

- C. *Ample Supply of Fresh Air.*—That there shall be an ample supply, of not less than 30 cubic feet per minute per person, of fresh, moderately warmed or cooled, and sufficiently moistened air;
- D. *Air to be uniformly distributed.*—That this air shall be delivered uniformly over the chamber in such a manner as to reach all its occupants without perceptible motion;
- E. *Range of Heating of Air to be limited.*—That the range over which the air-supply is heated shall be limited, extremely cold weather being provided for by additional heating appliances within the chamber and lobbies.

RECOMMENDATIONS.

To fulfil the foregoing requirements I would recommend that,—

- A. *Building to be made windtight, and Van Kannel Door to be fitted.*—To enable a plenum to be maintained within the building it be made windtight; that the number of exits be limited, and space-conditions kept as far as possible constant by the use of self-closing doors; also that a Van Kannel door be fitted at the outside entrance to the Public Gallery.
- B. *Air-pump Ventilator to be fitted, and Skylight and Galleries to be connected.*—To insure the prompt removal of the vitiated air, the present exit-cowl in the lantern roof to be replaced by a Boyle's patent air-pump ventilator, and that this ventilator be connected to the central aperture of the skylight, apertures at the ends of the skylight, the ceiling of the Public Gallery, and the ceilings of the private galleries (Speaker's, &c.).
- C. *Sturtevant Plant to replace Existing Appliances.*—To provide an ample and satisfactory air-supply the present appliances be replaced by a Sturtevant standard heating and ventilating plant, capable of dealing with a maximum quantity of 16,000 cubic feet of free air per minute, of raising the temperature of this amount through 35° Fahr., and delivering it at 75 per cent. relative humidity.
Description of Plant; Relative Cost of Fuel.—In this plant the air is warmed by being passed over steam-pipes, and thus excessive overheating is less likely to occur than with the direct system; further, since the steam used by the fan-engine goes on to, and is utilised in, the heater, the cost for fuel will be less than one-half the expenditure which would be required for fuel and current with appliances similar to those now in use.
- D. *Present Air-trunks replaced by many; Air led to Risers at Floor-level; to Skirting-boards; introduced at Very Low Velocity.*—In order that the fresh air may be uniformly distributed, the two existing main air-trunks be replaced by thirteen trunks of differing size connected by ducts to spaces behind or in front of the risers round the central floor-space of the chamber, along its passage-ways, between the seats of the members, and between the seats in the Ladies', the Public, and the private galleries; also at the skirting-boards at each end of the chamber and in the Press and Hansard Galleries. That the air be introduced to the chamber from these spaces at low velocity through numerous gauze-covered openings.
- E. *Radiators to be used; Single Central Heating Station recommended.*—To avoid the necessity for overheating the air in order to raise the temperature of the walls of the building in extremely cold weather, radiators be placed in the chamber, the lobbies, and the connecting passages. Further, since I am of opinion that with the exception of the chamber of the House of Representatives, and possibly that of the Legislative Council, the Parliament Buildings can be best ventilated by natural as opposed to mechanically created air-currents, and warmed by the use of radiators, it appears to me desirable that sufficient boiler-power should be installed with the new plant to enable the whole of this heating to be effected from a single central station, and isolated boilers to be dispensed with. Such an arrangement would be productive of economy in labour and fuel, and greater efficiency in heating.

DETAILS OF WORKS TO BE CARRIED OUT TO GIVE EFFECT TO RECOMMENDATIONS.

A. DETAILS OF STRUCTURAL REPAIRS, ALTERATIONS, AND ADDITIONS.

Plastering.—The interior of the southern side of the building to be plastered. All necessary windows to be made tight, and disused windows thoroughly blocked. (The Public Gallery and staircase especially require attention.) The two windows on the staircase of the Public Gallery to be permanently closed. The cellar-steps to be isolated by a partition with door at top.

Revolving-door.—A Van Kannel revolving-door to be fitted at the external public entrance.

The door between the *Hansard* lavatory and the Public Gallery to be closed.

The door between the *Hansard* Room and gallery-staircase to be felt-edged and spring-closed.

Passage thrown into Hansard Room.—The passage that now exists round the inner *Hansard* Room to be done away with, the space being again thrown into the room, and the opening to the Press Lobby permanently closed. If this is not possible, a spring-closed door should be fitted at this opening.

Doors to be made self-closing.—The door from the Press Reporters' Room to the main corridor to be made self-closing and draughtproof, as must the double folding-doors at the entrance of the passage to the Speaker's and Legislative Council Galleries.

The door between this passage and the lobby of the Ladies' Gallery should also be made self-closing, and the door leading thence to the stairs closed in such a manner that it may still serve as an emergency exit.