which it is composed, the chance that one Smith marries is $\frac{1}{72}$, and the chance that he will marry another Smith, not a relative, is $\frac{1}{72} \times \frac{1}{72}$ or $\frac{1}{5184}$, evidently a faint shadow of probability. Similarly, that a Jones will marry another Jones, not a relative, the chance is $\frac{1}{6078}$. Mr. Darwin calculated these probabilities from all the well known names, and deduced from these the chances of the less common appelations. Then, by taking the sum of all the probabilities, he found that the chance of persons, of like name but of different families, contracting marriage is only about 1 in 1,000, a probability so small that he considered himself justified in neglecting it; and thus he substantiated his first assumption, above-noted, and was led to conclude that in England the proportion of marriages contracted between cousins (of any degree) of like name is about $\frac{75}{10000}$ of the marriages in general. It now remained to deduce the proportion of consanguineous marriages, when the two parties bore not merely the same but different names.

First cousins may be divided into four classes: 1. Children of fathers' brothers; 2, of fathers' sisters; 3, of mothers' brothers, and 4, of mothers' sisters. If these categories were all of them equal, then the ratio of cousins of like names to cousins of different names would be about $\frac{1}{3}$. Such an assumption is untenable, and very many cases can be cited where it would be impossible; therefore the investigator is compelled to resort to actual statistics. Mr. Darwin prepared questions which were answered by the members of 283 families; and from the figures thus obtained he deduced that the ratio of first cousins of the same name to first cousins of different names is about $\frac{1}{4}$. But so hypothetical a conclusion needed more direct confirmation; and therefore Mr. Darwin distributed another set of questions, in which he asked to be informed relatively to the marriages between cousins which took place among the nearest relatives of the persons addressed. The results thus obtained confirmed the first ones, and the investigator was able to affirm that the sought-for ratio is comprised between $\frac{100}{414}$ and $\frac{100}{423}$. Applying this to the proportion of marriages of the same names, as previously stated, Mr. Darwin obtains the response to his first question, namely, that in England the ratio of marriages between first cousins is between 2 and 3 per cent of all marriages occurring. Other though more limited researches, by means of genealogical works and records, confirmed the above result, and showed further that in London the ratio falls to 1½ per cent, while in the rural districts it rises to 2½ per cent. Among people in good circumstances it reaches 3½ per cent, and among the titled aristocracy attains its highest figure, 4½ per cent.

The second portion of Mr. Darwin's work consists in researches made in about twenty insane asylums, and in a number of institutions for deaf mutes and blind children. He obtained information relating to the families of 4,822 idiots; and out of this large total he found that but 170 marriages between first cousins had insane issue, or from 3 to 4 per cent of the total number. The families of 366 deaf mutes (so born) contained but 8 (or 2 per cent) marriages of first cousins. This ratio is founded on too few a number of observations to merit complete confidence; but such as it is, it is far from being unfavorable to consanguineous marriages.

This is the present extent of Mr. Darwin's labors; and the accumulation of future researches will, of course, place them in more definite shape. As far as can be now judged, it would seem that there is no such serious danger attendant upon consanguineous marriages as has been stated and popularly believed. It is a misfortune that the suggestion of Sir John Lubbock, relative to adding a question regarding consanguineous marriages to the queries to be annexed to the English census papers of 1871, was not adopted, since the statistics thus obtained would have been of great value in Mr. Darwin's hands. Mr. Darwin's investigations, however, are remarkably bold, and certainly his deductions in the beginning are ingenious. Besides, in common with all similar work, they add to our knowledge of the science which underlies the welfare of the community; for it will be evident that, should such researches eventually prove that consanguineous marriages are dangerous to posterity, it then becomes the plain duty of society, for its own preservation, if not to interdict them, at least to prevent their occurrence as much as possible.

AN ENERGETIC EMPEROR.

The Emperor of Brazil (or rather Dom Pedro de' Alcantara, as he is registered in the book of arrivals at the Fifth avenue hotel, and as he prefers to be called, seeing that he travels as a private gentleman), together with the Empress and suite, arrived in this city on Saturday, April 15, and, after a stay of some forty-eight hours, departed for San Francisco. Brief as this flying visit was, it has been amply long to demonstrate the fact that the sojourn of his majesty in this country is not going to involve a repetition of the ovations which were accorded to the Prince of Wales and the Russian Grand Duke. Not that Dom Pedro does not merit, or would not under other circumstances receive, the grandest welcome we could give him; for as a potentate he outranks both the above dignitaries, and as a man he is immeasurably their superior; but he wishes it understood that his imperial paraphernalia are all left behind in Brazil, and that here he is simply Mr. Alcantara. Therefore no one need look for a royal progress, for they will be more likely to meet his majesty ensconced in a street car, as he was the other day in the suburbs of this city, and paying his five cents fare like any other passenger.

The Emperor characteristically began his visit by promptly declining to undergo the ceremonious reception which the government had provided for him, wholly regardless of the fact that three cabinet ministers, a vice-admiral, a major general, one man of war, a tug, and a steam launch had been dispatched to convey him from the Brazilian steamer to the the city. When the high officials boarded his vessel, they found him in slouch hat and traveling garb, chatting pleasantly with a band of newspaper reporters, and their formal proceedings degenerated into a solemn farce. Dom Pedro declined to accompany them, so perforce they returned alone, and received the royal salutes thundered forth by mistaken forts and ships: while the Emperor quietly remained on board the steamer until she reached her pier, and then, with his party, hired hacks and drove to the Fifth avenue hotel. Two hours after his arrival he visited one of the principal theaters and witnessed one of Shakespeare's plays, Henry V., on his return to his hotel he received a serenade, and then, at an hour (one o'clock Sunday morning) when it might be supposed that even royalty would become sleepy and tired after the long voyage, he started off to the *Herald* office, and watched the whole process of stereotyping and printing the morning edition of the paper. The Emperors' sight-seeing capacities are certainly extraordinary. At six o'clock the same morning he was wandering over Central Park; and during the next twenty-four hours he found time to attend church, to devote two hours to being photographed, to inspect the Croton water works, to visit Messrs. Moody and Sankey's meeting at the Hippodrome, and to spend the greater part of the night curiously examining the newsboys' lodging house, a police station, and the practical workings of the fire telegraph system in an engine house. On the subsequent morning, at an equally early hour, the Emperor was driven over to Jersey city (narrowly escaping a serious accident on the way, by the collision of his vehicle with a heavy cart) and made a thorough inspection of the vicinity. He was particularly pleased with the horse car elevator which lifts the street cars bodily up the Bergen hights, and mentioned the need of such engineering works to several Brazilian towns. On his return to the city, he visited several of the public schools and two hospitals, received an address from a committee of citizens, and at 6 P. M., after declining the proffered courtesy of a special train, installed himself with a portion of his suite in a Pullman car on the Erie Railroad, and started for San Francisco. The Empress remains in this city; Dom Pedro will proceed direct to San Francisco, remain there five days, and return by way of Denver, Salt Lake city, and Chicago, in time to reach Philadelphia at the opening of the Centennial.

The remarkable energy manifested by the Emperor in this city, in acquiring the utmost information in the brief time at his disposal, typifies his whole character. He is utterly averse to ceremony of every description, and even in his own capital throws off the seclusion peculiar to royalty, and mingles with his subjects at public places without restraint. As a ruler, none has done more to benefit his country. He has abolished slavery in his dominions, built railroads, successfully carried on great internal improvements, consolidated