

American body. These members would have been glad of the chance of seeing Pittsburg under the auspices of the A. M. I. E. Unfortunately they can do nothing now beyond projecting their astral bodies into the circle illuminated by Dr. Raymond and his fellow-con-

spirator, Dr. Struthers. The incident is the more regrettable since the practice of the American Institute heretofore has been to hold its meeting during February. We hope that somebody's wrist will be well slapped.

FORESTRY AND THE COAL AREAS OF THE YUKON TERRITORY.

By D. D. Cairnes.

(By permission of the Director of the Geological Survey Branch of the Department of Mines of Canada.)

So much has, of late, been said and written concerning the preservation of our forests, and the rapidly-approaching time when all the known deposits of coal will have become exhausted, that in treating of the forestry and coal areas of the Yukon, it will not be necessary to emphasize the vital importance of these natural resources for the welfare of the district; as they are quite as essential factors in the industrial advance of these northern and somewhat sparsely-settled districts, as they are of the more populous portions of the continent.

As extensive portions of the Yukon Territory, which embraces 207,076 square miles, are as yet but slightly or altogether unexplored, our knowledge concerning its timber is very imperfect, but as far as is known the district is generally wooded and the forest consists chiefly of 12 species, 8 of which attain the dimensions of trees, the others being possibly better considered as shrubs. These are white spruce (*Picea alba*), a black spruce (*Picea nigra*), balsam fir (*Abies subalpina*), black pine (*Pinus Murrayana*), balsam poplar (*Populus balsamifera*), W. balsam poplar, (*Populus trichocarpa*), aspen poplar, (*Populus tremuloides*), three species of birch and two of willows (*Salix*).

The white spruce is the most widely distributed and most useful tree in the Yukon, and is found of fine, to good, quality in all the valleys and lowlands. It makes a fair grade of lumber and is well suited for purposes of construction generally. It is seen at its best on the islands and alluvial flats of the main rivers, where it forms fine groves of merchantable timber, easy of access. The groves are small, as a rule, but the aggregate amount of good spruce timber which they contain is considerable. Here trees, measuring one to two feet in diameter, occur in most places and, in a few localities, individuals have been noted which measured three feet, and logs 60 feet long, with a diameter of one foot at the smaller end, can be obtained. Up the slopes of the valleys, the white spruce, under favourable conditions, continues to be a fine forest tree, but decreases in size near the heads of the rivers, where it generally does not exceed eight inches in diameter. In the Klondike district, timber only extends to 3500 feet above sea-level, but in some other portions of the Yukon it reaches as high as 4700 feet.

Balsam fir, which is, in places, as large as 18 inches in diameter, is next in importance to the white spruce, and occurs only in high valley bottoms and on mountain slopes, and appears to thrive best at about 1200 feet above the main valleys, decreasing in size above and below this elevation.

Black pine is fairly abundant in certain localities in

the southern Yukon, and occurs chiefly in swampy portions of the valleys on moss-covered slopes facing the north, and, in thin groves, upon dry benches bordering the rivers at 40 to 300 feet above the water. However, it is not an important forest tree, being generally only 4 to 6 inches and seldom over 9 inches in diameter.

The poplar grows on islands and alluvial flats of the main rivers, and is seen in all stages of growth, from a small shrub to a considerable forest tree. The aspen are found over a large portion of the Yukon territory and are especially characteristic of the dry, open grassy hillsides. Three varieties of birch have also been noted, two of which are in most places only poles, but the third (*Betula resinifera*) is sometimes 8 inches in diameter and has supplied a considerable portion of the fuel consumed in the Dawson mines. It is never tall, however, seldom giving a trunk that will produce two 16-foot lengths for fire-wood.

The most widely distributed shrub is the dwarf birch, (*Betula glandulosa*), which occurs chiefly on the higher hills and ridges above the timber line. Along the river banks, alder, willows, and brier-rose are abundant.

It will thus be seen that the timber of the Yukon is limited, but that there is, however, considerable, practically everywhere, except in a few localities where there has been a heavy drain upon it, such as in the vicinity of Dawson and along the river banks from Whitehorse to Dawson. But nowhere are the forests of the dense nature encountered to the south, as in British Columbia and in Eastern Canada. The thin growth is probably due to the permanently frozen ground just below the forest floor in most parts of the territory.

Concerning the mineral resources of this immense territory, our information is of a very fragmentary nature, and this is particularly true regarding coal, which naturally has received much less attention at the hands of prospectors than the precious metals. However, anthracite and bituminous coals and lignites have been found in the Jura-Cretaceous and Tertiary rocks of the Yukon Territory at numerous points along the Lewes and Yukon Rivers and their tributaries, particularly the Nordenskiöld, Klondike and Indian Rivers and Coal Creek; and three mines have been opened up and a certain amount of work has been performed in other places. However, the known occurrences of each are nearly all along the waterways, where the more detailed investigations have been made. In fact, very little prospecting has been conducted away from the main lakes and rivers, so that, in all probability, further exploration will show a considerable extension of the coal-bearing horizons.

The Sour Dough Mine is situated 12 miles up Coal