

months. The nasal cavities were regularly washed with an alkaline spray, and then the prescription of silver, zinc, copper, or tannic acid was swabbed or sprayed generously through the nasal chambers. The result you all know. The effect of the so-called astringent remedy was not to diminish but to increase the congestion and swelling of the nostrils, and then hypersecretion was changed to a copious flow of serum. The patient was as uncomfortable as though suffering from an acute coryza. Relief came only when the distended capillaries and venous sinuses were emptied by the rapid transudation of serum. The nostrils were again open. The patient, who, fortunately for the operator, contrasted this later stage of comfort with his condition of misery immediately after the medication was applied to his nose, gave his physician credit for skilful knowledge, and the drug employed was believed to have some specific effect in the cure of catarrh. That such treatment does, after a time, produce some temporary benefit is, I believe, only because long continued irritation of the nasal mucous membrane, such as is inflicted by daily applications of astringent drugs to it, at length exhausts the nervous irritability of the nasal tissues, and the ordinary irritants to which the nasal mucous membrane is exposed—dirt, foreign bodies in the air, rapid changes in temperature, etc.—are for a time powerless to excite these structures to a state of congestion and swelling. They are exhausted. One carefully selected astringent remedy in weak solution is a stimulant, but as usually applied it is an irritant and nothing more, and yet we have learned men discussing the comparative merits of zinc, silver, or tannic acid as remedies for nasal catarrh. I believe them to be equally harmful if the applications are of the same strength, and we shall see the reason for that in a moment. Cocaine is worth the whole materia medica of the old astringents, but there are some objections to its use. I have already mentioned the two reasons why one astringent did not control catarrhal inflammation of the nose. One is the peculiar anatomical structure of the nasal tissues, and the second, its physiological function.

Before the year 1800, Morgagni had observed and called attention to the peculiar "red thicknesses" of the nose, as he called them, and Toynbee speaks of the nose and observes that it subserves the purpose of a "most excellent respirator."

Other German authors also call attention to this peculiar structure. In 1875, Bigelow, of Boston, wrote a detailed description of the anatomy of the nasal tissues; he had noticed the alternate expansion and contraction of the soft structures overlying the turbinated bones, and he thought the name *erectile tissue* an appropriate one; and because of its resemblance to the similar structure of the penis, he called it the turbinated corpora cavernosa. If we dispute the propriety of calling this an erectile structure, we are forced to admit that we have here overlying the bony structures of the nose a network of venous sinuses, between and around which is fibro-muscular trabeculae. Considering then the anatomical structure of this tissue, is it surprising that applications of silver and tannic acid are of little avail? We understand now why an astringent cannot be depended upon to chain down the expansion of an erectile structure. That this peculiar tissue is placed here for special physiological purposes, no one can doubt. It has long been known that the nostrils sifted out foreign bodies from the atmosphere, and that they still further prepare the air for its reception into the lungs, by raising it in temperature, facts physiological experiments have amply proven. Another function, and perhaps a more important one, is that the nostrils add moisture to the inspired currents of air, and this seems to be accomplished not only by the glandular secretions, but perhaps by exosmosis directly from the venous sinuses of the erectile tissue. As the erectile structure then is needed to warm and moisten the air, the demand upon it varies with every slightest change in the thermometer and barometer scale. It must be as sensitive to the surrounding conditions, which are constantly changing, as is the iris, expanding and exposing a large area of mucous membrane, underneath which are the large, warm venous sinuses, whenever the air is cold and dry, and contracting when moisture and heat are not required. This physiological function is to be remembered, when we examine the anterior ends of the turbinated bones. Not all so-called anterior hypertrophies are pathological. A portion of this apparent hypertrophy is physiological swelling. Of course there is a nicely adjusted nervous mechanism by which this automatic movement of the turbinated corpora cavernosa is regulated. It would seem as though the Creator had not fully realized the amount of