which percentage was made up to 20.5 per cent., tubercular, 9 per cent. simple chronic laryngitis and two cases of syphilitic ulceration.

We do not find in the laryngeal disease any pronounced evidence of one side being attacked earlier or more violently than the other, both being generally or so nearly equally involved as to make any distinction, as in the nasal disease, impossible. This is confirmed by clinical experience, which teaches that the first signs of laryngeal tuberculosis are most commonly found in the commissure and when the arytenoids are involved they are usually simultaneously swollen.

Only six cases in all are noted in which the disease was markedly more severe, or began on one side in preference to the other. Of these, one had the left side of the throat, nose and lung most affected, and one the right side. One the left side of the throat and the right side of the nose and chest. Two the right side of the throat and chest, the nose clear and one the left side of the throat and the right chest. These were all cases of tubercular laryngitis. In the two syphilitic cases, as in the chronic laryngitis cases, the disease was equally distributed on both sides.

The fact that the same side of the throat as that of the nose or chest is not especially involved, would tend to show that the idea of the disease spreading directly from one nostril to the lung of the same side can not be maintained, or that the symmetrical distribution of the nasal and pulmonary disease can be explained by any deflection or obstruction of air currents through one nostril. Thus the theory of developmental deficiency receives additional support by exclusion of these possible explanations.

So far then the facts indicated by this analysis of 200 cases of pulmonary tuberculosis are that 28 per cent. had nasal disease, 30 per cent. laryngeal and 11.5 per cent. both; 20.5 per cent. had tubercular laryngitis, while of the nasal cases it is hard to determine how many were tuberculous; only a very few were noted as positively tuberculous and probably not many more were so, confirming the opinion of most rhinologists that nasal tuberculosis is comparatively rare.

The practical relation of nasal to both laryngeal and pulmonary disease is doubtless chiefly in causing mouth breathing and so catching cold, in diminishing pulmonary expansion and complete aeration; in reflex irritations, and in direct annoyance and consequent mental worry and depression in extreme cases. The moral is to relieve the stenosis by operation when needed, and the rhinitis by cleansing, stimulation or astringency, as radically as the patient's health permits, and the case requires also to examine the nasal and naso-pharyngeal passages, especially whenever the voice is affected or the throat complained of, as the cause of laryngeal symptoms often lies in the nose or naso-pharynx. At the same time it must not be forgotten that rhinitis is frequently kept up, or when there is also a permanent stenosis, aggravated by the patient's general condition, especially with respect to digestive disorders, gout, rheumatism and syphilis.

The practical lesson of the connection between chronic laryngitis and pulmonary tuberculosis is to cure the former as soon as possible, especially in order to ward off danger of secondary tuberculosis by the sputum infecting the diseased mucous membrane as it passes over or lodges on it. The tone and

strength of the voice should always be observed, and it is doubtless best that in all cases irrespective of these warnings a laryngoscopic examination be made, as experience tells one that many cases are overlooked in an early stage when treatment would be most valuable.

In considering the pathologic connection between laryngeal and pulmonary tuberculosis, the explanation is still in doubt among most laryngologists. Many excellent authorities believe that laryngeal tuberculosis is rarely if ever primary, and I myself have never seen a case without accompanying pulmonary signs, though I quite believe in its possibility while some deny it. Further, Heryng and others believe that the laryngeal affection always or commonly results from infection by the bacillary sputum from the diseased lung, through the surface of the laryngeal membrane, while others think, and with them I agree, that while this may occasionally occur it is rare, and that the bacilli attack the membrane from beneath being conveyed often perhaps through the course of the bronchial glands. My reasons for believing this are first, that in Colorado we see very few cases of tubercular laryngitis arising after arrival, yet as the last stage of consumption is especially prolonged in this climate, during which time there is usually a copious and constant stream of bacilli laden sputum being passed through the larynx for a much longer period than usually occurs at sea level, we should naturally expect many cases. Further the ulceration usually follows upon the raising up of the membrane by a tuberculous mass from beneath which is extruded through the ulcer, and then if the patient is fortunate and well treated it will heal. The ulcers rarely presenting the appearance of spreading on the surface like lupus but rather appearing like the necrosed tissue over a boil, through which the contents of the boil afterwards escape.

While recognizing the added danger and so increased mortality from the combination of laryngeal with pulmonary tuberculosis, I am glad to have added my clinical experience¹ to the evidence which shows that laryngeal tuberculosis while always grave is not necessarily fatal, but that it demands and well repays by mitigation always, and occasionally by cure, thorough competent local treatment. My statistics further proving that high climates, when equally good local care is used, are especially suited for the treatment of laryngeal tuberculosis, instead of being contra-indicated as was formerly believed, which is shown by the frequent healing of the throat lesions, even when death ensues from the pulmonary or other tuberculosis.

EMASCULATION AND OVARIOTOMY AS A PENALTY FOR CRIME AND THE REFORMATION OF CRIMINALS.

Read before the Illinois State Medical Society, May 15, 1894.

BY ROBERT BOAL, M.D.

LACON, ILL.

Political and social economists and humanitarians within the past third of a century have spent much time, thought and effort upon the best and most effective means of punishing crime and reforming the vicious and criminal classes of society. The

¹ Therapeutic Gazette, Nov. 15, 1893.

tendency of the present age is to abandon in a great measure the cruel, retaliatory and vindictive punishments for criminal offenses. As we have advanced in morals and a higher civilization the disposition to punish criminals by demanding a penalty in kind, an eye for an eye and a tooth for a tooth, has undergone a marked change, not that crime is more tolerated, or criminals more readily forgiven, but because we have more enlightened and intelligent views of the causes of crime and the antecedents, surroundings and conditions which affect the lives and form the characters of the guilty. We have now a clearer perception of the responsibility of the criminal, vicious and defective classes in their relations to society and in consequence have abandoned our old ideas of retaliatory and compensatory penalties for crime. In thinking upon this subject and upon the efforts that have been made and are now making to solve the great social problem of adequately and effectively punishing crime, of reforming criminals, of bettering the condition and lessening the number of these classes and consequently lessening the burdens they impose upon society, I entertain some opinions which I will present to the Society as briefly and clearly as I can. As a penalty for crime and the reformation of certain classes of criminals, I believe unsexing them to be the most effectual in accomplishing these ends. In my opinion all criminals who indicate constitutional depravity transmissible by heredity should be subjected to surgical unsexing enforced by law. I believe it would cause a diminution of crime and lead to the reformation of criminals. But this penalty should not be inflicted solely upon the male, but should also be extended to the female criminals—for the one emasculation, for the other ovariectomy. The object of all punishment is threefold: 1, to satisfy the demands of justice; 2, to deter and intimidate the criminally disposed; and 3, to effect the reformation of the offenders against the law. Now the punishment for offenses and crimes should be of such a kind and degree as will best subserve these purposes and most effectually protect society from injury and apprehension, diminish crime, and reform the criminal. This is the question over which sociologists and humanitarians have pondered long and earnestly and have not as yet arrived at a satisfactory solution. Prison reformers have accomplished much in improving the sanitary condition of our jails, reformatories and penitentiaries and in causing the adoption of a more humane and considerate treatment of criminals, but have fallen far short of their reformation. In this latter respect their efforts have been crowned with such slight success that it amounts to almost an entire failure. Unless you can change the constitutional depravities transmitted by heredity for perhaps two or three generations, little can be done to reform criminals, diminish their number or protect society from injury. It is my deliberate opinion that if a law was enacted and placed upon our statutes, inflicting this penalty not only upon those convicted of sexual crimes, but extending it to other criminal classes, the paranoiac, burglars, incendiaries, and to other crimes against persons and property, it would answer all the demands of justice and civilized society and vindicate the wisdom of its adoption. In support of these views I beg leave to offer the following considerations:

1. We are taught by both physiology and psychol-

ogy that all human beings are controlled in their conduct, and their actions and appetencies are expressed through their organic structures, or as they are often called, organic instincts. Of these two are of paramount importance and exert an influence over every human being. They are the love of life and sexual love. The first is from birth to death always in active operation in preserving the individual from the various accidents and diseases which tend to deprive him of it. It is the strongest and outlasts all other organic instincts. While it is developed later and does not last so long, next to the love of life, is this love of sex. It dominates human conduct and desires. It has been bestowed upon us for a wise and beneficent purpose, but when uncontrolled it is potent for evil.

2. The greater portion of the crimes characteristic of the criminal and vicious classes of society, may be traced directly and indirectly to the influence of this uncontrolled and dominating sexual love. The rapes, homicides, suicides, defalcations and embezzlements may be ascribed either directly to sexual love or to the influence associated with it. So well is this understood that when we hear of the cashier of a bank absconding with its funds, or a trusted clerk robbing his employer and betraying his confidence, almost the first comment heard is, "Oh, there is a woman in the case." With scarce an exception there are few vices in the calendar of crime—licentiousness, prostitution, intemperance, gambling, and others that are nameless, that are not instigated, associated with and maintained by sexual love.

3. The physical or structural characteristics of the criminal and defective classes of society are produced, reproduced and multiplied and perpetuated by intermarriage or sexual commerce of persons of like defects, and we have accordingly the result of the activities of living matter, or what we term heredity.

4. By the imposition of this penalty, we destroy the capabilities of these defective criminal classes to inflict injury upon society, thus depriving them of the power of reproduction. This, in my judgment, is one of the strongest considerations in favor of the proposed penalty. It has not only an immediate, but a far-reaching effect.

5. For the purpose of intimidating others from the commission of crime, while neither cruel nor vindictive, it is more terrifying and repulsive, next to death, than any or all other modes of punishment. The loss of sexual capability as a mark of manhood is so utterly abhorrent to all men, that it would be avoided if possible by all individuals not hopelessly insane.

6. In unsexing all constitutionally depraved convicts, the most important of all results (which has incidentally been alluded to) is reached, to-wit: To limit the productive capabilities of these classes, thus aiding "natural selection" and insuring if extensively applied the "survival of the fittest." Instead of confining them in reformatories and penitentiaries and trying to reform them by "moral instruction," impose this penalty and they would cease to multiply and accumulate by unrestricted production. In improving the breed of the lower animals, the gentlest, the strongest and best developed and symmetrical are selected for the purpose of reproduction, instead of the deformed, ill-proportioned and vicious. It is "passing strange" that more time and money is ex-

pended in producing and rearing a prize bull, a fast trotter or a race horse, than in applying the same law to man, "the paragon of animals." Many of you have doubtless read the account published a few years ago, of a family of criminals, whose history had been traced through three or four generations—with scarce an exception all were criminals. Of the males, some mounted the scaffold, others were inmates of prisons or penitentiaries a good portion of their lives, some were murderers, some burglars, all of them thieves. Of the women, all were prostitutes as well as thieves and active and efficient coadjutors of the men in every species of crime against society. Starting from the original stock in every succeeding generation there was an increased development and exaggeration of vice and crime. This history of one family is the history of all in like circumstances, conditions and surroundings. Had the reproductive capabilities of this family been destroyed in the first generation; society would have been protected from danger, and the cost of the conviction and maintenance of several generations of criminals saved.

A reporter for one of the Chicago dailies (the *Tribune*) recently visited the prison for youthful offenders at Pontiac, and he gives the number in the prison at the time of his visit as 636, of which 60 per cent. are thieves—some burglars. Seventy are from 10 to 13 years of age; six or seven are over 21 having sworn falsely to their ages. The major portion of these youthful criminals will probably develop into confirmed thieves and burglars and what the law of this State terms "habitual criminals." Investigation would doubtless show that the greater portion of them are constitutionally depraved; in other words there is a hereditary tendency to crime. I do not underrate environment as one of the causes of crime. Vicious surroundings doubtless have their influence, but when you add to that a hereditary taint for two or three generations, you find a criminal utterly oblivious to every moral influence exerted for his reformation. For such, deprivation of their sexual capabilities offers an adequate and effective punishment and so changes their nature, that reformation while not always assured, in my opinion is in most cases practicable.

7. This deprivation of productive capabilities effects well marked modifications in the purposes, actions and characteristics of individuals. They become more gentle, their heretofore ungovernable passions are in a great degree subdued—they are less wayward and obstinate and more effeminate. In short, they are changed and altered beings in more senses than one. This is a matter of every-day observation in animals who have been emasculated or whose ovaries have been removed. In Turkey and other Mohammedan countries, the eunuchs who guard the harems of the rich are said to be inoffensive, gentle and timorous showing conclusively that the altered being has changed in his purposes, actions, capabilities and necessities.

8. If these statements are true, could any other method than the one proposed be more effectual for the suppression of crime and the reformation of the criminal and various classes of society? It may be asked why not inflict the death penalty upon all convicts whose crimes indicate constitutional depravity, and put them out of the way? This would be a more rapid and certain way of disposing of them, but would not the penalty be more severe and unneces-

sary than would be required? Would it not be disproportionate to the crime? When you hang a man you destroy him, while emasculation only changes his purpose and desires and leaves his life intact. Again, I do not believe the death penalty would have such deterring and terrifying power as asexualization, for owing to the technicalities of the law and its delays and the uncertain verdicts of juries, the criminal hopes to escape its extreme penalty. In addition to this, there is a great diversity of opinion in the community upon the propriety of inflicting capital punishment. One portion of it believes it should not be inflicted under any circumstances, while another is in favor of imposing it, only for great and unusually atrocious crimes. It is only when crimes of such magnitude as the murder of Dr. Cronin or the assassination of Mayor Harrison, or of a President of the United States, are committed, that the community is aroused and a demand is made for the execution of the criminals. These are extreme cases, but even in them public sentiment is divided as to the necessity of killing the criminal—so great is this aversion to capital punishment that in some of the States it is abolished and in others greatly restricted. If after conviction, each man or woman, after being deprived of their reproductive organs and subjected to a longer or shorter term of imprisonment was returned to society, it is my belief they would become comparatively harmless. Confinement at hard labor in prisons and reformatories, in nine cases out of ten, fails to reform the criminal. Moral instruction is thrown away upon him—he graduates in crime, and he leaves their walls more depraved, and with a stronger determination to war upon society than when he entered them.

9. This proposed penalty for crime might be made applicable to a large class of offenders; instead of limiting it to such as violate the laws governing the intercourse of the sexes, certain crimes against persons and property might be more effectually punished in this than in any other way. There is a class of offenders against the law, and it seems to be rapidly increasing, called by the people "cranks," by the medical profession monomaniacs or paranoiacs, who escape the penalties of the law upon the plea of insanity and consequent irresponsibility for their acts. It would be cruel and inhuman to hang them, but a deprivation of their reproductive organs might have the two-fold effect of answering the demands of justice, and so changing these desires and purposes as to render them harmless in the future.

In Chicago at the present time an investigation is ordered for the purpose of determining the sanity of the assassin of Mayor Harrison, upon the allegation that his insanity occurred after his conviction and sentence. No one can tell what the verdict of the jury will be upon the question. Suppose they find him sane and he is again sentenced for execution, what is to hinder him before the scaffold is again erected to make another application to a complaisant judge for another trial and stay of execution, on the ground that he has developed insanity since the second sentence was pronounced, and thus indefinitely prolong his life, and in the end escape punishment for his crime. Now, if in this case and that of Guiteau, the assassin of President Garfield, the penalty of emasculation had been imposed, and they had been placed under such legal restraint for a longer or shorter time as might have been necessary to secure

its efficiency, it is my belief that in these instances justice would have been satisfied, society protected from further assaults and the criminals partially, if not wholly, reformed.

In the instances just cited and in all others of like character, experts differ and public opinion is divided as to the responsibility for the criminal acts, and it appears to me that neither justice nor the protection of society requires the infliction of the death penalty.

This subject which I have endeavored to present for your consideration has not to my knowledge been much discussed in medical journals or medical societies, certainly not to the extent its importance demands. Considered in its relation to the well-being of society, the literature upon this subject is meager. With the exception of a paper read by Dr. Orpheus Everts before the Cincinnati Academy of Medicine in 1888, I have been unable to find any mention of it anywhere. Dr. Everts is the accomplished superintendent of the Cincinnati Sanitarium at College Hill, who has given this question a good deal of attention, especially in relation to one of the defective classes of society, the insane. I am indebted to his paper for many of the statements and suggestions I present to you to-day. The late Dr. Agnew of Philadelphia, is credited with the proposal to punish all criminals, who were convicted of rape, by emasculation. He limited this penalty to one crime and to the male. Dr. Everts takes broader ground and would apply it to all sexual and some other classes of crime and to both sexes. In this I fully concur, for I believe the unsexing of both males and females convicted of crime is necessary for their punishment, and reformation by the limitation of their reproductive capabilities. The question may be asked, Why bring this topic before a medical society, and what relation has it to the profession of medicine? I answer that it is the branch of State medicine which deals with crime in its relation to, and its effects upon, the health and well-being of society. The medical profession is in a certain sense regarded as the guardians of the public health. It is their duty to recommend the adoption of proper sanitary measures, to prevent or ward off epidemics if practicable, or if not, to restrict their spread and lessen their violence, and to circumscribe by isolation the area of infectious and contagious diseases. If so, are they not equally bound to ward off and confine within its narrowest limits the infection and contagion of crime, for it is both infectious and contagious and the diseases which it engenders are among the most loathsome and intractable of all which we are called upon to treat. As members of a profession which is one of the highest and noblest of human pursuits we are interested in all that contributes to the welfare of the community. This measure should be investigated and discussed with a view to influencing the public mind in favor of its adoption. When that is accomplished proper legislation will follow. Our criminal jurisprudence needs reform. "There is an increasing want of confidence in the efficiency of the laws and the courts which administer them. Every lynching, every riot, every mob is a protest against the delays and uncertainties in the administration of the laws, and if there is not some reform, there is danger that in the unrest of the public mind human society may be overwhelmed by social and political revolutions brought about by the many ex-

isting abuses." Is not the medical profession interested in this reform, and will they not aid in accomplishing it?

In conclusion, let me summarize the points I have endeavored to make:

1. That the surgical unsexing of all criminals convicted of offenses that indicate constitutional depravities that are transmissible by heredity is both expedient and practicable.

2. This penalty should be applicable to both sexes.

3. That most of the offenses against society by vicious and defective classes originate in sexual disturbance whether in deprivation or excess.

4. It limits the reproduction and transmission by heredity of the defective and criminal classes of society.

5. It inflicts a penalty that is terrifying and abhorrent without destroying life.

6. It is applicable to other offenses against person or property, originating from other than sexual causes.

7. While effective, the punishment is neither cruel nor vindictive.

8. It is more effectual in changing and improving the nature of the criminal than moral instruction, confinement in prison, or houses of correction.

As to when or how the penalty recommended will be carried out must be left to the future law makers. If adopted I doubt not all the details will be arranged and perfected so as to accomplish the desired end. The present century will soon close upon us, and if the same rate of progress is kept up (as I believe it will be) during the coming one, I hope a change will be made in our criminal code in line with these suggestions. The public mind is not yet prepared to accept the change recommended and it would not now be sustained, but if the question is discussed and agitated by sociologists and the medical profession, I believe that at no distant day that change will surely come.

NOTE:—Since this paper was read, the JOURNAL of THE AMERICAN MEDICAL ASSOCIATION of May 19, 1894, published an abstract of a paper read by Dr. S. F. Sim, of Memphis, before the Tennessee State Medical Society upon this subject, in which he substantially agrees with the opinions expressed by the writer. Aside from the coincidence that two papers upon the same subject were read before two State medical societies at different and distant points, it shows that this question is beginning to receive from the medical profession the attention which its importance demands.

War on the Nostrum Venders.—Dr. J. W. Scott, Secretary of the State Board of Health of Illinois, has begun a vigorous warfare on the itinerant nostrum venders who annually fleece the people of this State out of a sum estimated at over \$300,000, by means of brass bands, concert troupes, alleged Indians and other mountebank attractions. Prosecutions have already been begun by several of the State's Attorneys, to whom the Board remits all fines collected as an inducement to vigilance. The law provides that every itinerant vender of medicines shall pay into the treasury of the State Board of Health a license fee of \$100 a month. The penalty for a violation of this act is a fine of from \$100 to \$200, and as the Board refuses to issue such license every itinerant vender is a violator of the law. The Board also has a regulation providing for the submission for chemie analysis of samples of all medicines sold by itinerant venders. This, too, will be rigidly enforced.