

called dysentery was caused by an already existing stricture and ulceration, the rule here being reversed, that dysentery was the result not the cause." Again, he says: "The sloughing in these cases occurs from the gut *above* the rectum," and further: "I must confess that in searching for this as a cause, the road to a conclusion has not been plain enough for me to put dysentery in the list as a cause at all for *stricture* of the rectum."

These are the words, not only of the pioneer rectologist of America, but of a distinguished author and teacher, and one whom we honor for having done so much by his indefatigable perseverance, energy, close observation and contributions to elevate and place this very important branch of surgery alongside the other recognized and legitimate specialties of medicine and surgery.

In closing, I desire to state that my endeavors will not have been in vain, if some of the ideas or hints herein contained should prove to be of some little use to you; also that I have to thank Mr. Cooper, Mr. Goodsall, Mr. Edwards and Mr. Allingham for their kind consideration, attention and interest shown me, and for the many opportunities afforded for examining and observing cases of cancer, and other diseases of the rectum, under their care. I am, also, greatly indebted to the House Surgeon, Mr. Ryall, for numerous other privileges granted me in the hospital and out-patient department.

### SYPHILIS INSONTIUM: A PLEA FOR THE RESTRICTION OF SYPHILIS, AND A SUGGESTION FOR THE PREVENTION OF ITS SPREAD.

Read by title in the Section of State Medicine, at the Forty-fourth Annual Meeting of the American Medical Association.

BY L. DUNCAN BULKLEY, A.M., M.D.  
NEW YORK.

"Syphilis of innocents" has long since ceased to be the subject of satirical remark, and syphilis itself has long since ceased to be regarded as a purely venereal disease. Syphilis stands to-day as one of the most important diseases affecting the human race, and its study has occupied the thought and activity of observers almost more than that of any other malady, while its literature probably exceeds that relating to any other single disease.

The advances which have been made in the knowledge of the cause, manifestations and results of syphilis during the past fifty years are very great, and have done much to limit its extension by innocent means, and have also served to rob the disease of much of the terror with which it has been surrounded in earlier times. But with all the advances in our knowledge of the disease, and with all our present acquaintance with its pathology and our power of control over it therapeutically, syphilis stands to-day a menace to the public health which has not yet received the attention that its importance merits from sanitarians and jurists.

All are more or less familiar with the agitations which have from time to time arisen, especially in Europe, in regard to the restriction of the spread of syphilis; and the excitement caused by the discussion of, and final repeal of "The Contagious Diseases Prevention Act," in England in 1886 is still fresh in the minds of many. It is foreign to our immediate

subject to discuss the arguments for or against any of the legislative enactments which have, from time to time, been made in various countries in regard to the regulation or control of prostitution, one of the chief incentives thereto being to prevent the spread of syphilis. But I can state, without fear of contradiction, that those who are most acquainted practically with syphilis realize strongly that some measure of control of the disease has been effected where stringent measures of inspection have been carried out, although all realize that at the best but a moderate control over it has been effected, even under the best systems thus far devised and executed, more or less perfectly.

As before stated, with syphilis in its relation to prostitution we have nothing to do in our discussion this evening, except so far as it may touch our subject of the "syphilis of innocents;" we approach the subject of the restriction of the spread of syphilis solely from this aspect, and argue for the control of the disease by health authorities wholly on behalf of the vast army of innocent sufferers from a disease which is absolutely preventable, provided the absolutely proper measures could be and were absolutely carried out. The proper measures for its restraint will never be instituted until the public is thoroughly alive to the relative frequency and importance of syphilis as a non-venereal disease, and the rights and claims of those who may be innocently infected thereby. The further elaboration of this subject will be our task this evening.

The subject of marital syphilis, which has been so elaborately and fully discussed by Langlebert,<sup>1</sup> Fournier<sup>2</sup> and others stands prominent in connection with the innocent acquiring of the disease. This has been so fully elaborated, and marriage is such a well-recognized factor in the spread of syphilis that we will not dwell long upon it here. While men occasionally contract the disease in lawful wedlock, even indeed from wives who have acquired it in nursing or in other innocent manners, it is principally the wives who suffer from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of "innocent syphilis."

In a study on syphilis in females made by Fournier<sup>3</sup> five years ago, after a very careful analysis of his cases, he came to the conclusion that fully 25 per cent. of all females affected by syphilis acquired it perfectly honestly, in lawful marriage relations; and he stated that he believed the proportion would be much larger if the data of his notes had been more perfect. Ricord, in commenting on the statement of Fournier, said that his experience bore this out fully, only that the proportion was placed far too low. It is to be remembered that these figures related to Paris, and that fully one-half of the patients from whom Fournier drew the figures related to the *démimonde*; among those who were married, after excluding a number of doubtful cases, he found that in 75 per cent. the disease was unmistakably traced to the husband.

In looking over my own notes of syphilis in public and private practice I should say that, as far as I can learn, fully 50 per cent. of all syphilitic females have acquired the disease in a perfectly innocent manner, while among the married females I have seen with

<sup>1</sup> Langlebert, *La Syphilis dans ses rapports avec Mariage*, Paris, 1875

<sup>2</sup> Fournier, *Syphilis et Mariage*, Paris, 1880.

<sup>3</sup> Fournier, *Annales de derm. et de Syph.*, 1887, p. 757.

syphilis, in private practice, I am perfectly confident that the percentage of innocent victims is very much larger than even the highest figures of Fournier, and should place it over 85 per cent.

Surely then, from the aspect of marital syphilis, there is some reason for the plea that something should be done to prevent the wholesale infection of these innocent victims. It is impossible to form any estimate of the amount of mental and physical misery which has been thus inflicted in the marriage relations.

But if this aspect of our subject seems dark, and cries aloud for relief, that of *hereditary syphilis* is still darker and utters a yet more urgent plea.

The literature relating to congenital syphilis is very large, and it would seem that little was to be said after the elaborate works of Diday, Hutchinson,<sup>4</sup> Kassowitz,<sup>5</sup> Parrot,<sup>6</sup> Mauriac,<sup>7</sup> Fournier,<sup>8</sup> and many others, and we will but briefly touch upon this most important branch of our subject, which is more or less familiar to all.

We will first consider for a moment the effect of the syphilitic poison upon the viability of children born of syphilitic parents. I can not do better than refer to some very striking tables given by Sturgis in an appendix to Diday's book,<sup>9</sup> page 265; they are from the records of births of syphilitic children at the Moscow Hospital, Russia, from 1860 to 1870, inclusive. During these years there were 2,002 births, and 1,925 deaths, or 71 per cent. The same writer quotes statistics from the births occurring in the wards of Prof. Sigmund of Vienna, where, of sixty-one births fifty-nine are either still-born, or die within three months. Kassowitz<sup>10</sup> gives the percentage of still births of syphilitic parents at 33.6, and that of infants dying within six months at 24.3, a rather more favorable rate than that presented by other writers. The limits of our article prevent a further elaboration of this subject or a presentation of further statistics.

It must be mentioned, however, in this connection, that it is now a well-recognized fact that just as syphilis can *diminish* the viability of the product of conception, and so be a most frequent cause of abortion, even in the very earliest period of utero-gestation, so it is also a very frequent source of sterility, both in the male and female: of this, abundant proof could be adduced.

If, therefore, the effect of syphilis were limited solely to a destruction of life in the newborn, or in the products of conception, there would be a strong reason for the introduction of measures to prevent a spread of the dire disease. But, alas, this is but a very small share, indeed, of the ills wrought by syphilis in connection with generation. One feels almost like wishing that the effect of the disease might end there, that all the children of syphilitics might fail of life, rather than be born with the inheritance which often proves such a curse.

Tarnowsky<sup>11</sup> has recently given us the data concerning three families, in which there were a total of

twenty-two births: of all these there came only one healthy adult man. Of thirteen who survived some years, eight were incapable of self-support, from mental or physical defects, and the other five were weakly, nervous, and totally unfit for further procreation. He states that the families in which this occurred belonged to the intelligent class of society, with no other cause than the syphilis for these disastrous results of conception. He quotes, further, from Tschistjkon the case of a man, who had severe syphilis in early life, destroying the palate, of whose nine children two were idiots, one was deaf and dumb, and one had died in infancy. The works of Hutchinson, and many others besides those already alluded to, give abundant testimony to the direful effects of syphilis on the progeny of those thus affected, which can be abundantly corroborated by all of us who have had much to do with the disease.

Thus the army of innocents swells in size and pleads for the restriction of a disease, which, it is now believed, may be inherited even to the third generation. What the later effect of syphilis may be, in the production of some of the conditions commonly known as scrofula, and in inducing race degeneration can not now be answered positively. But any one who has seen the shattered lives of some syphilitics can readily understand that such individuals would not be apt to produce particularly strong and vigorous offspring. So that from the standpoint of our national life there should be some check put to a disease which we know has decimated tribes of Indians, and has wrought havoc unspeakable in the Sandwich Islands and elsewhere.

But this is not all. We have not yet touched upon one of the most interesting portions of our subject, and one which pleads equally loud with the others for the restriction of the spread of syphilis; this refers to the *extra-genital* communication of the disease, or the acquiring of it by means wholly disconnected in any manner with the sexual act. This is a vast subject, which has been greatly developed of late years and one which may well occupy the serious attention of every physician and sanitarian.

Syphilis occupies a peculiar and unique position as a disease. Although belonging to the class of chronic affections, whose effects may extend over many years, its virus is one of the most energetic and quickly and surely operative of any known; cases are on record where external wounds, which have been exposed to the contagion of active syphilitic lesions, were washed and disinfected almost immediately and yet where the infection took place.

The individual with syphilis, then, is not only in danger of communicating the disease in marital relations, and almost sure to do so, and is also most likely to transmit more or less of the taint to the offspring, if they survive, but is also himself or herself a constant menace to society, by virtue of the contagious character of the disease, in some of its manifestations, even for a long period of time.

While our present argument is based entirely upon the non-venereal or innocent transmission of syphilis we can not forbear mentioning a single illustration of the harm which it is possible for one unrestricted individual to accomplish, in prostitution. Tarnowsky<sup>12</sup> states that one syphilitic woman who had come under his observation, had succeeded in

<sup>4</sup> Hutchinson, Diseases of the Eye and Ear Consequent on Inherited Syphilis, London, 1863.

<sup>5</sup> Kassowitz, Die Vererbung der Syphilis, Wien, 1876.

<sup>6</sup> Parrot, La Syphilis héréditaire, etc., Paris, 1886.

<sup>7</sup> Mauriac, Syphilis tertiaire et. Syph. héréditaire, Paris, 1886.

<sup>8</sup> Fournier, La Syph. heredit. tardive, Paris, 1886, and L'hérédité syphilitique, Paris, 1891.

<sup>9</sup> Diday, Syphilis in Newborn Children, etc., Syd. Soc. London, 1859.

<sup>10</sup> Kassowitz, loc. cit., p. 122.

<sup>11</sup> Tarnowsky, Prostitution und Abolitionismus, Hamburg und Leipzig, 1890, p. 164.

<sup>12</sup> Tarnowsky. Cited in N. Y. Medical Record, March 9, 1889, p. 279.

contaminating no less than 300 men within a period of ten months; this represents merely the primary transmission of the disease, the later effects, which must have followed, on others, can hardly be imagined.

The duration of the contagious period of syphilis has never been fixed with any accuracy, and varies somewhat, as is known with the character and faithfulness of the treatment, and its duration. During the first year it can be most easily propagated; it is also abundantly contagious during its second year, and even up to the fifth year many cases are reported where the disease has been conveyed to others; how much later this is possible can not be determined with certainty, but instances are on record up to the seventh year or even later. What a fertile source of disease, then, is a single syphilitic individual, if for even two years he is capable of infecting others whenever a proper opportunity occurs! Any one who has had much to do with venereal clinics, and has seen how utterly reckless many of the patients with syphilis are, and how little they can be made to appreciate the dangers to which they expose others, even in their every-day family and industrial life, will fully appreciate the plea for the restriction of the disease.

Although syphilis has not yet spread in this country to any degree commensurate with that observed in some other lands, it will serve to illustrate our subject to quote from some recent reports from certain districts in Russia, where, as is well known, the disease will often be found to affect a large percentage of the population; much the same is true of Portugal and some other countries where syphilis has long been rife.

According to Ostroumoff,<sup>13</sup> syphilis prevails endemically in 90 per cent. of the villages of the Novgorod government, North Russia; the district just east of St. Petersburg. It is spread mainly in a non-sexual way, through infant feeding, family life, etc.

At a meeting of the Saratov Society of Medical Men, it was reported that the proportion of syphilitic patients (infected chiefly in a non-venereal manner) amounted to from 8 to 10 per cent. of the total number of patients coming under observation; the statement was made that: "An almost universal syphilization of the Government's population is to be expected in the near future."

Of 2,765 cases of syphilis reported at the general meeting of the Piarzan Society of Medical Men, Russia, in but 26 per cent. was the infection through coitus; in 5.4 it was from inheritance, in 2.2 per cent. from suckling, and in 63.3 per cent. it was from family life.

It is needless to give more illustrations, although literature is full of accounts of the extensive spread of syphilis through whole communities. After considerable research I have compiled a table of no less than one hundred and fifty episodes which could be called epidemics of syphilis; in many of these instances no figures are given, but only the statement that "a large number" were infected, but taking the lowest figures of those actually mentioned the total amounts to over 3,000 victims.

Happily, owing to increased knowledge of the disease, these instances of the extensive spreading of syphilis in special localities are becoming more and more rare, but a study of the literature of the

subject shows that individual instances of the transmission of syphilis by innocent means are multiplying greatly, and that there is a real danger from unrestricted syphilis. Some of these peculiar dangers we will now study.

Coming now to the special consideration of the third division of our subject we will consider more particularly the extra-genital transmission of syphilis.

The methods by which non-venereal syphilis may be acquired are innumerable, and relate to almost every conceivable circumstance and surrounding of life. As each new case, or series of cases, is reported, it becomes more and more probable that the number of instances in which syphilitic infection has thus occurred is far greater than is commonly supposed.

With a poison so virulent, and capable of being transported and introduced in so many different ways, endowed with the possibility as far as is known, of being preserved for an indefinite period, the only wonder is that cases of non-venereal syphilis are not even more common than they are now known to be. When the conditions for its entrance are present, namely, a solution of continuity of surface and material from a person in an active stage of syphilis, are present, it will be seen that inoculation rarely fails to take place on any and every portion of the body.

Of the two methods of communicating the disease, the *immediate* and the *mediate*, the former is by far the more common, and is the mode in which most cases of venereal syphilis are acquired. Mediate transmission, while much less frequent, is, in one sense, much more important, because of its insidious character; the source of infection often being unsuspected, until long after the disease has become fully developed in the victim. A large number of cases of innocent syphilis occur through mediate infection, although very many are also caused by immediate transmission, as in kissing, biting, in the infection occurring between nurslings and infants, etc.

The limits of this article forbid any full consideration of the topic of the extra-genital transmission of syphilis, but in order that the far-reaching danger of the disease may be rightly understood, the principal features of this branch of our subject must be presented.

For convenience of study we have divided the acquiring of syphilis by innocent means into three main classes of cases:

1. *Syphilis economica*, which relates to the extension of the disease by family and industrial relations;
2. *Syphilis brephotrophica*, where the disease is communicated in connection with the nutrition and care of infants; and
3. *Syphilis technica*, where inoculation takes place from, or in connection with bodily service, principally that relating to the care of the sick.

Under the first class there are a vast number of separate data, relating not only to the ordinary utensils of common life, cups, spoons, pipes, etc., but also to various articles of clothing, towels, sponges, syringes, etc., likewise to tooth brushes, pins, etc. Among the industrial pursuits in which syphilis has been communicated may be mentioned, glass-blowers, assayers, weavers, musicians, conductors, housemaids, cooks, laundresses, furriers, upholsterers, druggists, artificial flower makers, clerks, cashiers and others.

*Brephotrophic syphilis* has furnished the largest

<sup>13</sup> Ostroumoff.

share of cases, and must ever be an object of the greatest interest. Fournier<sup>14</sup> has said most forcibly: "Nothing is so dangerous to its surroundings as a syphilitic infant. The thousand cares which relate to its bringing up, the kisses and caresses given to it serve as the origin of ready and frequent contamination. To speak only of facts observed by myself, I have on my notes a dozen instances of contagion of this sort. Thus for example, a grandmother, aged 65, was infected by her little granddaughter whom she fed with a spoon, touching the spoon each time to her own mouth before giving it to the child; the virus was certainly thus transmitted from the lips of the infant to her own. I have also had under my care a young woman who was infected by her own infant who had contracted the disease from a wet nurse.

"My learned colleague, M. Hillaire, has related to me the following: a young man with syphilis married prematurely, and shortly infected his wife. Their child soon showed signs of hereditary syphilis and infected its nurse. The child being then committed to the care of its maternal grandparents inoculated both of them by means of a nursing bottle; they were in the habit of putting the nipple in the mouth, tasting it before giving it to the baby, and both acquired chancre of the lip." Literature is full of instances of brephotrophic infection, many of them much more striking than these.

The third subdivision relating to *syphilis technica* is also most interesting, and furnishes a very large number of instances of syphilitic infection in connection with body service. The cases fall under the three heads of 1, the operator, the victim; 2, the operator, the syphilitic; and 3, the operator, the medium.

Hundreds and thousands of physicians and accoucheurs and midwives have been inoculated in the honest practice of their calling, as probably all present can recall one or more instances with which they have been acquainted. Vaccination has furnished large numbers of cases of innocent syphilis in times past, and among other modes of propagating the disease may be mentioned tattooing, circumcision, skin-grafting, cupping, breast-drawing, wound-sucking, cleansing the eye with the tongue, as also the use of dental instruments, the Eustachian sound, minor surgical operations, etc.

But all this brief and hurried mention of the modes of infection conveys but to a very slight degree any idea of the real facts in regard to this branch of our subject, as it has been developed to the writer during a study of the subject for the past ten years. The amount of material collected has exceeded all expectation, many times, and together makes a mass of evidence of the dangers attending the disease which can not be gainsaid or neglected. In the digests of literature which have been prepared, appear records of many thousands, or even tens of thousands of cases where the individual has contracted the disease as innocently as would be the case in regard to small-pox, yellow fever, or diphtheria.

From what has preceded it may be readily understood that syphilis is a disease which presents no little danger to the public health, and to that of every individual. While undoubtedly an exaggerated idea of the perils connected with it might possibly be obtained, there is little danger of error in this direc-

tion. No amount of reasoning or argument can do away with the facts which are known with regard to the disease, and which may be proven from the very highest medical authorities.

Syphilis is now one of the principal diseases which affect the human race, and is undoubtedly on the increase, owing to the utter want of sanitary control over it in the larger part of the world. Unfortunately, owing to the same reason there are but few reliable data showing its relative presence in different parts of the world. Something may be learned from the army reports, but in most instances this source of information is not available, inasmuch as reference is usually made only to "venereal diseases," and not syphilis specifically.

4 East 37th Street, New York.

### THE BEST FORM OF CYLINDER TEST AND VARIABLE PRISM, WITH A NEW PHOROMETER.

Read in the Section on Ophthalmology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY EDWARD JACKSON, A.M., M.D.

PROFESSOR OF DISEASES OF THE EYE IN THE PHILADELPHIA POLYCLINIC; SURGEON TO WILLS EYE HOSPITAL.

We are all familiar with the Maddox rod or cylinder test. Doubtless many have used it in connection with some form of rotary prism, and Dr. Prince of Springfield, Ill., has combined the two in a convenient phorometer. But both the cylinder test and the rotary variable prism are capable of development into forms of greater practical value. The cylinder test belongs to that class of tests for heterophoria in which binocular fusion is prevented by dissimilarity of the images; the one image being distorted by a very strong cylinder, the Maddox glass rod, placed before one eye.

The line of light seen by the eye before which the rod is held, varies in length with the diameter of the rod employed, and the distance at which it is held before the nodal point of the eye. In the forms that I have seen, the rod being of small diameter, the line is comparatively short, unless the rod be held very close to the eye, closer than is convenient in practice.

Mr. Maddox has proposed (*Ophthalmic Review* 1893, p. 39) the use of several pieces of a rod one-eighth of an inch in diameter placed side by side and their ends fixed with sealing wax. With such an arrangement, however, we do not obtain a single continuous line, but a series of short lines which together constitute a broken line. The reason for this, is that where the complete rod is employed, the light does not pass through the margin of the rod, on account of the obliquity of the surface in this part, but only reaches the eye through the central portion.

The rod, as it has been commonly supplied in this country has consisted of one-half of a glass rod about one-fourth of an inch in diameter; or of a concave cylindrical surface, having about the same curvature, ground out from a plate of glass. The concave cylinder must always be inferior to the convex, because with the former the length of the line diminishes as the cylinder is moved from the position of occupying the full width of the rod or cylinder surface only when it is placed at the nodal point of the eye; while with the latter, the line occupies the full width of the cylinder surface when placed at

<sup>14</sup> Fournier, *Syphilis et Mariage*, Paris, 1880.