arranged over the head, inhale warm vapors medicated to whatever extent is found agreeable. The extent to which such may be used will be indicated when it is said that its effects are found similarly beneficial in acute stages of colds, in chronic catarrhs of nose, throat and lungs; while its influence for good in diphtheria and pulmonary phthisis at least as a palliative measure has been most potent. While many might ascribe these generally recognized benefits to the medicament, the writer is inclined to give a first place to the warm saturated atmosphere in which the respiratory organs are continually bathed. It may be of interest to state the apparent reasons for this beneficial influence. While the body is capable of sustaining dry heat at a temperature exceeding the boiling point, a saturated atmosphere cannot be inhaled much above 130° 140° F. Our practice has been to keep the water in the vaporizer boiling and to regulate the temperature by distance from the patient. The patient's whole head is to some degree bathed in a saturated atmosphere, as in catarrh, while in others, as diphtheria and pneumonia, less vapor is found sufficient. The warm atmosphere being saturated does not produce cold by evaporation, while its warmth promotes a free flow of arterial blood in the arterioles previously chilled and followed by a venous stasis and the plastic exudations are rendered soluble watery, abundant and easily removed, thereby lessening the condition of free exudation, due in part according to Baker, to excess of chlorides in the congested mucous tract. This becoming cleansed and the concretions removed, the medicament readily reaches the mucous tract when, by its astringent, stimulating or alterative action, it gives a healthy tone to the mucous membrane throwing rapidly off by the afflux of blood, exudates and abundant cell products.

For a general purpose as applicable to catarrhal conditions the following of M. M. Fileau and Petit, is generally available:

Acid carbolic, 2 grammes (parts); spirits turpentine, 50 grammes; essence tar, 20 grammes; eucalyptol of Merck, 30 grammes; chloroform ½ grammes.

Equal parts of creosote, oil of pine and comp. tincture benzoin are similarly good. The beneficial effects in diphtheria have been so frequently remarked by the writer that they deserve some reference. In this septicaemic disease we wish to cause free elimination of the poison at that point toward which it directs its most evident effects. By increasing, as under a tent, the temperature, with accompanying moisture, both skin and mucous surface are kept freely secreting at a temperature, say of 80° F. In consequence of the access of blood to the part, it is probable that the microbes of the disease and ptomaine products are similarly freely eliminated, and antiseptics as lactic acid and carbolic acid, obtain their fullest effects. How important is this eliminating influence will be seen when it is stated that in different cases it has been noticed that a child in whom the toxic effects of the poison had created so extreme a typhoid state as to create absolute indifference and disgust for food, will within a few hours after such inhalation has been instituted, become so relieved as to show some relish for food.

INDEX OF PROGRESS

SURGERY.

The Development and Repair of Bone.

(Continued from MEDICAL SCIENCE for November.)

"*Proposition F.—The periosteum does not initiate the reproduction of bone.*"

If an adult, healthy bone be removed subperiosteally *without previous irritation*, very little new bone is formed. If a matured bone be *submitted to irritation* for some time and then removed subperiosteally good sound bone is reproduced.

Wherein lies this difference? In the former the periosteum is perfectly healthy and only small nodules of bone are formed. These are found at the opening of the Haversian canals where the connective tissue surrounding them in being stripped carries with it some formative osseous cells.

In the latter the periosteum though not so healthy *appears* to be the source of production of new bone. It is not from the periosteum, however that this new bone is formed but from the osseous cells, or osteoblasts which the continued