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PROFESSOR KARL PEARSON ON ALCOHOLISM AND OFFSPRING.

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PREFATORY.

EVER since 1902 the present writer has chiefly devoted himself to the study and advocacy of eugenics, abandoning medical practice in order to obtain complete liberty of time and speech therefor. He has endeavoured from the first to direct the eugenic campaign against the primary factors of race-destruction, more especially the venereal diseases, alcohol, and lead, and has classified as preventive eugenics those efforts which are devoted to protecting healthy stocks from these causes of blastophthoria, or germ-deterioration. In these efforts the writer has had the help of the Society for the Study of Inebriety, and his lecture on the relations between alcoholism and eugenics was printed in this Journal in July, 1909; and also of the Eugenics Education Society, of which Sir Francis Galton is the Honorary President, and which actively supported him in his efforts to draw attention to the recent scandalous neglect of London's feeble-minded and fertile-bodied inebriates owing to a financial wrangle, and to obtain a Departmental inquiry into the subject. He is therefore specially concerned with the question of alcoholism and offspring, which has lately been brought into renewed prominence by Professor Karl Pearson, and is grateful for the request of the Editor of this Journal that he should deal with the situation, gravely injurious to the great cause of tem-

perance, and to the even greater, because more comprehensive, cause of eugenics, which has thus been created. Yet at least enough will have been said to clear Eugenists as a whole of any necessary connection with Professor Pearson's report. It is true that that report issues from the Eugenics Laboratory, founded by and named after Sir Francis Galton; but it must be remembered that the Eugenics Education Society, which can claim the august master of all Eugenists as its Honorary President, has no connection with the calculations made in Gower Street; and if further proof of this were needed, reference might be made to the present writer's paper on "Racial Poisons: Alcohol," in the *Eugenics Review* for April of this year, and to the acute criticism to which Professor Pearson's views have been subjected in the columns of the *Times* by Mr. Montague Crackanthorpe, K.C., the President of the Eugenics Education Society. Those who are really working against alcoholism, and have some first-hand acquaintance with its effects, must therefore not give up eugenics as hopeless because of recent events. They are welcome to what opinions they please regarding biometrics, but they must not confound eugenics with biometrics. The two are associated for the moment because Sir Francis Galton is the founder of both; but the association is confined to this country, is essentially accidental, and is already transient, the great work of Bateson upon the foundation provided long ago by Mendel now creating a science of genetics which will be to the eugenics of the not-distant future what physiology and pathology are to medicine.

When he founded the Eugenics Laboratory, now several years ago, Mr Galton, as he was then, asked the present writer and one or two others to meet the staff of the Laboratory once a month, but only two or three such meetings were sufficient to show more than one of us that no good was to be done. If the present biometricians were biologists, as their founder was, and happily still is; or if they would allow biologists and medical men to survey and analyze their data before beginning to calculate their coefficient—too often an inefficient—of correlation, no doubt their splendid mathematical equipment, their patience and sincerity, would be of the utmost service. But they will not do so, with consequences illustrated in their work on tuberculosis, which students of that disease have so effectually exposed, and now in their report on alcoholism.

It is to be hoped that this disclaimer, here made not for the first or the last time, will prevent the destruction of the *entente*

which one has been so long and assiduously endeavouring to promote between temperance workers and those whom I call Eugenists. But it is to be feared that, even though students of alcoholism are lenient to eugenics, the injury to the cause of temperance will not be so easily remedied. Professor Pearson's conclusions have been gleefully quoted, not only in trade journals, but in that large and influential section of the Press which is involved with the alcoholic interest ; and the following, taken from the article on Lawn Tennis (!) in the *Times* of the day on which I write, is a good illustration, of which we may hope Professor Pearson is proud, of the manner in which public opinion—that "chaos of prejudices," as Huxley called it—is being affected :

"But if the examination be conducted without bias, its critics will obtain about as much satisfaction as was derived by the teetotallers from the investigation that was to establish the degeneration of the children of drunkards. These children were to serve as an awful warning—the only service that, with such a parentage, they could render their country—and did they immolate themselves on the altar of patriotism? They did not ; they proved their unfitness to be citizens by being quite normal."

With evidence of this kind on every side,* I confess to the view that no more mischievous or indefensible contribution to the printed folly of nations has been issued under high auspices for many a long year than the report now to be dealt with.

In 1909 the Eugenics Laboratory published a lecture on "The Relative Strength of Nature and Nurture," which imminently foreshadowed the consequences bound to ensue when mathematicians, utterly unacquainted with the subject-matter of the data submitted to them, set confidently to work to interpret them. The lecture was based on reports which were not issued till later—a curious neglect of a convention for which something is to be said—and it contained the following paragraph :

"Here again we see that drink has practically no influence on general health and intelligence of boys and girls, and the little influence it has is in favour of the children of drinking parents ; they are healthier and more intelligent. These results are certainly startling, and rather upset one's preconceived ideas ; but it is perhaps a consolation that, to the obvious and visible miseries of the children arising from drink, lowered intelligence and physique are not added."

* I am informed that a large German brewery is widely using Professor Pearson's conclusions for the purposes of advertisement.

Biometricians are more at home with numbers than with words, and very likely it was not really meant to assert that drink has the influence of producing healthier and more intelligent children ; yet in any case we could but await with anxiety what was to come.

"NATURE" AND "NURTURE" ANALYZED.

But it was evidently desirable to show what these simple-sounding terms, "nature" and "nurture," mean when applied to the problems of alcoholism and offspring, and I therefore prepared the paper* which has been already referred to, the analysis contained in which may here be briefly summarized. There is, first, the feeble-minded inebriate, whose nervous defect is anterior to the alcoholism, being inherent and therefore transmissible. These people produce children like them. In Dr. Branthwaite's well-known inquiry† they were shown to constitute about two-thirds of all the cases in the reformatories under his inspection. We may compare the condition and the hideous fate of the offspring of the feeble-minded drunkard with the foregoing quotation from the *Times*' Lawn Tennis correspondent, as to the children of drunkards being "quite normal," and with the pronouncement regarding "intelligence" in the lecture already quoted. This part of the case has been proved up to the hilt over and over again ; and though its existence is unknown to the biometricians, it is familiar to all students of alcoholism and psychiatry, and is challenged by no one who has ever studied either alcoholism or feeble-mindedness at first-hand.

Next we have the various possible actions of alcohol on stocks till then healthy. Of these actions, the first is what Forel calls "blastophthoria," or damaging of the germ-plasm. The possibility of it is now at last admitted even by Dr. Archdall Reid in his new "Principles of Heredity," and no one who knows what the Galton-Weismann doctrine of the non-transmission of acquired characters really is (as stated by its authors, for instance), questions its compatibility with that doctrine.‡ In

* "Racial Poisons : Alcohol," *Eugenics Review*, April, 1910, published by the Eugenics Education Society, 6, York Buildings, Adelphi, Strand, W.C.

† "Inebriety : Its Causation and Control," *British Journal of Inebriety*, January, 1908.

‡ The point is discussed at length in my "Alcoholism and Eugenics," *British Journal of Inebriety*, July, 1909.

analyzing the effects of parental alcoholism, "blastophthoria" must be looked for, and to this end we must study cases where the father only is alcoholic, since in the mother we cannot exclude other possibilities. For we have the possible action of alcohol during pregnancy. It has been proved that alcohol taken then by the mother may enter the child. But this is not "nature," but "nurture"—primary nurture, as I would call it. Then follows secondary nurture, corresponding to lactation, when again, as has been proved, maternal alcoholism may involve the ingestion of alcohol by the suckling. Space does not avail for more than the summary of this analysis :

"The distinction between (1) the case of alcoholism as a symptom of preceding defect ; (2) the case of blastophthoria, each of these applying equally to both sexes of parents ; (3) the case of ante-natal alcoholic poisoning, acute and chronic, by means of maternal drinking ; (4) the case of post-natal alcoholic poisoning through the mother's milk ; (5) the influence of the alcoholic home upon children ; and (6) the influence of the direct ingestion of alcohol by children—will form the obvious basis for the very careful analysis of data which will be required of any workers who, as I hope, may care to undertake the difficult question of determining the comparative influence of nature and of the *various kinds of nurture*, ante-natal and post-natal, not forgetting blastophthoria, in regard to the relations between alcohol and parenthood. They will have to decide, also, where to put blastophthoria* in this too simple category. . . ."

"Enough will have been said to show how many distinctions require to be made in any analysis of scientific value. It has to be added that large numbers of children take alcohol, not merely before birth, nor through their mother after birth, but by their own mouths. In any analysis of nature and nurture, the consequences of these various kinds of youthful drinking will, of course, require to be distinguished, each of them in its turn, from blastophthoria, whether paternal, maternal, or both ; and all of these from the inheritance of nervous defect exhibiting the symptom of alcoholism in one or both parents. The problem is really much more complicated than this, involving, as it does, all the complexities of nutrition during gameto-genesis, and in the various stages of ante-natal and post-natal life ; not to mention questions of dosage, dilution, chronicity, idiosyncrasy, etc."

PROFESSOR PEARSON'S REPORT.

Now let us turn to the Eugenic Laboratory Memoir, "A First Study of the Influence of Parental Alcoholism on the Physique

* For are the effects of blastophthoria, which is defective nurture of the germ itself, to rank as "nature" or "nurture" in the consequent individual ?

and Ability of Offspring," and see how it complies with these requirements.* Its pages look orderly, and its tables models of exact analysis. This is the really scientific method in being, the unwary may well believe. Little does he realize that he is in the presence of an irresoluble chaos. Everything has been jumbled; the distinctions insisted on in the foregoing have been ignored almost wholly; and though this passes belief, and will scarcely be credited by any reader until he has read the Memoir for himself, Professor Karl Pearson has confidently informed the world, and contemptuously waived aside all his predecessors, on the "influence of parental alcoholism on the physique and ability of offspring," *without troubling to inquire in a single case whether the alcoholism or the offspring came first*. One scarcely has the heart to handle roughly an innocence so virginal; and one scarcely has the patience to proceed seriously with criticism of a report which, as I have said, is a seething chaos, based on data which cannot be resolved by any process whatever except collecting them again, and collecting them different. The whole thing would be ridiculous were it not for its tragic effect upon public opinion.

The Memoir contains certain sections dealing with wages of alcoholic and non-alcoholic fathers, and these have been riddled by Professor Alfred Marshall, our greatest living economist, in a letter to the *Times*.† In concluding his letter, he remarks that "an inquiry into the influence of parental alcoholism on the offspring must suppose that the alcoholism had set in for some time before the offspring were born." One would think so; but, in point of fact, there is not a single case dealt with in the whole inquiry in which any information has been obtained, whether as regards the father or the mother, as to when the alcoholism started in relation to the conception or the gestation, the birth or the independent life of the children.

* The Memoir is described as by Miss Ethel Elderton, assisted by Professor Karl Pearson. It is less ungracious to refer simply to Professor Pearson as the author, duly acknowledging Miss Elderton's faithful work in making the calculations. One has the more right to do this, as the Memoir early claims to be the first inquiry into this subject by observers both honourable and competent, and totally ignores as non-existent all the work done on this subject throughout the civilized world for decades past. These characters are part of the Pearsonian, if not necessarily the biometric, method.

† July 7, 1910.

If those responsible for this Memoir had not had the hardihood to assume that no one had ever dealt with the subject properly, they could not have committed an error so fundamental and incredible that, even now, after reading the report a dozen times, I can scarcely believe that the fact is what it is.

An exact parallel to the case of alcoholism is found, as I have long insisted, in plumbism, save that we do not have the complication in this case of plumbism being possibly a symptom of anterior degeneracy. Both alcoholism and plumbism have been properly studied in this connection many times. We know what happens when the mother is working with lead during her pregnancy. We have records of sober fathers of healthy children, thereafter becoming drunkards, and then begetting diseased children. Such cases have been quoted by Sir Francis Galton himself, by Dr. Norman Kerr, and many others. We have Bezzola's inquiry, showing that in Switzerland most idiots are conceived at the time of vintage. I instance at random a few inquiries out of a vast number. Never, until this quite unparalleled Memoir, which will certainly remain unique to the end of ends, did we have an inquirer studying the influence of alcoholism upon offspring, or of anything upon anything, without ascertaining which came first. There is such a thing as Time, as well as Number.

Professor Pearson's reply* to Professor Marshall is worthy of some attention, both for its conspicuous omission, and for much of its contents. The first point to be noticed is that Professor Pearson discreetly ignores altogether the concluding paragraph of Professor Marshall's letter, where the point is suggested that causes must come before their alleged effects. Professor Pearson cannot but ignore this criticism; to recognize it is to reduce his entire production to the plane of the ridiculous, in company with his elaborate labours on tuberculosis *minus* the factor of the tubercle bacillus.

Scarcely less significant than Professor Pearson's failure to reply on this point—if the whole basis and foundation of all causal reasoning can be called a point—are certain of his comments on the question at issue, showing that not even now has he begun to master the rudiments of the subject. Not only does his report include no attempt to compare the offspring of abstainers with the offspring of drinkers, but he has no idea that

* *Times*, July 12, 1910.

such an inquiry is wanted. (We shall see that the work has been magnificently done already.) After dismissing everybody else as incompetent or prejudiced, in his long habitual manner, he says :

“ We want a careful medico-sociological investigation into the character of the offspring of (*a*) moderate and immoderate beer drinkers, (*b*) moderate and immoderate spirit drinkers, and (*c*) moderate and immoderate tea and coffee drinkers.”

I would add, “ (*d*) moderate and immoderate lead-drinkers.” The idea that he is using terms about which some difference of opinion is possible does not occur to him ; and for reasons best known to himself, he does not consider that we want a comparison between the offspring of abstainers from, and consumers of, alcohol—or lead. Accuracy and definiteness are the unique virtues of the biometricians, as they have been reminding the world in a more and more strenuous *crescendo* ever since the re-discovery of Mendelism in 1900 marked the beginning of their end. And here is a case in point. The difference between moderate and immoderate is constant and definite. Ever and always the second differs from the first in that the initial *m* is doubled and an *i* prefixed. There is plainly no room for error when the distinction between categories is so rigid and precise. And, of course, it is in these qualities that the biometricians (thinking in names, labels, and numbers) excel common folk (who try to think in things).

Finally, let us note the following, which, perhaps, outdoes anything hitherto noted :

“ I am too familiar with the manner in which actual *data* are met with the suggestion that other *data*, if they were collected, might show something else to believe it to have any value as an argument.”*

Ever since “biometry” started, all who work by any other method have been assailed by this very contention, which Professor Pearson believes to have no value as an argument. Every time the experimenters and observers have discovered anything, the calculators have told us it is not so, for our data were defective ; other data show something else. It is, of course, the best argument in the world, and its application against Professor Pearson, instead of for him, is overwhelmingly fatal to his present contention. But he knows nothing of what has already been done in this field.

* Italics mine.

SOME "MINOR" DEFECTS.

It will readily be guessed that an inquiry so strictly and literally preposterous is not without its minor defects, but though it is obviously hacking a corpse to discuss them, there is one which may just be mentioned.*

The data came from Manchester and Edinburgh. The classification of parents as regards Manchester is simply into "temperate" and "intemperate," and comment is needless. The reader may politely be reminded that this is no laughing matter. The Edinburgh parents were divided into "teetotallers," "sober," "suspected to drink," "drink," "have bouts of drinking." The numbers being small, the teetotallers were grouped, or rather jumbled, with the parents whom some official of the Charity Organization Society reckoned to be sober. Those who have lived and worked for years among alcoholism in Edinburgh, such as the present writer, will know how much or how little "sober" may mean in that city, at any rate; and any student of alcoholism knows that many of those cases, notably amongst women (who are more important than men in this very question of parental alcoholism), which to the outsider, or even for long periods to the relatives, are reckoned sober, are really cases of steady, decent tipping of the very kind which we should expect to have most marked effects upon the germ-plasm, or upon the foetus. But in this inquiry the teetotallers and those who passed as sober are reckoned the same; and it thus provides us neither from Manchester nor from Edinburgh with any comparison whatever between the children of teetotallers and drinkers. Of course, the results would have been worthless even if this obvious and necessary comparison, the very first to be required, had been made; for the drinkers might never have touched alcohol until after their children were conceived or born, or ten years old, and the teetotallers might all have been reformed drunkards, including mothers who were never sober during the whole of pregnancy. This will not be thought hypercriticism by those who suppose that causes must come before effects.

* Readers who would like to note a few more may refer to the admirable criticism in the *National Temperance Quarterly* for June; but they glare from every page, and would make the blind to see.

Here I am glad to be able to quote the criticism by Dr. W. C. Sullivan, to whom this report was sent for review by the Eugenics Education Society,* especially since it affords further proof of my argument that Eugenists must not be regarded as responsible for this grave blow to the well-being of the English stock, which is dealt from the Eugenics Laboratory. Dr. Sullivan's comparative inquiry into the condition of the children of a large number of drunken mothers is familiar to every student of alcoholism (except, of course, our new recruit), and this lends weight to his verdict:—"On the whole, then, it is difficult to see how even the most accurate statistical methods could extract from data of this character any conclusions which should outweigh the results of direct observation and experiment." Dr. Sullivan particularly shows that the case fails at the first touch, since the authors offer no evidence that chronic intoxication really existed in the parents studied. The following long quotation is so valuable that it must be noted, not least by those critics, I hope, who are saying that "If you Eugenists go on making fools of yourselves like this, you will soon cease to get even a hearing." The folly is not equally at all our doors, and the following repudiation of it may be regarded as the verdict of the Eugenics Education Society.† Says Dr. Sullivan in the review referred to :

"The medical observations which led to the belief that parental intoxications are a cause of filial degeneracy dealt with instances in which it was definitely established (1) that chronic intoxication really existed, and (2) that it existed prior to the birth of the children. In the memoir under review no reference whatever seems to be made to the second of these points, while with regard to the first the evidence is utterly inadequate. The authors, indeed, appear to have some suspicion of this, for they point out that 'by the term alcoholism in this paper is not necessarily meant the chronic alcoholism of medical literature.' But they continue, 'We believe that many, possibly the majority, of our drinking class would be found to suffer more or less from chronic alcoholism; they, at any rate, in the opinion of trained social workers—assisted by the judgment of police and employers—are drinking more than is good for them or their homes.'‡ But it is obvious that an opinion of this kind is not much evidence of the

* *Eugenics Review*, July, 1910, p. 150.

† People have said to me, "You seem very anxious to get eugenics out of this mess"; and the only answer is, "I am."

‡ Professor Pearson's psychology has been a thing apart for many years, but his pathology is evidently fit to bear it company.

existence of chronic intoxication ; nor is our estimate of its value from this point of view increased by closer examination of the data. For then we learn not only that this parental intoxication has no evil effect on the offspring, but also that it fails to produce any marked physical or mental inferiority in the drinker himself, which would hardly be the case if we were concerned with chronic alcoholism in the medical sense."

In my introduction to *Eugenics*, and in my previous communication to this Journal, evidence has been cited to show that the "racial poisons" do not cause blastophthoria unless they have already injured the individual. The soma is less resistant than the germ, the individual than the race. Believing this to be a general biological truth, I should never expect to find evidence of blastophthoria where the individual bearing the germ-cells was not himself affected by the poison, such as lead, or alcohol, circulating in his somatic tissues.

Briefly, the data themselves were a meaningless jumble, and their grouping has made confusion more confounded.

Whatever the data, and however grouped, no method could fail to reveal the fact that more children of alcoholic parents died than of non-alcoholic parents. It is a very important fact, and a few of the preternaturally acute may have been suspecting it for some time. Now we know.

THE MOST RECENT WORK.

In my previous papers in this Journal and in the *Eugenics Review* numerous references have been given to the literature of this subject, though I should have included the study of 55,000 school-children made in 1901 for the New York Academy of Medicine, and quoted in Horsley and Sturge's standard work. To these may be added a new study, an admirable contrast in method and manner to that under discussion, made by the distinguished student, Professor Laitinen, of Helsingfors, and published just about the same time as Professor Pearson's. The *Times* has not devoted two columns and a leading article to its commendation, but the student should be acquainted with it.* In common with many other experimenters, the author had already shown that alcohol, even in small quantities, caused

* "A Contribution to the Study of the Influence of Alcohol on the Degeneration of Human Offspring," by Professor Taav Laitinen, M.D.; Proceedings of the Twelfth International Congress on Alcoholism (1909), p. 263.

degeneration of the offspring of the lower animals, and his present results are based upon six years' inquiry into the human case. He has studied some 5,845 families, with 20,008 children. Even this is small compared with the New York inquiry, but the numbers are huge compared with those of the biometricians, which, as they confess, were so small that they could not even study abstainers apart. Laitinen, of course, grouped abstainers separately, and carefully explains that by this term he means "a person who has either never taken alcohol, or at least not since his marriage." This classification may be compared with Professor Karl Pearson's, in which abstainers and the so-called sober are confounded, and it is not inquired when any habit of drinking or not drinking began or ended. Laitinen's whole paper will repay careful study; it is the latest serious contribution to the subject and also the most thorough and rigorous, and deals with the mortality of the offspring, their weight, their rate of development, and a large number of other points. His conclusion is, that "All observations, whether made on a small or on a large scale, point in the same direction—namely, that the alcohol drinking of parents, even in small quantities (about one glass of beer a day), has exercised a degenerative influence upon their offspring."

In the same report, on p. 294, is a paper showing, as a result of the first inquiry into the subject ever made, so far as I can discover, that chronic alcoholism produces a demonstrable degeneration of the structural elements of the testicle. The "blastophthoria" of Forel has been thus seen, we may practically say, with the microscope. It is a useful confirmation of the overwhelming evidence otherwise derived.

A BIOMETRICAL PRECEDENT.

Readers who do not follow the work of the biometricians will suppose that this latest report is an accidental lapse of an amateur making what he superfluously calls his "first study" of a new subject, the complexity of which was never suspected by him. But, unfortunately, biometry must continually make these mistakes until it is practised by biologists; meanwhile, we may say that biometry is so called because it measures everything but life. From a wide field of instances, as numerous as the pages of these reporters, I may quote a single one, which most nearly

approaches the crassness of the foregoing, and equals it in missing the obvious. Professor Pearson studied the inheritance of coat-colour in horses by the biometrical method. The result may be quoted in Professor Bateson's words in his master-work :*

"The key to the phenomena was, of course, the fact that chestnuts mated with chestnuts breed true, with rare and dubious exceptions. It would seem at first sight impossible to devise a system of tabulation which could fail to disclose so prominent a feature ; nevertheless, Professor Pearson's correlation tables, which were compiled from the records of more than 6,000 horses, were made in such a way that the colours of sire and dam could not be taken into account *together*. The tables thus provide answers to questions as to the probable colour of a foal by a chestnut sire, the dam's colour being taken as unknown . . . with solutions of other problems of equal significance. Since, however, the colours of both sire and dam are recorded, and must indeed have been actually extracted from the Stud Book for the purpose of the tabulations, the investigators, by refraining from an inspection of these data till they had been separated, placed themselves at a gratuitous disadvantage. The true nature of the inheritance was therefore not discovered. The failure was due to want of analysis."

Well may this great student remark† of "biometry" that "as applied to the problems of heredity, the effort has resulted only in the concealment of that order which it was ostensibly undertaken to reveal. . . . To those who hereafter may study this episode in the history of biological science, it will appear inexplicable that work so unsound in construction should have been respectfully received by the scientific world."

PROTECT PARENTHOOD FROM ALCOHOL.

If the reader will refer to my previous paper in this Journal he will find reprinted there the memorandum which I prepared for the Eugenics Education Society, and which was presented to the Departmental Committee on Inebriates, in whose report it is to be found. It indicates the policy of that society, but does not refer to blastophthoria, which could not have been discussed intelligently without making the memorandum unduly long. Following my classification of eugenics, as accepted by Sir Francis Galton, into positive eugenics, which is the encourage-

* "Mendel's Principles of Heredity," Cambridge University Press, p. 124.

† *Op. cit.*, p. 6.

ment of parenthood on the part of the worthy, and negative eugenics, which is the discouragement of parenthood on the part of the unworthy, we see that negative eugenics must concern itself especially with the case of the inebriate whose alcoholism is a symptom of degeneracy. But what I have later distinguished as preventive eugenics must stand between alcohol and other "racial poisons," to use a term which has also found acceptance, and healthy stocks. The practical conclusion of the whole matter, which need not wait for any inquiry into the academic and theoretical questions of the comparative influence of alcohol in regard to "nature" and the various forms of "nurture," is summed up, surely, in the dictum *Protect parenthood from alcohol*, which, with all its possible applications in negative and in preventive eugenics, I have been advocating for some years as the most urgent and comprehensive and fruitful duty of those who, being friends of man, are enemies of alcohol. If, however, as I have said in the *Eugenics Review*, we agree with the biometricians that the little influence drink has favours the health and intelligence of children, we are bound by our principles as Eugenists to do everything that lies in our power to have as much alcohol as possible drunk by parents and potential parents, and to encourage parenthood on the part of drunkards. But so to do would be to accept as final the solitary opinion of a beginner, based on data inherently worthless, studied by methods which, however "scientific," were not even intelligently applied, and authoritatively contradicted by critical and expert study, historical, statistical, clinical, experimental, and microscopic, all over the world. Every lover of mankind must wish that he were right; but, alas! his procedure was too bad and his news too good to be true.

NOTE.—As this paper passes through the press, I just have time to note Professor Pearson's "Supplement to the Memoir entitled: The Influence of Parental Alcoholism on the Physique and Ability of the Offspring—A Reply to the Cambridge Economists" (Dulau and Co.). This does not deal with the biology or medicine of the subject, but almost wholly with questions of wages and trades, whereas Professor Pearson's assumptions have been disposed of by Professor Alfred Marshall, and, in the *Journal of the Royal Statistical Society* (July, 1910), by Mr. J. M. Keynes. The controversy scarcely concerns the biologist, but the temper of Professor Pearson's reply is worth noting as serving towards the psychological elucidation of "biometry" in its recent vagaries. Speaking of his distinguished critics, he says that "the logic of both of them seems equally faulty and their tone equally regrettable," a protest for which, charming to the last, he qualifies himself—to take a typical case—by saying elsewhere of certain of Mr. Keynes's citations, "That they should be used as an argument in a journal which claims to represent British statistical knowledge makes me gravely doubt the adequacy of its editorial management."