

From the above considerations, and the examples by which they have been illustrated, the comparative study of languages appears as an important rational means of assistance, by which scientific and genuinely philological investigations may lead to a generalization of views regarding the affinity of races, and their conjectural extension in various directions from one common point of radiation. The rational aids toward the gradual development of the science of the Cosmos are, therefore, of very different kinds, viz., investigations into the structure of languages; the deciphering of ancient inscriptions and historical monuments in hieroglyphics and arrow-headed writing; the greater perfection of mathematics, especially of that powerful analytic calculus by which the form of the earth, the ebb and flow of the sea, and the regions of space are brought within the compass of calculation. To these aids must be further added the material inventions which have procured for us, as it were, new organs, sharpened the power of our senses, and enabled men to enter into a closer communication with terrestrial forces, and even with the remote regions of space. In order to enumerate only a few of the instruments whose invention characterizes great epochs in the history of civilization, I would name the telescope, and its too long-delayed connection with instruments of measurement; the compound microscope, which furnishes us with the means of tracing the conditions of the process of development of organisms, which Aristotle gracefully designates as "the formative activity, the source of being;" the compass, and the different contrivances invented for measuring terrestrial magnetism; the use of the

nard, *nanartha*. See Lassen, *Indische Alterthumskunde*, bd. i., 1843, s. 245, 250, 270, 289, und 538. On 'sarkara and *kanda* (whence our sugar-candy), consult my *Prolegomena de Distributione Geographica Plantarum*, 1817, p. 211. "Confudisse videntur veteres saccharum verum cum Tebaschiro Bambusæ, cum quia utraque in arundinibus inveniuntur, tum etiam quia vox Sanscradana *scharkara*, quæ hodie (ut Pers. *schakar* et Hindost. *schukur*) pro saccharo nostro adhibetur, observante Boppio, ex auctoritate Amarasinhæ, proprie nil dulce (*madu*) significat, sed quicquid lapidosum et arenaceum est, ac vel calculum vesicæ. Verisimile igitur, vocem *scharkara* initio dumtaxat tebaschirum (*saccar nambu*) indicasse, posterius in saccharum nostrum humilioris arundinis (*ikschiu, kandekschiu, kanda*), ex similitudine aspectus translata esse. Vox Bambusæ ex *mambu* derivatur; ex *kanda* nostratum voces *candis zuckerhand*. In *tebaschiro* agnoscitur Persarum *schir*, h. e. lac. Sanscr. *kschiram*." The Sanscrit name for *tabaschir* is *tvakkschîrà*, bark-milk; milk from the bark. See Lassen, bd. i., s. 271-274. Compare, also, Pott, *Kurdische Studien* in the *Zeitschrift für die Kunde des Morgenlandes*, bd. vii., s. 163-166, and the masterly treatise by Carl Ritter, in *nis Erdkunde von Asien*, bd. vi., 2, s. 232-237.