

Brief Communication

COMMENTS TO
JAMES R. ROONEY'S "A CRITIQUE OF EQUINE JOINT
KINEMATICS AND CO-ORDINATION"

Rooney's critique is based on the occurrence of medial to lateral rotation round the long axis of metacarpus III at the transition from protraction to retraction and after the heel contact. His opinion has been arrived at by manipulation of osteo-ligamentous preparations.

Qualitative analysis of films obtained by high-speed cinematography of standardbreds moving at speed, both in the frontal and lateral projection, has not revealed any pronounced rotation (*Fredricson*, unpublished results). Obviously, this does not exclude the possibility of establishing the occurrence of minor rotations, providing that an adequate three-dimensional analytical procedure is applied. No such reports on in vivo investigations have been found so far.

The authors are well aware of the fact that equine locomotion is basically three-dimensional (*Fredricson et al.* 1972) and do thus not oppose Rooney's results, which by future research may in fact be extended to running horses.

Unfortunately, Rooney's criticism is valid only in relation to the conditions depicted in his Figs. 1 and 2. To avoid the dangers suggested by Rooney we have, however, utilized reference points in addition to those referred to by him (*Fredricson & Drevemo* 1972, p. 97 and elsewhere), viz., two points proximal to the carpus and two points distal to it. When the directions of the two lines formed by these points coincide, i.e., at full carpal extension, rotations round the long axis cannot simulate a flexion. Hence the controversial carpal flexion immediately after full protraction as well as after heel contact does exist independently of any moderate simultaneous rotation.

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REFERENCES

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- Fredricson, I. & S. Drevemo:* Methodological aspects of kinematics of the joints in the forelimbs of fast-moving horses. *In Acta vet. scand.* 1972, Suppl. 37, 93—136.

(Received November 24, 1972).

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