

(of Valabhī) is a Kshatriya by birth; *he is* the son of the brother of the former Śilāditya, king of Mālava, and son-in-law of the son of the present Śilāditya, king of Kanyākubja: his name is Dhruvabhāṭa.” Śilāditya-Dharmāditya of Valabhī, then, was Hiuen-Tsang’s “Śilāditya of Mālava,” and M. Lévi does not trouble “to collect all the data that permit us to follow the destinies of Mālava, conquered by Śilāditya, who annexed it to Valabhī, invaded by Harsha, and lost by Dhruvasena II, who retreated to Bharōch.”

These details may be welcome to readers who may not see the *Journal des Savants*.

Mr. Smith tells us in his *History* (p. 280, n.), and repeats it in the *Z.D.M.G.* (p. 788, n.), that Max Müller “was led astray by Mr. Beal’s blunder” respecting Śilāditya of Mālā. But, on behalf of the dead, it may be pointed out that Max Müller’s *India* was published more than a year *before* the late Mr. Beal’s translation was printed in 1884; and so the latter could not have misled the professor, whether he blundered or not.

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Nov. 4th, 1905.

SUŚRUTA ON MOSQUITOES.

His Excellency Sir Henry A. Blake, Governor of Ceylon, having most kindly favoured me with a copy of his paper on “Ancient Theories of Causation of Fever by Mosquitoes,”¹ I have once more examined all the principal medical Sanskrit texts likely to throw light on this point. The two texts of Suśruta on which the five distinguished Ceylon scholars referred to by Sir Henry Blake have rested their opinion that the medical writers of ancient India were acquainted with the connection existing between malaria and mosquitoes,

¹ Read before the Ceylon Branch of the B.M. Association, on the 15th April, 1905.

were also quoted in my previous communication to this Journal (July, 1905), which was written about the same time as Sir H. Blake's paper. Now it is quite true that the two texts, the only ones in Suśruta which bear on the point, may convey the impression that he was actually aware of the fatal consequences attending the bites of certain mosquitoes, of the kind called Pārvatiya (mountainous), which are, he says, as dangerous as 'life-taking' or destructive insects. The 'life-taking' insects, according to Suśruta, are of twelve kinds, Tuṅgīnasa, etc. (not identified), and they cause the person bitten to undergo the same (seven consecutive stages of) symptoms as in the case of snake-bites, as well as the painful sensations (of pricking pain, heat, itching, and so on, Comm.) and dangerous diseases, the bite, as if burnt with caustic or fire, being red, yellow, white, or brown. The further symptoms which are mentioned in the following verses, such as fever, pain in the limbs, etc., are, however, common to all the four principal kinds of insect bites; they are not meant to be specially characteristic of the bites of 'life-taking' insects.¹ Nor is the fever (*jvara*), of which Suśruta speaks in this place, likely to be true malarial fever. The term rather denotes the wound-fever, which is constantly mentioned by Suśruta as arising from the bites of insects, such as Viśvaṃbharas and Kaṇḍūmakas (Kalpasth. viii, 15), of various poisonous spiders (viii, 51-54), of scorpions (viii, 35), of certain serpents (iv, 24), of rats or mice (vi, 11, 16), or from the wound caused by a poisoned arrow (v, 24).

If the chief causes of malarial fever are "impure air and water and the existence of mosquitoes, according to ancient authorities on Āyurvedic medicine," we should be led to expect some statements to that effect in Suśruta's chapter on fever, the king of diseases (*rogānīkarāḥ*), where he goes very thoroughly into the causes of fever, such as derangement of the humours by some disturbing cause, as fighting with

¹ This does not come out in the English translation proposed by the five Sanskrit scholars. It appears from the Sanskrit Commentary of Dāllana.

a strong man, anger, or sleeping in the daytime, by improper application of medicines, by external injuries caused by a weapon or other instrument, by some disease, by fatigue or exhaustion, by indigestion, by poison, etc. Poison (*viṣam*) is the only term in this list which could be supposed to have any reference to mosquito-bites; but the symptoms attributed to the fever caused by poison, such as diarrhœa, prove that vegetable poison must be meant, and this is expressly stated in a Sanskrit Commentary. Suśruta does not refer to mosquito-bites anywhere else than in the book on Poisons (*Kalpasthānam*), where he notices them very briefly, together with the stings of other insects. Poisonous spiders, e.g., are far more copiously discussed by Suśruta than mosquitoes, and he attributes to them the causation of dangerous diseases, as well as of fever and other complications. Suśruta's general notions of the nature of poisonous substances, including the nails and teeth of cats, dogs, monkeys, alligators, etc., are very crude, and his statements regarding animal poison in particular seem to be based, in a great measure, on an observation of the effects of snake-bites. Thus he supposes insects (*kīṭa*) and scorpions to be generated in the putrid carcasses, excrements, and eggs of snakes; and he places the bites of dangerous animals of this kind on a par with snake-bites as to their consequences and as to their medical treatment. It does not seem advisable, therefore, to compare Suśruta's remark on the fatal nature of the bites of a certain Maśaka occurring in mountainous regions with modern theories of the origin of malaria, especially as Maśaka is a very wide term, which may include any fly or insect that bites, besides ordinary mosquitoes, as in a well-known text of the Code of Manu (I, 40) on the creation of 'all stinging and biting insects' (*sarvaṃ ca daṃśamaśakam*). The other Sanskrit authorities agree with Suśruta.

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November 21st, 1905.