Siberia, from the Warwarinskischen "Yourts," on the River Tobol, and with the djiggetai (*Equus hemionus*). We must, therefore, first settle the question whether these cranial remains really belong to a horse or to a half-ass, like the djiggetai, or to a kiang.

Investigation into the relation of the teeth of the horse to those of the djiggetai and ass has been carried out most thoroughly by L. Rütimeyer,* R. Owen,† J. C. Forsyth Major,‡ A. Nehring,§ T. Frank,‖ and M. Wilckens.¶

In consequence of these studies the following distinctive characteristics between the Western and the Oriental horse groups and the asses are available.

Oriental Horse Group (Broad-fronted Horses).

The premolars of the upper and lower jaws have a larger or equally large transverse diameter of the grinding surface with the longitudinal diameter. The plications of the enamel pattern are here considerably smaller than in western horses and the interior pillars of the anterior island appear rounded.

Occidental Horse Group (Narrow-fronted Horses).

The premolars are here more drawn out in the length; hence the depth of the grinding surface is greater than in the transverse diameter. The enamel plications of the islands are considerably more folded, and the ant-external horn of the posterior island surpasses the post-external horn of the anterior island, projecting further outward, even on the molars, on which in oriental horses they stand almost even. In the same way the stronger plication of the enamel margin on the internal lobe causes in the Occidental horse the striking bifurcation of the internal lobule and the stronger development of the spur** in the ant-oblique valley.

Asses and Half-asses.

In the asses and half-asses the longitudinal diameter of the crown is still shorter in comparison with the transverse diameter than in the oriental horse, the enamel plications are less prominent, and the spur is wholly wanting in the ant-oblique valley.

Tscherski†† gives a method by which he says the relationship to one of the groups mentioned can be expressed in figures. This is the determination of the index of projection of the anterior lobule of the interior pillar. If we take the distance from the posterior margin of the crown to the next point of the bottom

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*Beitraege z. Kenntniss d. fossilen Pferde u. z. vergleich. Odontographie d. Huftiere ueberhaupt. Verh. Nat. Ges. Basel, 1863, p. 538.

†Description of the Cavern of Bruniquel. Phil. Trans. 1869, p. 517.

‡Beitraege z. Gesch. d. Fossilen Pferde. Schweiz. paleont. Gesell., 1877.

§Fossile Pferde aus deutsch. Diluvial Ablagerungen. Landw. Jahrbuecher, 1844.

‖Beitraege z. Rassenkunde unserer Pferde. Landw. Jahrb., 1875.

¶Beitraege z. Kentniss des Pferdegebisses. Nova Acta, Leop.-Carol. deutsch. Akad. d. Naturf., 1888, p. 257.

**The "spur" of the German authors is the small enamel fold entering from the ant-oblique valley into the ant-oblique lobe (Owen's terminology).

††*Op. cit.*, p. 320.