inexact conception of the nature of the anatomical peculiarity, and ought no longer to have a place in our systems of classification. My observations therefore support and give strength to the arguments which Van Beneden has advanced in opposition to the view entertained by Dr Gray.

ON THE TRANSVERSE PROCESSES OF THE SEVENTH CERVICAL VERTEBRA IN BALÆNOPTERA SIBBALDII. By Professor Turner.

The subject of cervical ribs is so intimately associated with that of the form and the development of the transverse processes of the seventh cervical vertebra, that a brief account of some observations which I have recently made on the latter bone, may not inappropriately follow the preceding paper.

In the cetacea the inferior transverse process on each side of the seventh cervical vertebra is wanting; whilst in *B. Sibbaldii*, as in other Fin Whales, the vertebræ in front of the seventh (the atlas being excepted) possess on each side a well-developed superior and an inferior transverse process, which as a rule uniting externally, form with the side of the body the boundaries of a large ring.

In the course of my dissection of the fœtal *Balænoptera Sibbaldii*, obtained from the Longniddry Whale, I had the opportunity of examining the vertebral column in an early stage of its ossification, when the vertebræ were, to a large extent, still in the cartilaginous condition. I found that at this early period the seventh vertebra did not differ in the arrangement of its cartilaginous transverse processes from the vertebræ immediately in front: but that with it, as with them, two cartilaginous bars sprang from each side of the cartilaginous body, and curving outwards became continuous with each other at their outer ends, and formed the boundaries of a large ring.

Hence the differences found, in an adolescent, or adult, Balænoptera, between the transverse processes of the seventh vertebra, and those immediately preceding it, are not due to differences in their original construction, but to a want of ossification of the inferior, transverse, cartilaginous process of the seventh vertebra, so that it either atrophies, or disappears in the process of maceration. Similarly, the absence of a complete ring, which one sometimes sees in connection with the arrangement of the superior and inferior transverse processes of the sixth or preceding cervical vertebræ in the cetacea, is due to an imperfect ossification of their cartilaginous matrix substance. The species and even genera which have been founded on vertebræ which exhibit imperfections in the formation of these rings, are based therefore on specimens in which the process of ossification has not been completed.

My observations on the presence of complete cartilaginous rings in connection with the transverse processes of the seventh vertebra are of especial interest also in reference to a remark recently made by Van Beneden,[1] "that in the dolphins of the tertiary period an inferior transverse process is well developed." Hence it would appear that although the dolphins of the tertiary period differ, as regards the development of the inferior transverse process of the seventh vertebra, from adult cetacea of the present fauna, yet that they correspond with the fœtal stage of some of the now-existing cetacea.

[1] *Bulletins de l'Acad. Roy. des Sciences de Belgique*, 1870, No. 12, 376.