

stricture tissue, and this quite independently of the long-continued use of sounds insisted on by all authorities as necessary to prevent re-contraction of the Stricture. Now, in regard to the dependence of chronic purulent secretion upon interference with the calibre of the urethra, it may be stated that, in order to effect a complete emptying of its contents after micturition, a complete and healthy action of the muscular layer surrounding it must occur. The presence of any condition which interferes with this, necessarily produces irregular and imperfect emptying of the urethra; its acrid contents are retained for a time, and to a degree, sufficient to become a cause of irritation. This, it will readily be seen, may occur from such a slight plastic infiltration as simply interferes with the suppleness of the tissue without interference with the normal calibre of the canal. Thus Strictures, dilated even beyond the normal size of the urethra, still may give rise to an irritating influence upon the mucous lining of the canal. When, besides, there is an *actual narrowing* in the course of the urethra, "the urine impinges with more or less force upon the contracted point, the column of fluid is arrested, and in proportion to the degree of arrest is the force of the blow upon the mucous surface at that point; more or less hyperæmia necessarily ensues, and a condition is soon established well adapted to prolong an existing gonorrhœa or gleet, or upon slight additional cause, such as venereal excitement, or even an unusually acrid condition of the urine, to result in the establishment of a muco-purulent or a purulent discharge without antecedent contagion."

In claiming the general dependence of chronic urethral discharges upon disturbance of the urethral calibre, I am not unaware of the importance attached by many specialists to the presence of local points of granulation, or papillary hypertrophy, along the course of the canal. Accepting the views of Desormeaux, Cruise, and others, I have, in days past, been a firm believer in the value of the Endoscope for defining those points with certainty by ocular inspection; and in

the efficacy of local treatment by strong solutions of the nitrate of silver applied to the granulated surfaces through the Endoscope; but I have, of late, so frequently observed the same appearances, and by means of the large bulbous sounds have been able to detect bands of Stricture underlying them, and further, have seen the granular condition of the mucous membrane promptly disappear upon the complete division of the Stricture, without any other treatment, that I have come to look upon the Endoscope as a mischievous invention as used for the relief of chronic urethral discharges. The improvement and often apparent cure, which I have seen resulting from local applications through the Endoscope, has proved fallacious, for slight and often unrecognized causes have determined the return of the difficulty. I therefore now venture the opinion that localized granular urethritis will be found to result from interference with the muscular movement or with the calibre of the urethra in every instance.

And now, as to the second point. No one could have been more surprised than myself, when, on my quite accidental examination of the urethra of Mr. A., in October last, I found that complete absorption of the cicatricial tissue had occurred. The interest excited by the apparent result of complete division of the Strictures in this case, (which, it will be remembered, was the one in which six distinct bands of Stricture were present before the operations, and whose case was cited before the New York Journal Association in November, 1871), induced me to seek an examination of patients where like operations had been performed at or near that time. This resulted in the collection of *five* other cases, making six in all—four of which, with an aggregate of seventeen bands of Stricture, were examined by committees of surgeons especially skilled in urethral diseases. In cases Nos. I., II., and III., the final operation was performed in March, 1872, and the results examined in the first two in October, 1872; the third, January 31, 1873. Case IV., operated in June, examined in November; Case V., operated in April, and examined in October; Case VI., operated on in

July, and examined in November. In all these, an entire absorption of the Strictures was absolutely demonstrated.

The above list includes *all* the cases in which I have, thus far, had an opportunity of instituting a final examination. Quite a number of those operated on came from a distance, which fact, and the indisposition of Stricture patients to disclose their places of residence, have prevented an extension of the list. The generally-accepted view of authorities, in regard to the results of operations upon Strictures of the urethra by any other method than that by the dilating urethrotome, is, that there is a liability to relapse, and that, as a rule, unless dilatation, by the occasional passage of a full-sized sound, is kept up *indefinitely*, recontraction of the Stricture is likely to occur.

In consideration of the fact that, by every other method except that by combining incision with dilatation, the operation is upon a flaccid urethra, with no accurate guide to the necessary correspondence between the size of the operating instrument and the Stricture, and that there are many Strictures of larger calibre than can be sundered by the largest instruments in general use, it may be justly inferred that the Strictures operated on by such means are, as a rule, not *completely ruptured or divided*—that the Stricture is still left in its continuity, and hence the frequency of relapse. If, on the contrary, the Stricture is completely sundered at any point, and by subsequent dilatation a space is filled in with new material, when contraction takes place—as cicatricial tissue is certain to do—this contraction naturally takes place at the expense of the weaker new formation, resulting, as it seems to me, in a wider separation of the sundered ends, the irritation consequent upon contraction of the calibre of the canal, and the retention of the irritating secretions, thus decreasing, hence, the reënforcement of the Strictures, by additional plastic material, diminishes, until, by the natural tendency to absorption of foreign or superfluous tissue, the Stricture-tissue gradually and completely disappears. Should this view of the *modus operandi* of the complete absorption of the

Stricture, after complete division, not prove satisfactory, the profession are invited to suggest a more plausible explanation of the fact, which, it seems to me, must be accepted in regard to the six cases, (for the most part aggravated examples of their kind) which I have had the honor to report to this Society.

In the cases brought before you it will have been remarked that the occurrence of several distinct bands of Stricture in the same urethra is asserted. On this point Sir Henry Thompson, on "Strictures of the Urethra," London edition, page 68, remarks; "Occasionally several separate Strictures may be observed in the same subject. John Hunter records six, Lallemant seven, Colot eight, Du Camp four or five, Leroy d'Etiolles (inventor of the bulbous sound) eleven, and for the most part in the spongy portion of the urethra." Three or four are as many as Sir Henry Thompson has been able to discover.

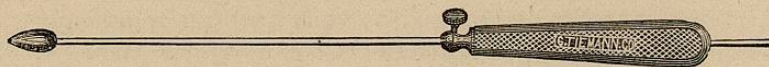
Among the patients which I have operated on during the past year there were present six in two cases, five in three, four in one, in three cases three, out of twenty-seven cases observed. Dr. Gouley has recorded four cases with four Strictures in each, and over twenty cases, in each of which three were distinctly defined with the bulbous sound.

The rarity of the occurrence of multiple Strictures in the same urethra, as reported by authorities, is, I am sure, due to an imperfect method of examination. The use of the ordinary sound is quite valueless in the attempt to recognize or define slight contractions of the urethral canal, which often readily dilate to its normal calibre, while they can be perfectly demonstrated by a bulbous sound two or three sizes smaller. I have frequently met with Strictures which could not be appreciated during the passage of a full-sized bulb, but which, after being allowed to remain for a few moments, was perceptibly arrested at a point of Stricture on its withdrawal. I may then state it as my conviction, that the bulbous sound is the only instrument which can be relied upon for certain diagnosis of Strictures of large calibre. For explorations of

the straight portion of the urethra, I prefer the metallic olive-shaped sound; for the curved portion, the olive-shaped gum bougies. Contractions at the meatus, either congenital or resulting from disease, are of frequent occurrence. Civiale recognized this fact, and is said to have "divided the meatus in nearly three thousand cases, with the best results." Dr. Gouley states that he has divided over two hundred.

By this simple operation I have many times relieved chronic discharges and inflammatory troubles of the urethra and bladder, which had resisted every other method. When such contractions exist, there can be no efficient exploration of the urethra previous to complete division, whether the contractions be cicatricial or congenital. Any resistance to the withdrawal of any bulbous sound which can be introduced through the meatus, is positive evidence that an abnormal contraction is present sufficient to render nugatory a thorough examination of the deeper portions of the urethra. Bearing this fact in mind, and appreciating the value of the full-sized bulbous sound as a means of diagnosis, I believe that the detection of important urethral contractions will be vastly more frequent, and that complete division of such contractions will result in the relief of much annoyance and suffering from gleet, urethral and vesical inflammation, and irritation, which cannot be permanently removed by any other means.

The metallic, olive-shaped sound, with a small, flexible shaft passing through a perforated handle, to which a thumb-



IMPROVED BULBOUS SOUND.

screw is attached for fixing it at any desired point (see Fig.) is one of a set which I have used very frequently for the last twelve years, and has proved in my hands superior to those of any other form or material in use for examination of the straight portions of the urethra, on account of the complete ease of its introduction and withdrawal, and of the ex-

actness with which it defines and measures every degree of Stricture. Its value is also enhanced by its freedom from liability to injury by use or time.

For the relief of close Strictures requiring immediate operation, on account of retention of urine, or where, by reason of irritability or extreme density, such Strictures are not susceptible of being sufficiently dilated, the instruments and methods of Maisonneuve, Holt, and Thompson are, and I believe must always remain, of inestimable value. Although inadequate for complete and permanent restoration of the urethral calibre, yet, the immediate emergency being relieved, the remaining disability, I am hopeful, may be removed at leisure, by the supplementary use of the Dilating Urethrotome, and thus the continued, often uncertain and perilous, use of sounds or bougies, now required after the ordinary operations on Strictures, be virtually abolished.