

the dry state, has a perceptible yield on tension, and every musician knows the care requisite to protect his strings against moisture. Frequent allusion is made in the classics to the care demanded of the bowman in this respect, when it was customary to string the weapon with animal products.

The above condition is readily apparent if a piece of cat-gut is macerated until it can be easily unfolded. Moreover, its division is rarely uniform, and, when sand-papered, the removal of the irregular projections causes oftentimes large abrasions or rents. No matter how prepared for surgical use ultimately the result obtained will depend, in considerable measure, upon the integrity of its structure, since the component cells are, little by little, separated by the penetration of the new proliferating cells. In the first stage of preparation, the long maceration of the material, remaining for a considerable time a putrefying mass, necessarily damages it, not only by softening the adhesion of the fibres, but infecting them with bacteria; and in the use of cat-gut for all surgical purposes it is important, as the first step in preparation, to destroy any germ infection that may remain. After this has been effected, no method which I have tried gives a result equal to that formulated by Sir Joseph Lister: "Dissolve one part of chromic acid in 4,000 parts of distilled water, and add to the solution 200 parts of pure carbolic acid or absolute phenol. In other words, I use a 1 to 20 watery solution of carbolic acid, only that the carbolic acid is dissolved, not in pure water, but in an exceedingly dilute solution of chromic acid. But, minute as is the quantity of the chromic acid, it exerts, when in conjunction with carbolic acid, a most powerful effect upon the gut. The first effect of the addition of the carbolic acid to the chromic solution is to change its pale yellow color to a rich golden tint; but, if the liquid is allowed to stand without introduction of the cat-gut, it changes in the course of a few hours to a dingy reddish brown, and a considerable amount of grey precipitate is formed. If, however, cat-gut about equal to the carbolic acid is added, as soon as the ingredients are mixed, the liquid retains its brightness, and the only change observed is a gradual diminution in the depth of the yellow color; the precipitate, which I presume still occurs, taking place in the substance of the cat-gut. As soon, therefore, as the preparing liquid has been made, cat-gut equal in weight to the phenol is introduced into it. If you have too large a proportion of cat-gut, it will not be sufficiently prepared; if you have too small a quantity, it may run the risk of being over-prepared. At the end of forty-