The force of habit is nowhere exemplified in a more marked manner, than in the amount of contamination which different individuals can bear. Some miners pass habitually much of their time in air in which a candle does not bum, though a lamp may be maintained in combustion in the same air.

4. *Moisture in the air.—*Air, in winter, usually requires the addition of moisture when introduced into any apart­ment and warmed, as at this season it has deposited a large proportion of the moisture associated with it in summer. Were it warmed by the approach of summer. It would, in this country, gain moisture from the surface of the earth or the ocean, and thus acquire more of the pleasing and agree­able qualities which a summer atmosphere presents ; but, if warmed and introduced into any apartment without the previous addition of moisture, then, having had its power of action upon moisture increased without receiving a cor­responding supply. It absorbs moisture with extreme rapidity from the surface of the body and the lungs, and, taking away an undue proportion, produces a harsh and disagreeable im­pression. The injection of steam into the air, or the eva­poration of water from shallow metallic pans, placed over the heating apparatus, removes the defect.

On the other hand, moisture is frequently communicated to the air with the view of cooling it, by the reduction of temperature attending evaporation.

In some climates, again, a redundancy of moisture forms one of the greatest sources of oppression to the European constitution, and is regarded as one of the most powerful causes in developing the activity of miasmatous influence.

The influence of different degrees of moisture in the air is as various upon different constitutions as that of differ­ent temperatures. Further, some individuals exhale mois­ture almost solely by the lungs, while, in others, the skin is equally active. According to the relative conditione of the living system, the air, in reference to moisture, may either exhale, or absorb moisture from it.

III. Equalization.—Air entering by doors and win­dows, and rushing in a well-defined stream, so as to pro­duce local currents, may be exceedingly offensive; while, if divided into innumerable streams, by causing it to pass through a porous texture, having the most extensive pos­sible surface. It may escape so insensibly as not to be per­ceived. Air ought always to be admitted in this manner, or at such a distance from those upon whom it is to act, that its movement may be greatly moderated before it reaches the person. Wherever a proper supply of air is admitted, this equalization of movement is essential, more particularly in crowded apartments ; and the greater degree to which it is carried, the larger is the quantity of air which the system can bear. Nothing is more common than to see apartments ventilated effectually, so far as may be necessary for removing the foul air; but this very ventila­tion induces a most offensive series of chilling draughts, if means be withheld for warming the larger supply now ren­dered necessary, and for introducing an effective equaliza­tion. In rooms for invalids, this subject becomes of great consequence, especially in diseases of the chest. And, generally speaking, to a great number of constitutions, un­equal currents are more dangerous and offensive than an oppressive atmosphere.

IV. Nature of Heating Power.—Few circumstances require more care and attention in connection with ventila­tion, than the nature of the heating power employed. The open fire, so much prized in this country from its lively and cheerful appearance, exerts also an agreeable effect upon the animal system, by the light radiated along with the heat which it evolves, and the movement of air which it sustains, as it draws off the air and ventilates the apartment in which it is placed ; but, in point of economy of fuel, or facility of regulation, so as to maintain an equal temperature. It is perhaps the least desirable of all kinds of heat­ing apparatus. The great beauty, therefore, which its ap­pearance presents, the absolute purity of the heat which it conveys by radiation, and the extreme facility of access which it affords, so important for a variety of different purposes, ought to be contrasted with the attendance which it requires, the dust and ashes which it leaves, and the tendency, when neglected, to produce back-smoke, if the circulation be not maintained in proper force. In connection with ventilation, the following points require especial attention in the construction of tne common fire­place. 1. It should be provided with an independent sup­ply of air entering in its immediate vicinity, to be employ­ed when heat is required in any apartment without chang­ing the air there, as in warming the apartment before it is occupied, or moderating offensive currents near the fire-place. 2. An open fire-place, unless the air enters from the ceiling, often produces little or no ventilation above the level of the chimney-piece, and, even then. It does not afford the best and purest atmosphere. 3. The air above may be comparatively stagnant, and offensive in the ex­treme, from lamps and the products of respiration, while a fresh current moves along the floor to the fire-place.

Of other arrangements for heating apartments, the mild hot-water apparatus, when the water is always under a boil­ing temperature, affords the most perfect and equal diffu­sion, when properly arranged ; a point of great importance in producing equality of ventilation. Stoves of low com­bustion, presenting an extensive surface at a moderate tem­perature, varying from 100° to 200°, according to their size, as the Russian, Prussian, and Swedish porcelain stoves, or Dr Arnott’s stove, come next in order. Those varieties should be preferred which are provided with chimneys, both for the ingress and egress of air, having no communication with the apartment in which they are placed, otherwise, when worked most economically, they are all liable, occa­sionally, to evole carbonic acid, if they are not adjusted to the smoke chimney by persons who thoroughly understand their operation. Stoves and other apparatus, where the iron is heated to a high temperature, may be in many cases more economical than the preceding; but from the manner in which they affect the air, they are not so conducive to health, and greatly impede all regularity of ventilation, the hot air from them ascending rapidly to the ceiling, while a cold atmosphere, almost unaltered, is often left below.

In public assemblies, subject to great and sudden fluctua­tion of attendance, hot and cold air chambers are provided, from which any supply of warm or cold air may be obtained ; and a mixing chamber, for mingling the various proportions that may be supplied, must also be constructed.

V. Source of Movement.—An alteration of specific gravity in the air, dependent on an alteration of tempera­ture, produced by expired air and the warmth of the body, is the great, the more natural, and the most economical source of movement under all ordinary circumstances. When the openings for ingress and egress are arranged on the best footing, any ventilated apartment may be compared to a piece of apparatus in which the current of air, entering rapidly by a narrow channel, expands with the greatest possible diffusion into a slow moving stream, occupying the entire area of the place to be ventilated, and gathering to­gether again in a smaller channel, by which it escapes where the velocity of movement increases as the area diminishes. In ordinary apartments, where nothing more can be afforded, two openings, at different levels, will always give much relief ; the one usually admitting cold, and the other, which should be as high as possible, dis­charging hot and foul air.

A movement in the air may be induced by mechanical means, more especially by pumps and fanners, or the im­petus communicated to it by high-pressure steam. All