

little about the Solomon Islands. This lack of a general survey has been supplied by Miss Florence Coombe, who has written a most admirable and interesting account of her voyaging among these fascinating islands on board the *Southern Cross*, the steam-yacht which does the business of the Melanesian Mission in great waters. And it is not as tourists and strangers that her passengers go to and fro among the groups, but rather as "friends of the family," knowing somewhat of each island's story, and having familiar acquaintances among the brown folk everywhere, so that they are received and made welcome in the homes of the people.

It is obvious that Miss Coombe could not have collected first hand all the information contained in her book; indeed, on the title-page she describes her

obtruded, and where brought in merely serves to illustrate the ameliorating influences of the "new teaching," or 'the way of peace,' as Christianity is called by the Melanesians." The popular treatment should give the book a large sale; on the other hand, it is a book which the ethnologist must read, as it is crowded with facts and observations, some of which are new. The very numerous and beautiful photographs, by J. W. Beattie, not only embellish the book, but afford to the student a mine of ethnographical details. Various folk-tales are interspersed throughout the book; some inevitably record the prowess of Qat, the hero of the Banks Group, one or two of which are variants of those narrated by Codrington. An interesting account is given of a visit to the little-known island of Tikopia, and the

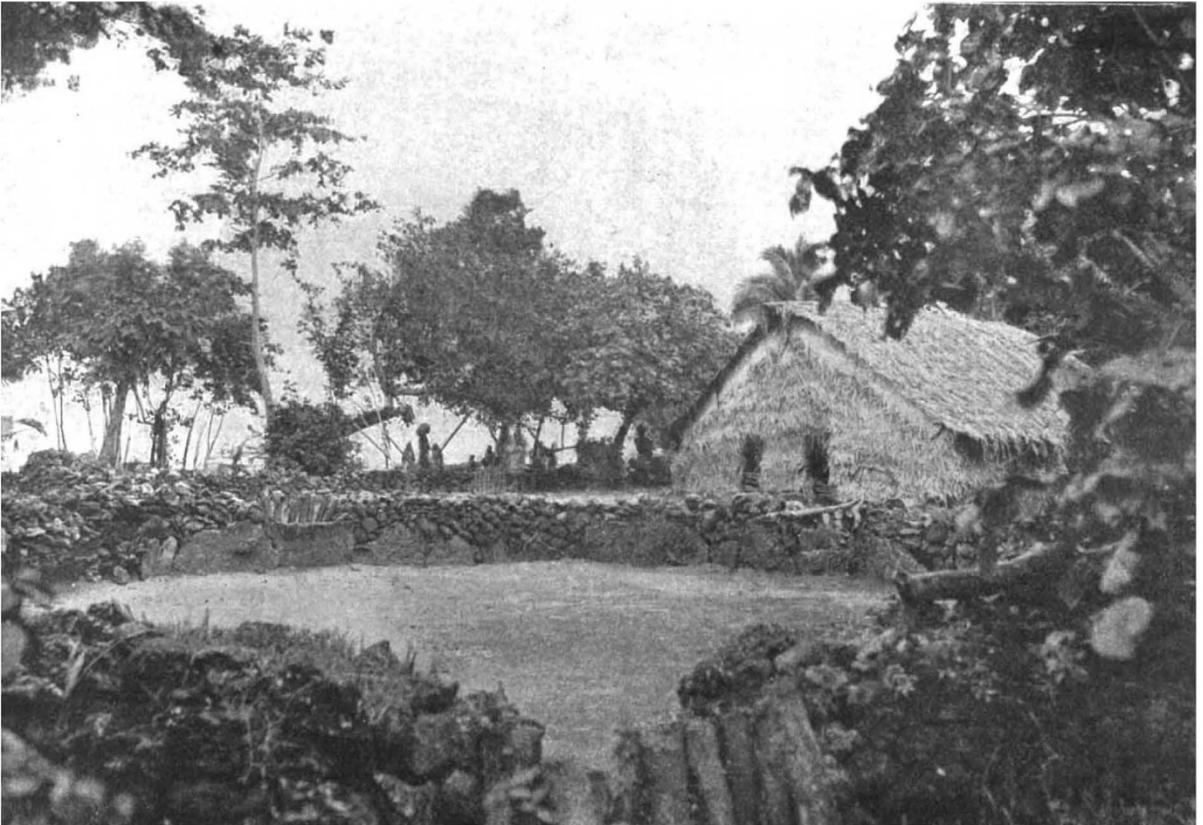


FIG. 2.—*Gamal* and dancing-grounds. From "Islands of Enchantment."

account as "seen through many eyes, and recorded" by herself. Her indebtedness to Codrington's classical work is manifest; her acknowledgments to certain other helpers are also mentioned; but, like all travellers, she must have gained a considerable amount of casual information from missionaries. All this, combined with that gained by her own keen powers of observation, she has weaved into a bright narrative that carries the reader along without a hitch. The personal element is unobtrusive but sufficient to give continuity and unity to the narrative, and when the reader has finished the book, which he assuredly will do when he once begins it, he will find himself in possession of a general impression of Melanesia and of a large amount of detailed knowledge which cannot be gained from any single source.

Though dealing with the sphere of influence of the Melanesian Mission, the missionary element is not

author emphasises the contrast of the natives—a Polynesian outlier in Melanesia—with those of neighbouring islands.

THE ETIOLOGY OF KALA-AZAR.

A TELEGRAM from Surgeon-General Bannerman to Sir Ronald Ross, published in *The Times* and other daily papers of February 15, announces that Captain W. S. Patton, I.M.S., "has discovered the complete development of the parasite of Kala-azar in Indian and European bed-bugs." The news, as it stands, is not quite intelligible, since Captain Patton proved in 1907 that the parasite *Leishmania donovani* went through the same development in the Indian bed-bug, *Cimex rotundatus*, that it had been discovered by Major Leonard Rogers to undergo in artificial cultures. On epidemiological grounds the

bed-bug had been indicated by Major Rogers as the probable agent in the transmission of the disease, while Major Donovan considered it more probable that another bug, *Conorhinus rubrofasciatus*, was the means of disseminating the parasite. The bare fact that the parasite developed in the bed-bug so far as its flagellated, herpetomonad stage was not in itself a decisive proof that the bed-bug was responsible for its transmission; and from the telegram received it can only be supposed that Captain Patton has completed his former investigations on the development of the parasite, and has obtained definite experimental proof of its transmission by the agency of the bed-bug.

The recent investigations of Dr. Wenyon on the allied parasite, *Leishmania tropica*, the cause of Oriental sore, make it probable that in this case the transmitting agent is a mosquito or a sand-fly (*Phlebotomus* sp.), sometimes also a house-fly, which may carry the infection mechanically, *i.e.* not as a true host. In North Africa and Southern Europe another species of these parasites is known, which is believed by its discoverer, Dr. Nicolle, to be primarily a parasite of dogs, and to be transmitted by some means from dogs to human beings, especially children, whence it has been given the name *L. infantum*. Dr. C. Basile in Italy has succeeded recently in transmitting this species experimentally by means of fleas. Further details of Captain Patton's investigations will be awaited with interest.

LORD LISTER, O.M., F.R.S.

BY the death of Lord Lister, the world has lost one of its greatest men, and one who, without any question, conferred more benefits on humanity than any man had ever done before. His great achievement was no doubt the revolution which he carried out in the science and practice of surgery by his investigations into the causes of septic disease, and one has only to look back at the state of surgery up to the time when he began his work to gain some idea of the enormous advance which followed.

From the earliest ages the fatal consequences of wounds, whether occurring accidentally or as a result of an operation, have occupied the minds of all those who had to do with their treatment, and all sorts of attempts have been made to obviate these evils. The practice of the ancient writers was not to keep away noxious agents which interfered with the healing of wounds, as was Lister's conception, but to *make* the wound heal, and substances were applied to *make* the flesh grow, others to *make* the growing flesh firm, and others again to *make* the wound cicatrize. Amid these attempts, the tendency of the wound itself towards healing was almost entirely lost sight of; nevertheless, there were surgeons who, from time to time, were bold enough or had insight enough to protest against these views and to point out that it is to nature itself that one must attribute the ultimate healing of the wound. However, but little attention was paid to these writers, and the practice of treating the supposed poisonous state of the surface of the wound and of inducing healing by various applications still held its own.

Paracelsus was the first who came nearest the modern ideas; he supposed that there is a juice distributed in the body which keeps the various tissues in good health and repairs them when injured, and he held that the whole aim of the surgeon ought to be to prevent alterations in this liquid, these alterations resulting mainly from contact with air. Medical applications are only of use in so far as they preserve this juice and prevent its corruption.

Similar views were held by Ambroise Paré, and it was chiefly by the writings and teachings of these two men that the position of nature as an agent in healing wounds was more fully recognised. The tendency after that time was to look on the contact of the air with the wound as the source of the main trouble, and after the chemical constitution of the air was discovered, it was the oxygen in the air which was chiefly blamed for the decomposition which took place in the wounds; indeed, this view was still held very widely when Lister began his researches on the prevention of sepsis.

The first result of these views was that enormous quantities of dressings were applied over the wounds and left unchanged for a long time, with a view of excluding the air. At the end of the eighteenth century and the beginning of the nineteenth, other methods of treatment were employed, which yielded very much better results than the older ones. One of the earliest of these methods was simple water dressing, and this was followed by irrigation, by the use of the water-bath, and in some cases by the addition of various antiseptic substances to the water so employed. Others came to the conclusion that it was best to leave the wounds open, others that healing by scabbing should be promoted, while the fear of the effect of air on wounds led to the introduction, in 1816, of subcutaneous surgery. About the middle of last century various antiseptic substances were a good deal employed, especially in France—balsams, chlorine, alcohol, chloride of zinc, iodine; and, very shortly before Lister's first publication, carbolic acid was advocated by Lemaire as an application to wounds. None of these antiseptic substances were, however, used on any definite scientific ground or with any definite method, and the result was, though a certain amount of improvement may have occurred, nothing like that which was brought about by Lister's systematic work was attained.

It is quite unnecessary to go into the details of that work; that has already been done in these columns and elsewhere. Lister was the subject of an article in the NATURE series of "Scientific Worthies" on May 7, 1896 (vol. liv., p. 1), and his collected works were reviewed in NATURE of February 17, 1910. It may be said that, from the time Lister was a student, his mind had been occupied with the terrible fatal results which so constantly followed operations, however perfectly they were conducted, and he had definitely come to the conclusion that these troubles were associated with, and indeed the result of, the putrefactive changes which occurred in the blood and serum in the wound. He felt that if only these putrefactive changes could be avoided, the dangers which resulted would, in all probability, also disappear. So long as the view was held that these changes were due to the contact of the oxygen of the air with the discharges, the matter seemed hopeless, because it seemed impossible to perform an operation under conditions which would exclude the oxygen of the air. When, however, Pasteur in his work on "Spontaneous Generation," demonstrated that the oxygen of the air was quite unable to cause fermentative changes in organic fluids, and that these changes were due to living particles which fell into these fluids from the air, these particles belonging to the class of bacteria, the outlook became much more promising, for it was quite a different matter to have to do with particles which were simply floating in the air, and were often in small numbers and even entirely absent, than with gaseous substances which could penetrate everywhere.

Two courses were open in dealing with such particles, namely, to exclude them altogether, as in the