

MEDICO-LEGAL SOCIETY

A MEETING of the Society was held at the Royal Society of Medicine on Thursday, 9th November, 1978. The President, Dr. Roy Goulding, was in the chair.

CRIME AND PERSONALITY

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The Chairman: Ladies and gentlemen, it gives me pleasure to welcome Professor Eysenck, who occupies the chair of psychology at the Institute of Psychiatry in the University of London. As many of you will know, he has been trenchant and forthright in some of his statements on the question of race and intelligence. He has been equally forthright in a recent letter to *The Times* about a circular emanating from the National Union of Teachers. So, with that background, we are impatient to hear him tonight on the subject of Crime and Personality. Professor Eysenck. (*Applause.*)

Professor H. J. Eysenck: Mr. Chairman, ladies and gentlemen, I am going to try and talk about two topics which are closely related. One is the question of what kind of person is likely to commit crimes and the second one is why there has been an increase in recent years in the number of crimes committed in western countries.

There is an interesting feature of much scientific work, both in psychology and in physics, namely a kind of swing of the pendulum from one type of theory to another. You are probably familiar with theories of light, how Huygens started out with the wave theory, how Newton then proposed a corpuscular theory, which everybody accepted until Young and various French physicists proved conclusively that the wave theory was correct, until now we have a general kind of theory where we believe in waves on Monday, Wednesday and Friday and corpuscles on Tuesday, Thursday and Saturday, but on Sunday we admit them all.

The same kind of thing has happened in relation to the question: "are there certain types of people more likely to become criminals?" 50 or 60 years ago almost everybody believed, as did Cesare Lombroso, the great Italian criminologist, that there was such a thing as "the born criminal", the person born to be hanged, as we say in English. Lombroso embroidered his theory with various complex features, such as that criminals had a special kind of ears, which were clearly absurd and were disproved. This led people to disbelieve the general theory, although that does not follow and in recent years we have had great stress on environmental causes rather than on genetics and constitution.

There are two major difficulties with these environmentalist or sociological theories. The first one is that they make the wrong predictions. If you hold a theory that crime is predicated upon certain social conditions, such as poverty, great differences in wealth, poor housing and that kind of thing, you would expect that the great improvements in all these conditions which have taken place over the last 30 years in the Western World, where the standard of living has increased between 50 and 100 per cent, would lead to a lowering

in the crime rate, whereas, as we all know, exactly the opposite has happened.

So the sociological and environmentalist theories make the wrong prediction. This is not regarded with favour in scientific circles.

The second objection to sociological theories is that they are subject to what is sometimes called the "sociological fallacy", which is essentially that *correlations* are interpreted in terms of *causation*. In other words, because A is followed by B you assume that A causes B. For instance, it has been shown that children from broken homes tend to commit crimes somewhat more frequently than children coming from intact homes, which has led to the argument that broken homes cause crimes. This does not follow at all. It is equally possible that because the child coming from the home is a criminal this causes disturbances in the home, which break it up, so that criminality comes first and the broken home second. Furthermore, there is the possibility that those genes which produce a broken home are inherited by the child and lead to his criminal conduct. There are other possibilities that have to be looked at before you can conclude that a correlation is a causal agent. Hence, this has become known as the "sociological fallacy"—a tendency to interpret and over-interpret correlations in causal terms.

The alternative to a purely environmental hypothesis is what we might call the *genetic model*. It is important to clarify what this means. A genetic model does not suggest that all observed differences are caused by genetic factors. The genetic model attempts to look at what we call the phenotype, the actual behaviour of people in the world, and tries to dissect the causes into those which are genetic, those which are environmental and those which imply interaction between the two. Within each group it tries to separate these causes out in more detail. In the genetic groups, for instance, causal factors are divided into those that are purely genetic, with an additive gene action, those that are due to dominance of certain genes over recessive genes, those that are due to assortive mating, like marrying like. Thus we take into account all the possible causes of variation that you observe in the actual world. So the model embraces not only genetic causes but also all the causes that sociologists and environmentalists suggest; but it does not make the mistake of looking at them in isolation. It tries to look at all the causes simultaneously.

There is much evidence to show that genetic factors are closely implied in the causation of criminal conduct. There are three major lines of evidence suggesting this: the first comes from the so-called *concordance studies*—i.e., studies of twins. There are two kinds of twins: identical twins, sharing identical heredity, where one ovum is fertilized by one sperm and later on splits into two individuals who have identical heredity. Then there are fraternal twins, dissimilar twins, where two ova are fertilized by two sperms and the two individuals share 50 per cent heredity and are genetically no more alike than brothers and sisters who are born in the ordinary way. You can use this for analyzing genetic factors, because if some type of behaviour is caused by genetic factors, then identical twins should behave more alike than should fraternal twins and the degree to which these two types of twins differ is an indication of the importance of genetic factors.

What is done in concordance studies is very simple. You go into a prison and pick out all those prisoners who have a twin. You then locate the twin and find out whether he is identical or dissimilar, which can be done by blood sampling, finger printing and so on, and you find out whether he too has a

criminal record. If he has a record, then he is *concordant for criminality*. If he does not have a criminal record, then he is discordant; and what you would expect, if genetic factors are important, is that the identical twins will be concordant more frequently than would fraternal twins.

This has been done in ten separate studies in four different countries, taking into account over a thousand pairs of twins, and the result has always been pretty much the same—to wit, that identical twins are concordant over four times as frequently as are dissimilar twins—a tremendous difference which indicates the importance of genetics.

The second line of evidence comes from the study of adopted children. A child adopted from birth gets all his environment from the adopting parents but all his genetic endowment from the biological parents, and the question arises which is more important in the causation of criminal conduct. There are two ways in which this can be done, and both have given the same results. In one, the baby is taken from a criminal mother who is in prison, and is adopted by uncriminal parents. The children are then observed and you see whether they commit crimes at a greater rate than do adopted children from mothers who are non-criminal. But you always are comparing adopted children with adopted children, in one case the mothers are criminals and in the other case they are not. The outcome is clear; the children of criminal mothers, although given an upbringing by non-criminal adoptive parents, commit crimes at a far greater rate than do the children of non-criminal mothers.

The other type of study which was done in Denmark, with much better records of adoption, was to trace adopted children who had grown up and whose criminal record was known, and to have a criminal sample and a control sample—in other words, a sample of children who grew up to become criminals and a group of children who grew up not to be criminals. All of them had been adopted by various families who were equated for socio-economic status, literacy, wealth and so on. The question now was, would the children resemble their true parents or their adopted parents? The outcome again was clear. They resembled their true parents. So that here too you find a strong relationship between biological parents and the way children behave.

I will come to the third reason why we believe that genetics is important in a minute but first let me enlarge on the meaning of the genetic argument. It is often said to generate therapeutic nihilism if some kind of behaviour is innate; if it is inherited there is nothing we can do about it. This is incorrect and as an example let me quote phenylketonuria, which leads to mental defect inherited through a single recessive gene. In other words, genetics is a hundred per cent involved in this. It determines the mental defect of the child suffering from this disorder.

Something can be done about it, but we have to find out first of all what is inherited. In the case of phenylketonuria, what is inherited is an inability to metabolize phenylalanine products. These poison the central nervous system and produce the mental defect. Once you know that you can give the baby an alanine-free diet the disorder of the metabolism becomes unimportant; he does not suffer from toxæmia and grows up to be a normal child. Once you know what is inherited, you can begin to do something about it.

Many people have concluded that therapeutic nihilism for criminality is justified because attempts to do something about it have usually been

resounding failures. Let me give two examples. One is the Grendon Underwood Prison, which was originally founded with great hopes, to use methods of psychoanalysis and allied methods to treat neurotic prisoners and in that way to reduce recidivism. Comparison of the follow-up records of people who went to Grendon Underwood and people who went to the old-fashioned orthodox prison at Oxford showed that there was no difference in recidivism. Those at Grendon behaved just as badly as those from Oxford. But this only means that psychotherapy and psychoanalysis are the wrong methods to use for rehabilitation. It does not mean that rehabilitation cannot be done.

The same is true for the largest experiment that was ever done on prophylaxis, the Cambridge-Somerville study, 25 years ago in the United States, where a large number of boys in Boston of a class and living in a neighbourhood which made it very likely that they would grow up to be criminals were divided into two groups of 800 each. One group was treated for several years by psychoanalysts who tried to reduce their conflicts and get rid of their complexes. The other group was left alone, nothing was done with them, and the hope was that those who had been treated would grow up to be more law-abiding than the other group.

The results after one or two years, and the results just published after a follow-up of 30 years of all those children have disclosed that the final outcome was rather different, in that those who have had the psychoanalytic treatment committed slightly more crimes and more severe crimes than those who had no treatment, which would rather disfavour the hypothesis that psychoanalysis would be a good prophylactic treatment. But this does not prove that *no* method could be effective. It only means that the methods of psychoanalysis and psychotherapy are not effective in this way.

I now come to the third reason why we believe that genetic factors are important, which is that criminality and antisocial behaviour seem to be closely related to various personality factors. The reason why this is evidence for the genetic hypothesis is that these personality dimensions have been shown to be determined by heredity, again through genetic studies of twins, through studies of adopted children, and through studies of familial inter-correlations.

Three dimensions of personality in particular have been identified in many different populations all over the world, which show this predicted relationship with criminality. The first of these is what we call extraversion as opposed to introversion. An extravert typically is a person who is impulsive, sociable, happy-go-lucky; whereas the introvert is the opposite of these, is lacking in sociability and prefers to sit at home and read rather than go to parties.

The second is neuroticism or emotionality. Some people are more emotional, others are more stable in their emotions, and that is what this dimension refers to. The third dimension is called tough-mindedness. The person who is tough-minded as opposed to tender-minded tends to be solitary, rather aggressive, perhaps a little odd in his behaviour, cold in his emotions and impersonal in his relations. The prediction was made that criminals tend to be tough-minded, will tend to be extraverted and will tend to be emotional and neurotic.

Many studies have been done, starting with children, going on to

adolescents, both in and out of Borstal, and adult criminals, and on the whole the outcome has been very much in line with expectations, that people who are antisocial in their behaviour tend to show these different types of personality.

It is sometimes suggested that the notion of criminality is subjective, it is imposed on us by the society in which we live, it has no objective reality and that perhaps the occurrence of crime is due to the particular mode of production adopted by that society—capitalism, or whatever it might be. This seems strange because it is identical types of conduct which have been branded as criminal in all existing societies. If it were true that the capitalist system produces criminal behaviour we would not expect to find identical relationships between personality and criminality in communist countries or in third world countries.

Studies have been done of the same kind that I mentioned just now. Hungary is an example of the communist world, as is Czechoslovakia; India is an example of the third world. In all three cases exactly the same has been found as here; there are criminals in those countries and they show exactly the same kind of personality pattern as do criminals in the western world; so the objection clearly falls to the ground.

You might think that perhaps imprisonment is responsible for the personality traits rather than the other way round, that a person may be emotional because he is imprisoned rather than that he is a criminal because he is emotional. There are two reasons for suggesting that this is not so. The first is that identical relationships have been found in children who are not imprisoned but have indulged in antisocial activities, and in non-imprisoned adolescents also. The other is that there have been follow-up studies where the personalities of children have been measured at the age of ten. They have been followed up over a period of 30 years and it has been found that those who in their infancy showed these personality traits could later on be shown to have become criminal. In other words, the personality traits come before the criminal activities. This shows that there is a relationship between personality and criminality. It does not tell us why such a relationship exists. In other words, what we are looking for now is the causal factor. What is genetically determined? Conduct and behaviour cannot be determined genetically by themselves. What can be determined is only something physiological, neurological or anatomical, which in turn produces, in interaction with the environment, the kind of behaviour with which you are concerned.

Let us look at extraversion and try to find out what is responsible in the physiology of the individual. The best theory at the moment implicates something called "arousal". You are all familiar with the differences in the arousal pattern in your cortex, because in every individual's life there are times when he is in a state of high arousal, as when you are pleading a case in court or you are writing an examination paper and, in a state of low arousal when you come home tired out and sit down and watch television. Then there are intermediate stages. These can be measured with a fair degree of accuracy, using the electroencephalograph and other measures of the brain activity. High arousal is accompanied by fast, low amplitude alpha waves and low arousal by slow, high amplitude waves that you can measure with a fair degree of accuracy.

This arousal is produced by something in the central nervous system called the "reticular formation", but I do not want to go into physiological details that will just bore you. Let us say that there are good physiological reasons as to why in some people high degrees of arousal are customary and, in others, low degrees of arousal. This in itself is an innate factor; it is determined by heredity and is closely related to extraversion, in the sense that extraverted people have habitually a low level of cortical arousal and introverted people have a high level. This may sound to you as the wrong way round because it is the uninhibited extravert who is active and goes to parties, yet who has a low level of cortical arousal. The answer is that the function of the cortex is inhibitive. Its action on the lower centres is to inhibit, and the more control that you have over your behaviour the greater the arousal in your cortex; the more is your cortex then able to exert this control on the lower centres. Take alcohol, which is a depressant drug—in other words, it lowers arousal; therefore, it frees the lower centres from the control of the cortex and enables you to be more extravert and uninhibited.

Characteristic of low degrees of arousal is a state of boredom. We have an optimum level of arousal. We can be over-aroused in a state of great anxiety and so on, or we can be under-aroused when we are bored; so the extravert is in an almost constant state of boredom which he seeks to alleviate by what psychologists often call "sensation-seeking". In other words, he seeks stimulation from the outer world; he needs this stimulation in order to escape from this boredom. Then you get a drive towards excitement—the bright lights and jazz music about the town—this is what attracts the extravert because he is in a state of low arousal which requires external stimulation and expectation. He can find it physically in scuba-diving, perhaps in parachuting and in a great variety of activity. He can also find it in risk-taking such as criminal or antisocial activity, say, involving drug-taking and sex. There is evidence to show that extraverts tend to be prominent in all these directions. So you have in an extravert a strong drive which predisposes him to seek kinds of activity which are often unlawful and antisocial.

But an even stronger reason why they are antisocial or asocial is this—and now I am afraid I will have to take little excursions through what at first sight may seem irrelevant. Why do people behave in a socially responsible manner at all? That is a more psychological question than the query "Why do people behave in a criminal manner?" because at first sight it seems more reasonable to behave in an antisocial and criminal manner—in other words, to seek out what you want and get it at any cost that it might have for other people. Why do we not? We are immediately rewarded for what we get. You see something you want, take it; you see a woman you want, rape her. Why do we not all do this? It cannot be said that this is done because of the law, because of magistrates and because of policemen—there simply would not be enough policemen to go round if we all tried to indulge in antisocial activity. As Napoleon recognized, you can do anything with bayonets except sit on them. (*Laughter.*) So the question is a very real one. Given the amount of law enforcement which is present in all western countries—where a large number of crimes go undetected or unpunished—why doesn't everybody behave in this manner? The answer must be that there is something in most people which prevents them, which we tend to call "a conscience". A conscience has all sorts of religious and other connotations which I want to avoid. I want to

suggest to you that a conscience is something which we learn, which is acquired, and we know something about the way in which it is acquired. Namely, it is acquired through a process of *Pavlovian conditioning*. Most of you will be familiar with Pavlov's fundamental experiment with dogs. When you ring a bell, there are no responses. When you show the dog some food he salivates a lot, and when you sound the bell before you give him the food he gradually becomes conditioned to responding to the bell even when the food is omitted. Then he is conditioned. It is a powerful process that goes on automatically regardless of what your brain may suggest. We do not acquire emotional responses through reason. We learn languages through reason, we learn of the existence and the meaning of laws through reason, but not behaviour and not emotions.

The whole upbringing of a child is a constant process of conditioning. He does something wrong and he is punished. He is told off, he is sent into a corner, he is sent up to his room, he is slapped—or whatever it may be. Punishment may be meted out by his parents, his teacher, his peers, the police—anybody—but constantly, throughout his upbringing, wrongdoing is punished in some way or other and each punishment constitutes a conditioning trial, so gradually he builds up through all this a conscience, which is simply the sum total of all these trials that he experiences.

It may not sound convincing to you and I have no time to do anything other than to make a simple dogmatic statement, but let me quote an experiment to illustrate the power of conditioning for socialized conduct. This has been done both with young children and with puppies. I will tell you one in connexion with puppies because I think it is more amusing. The experiment is simple. You bring puppies into a room, one at a time. They are 24 hours hungry. The room is empty except for the experimenter who sits on a chair. To the right of the chair is a dish containing boiled horse meat which the puppies like. To the left leg is a plate containing commercial dog food as advertized on television which they do not like at all. (*Laughter.*) The experimenter has a rolled up piece of newspaper in his hand and whenever the puppy approaches the boiled horse meat he slaps it over the rump with his wrapped-up newspaper. This is not painful but it is slightly deterrent. The puppy goes round and finally eats the dog food. That concludes the experiment. He is then taken back to his cage and put out again next day and exactly the same thing happens. Each trial, when he is slapped over the rump with a folded-up newspaper, is a conditioning trial. The dog becomes conditioned and develops a conscience that he is not supposed to eat the boiled horse meat. This goes on for a week and at the end of the week the conditioning trials are terminated. Now the experiment trials begin. The conditions are the same as before, except that the experimenter is not present, he watches from a one-way screen. The boiled horse meat is there all right, but very little of the commercial dog food. So the dog comes in, 24 hours hungry; he sniffs around and looks at the boiled horse meat longingly, but avoids it. He goes around a bit and finally rather dismally eats the commercial dog food.

Then you get a difference. Some dogs will finally eat the boiled horse meat, but relatively few. The majority will resist temptation. In other words, they have developed a conscience through this process of conditioning. They go back to their cages, where they are not fed, and the next time they come out

they are 48 hours hungry, which is very hungry for a puppy, and again some will fall to temptation but the majority will not. Indeed, the force of the conditioning is so strong that some of these puppies would rather die of starvation than eat the boiled horse meat. The experimenters will not allow that to happen, but you can see that the strength of the conditioning is such that a dog would rather die than go against the forbidden rule of eating the boiled horse meat.

As I said, children behave in much the same way and quite generally there is a lot of evidence to show that conditioning is responsible. Remember that this is a purely automatic process and that reasoning has nothing to do with it. Criminals know just as well what the rules are, they know what they are doing is illegal; it is no use talking to them about it for they know it perfectly well. It is nothing to do with rational decisions. These are things within the lower levels of the central nervous system where associations are made automatically, regardless of thinking or ideas.

So much for the extraversion as a cause which extraverts, having low arousal, conditions supply. Why emotionality? Well, we know that emotionality acts as a drive and tends to give power to whatever habits are being developed. If your habits are good and you are high in emotionality you will pursue good habits more strongly. If you have developed bad habits, as a criminal has, then a high degree of emotionality can push him in that direction more strongly.

Why the tough-mindedness? Well, it is closely related to *aggro*, to aggressiveness, and in particular criminals whose crimes involve violence and aggression tend to be characterized by this type of personality, which in turn is related to androgens in the people so afflicted. There are great sex differences. Men are more tough-minded than women and, as you know, men are more criminal on the whole than are women. So this tough-minded factor adds the facet of violence and aggression to those remaining antisocial types of activity.

Now let me go on to the other point that I mentioned at the beginning. Why has criminality increased in recent years? It cannot be due to any change in genetic make-up of the population because there has not been time enough. It takes many generations and thousands of years before anything of that kind can happen. So what is it? It is impossible to give a certain answer. I will tell you my hypothesis, for which I think there is some evidence. It is that a person's arousal enables him to form conditioned responses quickly or poorly—a person with a high degree of arousal in his cortex forms conditioned responses more readily than a person with a low degree of arousal, thus an extravert forms them less readily. *A person's degree of arousal determines the speed with which he forms these conditioned responses.*

Pavlov noticed this in his dogs. He found that some dogs formed this salivation response to bellringing after two or three pairings with food and others needed two or three hundred. But all dogs can form the conditioned response if given enough repetition and pairings of this kind.

We therefore have two factors to consider. One is the innate differences in a person's arousal, which leads to him developing conditioned responses quickly or slowly, strongly or weakly; but we also have to consider the number of conditioning trials to which a person is exposed. The greater the number of conditioning trials, the more likely that he may develop a con-

science, as we have defined it. So if it is not the innate differences in arousal that have changed, perhaps it is the number of conditioning trials to which people are exposed that have changed—and the evidence for that is overwhelming. The great increase in permissiveness over the last 30 years has led to a marked lowering in the number of conditioning trials to which the growing child is exposed. Parents in many cases have almost abdicated from bringing up their children at all; so have teachers and so, unfortunately, have the courts. So the number of reinforcements, the number of conditioning trials to which a child is exposed has drastically fallen and if the theory is right at all it should follow that greater permissiveness is accompanied by a lower level of conscience formation in the child and therefore by a higher level of antisocial-behaviour in the adolescent and the adult.

That, I suggest, would be the mechanism which is responsible for the terrifying increase in criminality, vandalism and the whole gamut of antisocial activity that we have come to know so well in the last 30 years.

Does the theory suggest anything about rehabilitation and prophylaxis? The answer is yes—and, fortunately, there is evidence to show that the methods suggested work quite well. To take an illustration, if it is true that a young criminal, adolescent or adult, has not developed a conscience because there has been a lack of conditioning trials in his upbringing, then what we should do when we have caught him would be to supplement this deficient number of trials by trying to condition him in prison or in whatever place we may get him.

This can be done by what in psychological circles has become known as “token economies”. You have a ward of, say, 20 prisoners; you lay down a definite set of rules, according to which certain types of behaviour are rewarded by tokens which are given immediately to the prisoner, who can later change them for anything he likes—cigarettes, television viewing, playing cricket, or whatever it might be. The kind of activities are clearly defined: making his bed properly, cleaning his cell, washing his face, cleaning his teeth, whatever it might be—a whole list of these things, with the appropriate number of tokens noted in each case. You also have a large number of people watching over this group who hand out the tokens and watch closely to see if conditions are observed. This is a so-called *token economy*. It is sometimes regarded as a modern development, but it goes back about a hundred years to the great prison reformers. Alexander Maconochie of Norfolk Island, who was a Scottish civil servant, was in charge of the prison colony in Norfolk Island, in Australia, dealing with a tough and large group of prisoners, was the first to introduce this kind of token economy into our prisons, by giving them points. He tried to make release contingent on the number of points, so that they could work for their release much earlier than they would otherwise achieve, by suitable behaviour.

The scheme worked beautifully while he was in charge, but the moment that the Home Office heard of it they told him to stop it and when he would not stop they relieved him of his job. Fortunately, at that time it took six months for a sailing ship to go from Australia to England and another six months to come back, so he had enough time properly to implement his scheme for at least 2 years. It worked extremely well, even in the opinion of the people who were opposed to it—and there were many follow-up stories of these prisoners in after life doing better and accommodating themselves

better to their non-prison environment than those who did not go through this kind of token economy.

Several experiments have been made in the United States with token economies of this kind and the outcome on the whole has been good. Unfortunately, this has not been going on long enough to have long-term follow-ups, but three-year follow-ups have been done in one or two cases and it has been shown that prisoners so treated have a recidivism rate of something like 50 per cent *lower* than comparable prisoners not subjected to token economy. Fifty per cent is not 100 per cent, but it is a worth-while remission to have all the same.

The method only works with people showing certain personality traits, particularly the extraverted and tough-minded ones. For people who are more introverted and tender-minded, other methods have been used—for instance, modelling. It is often found that these people lack the social contact and social facility of the extravert. They cannot adapt to society because they lack the social skills, and training in these social skills has shown considerable effect with them, reducing the recidivism rate to something like 50 per cent. It depends very much on the personality of the person and what you do with him, because you must recognize that different personality types show different causes genetically for their misbehaviour and therefore require different types of treatment.

Can we do something by way of prophylaxis? Again, as you would expect, if you could have a particularly strong form of conditioning for youngsters especially exposed to danger, then you might be able to do something for them.

There is some evidence from the American Rahway Prison study that this can be done with some degree of success. A group of "lifers" in this maximum security prison got together and laid on a show, as it were, for children coming from neighbourhoods particularly likely to generate crime. The children were brought into the prison and then were talked to by the prisoners, who told them something about their life stories, the miseries of their life in prison and the terrible things that happen in prison. They were not mealy-mouthed about this. The effect on the children was dramatic and the children developed a different view of crime from that of hero-worship which they had before.

There are several outcome studies of this—none of them long enough to be certain of what the outcome may be, but in essence the number of children who did not commit crime after seeing this Rahway production, was something between 50 and 80 per cent, compared with about 10 per cent of children from a similar background who had not been to the Rahway Prison—again, a tremendous difference.

These are suggestions as to the kind of thing that could and should be done. Unfortunately, in this country we are subject to a Home Office which is very much less adventurous than many of the American States that have instituted these experimental studies. America has a great advantage of having 50 different States, each having a different legislature, and even if one State disallows such experiments, another will encourage them. Here, if the Home Office says no, then it is universally no, so that practically nothing of the kind has been done in this country. I think that it would be desirable, on an experimental basis, to try some of these methods. They could certainly do no worse

than the Grendon Underwood type of treatment and if conditions are at all like they are in the States in the experimental studies that I mentioned, they might do a great deal both for rehabilitation and for prophylaxis.

I sometimes wonder if we are as keen as we pretend to be in doing something about the rehabilitation of prisoners and about the avoidance of crime. We talk a lot about it, but there is little evidence that anybody wants to do anything. It seems to me that the first thing, if you want to do anything about it, is to find out the facts, produce a reasonable theory, make deductions from the theory and then test these out. When you find that some of these have already been tried and have found to give good results in other countries, I think that the time has come when we should do the same. But I see little evidence of any tendency in that direction in this country at the moment and I think that it is rather sad that this should be so. Thank you. (*Applause.*)

The Chairman: Professor Eysenck, your theme has been superbly developed. I am sure that I am not alone in having been enthralled by it. I am sure that there are people who want to ask you questions, possibly challenge you and even make comments of their own, and I take it that you will not mind participating in any discussion that follows. So now I invite those in the audience, members and guests alike, to start the discussion.

DISCUSSION

Mr. Conrad Ascher: I would like to ask one question to begin with—and it is this. You say, sir, that women have a lower criminality than men. What is the evidence for this? It certainly is true that fewer appear in the criminal courts and fewer appear in prison, but may it not be because they have put their husbands up to it and stayed safely at home? Equally, I have been active in cases of men where it is the women who do not appear to be as responsible as the men. What is the evidence that women are less criminal than men?

Professor Eysenck: The evidence from crime statistics always has weaknesses, as you point out, which are serious, but there have been many studies of social and anti-social behaviour in children, in adolescents and in adults, short of falling foul of the law, and in all these women are found to be more law-abiding than men. For example, in one study, psychologists looked at a pedestrian crossing and marked for each person who went across the street how far he was from the pedestrian crossing. The number of women who crossed on the crossing was far in excess of the men, who started jay-walking all over the place. (*Laughter.*) This is not criminal conduct, but it is typical of the law abidance of women. There have been thousands of experimental studies of that kind, looking at many types of antisocial behaviour and in every one it is the males who behave far more frequently in an antisocial fashion.

The Chairman: Does this apply to shoplifting too?

Professor Eysenck: Probably not. I do not know the statistics about shoplifting. I think that men probably regard it as rather below their dignity to indulge in such activities.

Mr. Passant: Professor Eysenck, about five years ago I had the experience of representing in the Crown Court a number of teenage burglars who were subsequently sent to Borstal training. I had in front of me the whole of their antecedent histories and it was apparent that all of them, in their first months of life, had undergone severe emotional deprivation. I formed the view that in certain circumstances theft may be a compensation for emotional deprivation. I have not myself had the benefit of scientific training and I would like to know, Professor, what your views of my experiences are.

Professor Eysenck: This is an hypothesis that was put forward many years ago by Bowlby of course and he tried to substantiate it—and there have been several studies since. The outcome has been pretty universally negative and that as a causal factor it is at best weak and probably non-existent.

Miss Briggs: Would you say that it is anything to do with the high crime statistics that we have not had a war for a long time? Some men are aggressive and I think they have a chance to show-

off during war-time and do aggressive acts. We learned that the Navy had never had such high recruitment as when trouble started in Northern Ireland; there were young men who were dying to do something violent. I was appalled that they should want to join the forces if they had a good chance of being killed. They said "What do you think they join it for in the first place?"

Professor Eysenck: I think you are right. Some of my psychiatric colleagues in Northern Ireland have reported that they practically never see a psychopath nowadays, they are all in the IRA and perfectly happy.

One of my colleagues studies psychopaths in Canada and has done so for a long time, and found that the people showed this sensation-seeking particularly strongly. He also talked to many mercenaries who really only live when in danger of their lives. The ordinary person does not have resources for scuba-diving or parachuting, but if he goes into the army or becomes a mercenary and sets off bombs, he gets this kind of kick which some get from drugs and which other people get in other ways. However, I would not advocate having a war in order to lower our crime rate.

William Jones talked about the moral equivalent of war and trying to find something. He suggested sport, which I do not think is strong enough for most of these people. But it is a serious problem and modern society, particularly architects, tend to build cities which almost eliminate any possibility of the kind of daredevil activity that these youngsters would want to indulge in, which leaves them only with things like running round on a motor bike and frightening everybody to death. I feel that we have so many professionals, from architects to town planners who deal with human beings without ever learning about psychology, which is fundamental. There have been many studies, for instance, on how we can reduce vandalism by building houses in one way rather than another. Nobody pays attention to that kind of thing and I think it is sad. People like that work on a model of human nature. It is not a scientific model, it is an outmoded one. Most of our social activities, from building cities to anything else, are still built on hypotheses which are not true. Yet we go on doing it and making things worse.

Mr. Mason: Could Professor Eysenck tell us where the genetic studies are going to lead us? Is this to give lawyers another quiver for defence purposes, if your client is acting in a pre-destined manner and cannot help an irresistible impulse because of his genetic background? That is one problem.

How do you detect a person who is going to have these difficulties until he is charged with crime?

Professor Eysenck: The answer to the first question is simple. Lawyers and the law in general are fundamentally based on a philosophy of free will, which went out many hundreds of years ago among all serious students. What a person does is determined by his heredity and by his environment. It is difficult to think of any other cause, unless it is pure chance. Therefore what he does is, to that extent, determined. If you like to consider that as an excuse for what he does, that is all right. I do not think that one should *blame* people in that sense. What the law has to do is to make sure they do not do it again. From that point of view it is essential that punishment should be planned on a psychological basis to reduce evil-doing in the future as much as possible, which is perfectly permissible on social grounds, even if you regard them as not having free will and not having done this in terms of their own predilections.

Secondly, you have to consider the influence that what you do to them will have on other people, the deterrent effect of your actions, because in their future activities what you do with the present criminal will have a detectable part to play. There is the very important work of Ehrlich (?), for instance, in the States, who carefully re-analyzed all the data on capital punishment in the States and found that, roughly speaking, to execute a single criminal would save about eight or nine lives of people who would not be killed in the future, so that the deterrent effect is an important one. To worry about the free will of a person and to base any legal arguments on that is not the kind of thing that I would encourage one way or the other. What was your second question?

Mr. Mason: How are you going to find out which people are going to need treatment to prevent them from becoming criminals?

Professor Eysenck: "Treatment" is too strong a term, and it is debatable whether society has any right to do anything to anybody before he has committed a crime, because until then he is still innocent, although the probability of his committing a crime in the future may be high. I would rather like to think in terms of society, where parents carry out their duties of bringing up their children properly and are told about the dangers of not doing this, so that what I was talking

about becomes common knowledge among teachers, among parents, among lawyers and even among members of Parliament, where, in other words, we adapt our behaviour to information, which at the moment we do not. We argue in terms of political stereotype, we argue in terms of ideologies and all sorts of philosophical preconceptions. We seldom argue in terms of facts. I think that will have to be changed. If that is not changed, I do not think we can do much. One would like to persuade teachers and parents to bring up children with experiences that they need in order to produce a "conscience", which will stand them in good stead as they grow up. I do not think that any kind of official treatment or anything that a psychiatrist or anybody else could do would be suitable, except perhaps the kind of thing that the Rahway "lifers" did, as I mentioned before.

Mr. Tom Meyer: I am confused about my concepts of culpability. The Mental Health Act, for example, seems to divide us into three types of person: those who do not come within its ambit; those who are psychopaths (below or above the age of 21 does not matter for the purpose of my question); and those who are suffering from other kinds of mental disorders; and the last kind, as I am sure Professor Eysenck knows, can be sent by the courts to hospitals, if you can find (as you probably cannot) a hospital which will accept them.

I would like to ask two questions. Does Professor Eysenck agree that there is a traumatic basis for criminality? By "traumatic" I include head injuries, it could be some kind of encephalitic or meningitic disease or it could be schizophrenia or something of that sort. Does he agree that these conditions may lead to criminality and, if so, would he agree (with some reservations) about schizophrenia—that they have nothing to do with genetics?

Secondly, does he say that there is no point at which one ought to say "This is not a matter for the court, it is a matter for doctors?" It seems that we have got near to a situation where we say that "you are programmed, for whatever reason, in a certain direction and you will do what you will do." If that really is right, then the concept of humanitarian against penal sanctions seems to fall to the ground.

Professor Eysenck: The question of culpability is one for you, not for me. There is no such concept in psychology, so I would not know how to deal with it. I think that it is meaningless. How can any person be culpable of anything if his behaviour is determined by his heredity and by his environment, for neither of which he is responsible? In that sense nobody is culpable of anything. It is a function of the heredity and the environment which you provide for him. Culpability has no meaning in that sense. It may be a useful legal fiction. I would not know about that. It certainly has no psychological meaning that I can discover. It is possible that criminal acts may be triggered off by physical diseases of the central nervous system, and by all sorts of things that develop in the cortex. We can insert electrodes in the brain and trigger off aggressive acts, and so may a tumour in that region. That is not genetic: that would be environmental. Fortunately, it is relatively rare. In such circumstances a person is no more culpable than if he had inherited the criminal tendency. Should you hand over to the doctors? Heaven forbid. I think that doctors have enough to do as it is, without bearing the weight of the legal process as well. What would be useful for the courts would be to acquire a better knowledge of the causes and effects of criminality. Persons who are believed by society to know most about it—lawyers, judges and so on—know least about it, because they seldom follow up their cases; they seldom know what happens after they have pronounced judgment. It is left to us to follow up the cases and we find out from our statistics that many of the things which are supposed to make a difference make no difference. I think there should be greater collaboration between two groups of people who do not even talk to each other for the most part—which are lawyers and judges on the one hand, and psychologists on the other. This is up to society. I am a psychologist. I find out things and I tell you about them. What could be done with it is not a question which you can ask me. I am suggesting that it would be useful to do certain experiments, such as developing the Rahway experiment in this country, doing small scale experiments on token economies in certain prisons, to see if the kind of thing that I am telling you is true in this country. Once we know that, we can start a discussion in political and law circles to see whether, given the facts, this is the kind of thing that we might do. There are all sorts of things that have to be considered on which I am no expert. But I think it is important that we should know the facts and that the facts should be communicated to society.

Mr. N. T. Pollitt: I cannot let your remark about the Home Office not appearing to do anything go unchallenged. From your ivory tower, could you tell us what you think about the idea of a community service which has been brought in in recent years? Is this, do you think, contributing

to anything like the token economy or the prison experiment?

Professor Eysenck: That is an interesting question. I was thinking that something like the Rahway experiment could be combined with community service in some way. As part of community service, people should go to prison and investigate the conditions and see what life in prison is like.

I must say that the answer to your question is "No, I do not know." When I say that I do not know, I do not mean that I do not know personally, but that it simply is not known. In other words, we as a society do things which we call experiments but which are not experiments in the scientific sense, because there is no control. The term in English has two meanings. One is to do something that nobody else has done before and then to sit back and look at it. The other one is to do a scientific experiment, which means to compare two groups. To one group you do the thing in which you are interested; to the other you do nothing, and then you observe the difference. That is a proper experiment, but, as far as I know, no proper experiment has been done on community service, as there never has been on Borstal training or similar treatments. The answer is that we will never know until all the innovations are introduced on a proper experimental basis, with a control group, survey, and follow up, statistical evaluation. We just begin to realize that these are factual, scientific questions, not questions that can be solved by enthusiasm, by introducing new things, by calling them experiments or by getting up in Parliament and saying "Look at the wonderful things that we are doing." This is where all the so-called experiments in the past have fallen down.

Mr. Miller: Professor Eysenck, your remarks on culpability raise a dreadful thought. I must apologize in that I am an ignorant lawyer and I look on things as culpable and not culpable. To take the example of the Moors murder case; Myra Hindley is to my mind a woman who is so wicked that you can never risk letting her out of gaol. In other words, a high degree of culpability.

Have I and have others of my profession been barking up the wrong tree for so long that you despair of ever altering our habits?

Professor Eysenck: I would not want to alter your habits at all. I am just putting some facts before you. What you have said I think smacks a little of illogicality, if I may say so. You first say that this woman is wicked, which undoubtedly is true. I do not really know much about her case, but I am quite willing to believe it, and that she should not be let out of prison, which is probably also true. At the moment I doubt if any psychologist could do much with her. I am not saying that this is necessarily so, but accepting this as likely, I do not see what culpability has to do with it. I agree with you, she should not be let out because she would be a danger to society. If we could treat her and make certain that she would never commit another crime, should we let her out? Would she be any less culpable in the past because of something that we do *after* she has committed her crime? The concept does not add anything to what you have said. She has committed a crime, she is a danger to society and she must be kept in prison—full stop. Why bring culpability in? I do not see that it adds anything. Your argument stands perfectly well without it.

Mrs. Elizabeth Butler Sloss: As a lawyer and also as a mother I might ask the Professor this. If one has the genetic background and the problems of environment, what is it that you expect parents to teach their children?

Professor Eysenck: I think that one would expect parents to provide a large number, if possible, of conditioning experiences in which wrongdoing of any kind is followed by some form of punishment. I do not mean savage punishment like beating up the child or letting him go hungry for 48 hours. Quite mild degrees of punishment are adequate, because, as I mentioned in connexion with the puppies, the punishment that the puppies received was minimal. So parents should use the maximum number of occasions, where the child goes wrong, to punish him mildly and insist that the school should do the same. By multiplying the number of conditioning experiences they will do the best they can for the child. At the moment many parents have abrogated their responsibility and let children do anything at all without ever telling them what is right and what is wrong and demonstrating to them that wrongdoing is followed by punishment. This is the kind of information that you have to build up in your brain stem—not in your conscious brain but in your brain stem—and that later on, when you are all by yourself and nobody is watching except God, you still do the right thing because doing the wrong thing has been conditioned to produce such anxiety that you will not do it. That is what the parents should do; in other words, revert to the pattern of Victorian parents—to that extent at least.

The Chairman: There are three questions that I wanted to ask you, but time is such that there is

only room for one from the lady there.

Mrs. Duzas: Professor Eysenck, you have not mentioned the dreaded word "alcohol" at all. I wondered whether you felt that there was a genetic contributory factor to crime coming from alcohol or whether you felt that it is purely coincidental in the rise of crime. Could you comment, please?

Professor Eysenck: There is no doubt that there is a strong genetic factor in alcoholism. Whether the correlation between drinking and criminality arises through a common genetic determination or whether the determination works through the alcohol to the crime is difficult to disentangle if there is no proper study. Exactly the same goes for smoking. Criminality is closely correlated with smoking. We recently did a study with children, in which we took all the possible relations between tough-mindedness, extraversion and emotion and divided each into three—high, medium and low—so that there were 27 groups showing all possible combinations of these. We found when we looked at their antisocial behaviour that there was a linear downgrade from the group that was tough-minded, extraverted and highly emotional, and who committed the most antisocial acts, and those that were tender-minded, introverted and stable who committed the least number of crimes. Then we divided each of those 27 groups into two: those who smoked and those who did not. We found that in each of the 27 groups those who smoked committed about twice as many antisocial activities! I am sure that it is not the smoking that produces the anti-social activity. It is something genetically determined in their smoking which also determines the criminality. I suspect that this is true of alcoholism too, but I cannot prove it.

The Chairman: It is clear that this discussion could go on for another hour, but time dictates that I must draw the meeting to an end. I want to say, Professor Eysenck, that you have chided the other professions, my own included, about their disregard for the psychologist. You must forgive us. You have been very convincing tonight. Most of them that I see I think are barmy. *(Laughter.)*

Secondly (and I would like to emphasize this), of all the people who have disregarded the proper experimental approach, some psychologists are outstanding examples. I was going to put to you a question which you could more than adequately answer. But you see that you have had a very large audience tonight—more than a hundred—and the applause that greeted the end of your address must have given you to understand how much it was appreciated. You have served us with an intellectual diet that has been most nutritive and served with grace and delicacy. We have savoured and enjoyed it. *(Applause.)*

CORRIGENDUM

It was usual, if going a distance of several miles, to ride a cycle to one of the stations on the railway, put the cycle on the train, and take it off at a stopping point nearest the final destination. Miss Stapleton cycled to Bleak House . . .