

they are abnormal; and really only occur late in life, when the bone becomes ossified, and fixed to the vertebra. Of course we cannot exclude a toxic influence in all cases; but then, why should it be only localised to this one particular part. With regard to the symptoms in the lower extremities the woman was decidedly anæmic and neurotic, and I thought the cold feet was more due to this, more especially as she did not show any cyanosis at any time. The vessels in the lower extremities did not show any changes, and this I thought would rather exclude a toxic cause.

E. W. ARCHIBALD, M.D.—Dr. Russel is fortunate to have such a series of cases, the first, so far as I know, to be presented before the Society: and especially fortunate in that he has examples of two kinds of possible effects from cervical rib, the nervous and the circulatory effects. The subject from the etiological aspect is still involved in a certain amount of obscurity. For instance the fact that these cases do not usually develop symptoms till after the age of 20 is to my mind absolutely unexplained by the suggestion which Dr. Russel has put forward, to the effect that complete ossification of the rib occurs about that time. I can hardly see why a cartilaginous structure, as regards pressure upon the nerves, can exert any less effect upon those nerves than a structure of bone. With regard to the case which I presented before this Society in January of this year under the title of "A Case for Diagnosis" even with the post-mortem before us it still seems to me to be a case for diagnosis. What the post mortem revealed was an obliteration of the subclavian on both sides; on the right extending from underneath the clavicle to the thyroid axis, and on the left occupying only the subclavicular portion. The actual cause of this obliteration is I think still somewhat to seek. The suggestion which Dr. Russel puts forward is to the effect that this rudimentary rib, which we must accept as a first rib, and not a cervical rib, has so crowded in the subclavian in its course that the later is forced to take an abnormal curve underneath the clavicle, a condition which in some way, say by variation in intravascular tension, *not* by any actual pressure, has ultimately caused complete thrombosis. There are some things to be said against this view. The mere abnormal curving of the artery is hardly sufficient to cause thrombosis; take for instance the course of the vertebral artery which makes a sharp turn on leaving the transverse process of the atlas; and yet you never hear of a thrombus at that spot. To my mind something further must be supposed. The history of the gonorrhœal infection about the same time that she developed her symptoms, about 8 or 9 years before she came to hospital, is a suggestive fact. Now we know from experimental work upon the intravenous injections of toxic substances, such as adrenalin, digalen, and nicotine, that these are capable of producing a mesarteritis, which may cause secondarily an intimal proliferation. We know also