

pulp, one-third of that was also shipped as pulp, the remaining two-thirds being manufactured into paper in Canada.

There were four main processes of manufacture, and some minor processes, which were not commercially profitable. The beginning of the manufacture of paper, from wood, dated from about 1863, and the new extensive sulphite process from about 1883. The reason why forest timber could be used to such advantage in paper making was due to the fact of the relative shortness of its fibre. The length of fibre in the Black and Balsam Spruce was better for the manufacture of news print paper than it was in the other woods of the forest. Black Spruce contributed 70 per cent of the pulp used for this purpose and Balsam Spruce about 25 per cent. In addition other conifers such as the Jack Pine and Hemlock Spruce were also used in limited quantities, as also were Poplars and Basswood among deciduous trees. The conifers were easily amenable to the chemical treatment necessary in paper making, while the Black Spruce and Balsam were the two which were also very easily bleached. The lignin, which is in larger proportion in some woods than in others, is the cause of discoloration. The chemical process, used to reduce spruce wood, dissolves out most of the lignin, leaving the 65 per cent of cellulose, which spruce contains, available for paper. In one process an alkaline solution is used by which the gums, resins, etc., of the woods are dissolved out.

By means of the several chemical processes now used the best quality of paper is made. The large proportion of 54 per cent of the total, however, is made from mechanically ground pulp in which the lignin, etc., still remains. In many cases this mechanically made pulp is mixed with a smaller percentage of chemically treated pulp, which then gives a paper of better color and quality.

The sulphite is the most important of the chemical processes. This process is one which uses a liquor, made by burning sulphur etc., in which the pulp wood is cooked. The chemical reactions which result, involves the ketone compounds, which unite with the sulphur and separate from the cellulose. The wood previous to the ten hour's cooking is barked and chopped into small blocks. In addition to the sulphite process the sulphate and the soda processes are also used in the manufacture of pulp-wood into paper. Craft or brown and all unbleached papers are made by a soda and sulphide process.

Those present were:—Messrs. Bartlett, Buck, Blackader, D. A. Campbell, R. H. Campbell, Dexter, Dickson, Eddy, Grindley, Low, Lawler, Masters, Rice, Robertson, Tulley, and the host, Mr. Geo. H. Clark.

F. E. B.