

SCIENCE.—SUPPLEMENT.

FRIDAY, FEBRUARY 12, 1886.

PRIMITIVE MARRIAGE.

PROF. W. ROBERTSON SMITH, in his 'Kinship and marriage in early Arabia' (Cambridge, *University press*, 1885), may be regarded as having given the latest contribution to the controversy going on between those who uphold the opinions of the late Lewis H. Morgan in regard to the origin of human society and the primitive form of marriage, and those who support the views of the late John F. McLennan upon these subjects. To explain fully in what these differences consist would require too much space, so that we must content ourselves with stating some of the main points of disagreement.

Mr. Morgan, in his 'Ancient society,' maintained that the primitive family, which succeeded to a condition of promiscuous intercourse, was a consanguine one, founded on the intermarriage of brothers and sisters in a group. This was followed by the Punaluan or Hawaiian family, in which several sisters or brothers had groups of husbands or wives in common, who were not necessarily of kin. From this sprung the Malayan system of relationship, in which all blood-relations fall under the heads either of parent and child, of grandparent and grandchild, or of brother and sister. Besides these, the relations by marriage were also recognized. In course of time a second system of relationship grew up, the Turanian, and the form found on this continent, to which he has given the name of the Ganowanian. This second system was based upon Punaluan marriage, accompanied by a division of the tribe into gentes. The gens comprised all those who have sprung from the same mother, and intermarriage in it was prohibited. The Turanian system of relationship included, in addition to the terms used in the Malayan, also words for uncle, aunt, nephew, niece, and cousin; and it recognized also the connections by marriage. The Malayan and the Turanian systems are called by Morgan classificatory, as distinguished from that in use among ourselves, which he calls the descriptive system.

Mr. McLennan, on the other hand, in his 'Primitive marriage,' criticised this view of the origin of the classificatory systems very severely as 'utterly unscientific,' and argued that such a system cannot be one of blood-ties at all, but that it is merely

a mode of addressing persons. In it the terms 'son' and 'daughter' do not imply descent from the same mother or father, and the relationship of the child to its mother is completely ignored. The phenomena presented by such a system he undertook to explain as having originated from what he believed to be the oldest form of marriage, that of Nair polyandry, by which several unrelated men have a wife in common. This custom arose from the practice, in the earliest times, of female infanticide on account of the difficulty of subsistence. Thus a scarcity of women was occasioned, from which originated the general habit of procuring wives by capture from neighboring hostile tribes. From this custom sprung the usage of exogamy, by which intermarriage within the tribe was prohibited. Under Nair polyandry the only idea of blood-relationship conceivable would be through females, as the uncertainty of fatherhood would prevent the acknowledgment of kinship through males. Gradually there was developed a higher form of polyandry, the Thibetan, by which several brothers have a wife in common. The recognition of kinship through males having thus become possible, an explanation of the terms used in the classificatory system is not far to seek.

To this criticism and explanation Mr. Morgan replied by denying the general prevalence of either Nair or Thibetan polygamy, or of exogamy as a tribal custom, which he insisted was restricted to the gentes within the tribe. He argued, that, in the archaic form of the gens, descent was limited to the female line, and that this is what is really meant by McLennan's 'kinship through females only;' and he insisted that McLennan's hypothesis is utterly insufficient to account for the origin of the classificatory system, while ridiculing the idea that this could be a system of addresses instead of a system of consanguinity and affinity.

The discussion was now taken up by Messrs. Fison and Howitt in 'Kamilaroi and Kurnai,' a work upon the organization and primitive marriage customs of certain Australian tribes, and in a review of 'Primitive marriage' by Mr. Fison, in the *Popular science monthly* for June, 1880; in both of which Morgan's views were stoutly and elaborately maintained.

Shortly after, Mr. John McLennan having died, his brother Donald continued the discussion, on his side, by a review of 'Kamilaroi and Kurnai' in *Nature*, April 21, 1881, in which he attempted to refute Mr. Fison's objections to his brother's opin-

ions, and endeavored to prove that the former's views were based upon incorrect information. The argument was continued by his publication last year of a supplementary volume, based upon his late brother's papers, entitled 'The patriarchal theory,' written in opposition to the views upon this subject of Sir Henry Maine. In the preface he states that his brother had intended to present in greater detail the proofs of his theory of the origin of exogamy. He believed that it grew out of the system called 'totemism,' which had been outlined by him in three essays on 'The worship of animals and plants,' published in the *Fortnightly review* in 1869-70. From totemism came exogamy, arising from the scarcity of women; and this must have originated in societies acknowledging no kinship except through women. From this condition there has been a gradual progress by evolution, with varying degrees of rapidity among different people, but involving the recognition of kinship through males. As bearing upon the question of the scarcity of women, the late Mr. McLennan had already made a large collection of instances of the prevalence of infanticide and kindred practices.

Such being the present state of the controversy, as we said at the outset, the volume now before us, upon 'Kinship and marriage in early Arabia,' must be regarded as the last contribution to it. It upholds in the most uncompromising fashion the McLennan side. The learned author of the celebrated lectures upon 'The Old Testament and the Jewish Church' and upon 'The prophets of Israel,' in the discharge of his duties as lord-almoner's professor of Arabic in the University of Cambridge, had occasion to study thoroughly the laws of marriage and of tribal organization which prevailed in Arabia at the time of Mohammed. He became fully satisfied that the system of male kinship there had been preceded by one of kinship through women only, and that changes in the tribal system went hand in hand with the change in the system of kinship. He is also convinced that the correspondence of the Arabian facts with this general theory proves that the system of totemism and the law of exogamy once prevailed among the Arabs, and that the general principles of the hypothesis laid down by McLennan in 'Primitive marriage' cannot be shaken. The results thus derived he believes have "a very important bearing on the most fundamental problems of Arabian history, and on the genesis of Islam itself." All who are interested in the history of the early institutions of mankind must welcome such a learned and novel explanation of the primitive type of Semitic religion, and of the consequences that have flowed from it.

The opinion has generally prevailed that the deities of the primitive tribes must be identified with the heavenly bodies; but our author proves that this was not the earliest form of tribal religion. The Arabs retained a tribal constitution longer than the other Semites, and we know much more about it than about that of any other tribe. In its primitive form it was a totem tribe; that is, one in which the belief that all its members are of one blood was associated with the religious conviction that the life of the tribe was in some mysterious way derived from some animal or plant. "There is reason to think," he remarks, "that in early times totem tribesmen generally bore on their bodies a mark of their totem, and that this is the true explanation not only of tattooing, but of the many strange deformations of the teeth, skull, and the like, which savages inflict on themselves and their children" (p. 187). So he would explain the 'mark' set on Cain by Jehovah as "the tribal mark, which every man bore on his person, and without which the ancient form of blood-feud, as the affair of the whole stock, however scattered, and not of near relatives alone, could hardly have been worked" (p. 216). The most important evidence of the feeling, involved in the totem religion, that a man's totem animal is of one race with himself, is derived from the doctrine of forbidden foods. "A prohibition to eat the flesh of an animal of a certain species, that has its ground, not in natural loathing, but in religious horror and reverence, implies that something divine is ascribed to every animal of the species. And what seems to us to be natural loathing often turns out, in the case of primitive peoples, to be based on a religious *taboo*, and to have its origin, not in feelings of contemptuous disgust, but of reverential dread. . . . Unclean animals, whom it was pollution to eat, were simply holy animals" (p. 307). Many of their most ancient tribal names are taken from animals, of which our author gives an explanatory list of more than thirty. Such names the genealogists usually seek to explain as derived from an eponymous ancestor. But the history of paternity among the Arabs makes it clear that ancient stock-names were not derived from fathers; for the system of stocks was in existence, and they must have had names, long before the idea of fatherhood had been developed.

Three forms of marriage were known among the Arabs in antiquity: *Mot'a marriage*, which was a temporary arrangement for a fixed time; *Beena marriage*, a development of the system of Nair polyandry, where the husband settled among the wife's kindred; and *Baal marriage*, which was probably unknown before the Semitic dispersion, in which the husband took the wife to his own home,

becoming her 'lord and master.' The first kind was common at the time of Mohammed, and was with difficulty, if at all, abolished by him. Under it, as well as under Beena marriage, kinship could have been reckoned only through females. Before Baal marriage was established, a kind of Thibetan polyandry had prevailed, which he calls Baal polyandry, in which the husbands were all of one stock. From this arose the habit of acknowledging kinship through males. This Baal polyandry had grown out of the custom of marriage by capture, which was older than that of marriage by purchase, and continued after the latter custom had sprung up. In Baal marriage, of course, whether constituted by capture or by contract, the children would be regarded as belonging to the blood of the father.

We regret that we cannot allude to many other important subjects, especially that of the prohibited degrees, from which useful light may be derived upon the problems of early kinship, as well as to numerous excursuses in the notes upon interesting archeological topics. We can only refer general students of early society, as well as all who are interested in old Arabia, to this valuable work, which, having been expanded and rewritten from a course of university lectures delivered in 1885, contains the last word in the important controversy of which we have attempted to sketch the outline.

H. W. H.

THE OIL-WELLS OF BAKU.

BAKU is a seaport town of the Apsheron peninsula, in the Caspian Sea, in the most southern part of the Russian territory. The adjacent region has long attracted the attention of the surrounding nations, on account of the naphtha with which the soil is impregnated. The inflammable gases issuing from the ground rendered the locality sacred in the eyes of the Parsees, or fire-worshippers, who have long resorted to it from distant places. The peninsula is an arid waste; and one of the most serious difficulties encountered is the scarcity of water, both for mechanical and dietetic uses. The centre of the oil-industry, according to F. Vasilieff, as given in the Proceedings of the Institution of civil engineers, does not exceed four and a half square miles in area, which forms, indeed, the centre of the whole oil-bearing region of the Caucasus.

The earliest oil-wells date back for centuries. A Persian inscription has been found which fixes the date of one of them at 1594. After the cession of the country to the Russians in 1813, the oil-industry was under the control of the government, and up to 1873 the entire revenue derived

from this source did not exceed fifty thousand dollars. The manufacture of kerosene commenced in 1858, after which the industry began to develop slowly; but within the last fifteen years it has increased with greater activity. At that time land was sold at auction, and brought as high as five thousand dollars per acre. The old crude methods and shallow wells were abandoned, and at present there are more than five hundred borings. The yield has now reached a million tons per annum.

The naphtha-bearing strata, three of which are so far known, belong to the lower miocene formation. They dip at an angle of from 20° to 40°, and are composed of sand, calcareous clays, marls, and in places compact sandstone, often of great thickness. Organic remains are wholly absent. The naphtha-bearing sands are in a semi-fluid condition, and, when brought to the surface, give off carburetted-hydrogen gas. Not only do these sands give much trouble, but the salt water associated with them makes the driving of bore-wells difficult.

The plateau is a hundred and forty feet above the surface of the Caspian Sea, and the bores reach as deep as six or seven hundred feet. The depth, however, depends upon the yield and the quality of the oil. At first the oil does not reach high in the borings; but, as the depth increases, it rises, and at last is forced out by the pent-up gases.

A naphtha-fountain differs very much from one of water. The oil, on leaving the pipe, is broken up into many jets, which scatter in all directions. The larger part, on account of the liberation of the occluded gases, is shattered into the finest spray. Together with the oil, there is ejected an immense quantity of sand, stones, lumps of clay, some of the pieces being very large. This condition of things is explained by the high pressure of the gases, which has been measured in closed bore-pipes, and found to range between fifty and three hundred pounds per square inch. In the year 1883 two fountains played simultaneously to a height of between two hundred and fifty and three hundred and fifty feet. When a fountain breaks out, the boarding of the boring-turret is soon torn off, stones are thrown up to a great height, and it is dangerous to approach the bore, especially from the circumstance that the naphtha spray has an inebriating effect on the workmen. A cloud of naphtha hovers over the fountain, and is carried to great distances by the winds, covering every thing it passes over with a light film of oil. The sand thrown up forms a hillock round the well, often rising to twenty-eight feet in height. The bursting-forth of a fountain is accompanied by loud noises and a trembling of the earth. Millions