REVIEW.

FRAMBÆSIA OR YAWS.*

Mr. Numa Rat, who has had many years' experience of yaws in South America, the West Coast of Africa, and the West Indies, says, in the preface, that he has written the essay for the benefit of the officers of the Colonial Medical Service. We have no hesitation in expressing our opinion that it will be of value not only to the officers of the service named, but to everyone interested in the advance of scientific medicine. The essay is a model of completeness. Though concise, the language is always clear; and though freely split up into sections, the continuity of the story is never lost. We propose to extract from its pages some of the more important facts before dealing with Mr. Hutchinson's interesting criticism.

The essay is divided into four parts. Part I. gives an account of the origins of the words "Yaws" and "Pian," the names of the diseases resembling yaws, a graphic history of the disease, its geographical distribution, and concludes with a complete chronological biography. Part II. deals solely with the clinical history, which is divided into four stages. 1. The Incubation Stage. 2. The Primary Stage. 3. The Secondary Stage. 4. The Tertiary Stage.

1. *The Incubation Stage*.—This dates from the reception of the virus to the formation of the initial lesion at the seat of contagion, and averages from three to ten weeks, the former being the usual period. Only trivial symptoms occasionally occur during this stage, pointing to some general disturbance of health.

2. *The Primary Stage*.—This consists in the formation of the initial lesion of the disease. The first appearance is a papule, which at the end of seven days discharges a yellow fluid. Later, when the

* "Frambæsia, or Yaws," by J. Numa Rat, Medical Officer, Leeward Islands, West Indies, with Prefatory Remarks by Jonathan Hutchinson, F.R.S. (Waterlow and Sons, London, 1891.)

scab formed by the drying of the discharge is removed, an ulcer is found with perpendicular edges and a clean base. In the course of a fortnight or longer the ulcer heals by contraction, and a slight scar is all that is left. Occasionally there are some modifications of this course; the papule may become a tubercle, and the ulcers may be deep and large. The commonest sites of the initial papule are the lips, breast, the groin, the genitals, and the perineum.

3. *The Secondary Stage.*—This stage is ushered in with fever, usually about a fortnight after the disappearance of the primary sore. The fever is paroxysmal, generally a quotidian. It is attended by backache and headache, and shooting pains—often very severe—in limbs and intercostal spaces. At this time a rash appears on the head, and gradually spreads till the whole body is covered. At first it is not unlike lichen tropicus, but by the fourth day some of the minute red spots on the head and face have become conical papules, and by the sixth day a similar change has taken place on the body and limbs, the rest of the rash having vanished. On the seventh day of the eruption the papules acquire on their apices a yellow tint. This change is seen first on the head, becoming general by the ninth day. The yellow tint is not due to the presence of lymph or pus, but to a substance apparently in no way different from inspissated sebaceous matter. Mr. Rat says that the appearance thus produced on a negro's skin is very peculiar, and looks like minute pieces of yellow wax of the size of a pin's head stuck on the patient's body.

The next phase in the evolution of the eruption, and the important one from a diagnostic point of view, is the development of the papules into tubercles. An average tubercle at full size measures a quarter of an inch in diameter and an eighth of an inch in height. It is composed of granulation tissue covered with a creamy acid secretion. Mr. Rat points out that, in spite of the name "framboise," the tubercle is in every respect unlike a raspberry, but is more like the top of a pickled cauliflower. The colour varies according to the amount of blood. In anæmia the tubercle is fawn-coloured, and in old-standing cases it will even assume the appearance of cartilage. In what may be called the normal course the tubercles dry up in about four weeks. During the development of the eruption there is always itching, which is at times severe, and the skin emits a peculiar sour odour.

The age at which the disease is most common is infancy, and, next

to it, childhood. It is said to run a milder course in children than in adults ; and so convinced of this are parents in some parts of Africa that every facility is given to contract the disease during infancy, and even inoculation is resorted to in order to ensure it. We must here briefly mention some of the more marked variations in the development of the eruption.

The tubercles may be larger or smaller, fewer or more abundant, being generally most numerous when smallest. Several may coalesce, forming a large patch of granulation tissue under a single crust. The tubercles may unite to form rings round the eyes, nose, mouth, or anus. The usual end of the tubercle is its disappearance by absorption at the end of six weeks, but in the weakly the average duration of the eruption is nine months, when no treatment has been used. In some instances the tubercles ulcerate. The ulcers are covered with yellow or brownish crusts, and easily heal under treatment, leaving shiny smooth scales. Tubercles are found on the palms and soles, but in consequence of the hardness of the epidermis in these regions, they do not protrude in the same way as on softer parts. They are also found in the mucous membrane of the nasal fossæ, where they cause pain in the nose and forehead.

4. *The Tertiary Stage.*—This is by far the most serious stage of the disease, for while during the secondary period the lesions are limited to the skin, in this period changes are brought about by which extensive destruction of deep tissues are effected. In unhealthy individuals some of the superficial ulcers already mentioned lose their crusts and become deep and irregular, with undermined edges and a fungous base. The commonest sites are the neck, front of the elbow, wrist, back of the hand, and the instep. In some cases the ulceration assumes a serpiginous form, and is usually seen below the knee. But the most characteristic ulcers of the tertiary stage are those originating in dome-shaped subcutaneous nodules, varying in size from a quarter of an inch to one inch in diameter. They occur chiefly about the ankle and wrist. The subcutaneous nodules resemble cysts in outward appearance, but are less circumscribed and movable. They are painless before they ulcerate, and may remain unchanged for a year or more. Mr. Rat considers that these nodules differ in structure from syphilitic gummata. The mucous membrane suffers severely in this stage. Ulceration of the nares, pharynx, and soft palate is not infrequent, and may occur as

long as twenty years after the last traces of the secondary symptoms have disappeared. It is usually accompanied by fever, generally of an intermittent character. In addition to the lesions already mentioned nodes and local inflammations may occur in the bones, muscles, and nerves.

Part III. is devoted to many interesting questions, such as the possibility of the disease being contracted a second time, the various modes of contagion, etiology, and the all-important question of differential diagnosis. After considering such diseases as Verruga Peruviana, button scurvy, parangi, Delhi boil, &c., Mr. Rat discusses in a comprehensive manner the differences between syphilis and yaws. The main points he lays stress on are the fungous eruption with its acid secretion, the absence of adenopathies and symmetry, and the uniform character of the secondary lesions, opposed to the polymorphic forms of syphilis. Among other general differences may be mentioned the following :—Yaws is common in childhood, is limited to tropical climates, is endemic and epidemic, is not proved to be hereditary, is not usually contracted through the genitals, that persons suffering from syphilis may get yaws, and *vice versa*, and that the secondary eruption is attended with itching. It is in the tertiary stage that the difficulties of diagnosis, according to Mr. Rat, are the greatest. He says that, though morphologically similar at the commencement, the gummata of yaws differ from those of syphilis in the following respects : They do not fibrillate or caseate ; they are limited to the extremities below the knees and elbows. The integument above them does not present “une coloration d’un rouge sombre,” the skin over their centre remaining of its natural tint for months, until interstitial absorption is about to take place, when it then becomes inflamed and ulcerates.

It is in this relation—the identity or non-identity of yaws and syphilis—that Mr. Hutchinson’s criticism must be considered.

Mr. Hutchinson takes Mr. Rat’s facts and compares them with the account of the disease by other observers, and points out that though Hirsch thought yaws was a local disease, Mr. Rat gives strong proof that it is a constitutional and febrile malady, beginning with a local sore, observing stages, and having both secondary and tertiary phenomena. As a result, Mr. Hutchinson comes to the conclusion that the disease is a form of syphilis *modified by race and climate*.

Facts in favour of identity of yaws and syphilis:—

1. The stages observed by yaws are very similar to those of syphilis.

2. The character of the secondary eruption would appear to vary much as in syphilis.

3. The tertiary symptoms of yaws very closely resemble those of syphilis, and occur after intervals of much the same irregularity of duration which are usually noticed in the case of syphilis.

4. Papillary excrescences are known also in syphilis.

5. The methods of cure as regards the constitutional and later stages of yaws are precisely those adopted for syphilis. Former writers relied on the spontaneous cure of yaws as a strong argument in favour of non-identity. Mr. Rat, on the other hand, mentions mercury and iodide of potassium as the appropriate remedies for the same stages as they are used for syphilis.

6. Its restriction to certain localities. Mr. Hutchinson argues that as no Englishman comes back to England with yaws, that it would appear that it is a malady which cannot leave its home.

Unfortunately, in the limits of a review it is impossible to quote further from this interesting criticism. We recommend its careful perusal by all interested in the subject.

Part IV. is devoted to Pathology and Morbid Anatomy, to a series of cases illustrating various forms of the disease, and to an exhaustive consideration of treatment.

MALCOLM MORRIS.