

sons are to be comfortable with a low humidity. It is well known that a thermometer with moistened bulb will register a lower temperature than a dry bulb thermometer beside it, but it is not generally known that the sensation of heat and cold experienced by people varies rather with the registration of the wet bulb thermometer, than with that of the dry bulb. It is a common error to assume that the dry bulb thermometer gives a true indication of the temperature felt by human beings, and to consider all contradictory evidence as due to the mutability of human nature. Roughly, it will be found that with 55 per cent. relative humidity a temperature of 64 degrees will be as comfortable as a temperature of over 70 degrees, with a relative humidity of 30 per cent. From an engineering standpoint, therefore, we come to the same conclusion as a physician, who, discussing this subject, states that: "So long as we continue to neglect the indoor relative humidity we shall continue to live in unhygienic surroundings, created by any method of heating that is not supplied with means for properly moistening the air. To do this should be as much the purpose of a scientifically constructed heating system as to furnish sufficient heat."*

Any system of ventilation will necessarily add not only to the first cost of a heating equipment, but also to the operating expense. Heat is considered essential because the lack of it at once affects our comfort; while breathing impure air, when one becomes accustomed to it, produces no immediate discomfort. Through ignorance of the fundamental principles much money has been wasted in the past on inefficient or defective methods of ventilation. It is, however, considered poor practice to-day to design a heating system without at the same time making provision for a positive supply of fresh air free from dust or soot, and furnished to the building without drafts in any room. In the State of Massachusetts a law has been in force for several years making it compulsory to supply 30 cubic feet of fresh air per head per minute in all schools and public buildings. The amount of air usually estimated for buildings of different classes is as follows:—

Hospitals (ordinary),	35 to 40	cubic feet	per minute	per person.
Hospitals (epidemic),	80	"	"	"
Workshops,	25	"	"	"
Prisons,	30	"	"	"
Theatres,	20 to 30	"	"	"
Meeting Halls,	20	"	"	"
Schools (per child),	30	"	"	"
Schools (per adult),	40	"	"	"

*Henry Mitchel Smith, M.D., in a paper before Brooklyn Medical Society, May 15th, 1905.