P. G. K. BENTZON, COPENHAGEN:

PES CAVUS AND THE M. PERONEUS LONGUS

(Report). Like several other orthopedists B. has observed that the number of patients with pes cavus deformity had increased to quite a great extent during the last decennium. Hackenbrock has made a statement of the figures of the Cologne Clinic in order to illustrate this fact and found that the said diagnosis was established 17 times in the course of the 5 years 1910—14, whilst it was found 36 times already during the first 6 months of 1925.

Among 1495 patients in the same clinic there were 8 with pes cavus in 1920 among 3400 in 1924 there were 57.

From the consultation records of his clinic B. had stated the total amount of consultation numbers, the number of pes cavus patients, and the number of flat-foot patients for the two quinquennial periods 1922—26 and 1927—31, The figures are as follows: — for the first period 1704 with 208 flat-foot patients and 30 pes cavus patients, for the second period 2608 with 492 flat-foot patients and 158 pes cavus patients. The great rise in the number of pes cavus patients falls chiefly on women: 19 during the first period, 124 during the second.

The patients comprised here under the diagnosis of pes cavus do not constitute an entirety; in cases where the deformity is present during childhood — frequently associated with spina bifida occulta — it is of a peculiar character. The pes cavus occurring in certain nervous disorders (e. g. the muscular dystrophy of peroneal type — Charcot-Marie-Tooth) as well as the paralytic pes cavus in poliomyelitis have been kept apart from this statement.

The great rise in the figure of slight pes cavus deformities

in adult women is most certainly associated with the prevailing fashion, which makes the majority of women use rather high heels and shoes of the pump pattern as daily foot-wear, also during work. A weakening of the action of the triceps on the foot (high heels) with a simultaneous increase of the use of »deep flexors« for the plantar flexion will tend to accentuate the longitudinal arch of the foot, and if the foot at the same time lacks lacing round the instep to keep the latter down, the deformity will develop more rapidly.

The symptom making the patients with pes cavus seek medical advice is almost always troubles brought about by putting the weight on the foot at the distal end of the metatarsal bones, either in the shape of a pes transverso-planus or — more typically — as a highly increased weighting of the part near the sesamoid bones under the metatarsophalangeal joint of the 1st toe with tenderness on pressure here (bursitis, periostitis). In the slighter cases treatment should consist of using arch supporters raising the arch transversally and shaped according to the varying needs, but in the somewhat severer cases with a tendency to progression we often lack a more »causal« interference with the deformity itself. Wedge-shaped excision in the tarsus, which in the severest and stiffest cases is the rational and most frequently the specially effective operation, is not suited for the slighter cases — can never get the character of a prophylactic interference. During the last year or so B. has in these cases performed a very simple plastic tendon operation, viz. transplantation of the tendon of the peroneus longus to the peroneus brevis at the outer edge of the foot. On this transplantation of the peroneus longus its arch-increasing effect and its plantar-flexing traction on the first metatarsal bone are obviated. The operation becomes an »antagonistic« counterpart to the operation for flat-foot recommended by Brandes of Dortmund, in which operation among other things the tendon of the peroneus brevis is inserted into the peroneus longus.

Up till now B. has used this operation in two young women, aged 15. In one of them, who had a rather trivial unilateral pes cavus of moderate severity, only this interference was made. In

the other patient, a case of severer bilateral pes cavus with marked impairment of the triceps, a transplantation of the tib. post. to the triceps was moreover performed. The results are satisfactory and encourage a continued employment of the operation in suitable cases, i. e. cases of pes cavus that are in progress but not yet so stiff as to indicate an operation on the bone.

DISCUSSION:

N. Silfverskiöld, Stockholm:

Is is difficult to transform a well marked »Klauenhohlfuss« into a foot of good shape and function. One will probably have to interfere with the skeletal parts.

Respecting one detail I would like to recommend the following operation that repays the doing. I refer to the case of well-marked malposition of the big toe with painful clavus over the extensor side of the interphalangeal joint and callus formation underneath the sesamoid bones, with consequent severe weight-bearing pains. The treatment consists in open elongation of the long extensor tendon, forced correction of the hyperextended position of the metatarso-phalangeal joint (if necessary with capsulotomy) and transplantation of the tendon of the flexor hallucis longus to the base of the first phalanx. The metatarso-phalangeal joint of a corrected big toe thus regains its important ability to active flexion.

P. Guildal, Copenhagen:

Shares the opinion of *Silfverskiöld,* that *Puttis* operation for the hammer-toe position gives good results, specially after the addition of tenotomy of the flexor hallucis with fixation on the base of the first phalanx. The cosmetic result is not always the best, but the functional result is excellent, and the patient is freed from the discomforts.